A SURVEY OF THE FACTORS THAT DETERMINE CREDITWORTHINESS OF SMALL AND MEDIUM ENTERPRISES FOR BANK LOANS

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DECLARATION

This project is my original work and has not been submitted for a degree in any other university.

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DEDICATION

1 wish to dedicate this research project to my family for their support, encouragement and prayers. May God bless you all.

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I wish to acknowledge and thank my family for their support during the research. I am also very grateful to my project supervisor, Mr. J. Lishenga for his invaluable guidance and support throughout the project.

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ABSTRACT

Credit risk assessment is an important aspect of credit risk management. It seeks to reduce the occurrence of bank failures caused by non-repayment of amounts due from debtors (Kegode, 2006). Financial institutions grant credit as a means of generating revenue from interest and commissions. Any lending to small and medium enterprises (SMEs) should therefore be well evaluated to minimise the risk of default. This study aimed at carrying out a survey to find out the extent of use of the C's of credit to lend to SMEs by commercial banks in Kenya.

The researcher employed a descriptive research design. The target population for this study was registered commercial banks offering credit to SMEs in Kenya. Primary data was collected by use of a likert scale questionnaire, which were delivered to the credit analysts of the commercial banks under study. Data analysis was done through the use of descriptive statistics such as the mean, standard deviations, percentages and tabulations. Inferential statistics were also computed using Pearson's Moment Correlation Coefficient.

The study concludes that the C's of good and bad credit influenced creditworthiness of SME customers for commercial banks. Other factors cited were the purpose of the loan, followed by income per annum and whether the SME business is registered, as well as alternative sources of income and the nature of the SME business. The study further concludes that to a great extent, creditworthy evaluations help banks mitigate the risk of default for SME bank loans. The effective management of credit risk is a critical component of a comprehensive approach to risk management and essential to the long-term success of any banking organization.

Credit risk assessment seeks to ensure that only creditworthy customers are granted credit. For banks to reduce the non-performance of SME loans, there is need for effective credit policies to be put in place. While evaluating the creditworthiness of SMEs, banks should not be driven by competition for market share or the achievement of high revenue targets as this was found to be a major contributor to the high level of non-performing loans in some banks. There is need to ensure good communication and avoid over reliance on past performance or on large networths as this has led to non-performing loans.

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CHAPTER ONE

1.0 INTRODUCTION

1.1 Background to the study

Credit risk is the risk that a borrower will not meet his obligations under a debt contract and therefore management of credit risk is a key policy issue for any financial institution. Credit risk management refers to the systems, procedures and controls which a company has in place to ensure the efficient collection of customer payments (McMenamin. 1999). A credit policy helps to define the framework within which credit will be extended and managed. Kabiru (2002) states that it is important for a bank to have capacity to assess, administer, supervise, control, enforce, and recover loans, advances, guarantees and other credit instruments due to the dire effects of credit risk, which if not properly managed can lead to bank failure. For example, Obiero (2002) found that out of the 39 commercial banks in Kenya which failed during the period of 1984 - 2002, 37.8% collapsed mainly due to poor quality of lending.

Creditworthiness refers to the assessment of the likelihood that a borrower will default on their debt obligations. The better one's creditworthiness, the more likely it is that a bank or other financial institution will extend credit. One establishes creditworthiness by repaying loans and other bills on time, spending prudently, and generally showing that one can behave in a financially responsible way. Banks have systems in place that help determine the credit worthiness of potential customers so as to reduce credit risk. Once a loan application is received by a financial institution, a credit risk assessment is carried out to identify those customers for whom the risk of default is low enough to make a loan profitable. According to Altman (1980), the main objective of credit analysis is to provide a basis for the lending decision and for the pricing and structuring of the loan agreement. Poor credit risk assessments often lead to high loan default rates and thus high levels of non-performing loans.

Hempel et al (1994) identified two credit evaluation systems that banks use to assess loan applications. Judgmental loan analysis relies on a loan officer's experience in assessing the

loan, while empirical credit analysis (also referred to as credit scoring) assesses a loan applicant based on scores applied to various applicant characteristics. Credit scoring systems utilize information relating to the traditional 5c's of credit: (I) Character (the willingness to repay debt), (2) Capacity (the financial ability to repay debt), (3 - 4) Capital and Collateral (possessions or equities from which payment might be made), and (5) Conditions (reflecting the general economic environment or special conditions applying to the borrower or the type of credit (Rosenberg and Gleit. 1993). Small business credit scoring involves analyzing consumer data about the owner of the firm and combining it with relatively limited data about the firm itself using statistical methods to predict future credit performance.

Small and medium enterprises (SMEs) have historically faced significant difficulties in accessing funding for creditworthy projects due to a lack of credible information about them which can be used to establish their credit worthiness. They are typically much more informationally opaque than large corporations because they often do not have certified audited financial statements to yield credible financial information on a regular basis. Also, these firms usually do not have publicly traded equity or debt yielding no market prices or public ratings that might suggest their quality.

The World Bank defines SMEs as enterprises with up to 300 employees and total annual sales of up to US\$ 15 million (IFC, 2008). This SME firm size definition varies in different countries and financial institutions due different market conditions, supervision and regulatory environments/frameworks, and bank strategies. There is no standard definition of SMEs in Kenya (Microfinance Risk Management L.L.C, 2008). Lender's definitions vary but typically they define SMEs as businesses with six to fifty employees or with annual revenues less than fifty million Kenyan Shillings. Regardless of this quantitative definition, it is agreed by virtually all stakeholders that SMEs in Kenya are the "missing middle'.

Their size and credit demands have outgrown the capacity of microfinance institutions, which offer small, short loans via group lending methodologies, while the opacity of the SME risk profile - combined with the lenders' lack of sophisticated risk-assessment techniques- makes many of them appear undesirable as credit customers for business banking. There are 2.2 million micro, small and medium enterprises in Kenya of which 88% are non-registered businesses. Of this non-registered group, only 23% have bank accounts and only 10% have

ever received credit from any formal source (Strategic Business Advisors (Africa) Ltd- SME Banking Sector Report 2007).

To address this opacity problem and provide funding to small firms, financial institutions use a number of different lending technologies (Berger and Frame 2005). These include business credit scoring, financial statement lending, asset based lending, factoring, and leasing. In addition, financial institutions also attack the opacity problem using relationship lending based on "soft" qualitative information gathered through contact over time with the firm, its owners, managers, and other members of the local community.

Financial institutions' choices among the technologies used to evaluate SME credit applicants vary across both institutions and applicants. These decisions depend on the comparative advantages of the institution, the information available about the firm, and the expected costs and accuracy of each of the feasible technologies, all of which affect the expected profitability. Successful products for this market can borrow techniques from both, but a more nuanced approach is needed which addresses the distinctive credit management challenges posed by SMEs. This was confirmed by Finaccess (2006), who noted that very few financial institutions in Kenya address the borrowing needs of the small and medium enterprises (SMEs) effectively. Their products and underlying risk management techniques fail to 'scale-down' to reach many SMEs while those of micro-finance institutions typically don't 'scale-up'.

One of the major reasons why Kenyan banks are reluctant to lend to SMEs is that they lack cost effective ways to quantify credit risk. This is mainly attributed to the absence of credit bureaus with standardized data procedures and SME financial statements- audited or not-may be of unreliable quality and veracity. On the other hand, banks have a fiduciary duty to lend prudently. Thus, most banks tend to limit their risk with the SME market by not lending at all or by charging high interest rates and requiring at least 100% collateral coverage. High income countries such as the United States have addressed this challenge in part by using credit scoring.

Credit scoring has the potential to offer a number of benefits which can improve access to credit for SMEs. According to FSD Kenya (2008), credit scoring can help meet the needs of SMEs in a variety of ways. For example, credit scoring can reduce reliance on collateral, and

lead to risk-based pricing, resulting in a lower cost of borrowing for the lowest-risk customers and potentially greater credit availability for higher risk customers, who without risk-based pricing would be denied loans. Additionally, turn-around times from application to approval and funding would likely decrease.

1.2 Statement of the problem

Credit risk assessment is an important aspect of credit risk management. It seeks to reduce the occurrence of bank failure caused by non-repayment of amounts due from debtors (Kegode. 2006). Financial institutions grant credit as a means of generating revenue from interest and commissions. Any lending to small and medium enterprises (SMEs) should therefore be well evaluated to minimise the risk of default.

SMEs in Kenya have little access to finance, which thus hampers their emergence and eventual growth. Their main sources of capital are their retained earnings and informal savings and loan associations. Access to formal finance is poor because many SMEs do not maintain proper books of accounts, or have weak financial statements making it difficult for formal financial institutions to assess their credit worthiness and determine their ability to repay loans. Further, SMEs are perceived as being more risky than big companies. They present a high sensitivity to economic shocks. From this perspective, allotting medium and long term credits to these firms becomes problematic. In addition, in many of these cases, the monitoring costs reach unacceptable high levels as compared to the value of the granted credit (Kauffmann, 2005).

SMEs are also faced with the lack of adequate collateral necessary to sustain a credit requirement while, most banks are reluctant in accepting personal guarantees. This difficulty in obtaining information to determine the creditworthiness of potential SME clients and the perceived risk forces financial institutions to charge higher rates of interest in addition to taking collateral against the lending made, which tends to deny access to credit to many firms. International experience shows these challenges can be overcome by use of credit scoring models which allow SME lending to be undertaken profitably in a developing economy context.

The researcher did not find any information on the specific factors that determine the credit worthiness of SMEs in Kenya; the researcher is therefore not aware of any study in this area targeting the SME sector. Similar studies which have been undertaken have been focused on the micro enterprises. Mudiri (2003) investigated the credit management techniques applied by financial institutions offering micro-credit in Kenya and found that properly administered credit programs for Micro Finance Institutions (MFIs) do very well, independent of whether the loans are individual or group based. The study also established that bank credit products for small and micro enterprises have a higher default rate than MFIs because MFIs treat micro credit as core and therefore expend more effort and time on the services.

Mutie (2006). found that out of the 43 commercial banks in Kenya as at end of the year 2004, 62% of the banks used credit scoring in their credit risk assessments. He further found that 97% of the business loans were assessed using credit scoring models. Awuor (2006) examined manufacturing based strategies for small and medium scale enterprises in the food processing industry in Nairobi, while Muthanga (2003) investigated the important factors in media use and strategy by small scale business enterprises.

The researcher did not find any studies which focus on risk evaluation for small and medium enterprises in Kenya. Thus there exists a research gap on the factors influencing creditworthiness of small and medium enterprises in Kenya. In this study, the researcher will therefore seek to fill this research gap by carrying out a survey to find out the extent of use of the C's of credit to lend to SMEs by commercial banks in Kenya.

1.3 Objectives of the study

The objectives of this study will be:

- 1. To determine the factors that influence credit worthiness of SMEs for commercial banks.
- 2. To assess the extent to which creditworthy evaluation helps banks mitigate the risk of default for SME bank loans.

1.4 Importance of the study

The study will be of immense importance to a number of bodies. Given the history of non-performing loans that led to bank failures in Kenya in the past, commercial Banks will learn the important factors to consider while lending to SMEs in order to minimize non-performing loans. The study will therefore inform policy formulation in relation to lending to SME's.

Credit managers will find the study useful as it will highlight the key factors to consider while earning out credit worthy evaluations for SME customers. This will ensure only credit worthy customers are granted loans. This study will therefore ensure that credit managers in commercial banks conduct prudent credit risk assessments.

This study will also provide valuable information that will guide small and medium entrepreneurs when seeking credit from Kenyan commercial banks. The entrepreneurs will be informed of the factors that will influence their creditworthiness for access of credit. As a result of this information, it is expected that many more SMEs will submit quality loan applications and qualify for credit facilities from commercial banks.

For academicians, the findings of the study will point out the gaps that the academia community needs to fill in order to foster increased availability of bank credit for SMEs. Therefore, this study will form a basis for future research seeking to improve access to bank finance for SMEs.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

This chapter examines the theory of risk and the importance of creditworthiness assessment in the management of credit risk. It further highlights the credit evaluation systems used by commercial banks to assess bank loans and examines the factors that are needed to assess the creditworthiness of a customer using the 5'Cs of good credit and 5'Cs of bad credit. The Chapter also examines the risks associated with financing SMEs.

2.2 Theoretical Review

2.2.1 Theory of Risk

The fundamental objective of bank management is to maximize stockholder's wealth. This goal is interpreted to mean maximizing the market value of a firm's common stock. Wealth maximization requires the bank manager to evaluate and balance the tradeoffs between the opportunity for higher returns, the probability of not realizing those returns, and the possibility that the bank may fail. A bank's profitability will generally vary directly with the riskiness of its portfolio and operations. Although some risks can be sought out or avoided, others are inherent in the prevailing economic conditions and specific markets served.

According to Lumby and Jones (1981), risk refers to the uncertainty that surrounds an investment's outcome. The greater the degree of uncertainty, the greater is the risk, and vice versa. They further state that since investors are risk averse, the investors will require a reward for taking on a risky investment. Since financial decisions are made in the present, while the results occur in the future, risk permeates all financial decision making. Luce and Raiffa (1957) further argue that numerous approaches have been developed for incorporating risk into decision making process by lending organizations. They range from simple methods such as the use of subjective or informal approaches, to fairly complex ones such as the use of computerized simulation models.

2.2.2 Portfolio Theory

The foundations of modern day risk analysis are to be found in a seminal paper by Harry Markowitz written in 1952, based on his Ph.D. dissertation at the University of Chicago, concerning the principles of portfolio selection. Markowitz showed that rational investors select their investment portfolio using two basic parameters: expected profit and risk. While 'profit' is measured in terms of the average (mean) rate of returns, 'risk' is measured in terms of how much returns vary around this average rate of return. The greater the variance of the returns, the riskier the portfolio.

According to Markowitz, investors can reduce variance by diversifying their investments when building a portfolio. That is, they should avoid putting all their eggs in one basket. By investing in assets that fluctuate in different directions, investors can actively offset the specific risks inherent in individual stocks. As a result, according to Markowitz. investors select financial assets for their portfolio based on each asset's contribution to the portfolio's overall mean and variance. Through the power of diversification, investors can reduce the risk that is specific to an individual stock at virtually no cost (Crouhy et al, 2006).

Although Modern Portfolio Theory (MPT) is widely used in practice in the financial industry, in recent years the basic assumptions of MPT have been widely challenged by fields such as behavioral economics (Sharpe, 1964). MPT is a mathematical formulation of the concept of diversification in investing, with the aim of selecting a collection of investment assets that has collectively lower risk than any individual asset. That this is possible can be seen intuitively because different types of assets often change in value in opposite ways. For example, when prices in the stock market fall, prices in the bond market often increase, and vice versa. A collection of both types of assets can therefore have lower overall risk than either individually. But diversification lowers risk even if assets' returns are not negatively correlated—indeed, even if they are positively correlated.

2.2.3 Capital Asset Pricing Model

In the mid-1960's, William Sharpe and John Lintner took the portfolio approach to risk management one step further by introducing a model based on overall capital market equilibrium. Building on Markowitz, the two professors showed that the risk of an individual

asset can be decomposed into two portions i.e. diversifiable risk (risk that can be neutralized through diversification) and systematic risk (risk that cannot be eliminated through diversification). They based their capital asset pricing model (CAPM) on the assumption that investors can choose to invest in any combination of a risk free asset and a 'market portfolio' that includes all the risky assets in an economy.

This conception allowed Sharpe and Lintner to define the premium that investors demand for taking on the risk of the market portfolio, as opposed to investing in the risk free asset. The market risk premium is the difference between the expected rate of return on the risky market portfolio and the risk free rate. According to the CAPM. if the market is in equilibrium, the price of a given asset will reflect the relative contribution of that asset to the total risk of the market portfolio. In the CAPM, this contribution is accounted for by means of a factor called beta.

The development of this model is a milestone in financial decision making because it makes it possible to quantify and price risk for individual assets. The expected return calculated using CAPM is an important tool in project appraisal and asset valuation. Today, corporations use a range of risk-adjusted measures to better understand the real rate of return they offer to their investors.

2.2.4 Options Theory

Another breakthrough in the analysis of risk came in 1973 with the publication of two papers on the pricing of options by Fischer Black and Myron Scholes and by Robert Merton. Options are financial assets that entitle their holders to purchase or sell another asset by or on a predetermined day, at a predetermined price. An option to buy the asset is referred to as a call, while an option to sell the asset is called a put (Crouhy et al., 2006). Black and Scholes developed the classic model for pricing options while Merton, who collaborated with them, offered an alternative way to prove the valuation model. In addition, Merton's model specified the various components of an option and their interrelationships, as well as calculating market prices for publicly traded options.

Options theory has proved invaluable to portfolio and risk management. Option contracts can be used to provide protection against an investment's downside risk, while at the same time, allowing advantage to be taken of its upside potential. (Lumby and Jones 1981). This characteristic of option contracts makes them highly desirable and hence valuable.

2.2.5 Types of risks faced by Commercial Banks

Risk management is the process by which bank managers identify, assess, monitor and control risks associated with a financial institutions activities. A formal process enables these institutions to manage risks on both a transactions basis and by portfolio. There are several types of risk that Financial institutions face, namely liquidity risk, market risic. operational risk, interest rate risk and credit risk. Each of these risks is fundamental to the likelihood that current events or potential events will negatively affect an institution's profitability and the market value of its assets, liabilities and stockholder's equity.

Liquidity risk refers to the current and potential risk to earnings and the market value of stockholders' equity that results from a bank's inability to meet payment or clearing obligations in a timely and cost effective manner. Liquidity risk is greatest when a bank cannot anticipate new loan demand, or deposit withdrawals and does not have access to new sources of cash. Some common techniques for mitigating liquidity risk include diversifying over the sources of funding, holding liquid assets, and establishing contingency plans such as backup lines of credit.

Market risk refers to the possibility of incurring large losses from adverse changes in financial asset prices, such as stock prices or interest rates. Standard risk management involves the use of statistical models to forecast the probabilities and magnitudes of large adverse price changes. While the models provide a convenient methodology for quantifying market risks, there are limitations to their ability to predict the magnitude of potential losses. To address these limitations, firms also use stress tests that examine the impact of large hypothetical market movements on their portfolio values.

Operational risk is the risk of loss arising from inadequate or failed internal processes, personnel, technology, infrastructure or other external factors. A bank's operating risk is closely related to its operating policies, and processes and whether it has adequate controls. There is no concrete way to estimate the likelihood of operational risks from published data. The key is to have strong internal audit procedures to reduce exposures, and for bank managers to identify and quantify potential losses by type of event and where the event is likely to have an impact.

Interest rate risk refers to the risk that the future cash flows of financial instruments will fluctuate because of changes in the market interest rates. F.xcessive interest rate risk may erode banks' earnings and capital base (Hempel et al, 1994). A firm should closely monitor interest rate movements and seek to limit its exposure by managing the interest rate and maturity structure of its assets and liabilities. Foreign exchange risk refers to the effects of fluctuations in the prevailing foreign currency exchange rates on the financial position and cash flows of a firm. This risk can be mitigated by setting limits on the level of exposure by currency and using hedging strategies to ensure that positions are maintained within the established limits.

Credit risk is the potential that a bank borrower or counterparty will fail to meet its obligations in accordance with agreed terms. It is the risk of loss due to a debtor's non-payment of a loan or other line of credit (either the principal or interest (coupon) or both). Lenders will trade off the cost/benefits of a loan according to its risks and the interest charged. Protective covenants will also be written into loan agreements to allow the lender some controls in order to compensate for risk.

According to Feschijan (2008), credit analysis is the coordinated process whose end result is granting permission for the requested credit and defining terms which are adequate to the specific credit undertaking. Therefore, the aim of the credit analysis is to provide sufficient information about the credit undertaking and its risk level to facilitate adoption of adequate measures for protection against credit risk. Whether or not protective measures are needed

becomes clear from the credit analysis that discloses the specific risks in the activity of the loan applicant.

The effective management of credit risk is a critical component of a comprehensive approach to risk management and essential to the long-term success of any banking organization. The goal of credit risk management is to maximize a bank's risk-adjusted rate of return by maintaining credit risk exposure within acceptable parameters. Banks need to manage the credit risk inherent in the entire portfolio as well as the risk in individual credits or transactions. Credit risk management therefore, refers to the systems, procedures and controls which a company has in place to ensure the efficient collection of customer payments and minimise the risk of non-payment (McMenamin, 1999). Credit risk assessment is an important aspect of credit risk management, as it seeks to ensure that only creditworthy customers are granted credit.

2.3 Theory of Credit Risk Assessment

The lending activity of a bank is particularly important to the economy as it caters to the credit requirements of business concerns for their expansion activities or working capital requirements. In the current environment where banking is now characterized by cutthroat competition, the challenge for any loan officer is to do a thorough credit assessment of the customer to ensure safety of the loan; and more importantly this assessment has to be done fast to avoid losing the deal to the competitors.

The downside in case of a loan default is high. Any negligence on the part of the assessing officer can lead to bad debts, which affect the asset quality and financial health of the bank. Improper financial health of the bank erodes the trust of the depositors, which makes it vulnerable to a 'run' on its deposits. Kabiru (2002) quoting Greuning and Bratanovic (1999) states that despite innovation in the financial services sector, credit risk is still the major cause of bank failures. This is because more than 80% of a bank's balance sheet generally relates to this aspect of risk management. Therefore, a proper assessment of a potential customer's creditworthiness is important in the overall scheme of a proactive credit risk management system of any bank.

Kimeu (2008) quoting Mishkin (1997) argues that the guiding principle in credit appraisal is to ensure that only those borrowers who require credit and are able to meet repayment obligations can access credit. According to Luce and RaifTa (1957), numerous approaches have been developed for incorporating risk into decision making processes by lending organizations. They range from simple methods such as the use of subjective or informal assessing techniques, to fairly complex ones such as the use of computerized simulation models.

Informal credit assessment techniques- According to Hempel et al (1994) there are two credit evaluation systems that banks use for assessment of loan applications: Judgmental credit analysis and empirical credit analysis. Traditional methods of deciding whether to grant credit used human judgment to assess the risk of default, and were based on the experience gained from previous decisions. According to Hand (1996), economic pressures resulting from increased demand for credit, allied with greater commercial competition and the emergence of new computer technology have led to the development of sophisticated statistical models to aid the credit granting decision. However, Kimeu (2008) argues that many lending decisions by financial institutions are still frequently based on the decision maker's subjective feelings about risk in relation to the expected repayment by the borrower. McGugan et al (1993) further argue that financial institutions commonly use this approach in decision making because it is both simple and extensive.

Modern credit risk assessment techniques- Empirical credit risk analysis (also referred to as credit scoring) assesses a loan applicant based on scores applied to various applicant characteristics. The statistical models use predictor variables (characteristics) from application forms and other sources to yield estimates of the probabilities of defaulting. A decision to accept or reject the loan application is then taken by comparing the estimated probability of defaulting with a suitable threshold. Standard statistical methods for developing scorecards are discriminant analysis, linear regression, logistic regression and decision trees.

Rosenberg and Gleit (1994) argue that the introduction of statistical risk assessment methods encountered some sceptism. According to Kimeu (2008), even though they were not entirely convinced of the predictive ability of scoring models. Reichert et al (1983) observed that the benefit of scoring approaches did not relate to any superiority in predictive power, but to the highly consistent, objective and efficient manner in which the predictions are made. However. Kimeu argues that today this challenge has been overcome as the scoring methods are the only way for handling the large number of transactions, as well as producing more accurate decisions.

Credit scoring systems utilize information relating to the traditional 5C's of credit. Unlike judgmental systems, empirical systems of analysis do consider age and credit worthiness is deemed to increase with age (Kcgodc, 2006). The objective of credit scoring is to predict from an applicant's characteristics whether a borrower is good (credit worthy) or bad (not creditworthy) risk. According to McMenamin (1999), the basic information needed to assess the creditworthiness of a customer is captured by the 5 C's of credit: character, capital, capacity, conditions and collateral.

2.3.1 Character

Character is an important aspect of the overall credit review for the customer. Since many businesses who apply for credit do not have a business credit history, a lender's best indication of future business credit character is the personal credit history of the primary individual(s) involved in the business. For instance, a lender may check to see how well a business owner has managed his or her past personal debt. They will consider issues such as whether or not all credit cards have been paid on time, if mortgage payments are current, if there are any outstanding tax liens, and if there has been any kind of bankruptcy in the past 10 years.

A character review therefore relates to the assessment of the customer's integrity, personal character and willingness to repay any facility granted. It also examines the past repayment experience (if any) and the customer's ability to comply with credit terms and conditions. Character references may be sought from bankers, including establishing any outstanding liabilities of the customer elsew here.

2.3.2 Capital

Capital refers to the credit applicant's capital resources. It is the money the business owners have invested in the business and is an indication of how much they have at risk should the business fail. Prospective lenders expect a business owner to have contributed from their own assets and to have undertaken personal financial risk to establish the business before asking them to commit any funding. If there is a significant personal investment in the business by the owner (s) then, they are more likely to do everything in their powers to make the business successful. According to Campsey (1985). capital is measured by the general financial position of firms as indicated by a financial ratio analysis which includes the debt/assets ratio and the current ratio.

2.3.3 Capacity

Capacity refers to an assessment of the customer's ability to generate sufficient cash flows to service the obligation. The objective here is to establish whether the credit applicant has the financial resources to repay amounts as they fall due. The lender will consider the cash flow from the business, the timing of the repayment, and the probability of successful repayment of the loan. Payment history on existing credit relationships, both personal and commercial, is considered an indicator of future payment performance.

The assessment will also include an analysis of the customer's accounts with emphasis on liquidity and borrowings. Prospective lenders will also want to know about any contingent sources of repayment. According to Strischek (2000), capacity is sufficient power, enough strength, and adequate resources to start maintain, and expand operations as the firm passes through its life cycle.

2.3.4 Conditions

Conditions focus on the intended purpose of the loan. According to Golden and Walker (1993), bankers should underwrite all loans understanding that business and economic conditions can and will change. The future cannot be predicted, but being alert will allow the bank to react to deteriorations in the market quickly. Will the money be used for working capital, additional equipment, or inventory?

The decision to grant credit is generally influenced by current economic and business conditions or by special business conditions relating to the applicant or the firm itself. The lender will want to consider the local economic climate and conditions both within the business industry and in other industries that could affect the performance of the business seeking finance. This view is supported by Lempley (2004) who states that the essence of conditions risk is the *sensitivity* of a borrower to general business conditions.

2.3.5 Collateral

Collateral refers to the assessment of the assets which the credit applicant has provided as security for the debt, if required. Collateral or guarantees are additional forms of security that can be provided to the lender as a secondary source of repayment in case the business being financed fails to meet its obligations under the bank loan contract. Assets such as equipment, buildings, and accounts receivable and in some cases inventory are considered possible sources of repayment if they can be sold by the bank for cash.

Both business and personal assets can be used as collateral for a loan. Some lenders may require a guarantee in addition to collateral as security for a loan. According to Strischek (2000). assets likely to retain their values in deteriorating business conditions make the most desirable kind of collateral and borrowers pledge these assets to offset weaknesses in the firm's capital and capacity. However, excellent collateral is not always enough to protect the lender against poor character.

According to Golden and Walker (1993), the traditional 5 C's of credit outlined above should be thought of as commandments. These rules have worked very well in the past, but in recent years, bankers have leamt a few more C's: the 5 C's of bad credit. These are the five things that bankers need to guard against in order to keep another breakdown in the commercial lending system from occurring.

2.3.6 Complacency

Complacency is the first C of bad credit. Over reliance on past performance, large networths and on guarantors has been a problem over the past couple of years. The old adage that past

success does not guarantee future success is very true and bankers ignore it at their own peril. The business cycle of expansion and recession will always be there. The bad times will always follow the good times. Banker's problems can in large part be traced to complacency; therefore as a lender, thou shall not be complacent.

2.3.7 Carelessness

Carelessness is the second rule of bad credit. Carelessness arises from incomplete loan documentation, lack of current financial information on the customer, absence of protective loan covenants and absence of vital information in customer files. Most bankers do not document calls or conversations. Carelessness is therefore a very easy trap to fall into, and everyone is guilty of it to some degree (Golden and Walker, 1993).

2.3.8 Communication

A Communication breakdown is a simple problem but it can easily destroy a whole bank. The third C of bad credit calls for the need to be clear, concise and attentive to important information. According to Golden and Walker (1993), management must not only be clear on credit quality objectives, but a written loan policy must be enforced. Problems will arise when no one follows the policies. In addition, frontline staffs who are dealing with customers on a daily basis should ensure that information flows upwards, and not assume that if there's a problem and they know about it, then everyone else must be aware.

2.3.9 Contingencies

According to Golden and Walker (1993), another C of bad credit is contingencies. They are of the opinion that bankers pay insufficient attention to downside risk at their own peril. For example, if a loan is riskier, it has a higher chance of default. Pricing the loan higher to compensate for risk is no substitute for controlling the risk taken on. Similarly, focus should be on how they will get paid back, instead of focusing on making the deal work.

2.3.10 Competition

Competition is probably the most important of the five Cs of bad credit (Golden and Walker, 1993). Bankers should not make their lending decisions based on what the competition is doing. Past experience shows that where bankers decide that they are not going to lose deals,

no matter what, credit standards tend to be ignored, with the banker's attention shifting to beating the competition. This competitive euphoria, competition for market share and the drive to achieve lofty revenue growth objectives lead to bad lending decisions.

According to Edward (1997) common sense should prevail in the assessment of any credit facility. As a rule of thumb, a loan officer should establish the purpose of the loan, establish how the loan will be serviced, and identify alternative sources of repayment, should the project being financed fail. A loan officer must ascertain the purpose for which the customer is seeking the loan to ensure that the funds are only deployed in ventures that are productive.

One of the major causes for bad loans is that the funds are diverted for purposes other than that intended. An understanding of the client's track record, managerial expertise and integrity will help the loan officer's assessment regarding the safety of the bank's funds. This is why a basic understanding of the nature of the client's business is necessary while evaluating the loan proposal. A good understanding of the revenue model and the business environment of the client will help in assessing the return of capital employed.

It is important to establish that projected cash flows will be sufficient to service the debt. The underlying assumptions of the model should also be realistic. It is also important to establish what contingency plans are in place to fall back on should the project being financed fail. Further, an assessment of the integrity of the promoters and their management experience is an important aspect in the pre-sanction credit evaluation process. This is necessary especially in the case of new customers, who have not been dealing with the bank in the past.

In practice, many banks use a combination of judgmental and empirical credit scoring systems. Credit scoring readily isolates clearly non-credit worthy and clearly credit worthy applicants (Kegode, 2006). The applicants that fall between these two groups are then subjected to further information inquiries and to judgmental evaluation.

Credit risk management is a continuous process. Madura and Theodore (1998) state that the credit worthiness of customers can change over time, so it should be evaluated periodically

using updated information. Credit risk assessment is therefore not a one-time activity, but an ongoing part of the relationship with the customer. Post-sanction monitoring comprises tracking the respective client's compliance to the sanction terms of the loan proposal. It is also very important for the customer relationship manager (or the loan officer) to visit the company's at regular intervals to keep abreast of any developments or potential pitfalls. This helps the officer to proactively spot any opportunities for cross-selling of products or be forewarned against any impending threats.

A prudent loan officer will use a mix of hard (quantitative) and soft (qualitative) factors to assess the creditworthiness of the customer and collect the necessary information that can be used to determine the credit rating of the client as per the bank's policy. Campsey (1985) states that the information on the 5 C's can be obtained from a firm's previous experience with customers, supplemented by information which is also obtained from financial accounts, business contacts and credit agencies.

Asymmetric information between borrowers and lenders and the lack of collateral to mitigate the informational asymmetry are mainly responsible for the existence of credit rationing (Shubhasis, 2005). According to Berger and Udell (1995), Banks solve these asymmetric information problems by setting loan contract terms, such as the interest rate charged or the collateral required, to improve borrower incentives. The bank-borrower relationship may play a significant role in this process of gathering information and setting the terms of the loan contract. However, banks will not have perfect knowledge about individual firm's risks. Therefore credit rationing persists in the small and medium enterprises market. Those firms which have "better' creditworthiness are perceived to have higher repayment abilities and therefore are likely to be provided with higher loan limits.

2.4 Empirical risk assessment for SMEs

In spite of the importance of the SME segment in the economic development of any country, SMEs continue to be faced with different problems linked to their access to credits. SMEs in African countries like Kenya have little access to finance, which thus hampers their emergence and eventual growth (OECD, 2005). SMEs have various financial demands. They require start up funds and for their operations, SMEs require working capital financing,

equipment leasing, discounting of trade receivables and trade credit. SMEs also require financing for their expansion and growth.

Emerging financial products for SMEs include loans targeting women entrepreneurs and the youth. Other products include trade finance and asset based lending. Their main sources of capital are their retained earnings and informal savings from loan associations, which tend to be inadequate and unpredictable. Investment Climate Assessments conducted in Uganda. Tanzania, and Kenya show that the small and medium enterprises surveyed rank access to finance and cost of finance as major or very severe obstacles to firm growth (2003 Investment Climate Report). Access to formal finance is poor because of the high risk of default among SMEs, lack of collateral, and absence of information about their ability to repay loans.

2.4.1 Lack of collateral

According to Lehmann and Neuberger (2001) banks view collateral as having incentive and signalling effects, which resolve moral hazard and adverse selection problems under asymmetric information. If a loan is secured by a specific asset that serves as collateral, the borrower's incentive to choose a riskier project after obtaining the loan is deterred. In addition, banks use collateral requirement to induce the borrower to reveal their hidden risks. They do this by distinguishing between borrowers who are willing to accept collateral requirements with lower interest rates, as reflecting less default risk and borrowers who are not willing to accept this term as reflecting more default risk (Besanko and Thakor 1987).

2.4.2 High risk of default

SMEs are perceived as being more risky than big companies. They present a high sensitivity to economic shocks. From this perspective, allotting medium and long term credits to these firms becomes problematic. In addition, in many of these cases, the monitoring costs reach unacceptable high levels as compared to the value of the granted credit. Credit risk is therefore a potential cost to the bank. Thus, in theory, banks should set higher loan rates for higher borrower's risk.

2.4.3 Absence of adequate information on SMEs

According to Berger and Frame (2005) many SMEs do not maintain proper books of accounts, or have weak financial statements making it difficult for formal financial institutions to assess their credit worthiness. This difficulty in obtaining information to determine the creditworthiness of potential SME clients and the perceived risk forces financial institutions to charge them higher rates of interest or refrain from lending.

Banks evaluate the risk of borrowers from information obtained about the borrowers. The information generated over time through bank-borrower interaction should influence price and non-price terms of loans (Fama 1985, Diamond 1984, Swank 1996, Thakor 1995, Neuberger 1998). It is probable that banks will charge higher loan rates on firms with less signalling ability because information asymmetry increases perceived risk. Firm characteristics, e.g. size age management and corporate type or status, can determine the degree of information asymmetry.

Banks tend to obtain more and clearer information from big firms than from small firms as big firms can better absorb fixed disclosure cost. Banks get more information from older firms with a longer credit history. Information asymmetry is also dependent on the type or status of the firms. For example, banks have less information asymmetry problems with stock markets listed companies than with non-listed companies.

Despite all risks related to SMEs Financing, banks can no longer ignore this sector if they want to gain a comfortable share of the credit market. In this respect, financial institutions have proceeded to develop new credit tools specially conceived to meet the financial needs of this segment. However, even these new products present their own associated risks - generated by the peculiarities they present - which finally add to the final risk banks accept to take when financing SMEs.

Frame et al (2001) quoting Nakamura (1993) state that theories concerning small-business credit markets have emphasized the existence of significant information asymmetries between borrowers and lenders. Such market imperfections can result in credit rationing by

lenders, particularly when loans are unsecured. To mitigate such problems, borrowers and **lenders** have historically used long-term relationships, or close and continuous interactions that generate useful information about the borrower's financial state.

In recent years, many banks have adopted automated underwriting systems based on credit scoring (Frame et al, 2001). Credit scoring is the process of assigning a single quantitative measure, or score, to a potential borrower representing an estimate of the borrower's future loan performance (Feldman. 1997). While credit scores have been used for some time in the underwriting of consumer loans, this technology has only recently been applied to commercial credits. Specifically, credit analysts have determined that the personal credit history of small-business owners is highly predictive of the loan repayment prospects of the business.

According to Frame et al (2001), the effect of credit scoring is dependent on how the underwriter incorporates the measure into the loan review process for a given institution. For example, the lender may use credit scores to either automatically approve or reject loan applications or simply as a supplement to its traditional underwriting techniques. Also, whether a bank has purchased a credit-scoring model or has developed it may have implications. If the credit scoring model has been purchased, lenders will tend to be more apprehensive about its predictive ability.

According to Feldman (1997), credit scoring will alter small-business lending in three areas: (1) the interaction between borrowers and lenders; (2) loan pricing; and (3) credit availability. First, credit scoring allows lenders to underwrite and monitor loans without actually meeting the borrower. This development is in stark contrast to the perceived importance of a local bank-borrower relationship. In fact, because of scoring systems, borrowers can obtain unsecured credit from distant lenders through direct marketing channels.

Second, the price of small-business loans should decline especially for high-credit-quality borrowers who will no longer have to bear the cost of extensive underwriting. Also, increased

competition resulting from small businesses having access to more lenders should further lower borrowing costs. Third, credit scoring should increase credit availability for small businesses. Better information about the repayment prospects of a small-business applicant makes it more likely that a lender will price the loan based on expected risk, rather than denying the loan out of fear of charging too little. In view of the forgoing, credit scoring should therefore result in greater competition among lenders for small business loans as this technology significantly enhances lenders' ability to evaluate and price small-business credit risks.

2.5 Empirical risk assessment for SMEs in Kenya

Kenya's Private Sector comprises of a small proportion of large enterprises and a large proportion of medium, small and micro enterprises that operate parallel to each other with limited linkages. The micro enterprises are largely informal operating outside the realm of legal and institutional support infrastructure. Many of the large firms are subsidiaries of multinational corporations. These firms network among themselves, are active in business associations and lobby the Government directly for appropriate reforms specific to their interests.

On the other side of the size scale, there are very many small firms involved in different activities. Many of the small enterprises are self-employment activities that operate informally to avoid the costs of compliance with government regulations. They account for two thirds of all non-agricultural jobs and as much as 20% of Kenya's GDP. Their operations are constrained by limited access to credit, basic infrastructure issues and organisational difficulties. Although many of these firms are concentrated in cities and urban centres, they are also spread all over rural Kenya and, therefore, constitute an important component of rural commerce. According to the 1FC SME Survey of 2004, 50% of the GDP was attributed to the micro, small and medium enterprises in Kenya which numbered approximately 1.7 million. This study will be concerned with both formal and informal small and medium firms.

According to the Central Bank Supervision Annual Report 2007, it will be the micro, small and medium scale enterprises producing goods and services for the domestic and export markets which will create new jobs going forward, rather than the traditional, large and bureaucratic establishments. The process of expansion of these enterprises from very small

into medium size is therefore of particular interest, as it is when they become medium-sized that growth-oriented SMEs make their most tangible contribution to economic growth and job creation.

The inability to access finance hampers their emergence and eventual growth (Kaufmann, 2005). In Kenya, many of the SME businesses can rarely meet the borrowing conditions set by commercial banks, which see SMEs as a high risk. As a result, fewer than 20% of small to medium enterprises in Kenya have ever received credit from formal financial institutions (FSD Kenya. 2008).

Access to bank finance is limited due to challenges in assessing SME risk in a cost effective manner. The banks find it costly to evaluate and monitor small-value loans for SMEs. Further, the lack of public credit institutions (such as a rating agency) makes the evaluation of firm credibility very costly for banks, and dissuades them from lending to small enterprises. Moreover, deficiencies in the legal system hinder the enforcement of contracts, especially debt, and result in relatively high collateral requirements that small firms find slightly more difficult to meet. As a result, small firms (who are less likely to possess high-value collateral) face dramatically higher costs of lending than larger ones. Smaller firms generally report lower use of credit instruments, are less likely to apply for a loan from a bank because of cost and rejection fear, and are more likely to feel credit constrained (Investment Climate Assessment, 2004).

Due to the above-mentioned challenges, financial institutions either decline to lend to SMEs or require collateral and charge high interest rates for any credit given. On the other hand, high income countries such as the USA have addressed this challenge in part by using credit scoring. According to FSD Kenya (2008), most lenders in Kenya are not using credit scoring systems for assessing the risk of SMEs. Even though there is demand for the use of credit scoring models to lend to SMEs, several constraints to the widespread use of credit scoring have been identified.

First, the volume of SME applications and accounts is insufficient to allow most lenders develop their own scorecards using their own data. Further, even though plans are at an advanced stage to establish credit reference bureaus in the country, lack of licensed reference bureaus, a lack of mandatory reporting of positive and negative credit performance

information, and a lack of standardised collection and calculations of key financial data impede the development of a generic, pooled data scoring model that could be used by all lenders.

2.6 Empirical Studies

According to Mutie (2006), the credit analysis process involves the borrower being granted credit facilities on the basis of credit worthiness. Various models are used in assessing credit worthiness. Traditionally, key risk factors have been classified using the 5 C's of good credit namely: character, capital, capacity, conditions and collateral.

Golden and Walker(1993) further identified the five C's of bad credit which represent things to guard against in the credit evaluation process to help prevent problems with the borrowing granted. The five C's of bad credit are complacency, carelessness, communication, contingencies and competition. These models are important as they cover all areas that affect credit risk assessment.

Bartholdy and Mateus (2008) examined whether the internal rating models used by banks to evaluate SMEs' creditworthiness differ substantially with regard to the underlying rating philosophy, the rating system architecture and rating model calibration. Using a representative sample of Swiss SMEs they test whether different rating models lead to different risk classifications, even though identical input data is used. Their finding that different rating models indeed yield different rating results opens the possibility of "rating arbitrage" by creditors between various banks. The authors also investigate whether inclusion of qualitative information leads to more favorable ratings, compared to ratings based solely on quantitative data: contrary to other research, their empirical findings do not confirm this notion.

According to Ganbold (2008), SMEs find it difficult to finance their capital investment and daily operational needs. He found that the main impediments for SMEs in accessing bank credit in Mongolia include high interest rates, limited access to long-term loans, and high collateral requirements. These impediments arise largely due to the difficulty banks have in assessing credit risk. The difficulty in assessing credit risk derives from a number of sources,

the most important constraints being poor corporate governance and lack of transparency in business operations which makes it difficult for potential lenders to assess borrowers' creditworthiness. Ganbold (2008) recommends an improvement of the financial information infrastructure in Mongolia through setting up of Credit Information Systems which can effectively serve supervisory and SME needs.

2.7 Conclusion

Despite the risks associated with financing SMEs which are highlighted in the literature review, this sector cannot be ignored due to its tangible contribution to a country's economic development and job creation. On the other hand, commercial banks are required to exercise prudence while lending, as the fundamental objective of bank management is to maximize shareholders' wealth which requires that managers take on increased risks or lower operating costs. As outlined in the literature review, wealth maximization requires the manager to evaluate and balance the trade-offs between the opportunity for higher returns, the probability of not realizing those returns, and the possibility of failure.

No empirical study has been carried out to assess the risk assessment and risk management challenges Kenyan banks face while lending to SMEs. The challenge is therefore for the commercial banks to provide the much needed financial support to SMEs to facilitate growth and expansion while ensuring that unnecessary risks are not taken on, as they can expose the banks to non-performing loans and bank failure.

The literature reviewed has revealed that there are techniques that can be used to overcome the challenges financial institutions encounter while lending to SMEs. In developed countries, it has been established that financial institutions utilize techniques that accurately assess the credit worthiness of SMEs and effectively increase their access to credit facilities. According to Feldman (1997), credit scoring results in greater competition for small business loans as this technology significantly enhances lenders' ability to evaluate and price small business credit risks.

Therefore, using the 5C's of good credit and the 5 C's of bad credit, this study will determine the factors that influence creditworthiness of SME customers for bank loans with a view to improving access to bank credit for SMEs in Kenya. The study will also establish the extent to which creditworthiness evaluation mitigates the risk of default for SME bank loans.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction

This chapter highlights the methodology that was used by the researcher to find answers to the research questions. The research methodology was presented in the following order: research design, target population, sampling procedure, data collection methods, instruments of data collection and the pilot study. The section also explains how data was analyzed to produce the required information necessary for the study.

3.2 Research Design

For the purposes of this study, the researcher employed a descriptive research design. A descriptive study is concerned with determining the frequency with which something occurs or the relationship between variables. Thus, this approach was appropriate for this study, since the researcher intended to collect detailed information through descriptions which was useful for identifying variables and hypothetical constructs.

3.3 Population

The target population for this study was all the registered commercial banks offering credit to SMEs in Kenya. As at December 31st 2008, there were 43 licensed commercial banks, all of which offer credit facilities to small and medium enterprises, (Central Bank of Kenya Supervision Annual Report 2008). This study will therefore use a census survey of all the commercial banks in Kenya.

3.4 Data Collection

In order to determine which factors influence granting of credit to SME's by commercial banks, primary data was collected by use of a likert scale questionnaire, which was delivered to the credit analysts of the commercial banks under study. The questionnaire was constructed to take care of both structured and open ended questions, with some questions

requiring just making a choice from amongst the given options while others required short descriptive answers.

The data specification was on the 5 C's of good credit and 5 C's of bad credit, as well as on the use of credit scoring models, and the level of non-performing SME loans. The researcher administered the questionnaire individually to all respondents of the study. The questionnaire was administered using a drop and pick later method.

3.4.1 Validity and Reliability

The researcher carried out a pilot study to pretest and validate the questionnaire. To establish the validity of the research instrument the researcher sought opinions of experts in the field of study especially the researcher's supervisor and lecturers. This facilitated the necessary revision and modification of the research instrument thereby enhancing validity. The researcher selected a pilot group of 10 individuals from the target population to test the reliability of the research instrument.

The pilot data was not included in the actual study. The pilot study allowed for pre-testing of the research instrument. The clarity of the instrument items to the respondents will be established so as to enhance the instrument's validity and reliability. The pilot study enabled the researcher to be familiar with research and its administration procedure as well as identifying items that required modification. The result helped the researcher to correct inconsistencies arising from the instruments, which ensured that they measure what was intended.

3.5 Data Analysis

The data collected was then coded to enable analysis. Data analysis was done through the use of descriptive statistics such as the mean, standard deviations, percentages and tabulations. Inferential statistics were then computed with the help of the SPSS package to arrive at conclusions based on the survey data collected. To examine the extent to which the C's of good and bad credit influence credit worthiness of SMEs for bank loans, Pearson's moment correlation co-efficient was used as it gives information about the degree of correlation as well as the direction of the correlation.

Factor analysis is a technique that is used to reduce a large number of variables into fewer numbers of factors. It extracts maximum common variance from all variables and puts them into a common score. As an index of all variables, we can use this score for further analysis. Factor analysis also assumes that there is true correlation between variables and factors under investigation. In this study, factor analysis was therefore not appropriate as we sought to establish the extent to which the C's of credit influence credit approval for SME loans.

Objective one, which was to determine the factors that influence credit worthiness of SME customers for commercial banks was therefore achieved by use of descriptive statistics where computation of measures of central tendency such as mean and standard deviation were carried out. The factors or characteristics which were mostly considered in case of the 5Cs of good credit and 5 C's of bad credit in assessing bank loans for SMEs were further analyzed to establish whether there is any correlation between the variables. Appropriate factors for determining creditworthiness of SME customers were then recommended to the commercial banks.

Objective two, which was to assess the extent to which creditworthy evaluation mitigates the risks of default was achieved by analyzing data from the banks pertaining to default rates and the level of non-performing loans as well as the terms and conditions for loan approval, credit policies, credit risk assessment and approval levels and their effectiveness in curbing loan defaults.

CHAPTER FOUR

4.0 DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter presents analysis and Findings of the study as set out in the research methodology. The data was gathered using a questionnaire. The questionnaire was designed in line with the objectives of the study. The data has been presented in qualitative and quantitative form, followed by analysis and discussions of the data results.

4.2 Respondents' demographic characteristics

4.2.1 Response Rate

The study targeted 43 respondents in collecting data. Results in table 4.1 below, show that 30 out of 43 target respondents, completed and returned the questionnaire contributing to a 70% response rate. This response rate was good and representative as it conforms to Mugenda and Mugenda (1999) who noted that a response rate of 50% is adequate for analysis and reporting: a rate of 60% is good and a response rate of 70% and over is excellent.

Table 4.1: Response Rate

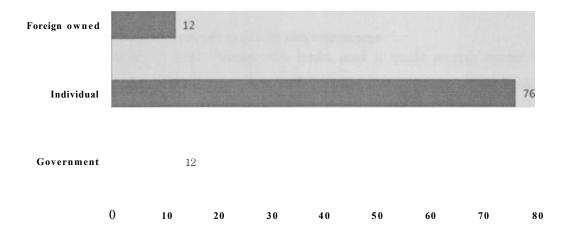
| Response Rate | Frequency | Percentage | | |
|---------------|-----------|------------|--|--|
| Responded | 30 | 70 | | |
| Not responded | 13 | 30 | | |
| Total | 43 | 100 | | |

Source: Survey Data (2010)

4.2.2 Ownership of the bank

The study further sought to establish the ownership of the banks. The results outlined in figure 4.1 below, reveal that 76% of the banks that participated in the survey were owned by individual shareholders, while 12% were government owned and another 12% were foreign owned. Other banks were privately owned by local and foreign shareholders.

Figure 4.1 Ownership of the banks



4.2.3 Designation

The questionnaire used also requested for information on the designation of the respondents. Results summarized in table 4.2 below show that 40% of the respondents were credit staff while 23% were business development officers. 17% of the respondents comprised of customer service officers, while 10 percent were bank officers and human resource managers each.

Table 4.2 Designation

| Designation | Frequency | Percent |
|------------------------------|-----------|---------|
| bank officer | 3 | 10 |
| business development officer | 7 | 23 |
| credit clerk | 3 | 10 |
| credit officer | 9 | 30 |
| customer service | 5 | 17 |
| human resource manager | 3 | 10 |
| Total | 30 | 100 |

Source: Survey Data (2010)

4.3 Credit scoring model

4.3.1 Use of credit scoring models in credit risk assessment

The study sought to establish whether the banks used a credit scoring model in the assessment of credit risk. Results from the study revealed that a majority of the banks used credit scoring models in credit risk assessment.83% of the commercial banks surveyed stated that they used credit scoring models in their credit risk assessments, while 17% of the commercial banks stated that they did not use credit scoring models in carrying out credit risk assessments.

Table 4.3 Use of credit scoring models in credit risk assessment

| | Frequency | | Percent |
|-------|-----------|----|---------|
| Yes | | 25 | 83 |
| No | | 5 | 17 |
| Total | | 30 | 100 |

Source: Survey Data (2010)

4.3.2 Type of loans assessed using credit scoring models

The study further sought to establish the types of loans assessed by credit scoring models in the different banks. The data was analyzed using a likert scale of 1 = Least used, 2=Less used. 3= Moderately used. 4= More used and 5=Most used. Data was presented in percentages and mean scores. The study results showed that corporate loans were most assessed by credit scoring model as was shown by a high mean of 4.536 followed by personal loans shown by a mean score of 3.519. The business loans were the type of loans least assessed using a credit scoring model as shown by a mean of 3.314.

Table 4.4 Type of loans assessed by credit scoring models

| | Least used | Less used | Moderately used | More used | Most used | Mean | Std deviation |
|-----------------|------------|--------------|-----------------|-----------|--------------|-------|------------------|
| Personal loans | 12% | 4% | 40% | 8% | 36% | 3.519 | 0.8367 |
| Business loans | 4% | 20% | 4% | 32% | 40% | 3.314 | 0.8124 |
| Corporate loans | 24% | 16% | 8% | 20% | 32% | 4.536 | 0.4472 |
| Credit cards | 56% | 12% | 16% | 4% | 12% | 3.471 | 1.0296 |

Source: Survey Data (2010)

4.3.3 Bank personnel charged with credit risk assessment

The study sought to establish the persons who are tasked with credit risk assessment in the commercial banks under study. The results outlined in table 4.5 below show that in a majority of the banks, credit committees are the ones tasked with the job of credit risk assessments. 83% of the respondents revealed that they use credit committees, while 75% revealed that credit managers carry out the credit risk assessments in their institutions. 71% of the respondents also revealed that credit directors were involved to a great extent in the credit risk assessment process. The least involved persons in the credit risk assessment were chairmen of the commercial banks surveyed.

Table 4.5 Bank personnel charged with credit risk assessment

| | Least extent | Lesser | Moderate extent | More extent | Great extent | Mean | Std deviation |
|-------------------|--------------|--------|-----------------|-------------|--------------|--------|---------------|
| Chairman | 17% | 17% | 31% | 31% | 4% | 2.8460 | 1.0460 |
| Managing director | 10% | 4% | 7% | 25% | 54% | 4.0357 | 1.4000 |
| Credit director | 3% | 4% | 3% | 19% | 71% | 4.7140 | 0.4600 |
| Branch manager | 5% | 14% | 20% | 7% | 54% | 4.0000 | 1.1860 |
| Credit manager | 4% | 4% | 7% | 10% | 75% | 4.6786 | 0.6118 |
| Credit committee | 3% | 3% | 3% | 8% | 83% | 4.9286 | 0.2622 |

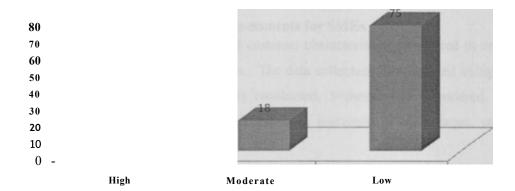
Source: Survey Data (2010)

4.3.4 Assessment of level of non-performing SME loans in the banks

The study requested the respondents of this study to state whether they had access to information pertaining to the performance of SME loans in their banks. All respondents cited that they had access to information pertaining to the performance of SME loans in their banks.

The study sought to establish the level of non-performing SME loans in each of the banks under survey. The results outlined in figure 4.2 reveal most banks considered the level of their non-performing SME loans to be low. 75% percent of the respondents revealed that the level of non-performing loans in their institutions was low, while 18% stated that the non-performing loans in their institutions were moderate. Only 7% of the respondents considered the level of non-performing loans in their institutions to be high.

Figure 4.2 Level of non-performing SME loans in the banks



4.3.5 Default rate of SME loans

The study further sought to establish the default rate of SME loans in each of the commercial banks surveyed. The data collected revealed that in 92% of the commercial banks that responded, the loan default rate for SME loans was only 10%. The remaining 8% respondents revealed that the SME loan default rate stood at 40% in their institutions.

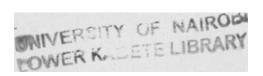
Figure 4.3 Default rate of SME loans

40% of the SME

loan portfolio is non-performing in 8% of the banks

10% of the SME loan portfolio is non-performing in 92% of the banks

Source: Survey Data (2010)



4.4 Credit Risk Assessment

4.4.1 Factors considered in credit risk assessments for SMEs

The survey sought to establish the general customer characteristics considered in credit risk assessment before availing credit to SMEs. The data collected was analyzed using a likert scale where l=least considered. 2 = less considered. 3=moderately considered, 4=more considered and 5 = most considered. The data was presented in percentages, mean and standard deviation.

The results revealed that a majority of the banks considered the purpose of the loan, business registration, and business ownership as shown by the means of 4.928, 4.866 and 4.833 respectively. The income per annum of the SME business was also considered. The respondents revealed that the factor least considered in credit risk assessments before availing credit to SME's was the permanent address, shown by a low mean score of 4.033.

Table 4.6 Factors considered in credit risk assessments for SMEs

| | Least considered | Less considered | Moderately considered | More considered | Most considered | Mean | Std |
|----------------------------|---------------------|--------------------|--------------------------|--------------------|--------------------|-------|--------|
| : Age of business | 2% | 7% | 57% | 30% | 4% | 4.233 | 0.7738 |
| Income per annum | 3% | 3% | 3% | 6% | 85% | 4.800 | 0.5508 |
| Any other source of income | 6% | 12% | 7% | 10% | 65% | 4.500 | 1.1060 |
| Existing credit facilities | 5% | 5% | 7% | 20% | 63% | 4.666 | 0.6064 |
| Permanent address | 10% | 7% | 13% | 30% | 40% | 4.033 | 0.9643 |
| Purpose of loan | 3% | 3% | 3% | 8% | 83% | 4.928 | 0.2622 |
| Business ownership | 4% | 3%> | 3% | 17% | 73% | 4.833 | 0.3790 |
| Business registration | 3% | 3% | 3% | 14% | 77% | 4.866 | 0.3457 |

Source: Survey Data (2010)

Other factors considered by the banks surveyed include the profile and growth plan of the SME business, the nature of business, trading licenses, and how long the customer has dealt with the bank.

4.4.2 Use of C's of credit in credit risk assessments for SME loans

Further the researcher sought to establish the extent the C's of credit were considered in credit risk assessments for SME loans in the commercial banks. The data collected was analyzed using a likert scale of 1= least considered, 2= less considered, 3= moderately considered. 4= more considered and 5 = most considered. The results are presented in table 4.7 below.

The results reveal that while assessing the Character of the borrower, most banks (84%) considered the customer's past payment experience, while 82% of the banks considered the customer's past performance in repaying loans as shown by means of 4.866 and 4.993 respectively.

Table 4.7 Character of the borrower

| | Least | Less considered | Moderately considered | More considered | Most considered | Mean | Std deviation |
|-------------------------------|-------|--------------------|--------------------------|--------------------|--------------------|-------|---------------|
| Character of borrower | | | | | | | |
| Customer willing to repay | 3% | 7% | 3% | 17% | 70% | 4.560 | 0.8172 |
| Past payment experience | 3% | 3% | 7% | 3% | 84% | 4.866 | 0.5074 |
| High credit discipline | 3% | 3% | 3% | 13% | 78% | 4.866 | 0.3457 |
| Past performance in repayment | 3% | 3% | 3% | 7% | 84% | 4.993 | 0.2537 |

Source: Survey Data (2010)

While assessing the Capacity of the customer for an SME loan, most banks revealed that they considered the customer's income per annum, and the business skills of the owner/manager as shown by high means of 4.8 and 4.7 each. Equally important were the projected cash flows for the business being financed as depicted by the mean of 4.666.

Table 4.8 Capacity

| | Least | Less consideredj | Moderately considered | Mora considered^ | Mosu | Mean | Std deviation |
|----------------------------------|-------|---------------------|--------------------------|---------------------|------|-------|------------------|
| Capacity | | | | | | | |
| Available cash in bank | 10% | 7% | 23% | 33% | 27% | 3.800 | 0.9247 |
| Projected cash flows | 3% | 3% | 3% | 17% | 74% | 4.666 | 0.7587 |
| Business skills of owner/manager | 7% | 7% | 10% | 13% | 63% | 4.700 | 0.5959 |
| Income per annum | 3% | 7% | 7% | 7% | 76% | 4.800 | 0.5508 |

While evaluating Conditions, most banks considered the prevailing industry conditions and economic conditions in credit risk assessment of SME loans as shown by means of 4.40 each respectively. The banks also indicated that the per sector growth index was used to evaluate business conditions.

Table 4.9 Conditions

| | Least | Less | Moderately considered | More considered | Most considered | Mean | Std deviation |
|-----------------------------|-------|------|-----------------------|--------------------|--------------------|-------|---------------|
| Conditions | | | | | | | |
| Economic conditions | 3% | 7% | 7% | 4% | 79% | 4.400 | 1.2757 |
| Interest rate prevailing in | 7% | 7% | 10% | 30% | 46% | 4.233 | 0.4394 |
| economy | | | | | | | |
| Industry conditions | 7% | 7% | 3% | 10% | 73% | 4.400 | 1.2205 |

Source: Survey Data (2010)

While examining the Collateral offered for the SME loan, most banks considered the adequacy of the security offered as shown by a mean of 4.7 in the Table 4.10 below, closely followed by capital invested in the business as shown by a mean of 4.6. The banks further stated that they also considered the ease with which the collateral offered as security could be converted into cash.

Table 4.10 Collateral

| | Least | Less | Moderately considered | More | Most considered | Mean | Std deviation |
|----------------------------------|-------|------|--------------------------|------|--------------------|-------|---------------|
| Collateral | | | | | | | |
| Tangible assets available | 3% | 3% | 3% | 30% | 61% | 4.333 | 0.4394 |
| Capital invested in the business | 3% | 3% | 13% | 7% | 74% | 4.633 | 0.7184 |
| Adequacy of the security offered | 3% | 3% | 3% | 22% | 69% | 4.700 | 0.4669 |

To ensure that Common sense prevails in credit risk assessments for SME loans, most banks considered the purpose of the loan as shown by a mean of 4.766. Realistic cash flow projections were also considered important as shown by the high mean of 4.733 in Table 4.11 below.

Table 4.11 Common Sense

| | Least | Less | Moderately considered | More | Most considered | Mean | Std deviation |
|----------------------|-------|------|-----------------------|------|--------------------|-------|---------------|
| Common sense | | | | | | | |
| Realistic cash flows | 3% | 13% | 7% | 13% | 64% | 4.733 | 0.5832 |
| Purpose of loan | 3% | 3% | 7% | 10% | 72% | 4.766 | 0.5683 |

Source: Survey Data (2010)

While establishing the SME customer's own Contribution to the business, most banks considered the level of business assets held by the SME business in their credit risk assessment for SME loans. Equally important, were the capital invested in the business and the willingness by the SME business to do business correctly as shown by the mean of 4.633 in the Table 4.12 below.

Table 4.12 Contribution

| | Least | Less considered | Moderately] considered | More considered | Mosd considered | Mean | Std deviation |
|--------------------------------------|-------|--------------------|---------------------------|--------------------|--------------------|-------|------------------|
| Contribution | | | | | | | |
| Business assets | 3% | 3% | 3% | 14% | 77% | 4.801 | 0.4068 |
| Capital invested in business | 3% | 7% | 7% | 13% | 70% | 4.633 | 0.6149 |
| Willingness to do business correctly | 7% | 3% | 7% | 13% | 70% | 4.633 | 0.6149 |

4.4.3 Factors contributing to the non performance of SME loans

The study further sought to establish the extent various factors had contributed to the non performance of SME loans at the banks surveyed. The results are presented in table 4.8 below. According to the results, most respondents cited that contingencies had contributed the most to the non performance of SME loans at the banks as shown by a high mean of 3.166. Contingencies refer to the measures taken to cater for the downside risk or default.

The other factors that were identified as having significantly contributed to the non-performance of SME loans are lack of communication and competition, each shown by a mean of 2.966 in the Table 4.13 below. Lack of communication refers to the absence of clear credit quality objectives, as well as non-compliance to the Bank's Loan Policy, while competition refers to the competition for market share and the drive to achieve lofty revenue growth objectives amongst the commercial banks. In addition, complacency which is the over reliance on certain factors such as past performance in making the lending decision, also significantly contributed to the non performance of SME loans at the banks surveyed as shown by a mean of 2.90.

Table 4.13 Factors contributing to the non performance of SME loans

| | Least | Less | Moderate | More contribution | Most contribution | Mean | Std deviation |
|-----------------------|-------|------|----------|----------------------|----------------------|-------|------------------|
| Carelessness | 23% | 20% | 20% | 20% | 17% | 2.686 | 1.4319 |
| Complacency | 7% | 17% | 62% | 7% | 7% | 2.900 | 0.9847 |
| Lack of communication | 17% | 20% | 6% | 27% | 30% | 2.966 | 1.4235 |
| Contingencies | 3% | 33% | 17% | 40% | 7% | 3.166 | 1.0191 |
| Competition | 10% | 17% | 20% | 23% | 30% | 2.966 | 1.6078 |

Other factors that were identified as having contributed to the non-performance of SME loans include political violence, like was witnessed in the post election chaos of 2008. which reduces the security values of the collateral held by banks for SME loans. Poor monitoring of loans which have already been granted was also cited as a contributory factor.

4.4.4 Pearson's Correlation Coefficients

Inferential statistics, namely Pearson's Product Moment Correlation analysis (PPMC) was employed for the study variables, in order to establish the relationship between the C's of good and bad credit that determine the credit worthiness of SME's. The findings are tabulated in Table 4.14 below. From the findings, it was clear that there was a positive correlation between all the factors under study.

The analysis of the correlation matrix indicates that few of the observed relationships were very strong. The strongest relationship (r=0.930) was observed between Contribution and Carelessness, indicating that one of the causes that led to the non-performance of SMEs was carelessness pertaining to incomplete documentation, lack of current information on the customer or absence of protective loan covenants where there is significant personal investment in the business by the SME business owner.

A high degree of correlation was also observed between contribution and capacity (r=0.907). This is an indication that while assessing the credit worthiness of SMEs for bank loans, the banks surveyed expected the business owner to have undertaken personal financial risk to establish the business before seeking funding. The higher the owner's contribution, the greater the capacity to service the obligation sought.

A moderate degree of correlation was observed for a large number of the factors under consideration. Complacency was positively correlated with contingencies (r=0.717), indicating that where there is over reliance on certain factors such as past performance, or large networths in assessment of the creditworthiness of SMEs for bank loans, the banks will tend to include protective covenants in the loan contracts to cater for the risk of default by the SMEs. A moderate degree of correlation was also observed between collateral and capacity (r=0.470), indicating that while assessing the creditworthiness of SMEs, banks consider any collateral provided as a secondary source of repayment in case the business being financed fails to meet its obligations under the bank loan contract.

A low degree of correlation was observed for communication and conditions (r=0.110), indicating that in commercial banks, management must be clear on credit quality objectives, and ensure enforcement of written loan policies. Frontline staffs who are dealing with customers on a daily basis should ensure that information flows upwards, and not assume that if business conditions have changed, everyone else must be aware.

A low degree of correlation was also observed for complacency and collateral, indicating that while assessing the creditworthiness of SMEs, commercial banks should avoid over reliance on past performance and large networths where collateral is offered to secure the loan under consideration. Complacency leads to non-performing loans and therefore banks should keep in mind that excellent collateral is not always enough to protect the bank from making a bad lending decision.

Table 4.14 Correlations

| | | character of the borrower | Capacity | Conditions | Collateral | Common sense | Contribution | Carelessness | Complacency | Communication | Contingencies | Competition |
|--------------------------|------------------------|------------------------------|----------|------------|------------|--------------|--------------|--------------|-------------|---------------|---------------|-------------|
| Chncterofthe borrower | Pearson Correlation | 1 | | | | | | | | | | |
| | Significance | | | | | | | | | | | |
| Capacity | Pearson Correlation | 0.427 | 1 | | | | | | | | | |
| | Significance | 0.019 | | | | | | | | | | |
| Conditions | Pearson Correlation | 0.120 | 0.119 | 1 | | | | | | | | |
| | Significance | 0.800 | 0.532 | | | | | | | | | |
| Collateral | Pearson Correlation | 0.404 | 0.470 | 0.281 | 1 | | | | | | | |
| | Significance | 0.060 | 0.009 | 0.133 | | | | | | | | |
| Common sense | Pearson Correlation | 0.253 | 0.117 | 0.233 | 0.338 | 1 | | | | | | |
| | Significance | 0.070 | 0.537 | 0.215 | 0.068 | | | | | | | |
| Contribution | Pearson Correlation | 0.416 | 0.907 | 0.026 | 0.519 | 0.329 | 1 | | | | | |
| | Significance | 0.022 | 0.000 | 0.893 | 0.003 | 0.076 | | | | | | |
| Carelessness | Pearson Correlation | 0.224 | 0.768 | 0.257 | 0.425 | 0.354 | 0.930 | 1 | | | | |
| | Significance | 0.055 | 0.000 | 0.171 | 0.019 | 0.055 | 0.000 | | | | | |
| Complacency | Pearson Correlation | 0.385 | 0.008 | 0.542 | 0.143 | 0.067 | 0.044 | 0.166 | 1 | | | |
| | Significance | 0.056 | 0.967 | 0.002 | 0.449 | 0.725 | 0.817 | 0.381 | | | | |
| Communication | Pearson Correlation | 0.051 | 0.176 | 0.110 | 0.556 | 0.000 | 0.080 | 0.134 | 0.316 | 1 | | |
| | Significance | 0.097 | 0.351 | 0.564 | 0.001 | 1.000 | 0.674 | 0.480 | 0.089 | | | |
| Contingencies | Pearson Correlation | 0.072 | 0.102 | 0.612 | 0.246 | 0.033 | 0.171 | 0.357 | 0.717 | 0.473 | 1 | |
| | Significance | 0.305 | 0.591 | 0.000 | 0.190 | 0.864 | 0.366 | 0.053 | 0.000 | 0.008 | | |
| Competition | Pearson Correlation | 0.072 | 0.241 | 0.402 | 0.080 | 0.235 | 0.270 | 0.249 | 0.677 | 0.248 | 0.577 | 1 |
| | Significance | 0.043 | 0.199 | 0.028 | 0.676 | 0.211 | 0.148 | 0.184 | 0.000 | 0.186 | 0.001 | |

"Correlation is Significant at the 0.01 level

CHAPTER FIVE

5.0 CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents conclusions from the findings of the study as set out in the research methodology. The chapter also highlights the researcher's recommendations for factors to be considered in assessing the creditworthiness of SMEs. The chapter concludes by highlighting areas for further research and the limitations of the study.

5.2 Conclusion

The results indicate that majority of the banks were owned by individual shareholders and these comprised 76% of the banks surveyed, while 12% were government and foreign owned each respectively. The banking staff who participated in the survey had different designations with 30% being Credit Officers, 23% being Business Development Officers while 17% were Customer Service Officers.

The results further indicate that while 83% of the banks used credit scoring in their credit risk assessments, business or SME loans were the least likely to be assessed using credit scoring models. The study revealed that corporate loans were the most likely to be assessed using a credit scoring model as was shown by a high mean of 4.536, followed by personal loans as shown by a mean of 3.519. The study established that 83% of the banks surveyed used credit committees in the credit risk assessments for loans while 75% also used Credit managers. The Chairmen of the banks surveyed were the least involved in the credit risk assessment process.

The results also indicate that 75% of the banks surveyed consider the level of non-performing >ans in their institutions to be low, while only 7% of the banks consider the level of their non-performing loans to be high. The study further established that the default rate of SME •oans in majority of the banks (92%) was only 10% of their loan portfolio, while 8% of the

banks surveyed had high levels of non-performing SME loans, which stood at 40% of the loan portfolio.

The results further revealed that a majority of the banks considered the purpose of the loan, business registration status, and business ownership before availing credit to SMEs. The aspect cited as the least considered in credit risk assessments before availing credit to SMEs was the permanent address, as shown by a low mean of 4.033.

In assessing the extent the C's of credit were considered in credit assessment, the study established that most banks (84%) considered past performance in repayment of loans in credit assessment of SME loans as shown by mean of 4.993. To evaluate the capacity of the borrower, most banks considered the income per annum and business skills of owner/manager as shown by high means of 4.8 and 4.7 each, while most banks considered industry conditions and economic conditions in credit risk assessment for SME loans as shown by means of 4.40 each respectively.

To evaluate collateral offered for the SME loan, most banks focused on the adequacy of the security offered as shown by a mean of 4.700, closely followed by the capital invested in the business as shown by a mean of 4.633. In carrying out their risk assessments, most banks used common sense by considering the purpose of the SME loan as shown by a mean of 4.766.

Most of the respondents cited that contingencies had contributed the most to the level of non-performing SME loans at their banks as shown by a high mean of 3.166. Other factors which were cited as contributing to the level of non-performing SME loans include lack of communication and competition as shown by a mean of 2.966 each respectively. In addition, complacency had contributed to the non performance of SME loans at the banks shown by a mean of 2.900.

Inferential statistics, namely Pearson's Product Moment Correlation analysis (PPMC) which was employed for the study variables confirmed that there was a positive correlation between the C's of good and bad credit that determine the credit worthiness of SME's. A few of the observed relationships were very strong. The strongest relationship (r=0.930) was observed between Contribution and Carelessness, indicating that one of the causes that led to the non-performance of SMEs was carelessness pertaining to incomplete documentation, lack of current information on the customer or absence of protective loan covenants where there is significant personal investment in the business by the SME business owner.

A moderate degree of correlation was observed between collateral and capacity (r=0.470), indicating that while assessing the creditworthiness of SMEs, banks consider any collateral provided as a secondary source of repayment in case the business being financed fails to meet its obligations under the bank loan contract, while a low degree of correlation was observed for complacency and collateral. This indicates that while assessing the creditworthiness of SMEs. commercial banks should avoid over reliance on past performance and large networths where collateral is offered to secure the loan under consideration as such complacency leads to non-performing loans and therefore banks should keep in mind that excellent collateral is not always enough to protect the bank from making a bad lending decision.

This study concludes that there were various factors that influenced creditworthiness of SME customers for commercial banks. These included the purpose of loan, followed by the income earned by the SME business per annum and whether the business was registered. Other factors cited include alternative sources of income and the nature of the SME's business. The least cited factor was the permanent address of the customer.

The study further concludes that to a great extent, creditworthy evaluations help banks mitigate the risk of default for SME bank loans. The C's of good credit, namely character, capital, capacity, conditions, and collateral should be thought of as commandments of credit as they capture all the basic information needed to assess the creditworthiness of a customer.

Finally, the study concludes that banker's ignore the C's of bad credit at their own peril.
; "e>e include complacency, carelessness, communication, contingencies, and competition and are the things that all bankers should bear in mind while assessing the creditworthiness of SME loans to ensure that credit granted does not lead to high levels of non-performing loans. The effective management of credit risk is a critical component of a comprehensive approach 10 risk management and essential to the long-term success of any banking organization. Credit risk assessment is therefore an important aspect of credit risk management, as it seeks to ensure that only creditworthy customers are granted credit.

5 5 Recommendations

The researcher recommends that banks put effective credit policies in place to reduce the level of non-performing SME loans in their institutions. There is need to plan for contingencies in the event of default of the SME loan, as paying insufficient attention to downside risk was identified as the main cause of non-performing SME loans. Protective covenants should be part of the loan agreement, and more focus should be on how repayment will be done as opposed to making the deal work.

While evaluating the creditworthiness of SMEs, banks should not be driven by competition for market share or the achievement of high revenue targets as this was found to be another major contributor the high level of non-performing loans in some banks. Bank officers should also avoid over relying on past performance, large networths and on guarantors, as this has been proven to lead to non-performing loans.

The study established that the C's of good credit are all critical factors for commercial banks in assessing the creditworthiness of SMEs. The researcher therefore recommends that banks >hould increase the use of credit scoring models in assessing the credit worthiness of SMEs, as the study established that such loans were the least likely to be assessed using credit scoring models. Credit Scoring models utilize information relating to the C's of credit to rredict whether a borrower is creditworthy. Credit scoring models are also capable of handling large numbers of transactions as well as producing more accurate decisions.

5.4 Areas for further research

This research focused on the factors that determine credit worthiness of SMEs for bank loans. More research needs to be done to establish the factors considered by other non-bank institutions while availing credit facilities to SME customers. It may also be necessary to investigate other challenges that SMEs experience which hinder their development other than lack of or limited access to finance.

5.5 Limitations of the study

A number of the targeted respondents could not provide information as their company policies do not allow them to participate in such studies. Further, questionnaires did not allow for probing to get more information. Face to face interviews should therefore be considered tor future studies.

REFERENCES

Agarwal, Sumit and Hausvvald. Robert (2006), 'Distance and Infonnation Asymmetries in Lending Decisions', Federal Reserve Bank of Chicago Working Paper.

Altman. Edward I. (1980). "Commercial bank Lending: Process, Credit scoring, and Costs of Errors in Lending." *The Journal of Financial and Quantitative Analysis, Vol. 15, No. 4*

Awuor, Otieno E. (2006), 'A survey of manufacturing based strategies for small and medium scale enterprises in the food processing industry in Nairobi'. MBA unpublished Project. University of Nairobi.

Bartholdy. J., and C. Mateus (2008), 'Financing of SMEs: An Asset Side Story', Working Paper.

Berger. Allen N. and Frame, W. Scott (2005), "Small Business Credit Scoring and Credit Availability." *Journal of Money, Credit and Banking, Vol. 37, No. 2.*

Berger. Allen N. and Udell. Gregory F. (1995), "Relationship Lending and Lines of Credit in Small Firm Finance." *The Journal of Business, Vol. 68, No. 3.*

Besanko, David and Thakor, Anjan V. (1987), "Collateral and Rationing: Sorting Equilibrium in Monopolistic and Competitive Credit Markets." *International Economic Review 28, pp 671-690.*

BOOL Arnoud W. A. and Thakor, Anjan V. (2000), "Can Relationship Banking Survive Competition?" *The Journal of Finance, Vol. LV, No. 2.*

CBK (2007): Annual Banks Supervision Report; Published by Central Bank of Kenya.

CBK (2008): Annual Banks Supervision Report: Published by Central Bank of Kenya.

Crouhy, M., Galai, D. and Mark. R. (2006), 'The Essentials of Risk Management', McGraw-Hill.

Denis, William J. Jnr (2008), 'Small Business access to Credit: Yesterday, Today and Tomorrow.' Working Paper, Swedish Foundation for Small Business Research.

Edwards, B. (1997), 'Credit management Handbook.' Fourth Edition. Gower Publishing.

Fama. F. Eugene (1985), "What's Different about Banks? " Journal of Monetary Economics 15. pp 29-39.

Feldman. Ronald (1997), 'Small business loans, small banks and a big change in technology called credit scoring." Federal Reserve Bank of Minneapolis, pp 19-25.

Feschijan. Daniela (2008), "Analysis of the creditworthiness of bank loan applicants." *Economics and Organization Vol. 5. No. 3. pp 273-280.*

Fishburn. Peter C. (1984), "Foundations of risk management I: Risk as probable loss."

Management Science Vol. 30 No. 4.

FSD (2007): Financial Sector Deepening Kenya Annual Report.

/pFrame. W. Scott et al. (2001), "The effect of credit scoring on small business lending." Journal of Money, Credit and Banking Vol.33, No. 3.

Can bold. B. (2008), "Improving Access to Finance for SMEs: International good experiences and lessons for Mongolia', Institute of Developing Economies Report.

^ Golden. Sam and Walker, Harry M. (1993), "The Ten Commandments of Commercial Credit: The C's of Good and Bad Loans." *Journal of Commercial Lending*.

Hand. D. J. and Henley, W.E (1996), "A Review of Statistical Classification methods in Consumer Credit Scoring." Journal of the Royal Statistical Society, Vol. 160, Issue 3, pp 523-541.

Hempel G. H., Simonson D.G and Coleman A.B. (1994), 'Bank Management: Text and Cases.' Fourth Edition. John Wiley & Sons Inc.

Investment Climate Assessment (2004), 'Enhancing the competitiveness of Kenya's manufacturing Sector: The role of the investment climate.' World Bank Report.

' Kabiru. J.M.G. (2002), 'The Relationship Between credit Risk Assessment Practices and the level of Non-performing Loans of Kenyan Banks.' MBA unpublished Project. University of Nairobi.

KCB Ltd (2008). Annual Report. Published by Kenya Commercial Bank Ltd.



Case Study of Kenya Post Office Savings Bank.' MBA unpublished Project. University of Nairobi.

N.imeu. T. K. (2008), 'A Survey of credit risk management techniques of unsecured bank oans for commercial banks in Kenya.' MBA unpublished Project. University of Nairobi.

Lehmann. Erik and Neuberger. Doris (2001), "Do Lending Relationships Matter? Evidence from Bank Survey Data in Germany." *Journal of Economic Behaviour & Organization, Vol.45, pp 339-359.*

Lempley, William H. (2004), "Bankers, Betas and the C's of Credit", RMA Journal.

_uce and RaifTa (1957). Risk Management: A Conceptual Framework.' Long Range banning, Published by Elsevier Ltd.

Lumby. S. and Jones, C. (1981), "Corporate Finance Theory and Practice", South Western Cengage Learning Publishers.

Mavo. Herbert B. (2006), Basic Finance: An introduction to Financial Institutions, Investments and Management.' South Western College Publishers.

VlcGugan et al (1993), 'Managerial Economics.' West Publishing Company, New York, Los Angeles and San Francisco.

McNlenamin J. (1999), 'Financial Management.' Published by Routledge.

Microfinance Risk Management L.L.C (2008), 'The potential for credit scoring for SME •e-.ding in Kenya.' Published by Financial Sector Deepening Trust Kenya.

^Mudiri. Joseck L. (2003), 'Credit Management Techniques Applied by Financial institutions offering Micro-credit in Kenya." MBA unpublished Project. University of Nairobi.

Mugenda, O. M and Mugenda. A. G (1999), 'Research Methods: Quantitative and Qualitative approaches.' Nairobi, Acts Press.

Muthanga, Gathogo A. (2003), 'An investigation of factors important in media use and strategy by small scale enterprises: A case study of Nairobi Central Business District.' MBA unpublished Project. University of Nairobi.

Mutie. Christopher M. (2006), 'Credit scoring practices and non-performing loans in Kenyan commercial banks.' MBA unpublished Project. University of Nairobi.

J

^Obiero. D. (2002), "The Banking sector regulatory framework in Kenya: Its adequacy in reducing bank failures.' MBA unpublished Project. University of Nairobi.

Rosenberg. Eric and Gleit. Allan (1994), "Quantitative Methods in Credit Management: A Survey." *Operations Research. Vol. 42, No. 4.*

N Shubhasis, Dey (2005), 'Determinants of Borrowing Limits on Credit Cards.' Bank of India Working Paper.

SME Banking Sector Report (2007), Published by Strategic Business Advisers (Africa) Ltd. Strischek, Dev (2000), "The Quotable Five C's." Journal of Lending and Credit Risk Management.

APPENDIX I

QUESTIONNAIRE FOR THE COMMERCIAL BANKS UNDER STUDY

Note: The information in this questionnaire will be used strictly for academic purposes only and will be treated with utmost confidentiality.

| Personal details | of re | spondent |
|------------------|-------|----------|
|------------------|-------|----------|

| D | ٨D | T . | ۸. | CENED | AT | INFORMA | TION |
|---|----|-----|----|----------------|-----|---------|------|
| r | AK | | 4. | C - H. IN H. R | (A) | | |

| 1. | Designation | | | | | |
|-----|-----------------------------------|------------|----------|----------|----------|-----------------------------|
| ART | A: GENERAL INFORMA | ATION | | | | |
| | Name of Commercial Bank | | | | | |
| 3. | Year of establishment | | | | | |
| 4. | Ownership (please tick app | ropriatel | y) | | | |
| | Government | | | (|) | |
| | Individual | | | (|) | |
| | Public | | | (|) | |
| | Foreign owned | | | (|) | |
| | Other (please specify) | | | | | |
| | | | | | | |
| 5. | (a) Do you use any Credit | Scoring 1 | Model i | n your c | redit ri | sk assessment? |
| | Yes () | _ | | (| | |
| | (b) If no, please indicate an | y other n | nethod 1 | that you | use | |
| | | | | | | |
| | | | | | | |
| 6. | If any Credit Scoring Mode assess | l is used, | , please | indicate | which | type of loans it is used to |
| | Leas | t Used | | | Most | used |
| | Personal Loans | (1) | (2) | (3) | (4) | (5) |
| | Business Loans | (1) | (2) | (3) | (4) | (5) |
| | Corporate Loans | (1) | (2) | (3) | (4) | (5) |

(2) (3) (4) (5)

(1)

Credit Cards ,, , $^{(1)} <^2) \qquad (3) \qquad (4) \qquad _{(5)}$ Other (specify)

7. To what extent are the following involved in credit risk asses assessment in your bank?

| | Leas | st exten | Great extent | | |
|-------------------|------|----------|--------------|-----|-----|
| Chairman | (1) | (2) | (3) | (4) | (5) |
| Managing Director | (1) | (2) | (3) | (4) | (5) |
| Credit Director | (1) | (2) | (3) | (4) | (5) |
| Branch Manager | (1) | (2) | (3) | (4) | (5) |
| Credit Manager | (1) | (2) | (3) | (4) | (5) |
| Credit committee | (1) | (2) | (3) | (4) | (5) |
| Other (specify) | | | | | |

8. Do you have access to information pertaining to the performance of SME loans in your back?

Yes (I) No (2)

9. If yes, how would you assess the level of Non-performing SME loans for your bank?

High (1) Moderate (2) Low (3)

10. Kindly provide the default rate of SME loans at any given time for your bank

(1) 10% of your loan portfolio

(2) 20% of your loan portfolio

(3) 30% of your loan portfolio

(4) 40% of your loan portfolio

(5) 50% of your loan portfolio

(6) Other (specify)

PART B: CREDIT RISK ASSESSMENT

11. Which aspects / characteristics among the following do you consider in your credit assessment before availing credit to Small and Medium Enterprises (SME's)?

General Characteristics

| | Least conside | Least considered | | | most considered | | |
|----------------------------|---------------|------------------|-----|-----|-----------------|--|--|
| Age of business | (1) | (2) | (3) | (4) | (5) | | |
| Income per annum | (1) | (2) | (3) | (4) | (5) | | |
| Any other source of income | (1) | (2) | (3) | (4) | (5) | | |
| Existing credit facilities | (1) | (2) | (3) | (4) | (5) | | |
| Permanent Address | (1) | (2) | (3) | (4) | (5) | | |
| Purpose of loan | (1) | (2) | (3) | (4) | (5) | | |
| Business ownership | (1) | (2) | (3) | (4) | (5) | | |
| Business registration | (1) | (2) | (3) | (4) | (5) | | |
| Other (please specify) | | | | | | | |

12. To what extent are the C's of credit considered in your credit assessment for SME loans?

i. Character of the borrow er

| Leas | Least considered | | | most considered | | |
|-------------------------------|------------------|-----|-----|-----------------|-----|--|
| Customer willing to repay | (1) | (2) | (3) | (4) | (5) | |
| Past payment experience | (1) | (2) | (3) | (4) | (5) | |
| High credit discipline | (1) | (2) | (3) | (4) | (5) | |
| Past performance in repayment | (1) | (2) | (3) | (4) | (5) | |
| Other (specify) | | | | | | |

ii. Capacity

Least considered most considered Available Cash in bank **(1) (4)** (5) **(2)** (3) Projected cash flows **(1) (2) (3) (4) (5)** Business skills of owner / managers (1) **(2) (3) (4) (5)** Income per annum **(1) (2) (3) (4) (5)** Other (specify)

iii. Conditions

Least considered most considered Economic conditions **(2) (3) (4) (5) (1)** Interest rate prevailing in the economy **(5) (1) (2) (3) (4)** Industry conditions **(2)** (3) **(4) (5) (1)** Other (Specify)

iv. Collateral / Security

Least considered most considered Tangible assets available **(3) (4) (5) (1) (2)** Capital invested in the business **(2) (3) (4) (5) (1)** Adequacy of the security offered **(3) (5) (2) (4) (1)** Other (specify)

| v | C_0 | m | m o | n | Sen | SP |
|----|----------|---|-----|---|------|-------|
| ٧. | ~ 0 | ш | шч | ш | SCII | . 5 C |

| v. Common Sense | | | | | | | |
|--|------------------|------------------|---------|----------|----------|-------------|-----|
| | Leas | Least considered | | | mos | st consider | red |
| Realistic cash flows | | (1) | (2) | (3) | (4) | (5) | |
| Purpose of loan | | (1) | (2) | (3) | (4) | (5) | |
| Other (specify) | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| vi. Contribution | | | | | | | |
| | Leas | st conside | ered | | mos | st consider | red |
| Business assets | | (1) | (2) | (3) | (4) | (5) | |
| Capital invested in busine | SS | (1) | (2) | (3) | (4) | (5) | |
| Willingness to do business | s correctly | (1) | (2) | (3) | (4) | (5) | |
| Other (specify) | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| 13. To what extent do you thin | nk the following | g aspects | have co | ontribut | ed to th | ne non | |
| performance of the SME 1 | loans at your Ba | ınk? | | | | | |
| i. Carelessness: The financial informate and absence of vita | ion on the cus | tomer, a | bsence | of prote | | | |
| Least contribution | | | | mos | st contr | ibution | |
| (1) | (2) (3) | | (4) | | (5) | | |
| ii. Complacency: To performance, large | | | | | | | - |
| Least contribution | | | | mos | st contr | ibution | |
| (1) | (2) (3) | | (4) | | (5) | | |

| iii. | | | | fers to absence to the Bank's lo | | lit quality |
|------|------------------------|---------------|---------------|-------------------------------------|-----------------|-------------|
| | Least contribu | ıtion | | | most contribut | on |
| | (1) | (2) | (3) | (4) | (5) | |
| iv. | Contingencion default. | es: This refe | ers to the me | asures taken to | cater for dow | nside risk/ |
| | Least contribu | ıtion | | | most contributi | on |
| | (1) | (2) | (3) | (4) | (5) | |
| V. | - | | • | on for market sles amongst the o | | |
| | Least contribu | ıtion | | Ī | most contributi | on |
| | (1) | (2) | (3) | (4) | (5) | |
| | | | | | | |
| | | | | | | |

Other (specify)

vi.

APPENDIX II

LIST OF COMMERCIAL BANKS IN KENYA

| IST (| OF COMMERCIAL BANKS IN KENYA | |
|-------|----------------------------------|----------------------------------|
| 1. | African Banking Corporation | 23. First Community Bank Ltd |
| 2. | Bank of Africa Ltd | 24. Giro Commercial Bank Ltd |
| 3. | Bank of Baroda Ltd | 25. Guardian Bank Ltd |
| 4. | Bank of India | 26. Gulf African Bank Ltd |
| 5. | Barclays Bank of Kenya Ltd | 27. Habib Bank Ltd |
| 6. | Chase Bank Ltd | 28. Habib Bank AG Zurich |
| 7. | CFC Bank Ltd | 29.1 & M Bank Ltd |
| 8. | Citybank N.A | 30. Imperial Bank Ltd |
| 9. | City Finance Bank Ltd | 31. Kenya Commercial Bank Ltd |
| 10. | . Commercial Bank of Africa Ltd | 32. K-Rep Bank Ltd |
| 11 | . Cooperative Bank of Kenya Ltd | 33. Middle East Bank Ltd |
| 12 | . Consolidated Bank of Kenya Ltd | 34. National Bank of Kenya Ltd |
| 13 | . Credit Bank Ltd | 35. NIC Bank Ltd |
| 14 | . Development Bank of Kenya Ltd | 36. Oriental Commercial Bank Ltd |
| 15 | . Diamond Trust Bank Ltd | 37. Paramount Universal Bank |
| 16 | . Dubai Bank Ltd | 38. Prime Bank |
| 17 | . Ecobank Ltd | 39. Standard Chartered Bank Ltd |
| 18 | . Equity Bank Ltd | 40. Stanbic Bank Ltd |
| 19 | . Equitorial Commercial Bank Ltd | 41. Southern Credit Banking |
| 20 | . Family Bank | Corporation Ltd |
| 21 | . Fidelity Commercial Bank | 42. Transnational Bank Ltd |

43. Victoria Commercial Bank Ltd

21. Fidelity Commercial Bank

22. Fina Bank