

**THE EFFECT OF DEMOGRAPHIC CHARACTERISTICS ON
LOAN PERFORMANCE OF COMMERCIAL BANKS IN KENYA**

BY

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DECLARATION

This research project proposal is my original work and has not been presented for examination in any other university.

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This research project has been submitted for examination with my approval as the university supervisor.

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DEDICATION

To my parents, friends and colleagues who never got tired to encourage and support me in my quest for education.

ABSTRACT

Over the years, most banks have experience to a varying degree problem of non performing loans some of which have been closed down by regulatory authorities. This in turn led to contraction of activities, decline in output, and imposition of substantial costs on loans. This study sought to find out how demographic characteristics of borrowers affect loan performance of commercial banks. The purpose of this study was to investigate the effects of demographic characteristics on loan performance of commercial banks in Kenya.

The study was conducted through descriptive research design; a survey method was employed and the study population comprised all the 43 commercial banks in Kenya. Data was collected by means of a self-administered questionnaire. The data was subsequently analyzed using quantitative techniques of descriptive statistics and regression analysis.

Four variables namely income level, level of education, gender and age of the borrowers were regressed against level of performance of banks, from the regression analysis the P values were found to be greater than 0.05($P > 0.05$) therefore the null hypothesis was accepted while the alternative hypothesis rejected. The conclusion is that there is no statistical significant relationship between income levels, level of education, gender and age on loan performance.

The study found that there is was no relationship between the demographic characteristics of borrowers and the performance of loans of commercial banks in Kenya.

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LIST OF ABBREVIATIONS

BOD	Board of Directors
CBK	Central Bank of Kenya
MPC	Monetary Policy Committee
NPL	Non-Performing Loans
OECD	Organization for Economic Co-Operation and Development

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Heffernan (1996) defines banks as intermediaries between depositors and borrowers in an economy which are distinguished from other types of financial firms by offering deposit and loan products. Bossone (2001) agrees that banks are special intermediaries because of their unique capacity to finance production by lending their own debt to agents willing to accept it and to use it as money. The traditional role of a bank is lending and loans make up the bulk of their assets (Njanike, 2009). Dell.Ariccia and Marquez (2006) further notes that bank lending and effective performance of those loans has some effects on bank profits (Performance) as indicated by total assets, total deposit, net interest, margin and net income.

Lending for banks creates a problem which is known as non-performing loans which arises from the defaulting by borrowers (Waweru and Kalami, 2009). According to Alton and Hazen (2001) non-performing loan is a loan on which payments of interest and principal are more than 90 days past due. Hennie (2003) agrees that non-performing loans are those loans which are not generating income. This is further supported by Fofack (2005) who define non-performing loans as those loans which for a relatively long period of time do not generate income that is, the principal and or interest on these loans have been left unpaid for at least ninety days. Non- performing loans are also commonly described as loans in arrears for at least ninety days (Guy, 2011). Bobakovia (2003) asserts that the profitability of a bank depends on its ability to foresee, monitor and avoid lending risks related to non performance of loans and possibility of provisions to cover losses brought about by risks that arise from such non- performance of loans.

Effective loan management begins with oversight of the risk in individual loans. Prudent risk selection is vital to maintaining favorable loan quality. Credit manager can now easily obtain early indications of increasing risk by taking a more comprehensive view of the individual demographic characteristics (Bexley and Nenninger, 2012). To manage their loan performance, bankers must understand not only the risk posed by each credit but also how the risks of individual loans and portfolios are interrelated. These interrelationships can multiply performance risk many times beyond what it would be if the risks of loan performance were not related

1.1.1 Loan Performance

According to Basel II (1999) a loan becomes non performing if one of the following events occur: the borrower is 90 days late on payment of principal or interest, the borrower's repayment becomes unlikely, the bank builds a loan loss provision, the liabilities of the borrower are restructured with a loss to the bank, the bank calls the loan, the bank sells the loan with a loss, or the banks needs to write-off the loan.

However, there is no global standard that clearly classify loan performance at the practical level. For instance there are three different methods of defining loan performance in Japan: the 1993 method based on banking laws; the Bank's Self-valuation and the financial revival laws-based debt disclosure. These measurements have gradually broadened the scope and scales of the loan performance risk-management method. Similar to the trend in Japan, more countries, regulators, and banks are moving towards adopting and adapting better and more consensus practices. For example, in the U.S., federal regulated banks are required to use the five-tier performing loan classification system: pass, special mention, substandard, doubtful, and loss. Presently, the five-tier system is the most popular risk classification method.

In Kenya the Central Bank of Kenya categorizes loans as; normal, watch, substandard, doubtful and loss, (Central Bank Annual Report, 2012)

1.1.2 Demographic Characteristics

Demographics profiles include items such as age, gender, level of income level and education, home ownership, employment status, and even location (cooper, Gardener and Mills, 2000). Customer demographics also include all the measurements necessary to statistically describe the end-user base in a given market. This would include the measurement of parameters such as: the total number of customers, customers by the number of employees, customers by the size of production, customers by industry, customer segments by geographic area, customer budgets and expenditures. Understanding the demographics of the target customers is critical for the success of any bank. Not only does the bank need to understand them in order to decide exactly what their product and services mixes will include, but this information will also affect pricing, packaging, promotion and place (Berger, Miller, Petersen, Rajan & Stein, 2005).

Demographics factors affect the bank choices of the products. In order to properly evaluate bank product performance a business must know the demographic profile of its customers. To see if the demographic traits necessary to support the performance of the business, it must look at the customer: purchasing power, the degree of disposable income within the various demographic categories, whether residences are homes rented or owned, means of transportation of the customers, do customers in the area own vehicles, ride buses or bicycles, with age ranges, does the community consist primarily of young people still approaching their prime earning years, young professionals, empty nesters or retirees; ,family status-whether there are lots of

families in the area or mostly singles ; leisure activities- type of hobbies and recreational activities do people in the community participate in (Nguyen, 2007)

1.1.3 Relationship between Demographic Characteristics and Loan Performance

According to Berger and Udell (2006) there is relationship between borrower demographic category and accessing and loan repayment performance. Thus customer demographic characteristics are an important aspect that banks consider when advancing loans to their clients. This implies that the demographic information may show the likely risk level of a particular individual in case of advancing loans. That the characteristics of borrowers are associated with the creditworthiness of borrowers and these characteristics are also interrelated (Giesecke, 2004).

Nguyen (2007) identified demographic profiling as a key factor influencing loan advance and the subsequent performance of the loan across the banking sector as this provides critical information about the group and individuals to credit officers who then make informed decisions on the suitability or otherwise of the group or individual . This was likewise echoed by Berger, Miller, Petersen, Rajan and Stein (2005) who indicated that bank customers, as a whole, possess demographic characteristics that put banks at a competitive advantage or disadvantage in advancing loans and in loan performance as well. For instance banks with customers who are: older, less likely to be employed hence have less household income and have less education are likely to default on their loans or have some difficulties servicing their loans. Bank customers having lower income and earnings potential results in them owning investable asset balances.

According to Nguyen (2007) most banks consider favorably borrowers who are more educated as they are able to communicate well with the bank on their status than borrowers with low education level. Indeed bank borrowers with high level of education are able to deal with bank documentation and requirement in an effective manner and to reschedule their loans in cases of change of situations that affect their ability to service their loans appropriately

Berger and Udell (2006) argue that banks are likely to consider comparatively more mature client for a loan relative to the young ones if all the other factors are held constant. Whereas there will be a notable increase in the numbers of consumers aged 35 to 44 over the next decade, there will be only a slight change in the numbers of persons aged 45 to 55. The data suggest a need for retail bankers to direct more marketing efforts towards the 35-to-44 age group to share fully in the rapid growth in the market. In fact differences in the ages of borrowers probably bode well for banks.

Specifically, male borrowers tend to receive more favorable assessments when compared to women borrowers. Blanchflower, Levine, and Zimmerman (2003) established that women -owned businesses were about twice as likely to be denied credit even after controlling for differences in creditworthiness and other financial-performance factors. However such effects occur on account of stereotyping, whereby a person is classified as a member of the target group, and inferences are made about that person based on the group's presumed attributes without the decision maker's conscious awareness (Wheeler and Petty 2001).

Lawrence (1995) examines the theoretical literature of life-cycle consumption model and introduces explicitly the probability of default. This model implies that borrowers with low incomes have higher rates of default due to increased risk of facing

unemployment and being unable to settle their obligation. The combination of a customer base that is older with lower earnings potential contributes to higher loan non performance among banks

The key to banks profiling their customers on the basis of demographic characteristics is to maximize on their clients repayment performance (Han, 2008). High repayment rates are indeed largely associated with benefits both for the financial institution and the borrower. They enable the financial institution to cut the interest rate it charges to the borrowers, thus reducing the financial cost of credit and allowing more borrowers to have access to it (Kon and Storey, 2003). Improving repayment rates might also help reduce the dependence on loan subsidies of the financial institution which would improve sustainability. Kano, Uchida, Udell, and Watanabe (2006) argued that high repayment rates reflect the adequacy of financial institutions services to clients needs. There are several ways of measuring performance and one of them is the "SCALE" performance measure (OECD, 1996). This measure calculates self- sufficiency ratio, capital adequacy, asset quality, liquidity and earnings quality.

1.1.4 Commercial Banks in Kenya

There are 43 licensed commercial banks in Kenya, one mortgage finance company and one credit reference bureau. The Credit Reference Bureau Africa was the first of its kind to be registered in Kenya by the Central bank of Kenya aimed at enabling commercial banks to share information about borrowers to facilitate effectiveness in credit scoring.

From 2006, banking sector remained stable while financial performance improved significantly as evidenced by impressive growth in institutions balance sheets and pre-tax profits. One bank was put under statutory management following heightened adverse

publicity related to its alleged malpractices. Non-performing loans decreased due to enhanced corporate governance and risk management as well as enforcement of strict provisioning by the central bank. Establishment of credit bureaus continued to receive emphasis from the central bank to encourage sharing of information (Central Bank Annual Supervision Report, 2006). In 2007, non-performing loans decreased attributable to government of Kenya reduction of non-performing loans in one leading bank, recoveries and write-offs in a number of other banking institutions. 2 commercial banks were licensed that are Shar ia compliant that is the First Community Bank and Gulf Bank (Central Bank Annual Report, 2010).

The nonperforming loans as a proportion of total loans which is another proxy for credit risk averaged 5.08% in 2008, 13.5% in 2007, stood at 14.3% in 2006 and further averaged 16.07% in 2005 and 19.64% in 2004. Notably, the level of nonperforming loans given by nonperforming loans to total loans decreased during the period 2004 to 2008. The requirement by the Basle II might have enabled commercial banks to control their level of nonperforming loans thus reducing banks credit risk.

In lending banks consider demographic characteristics of the borrower, specifically gender, income level, level of education, marital status, and whether s/he has children to matter in determining whether the loan gets funded. These variables are central to how consumers make financial decisions and to outcomes associated with household income, expenses, the ability to save, and the types and amounts of credit needed. The Kenyan constitution prohibits banks from treating equally creditworthy borrowers differently based on gender, race, or other demographic characteristics, such as age, marital status, and religion. Despite these laws, however, there is a long history of

institutional discrimination against certain borrower groups, in particular, women and minorities.

Banks are usually more likely to deny loan requests from unmarried applicants (both male and females), and from sole applicants who were married women compared to married men. More recent survey by CBK (2009), found that banks' subjective assessments of a potential borrower's creditworthiness are highly correlated with the borrower's gender, even after controlling for the borrower's credit history.

In most cases banks are prone to stereotyping borrowers, and use gender, income, and other available demographic information in their lending decisions to an even greater extent than institutional lenders do. Banks consider three borrower characteristics that are more directly related to the person's financial strength – credit grade, debt to income ratio, and homeownership. While the first two variables are direct indicators of a borrower's creditworthiness, the third one, homeownership, is indicative of stability and a prior ability to access credit to obtain credit. The borrower's credit grade summarizes factors related to the person's previous experience with credit, leases, payment of bills, public records, and credit inquiries. Prior research has shown that individuals' credit scores are strong predictors of their repayment likelihood for both secured and unsecured consumer loans

1.2 Research Problem

Over the years, most banks have experience to a varying degree problem of non performing loans some of which have been closed down by regulatory authorities. This in turn led to contraction of activities, decline in output, and imposition of substantial costs on loans. Borio and Lowe (2002) observed that the cost of non performing loans has been high; typically double digit percentage of GDP. To some

extend the problem of non performing loans arises from the failure of some banks to carefully profile the demographic characteristics of their clients so as to determine their risk levels since each borrower has an individual risk profile. This risk profile needs to be assessed in detail in order to determine whether he/she is eligible for a loan or not, i.e. whether the lending institution is willing to take on the (limited) risk of default.

Indeed banks do not take into consideration the changing demographic circumstances that can lead to deterioration in the credit standing and the subsequent inability to service their loans, leading to poor performance. In a bid to survive and maintain adequate profit level in this highly competitive environment, some banks in Kenya have tended to take excessive risks in lending loans. These difficulties in lending out over the years have arisen for a multitude of reasons, the major cause being directly related to lack of profiling of their customers based on their demographic factors to assess whether they can they can be able to service the loans advanced to them resulting in high level of non performing loans. (Central Bank Annual Report, 2010)

Credit creation is the main income generating activity for the banks. But this activity involves huge risks to both the lender and the borrower. The risk of a loan borrower not fulfilling his or her obligation as per the contract on due date or anytime thereafter can greatly jeopardize the smooth functioning of bank's business. According to Waweru and Kalami (2009), non-performing loans are closely associated with borrowers' demographics which determine their ability to secure and service loans. Greenidge and Grosvenor (2010) argue that the demographic characteristic of bank clients is a key element in the initiation and progression of non performing loans. Non performing loans have been widely used as a measure of asset quality among lending institutions and are often associated with failures and financial crises in both the

developed and developing world and that that non- performing loan can be used to mark the onset of a banking crisis.

Related studies done in the past have focused only on various aspects of credit management in Kenyan commercial banks. For instance Rajan (1994) notes that expanding lending in the short-term boosts earnings, thus the banks have an incentive to ease their credit standards in times of rapid credit growth, and likewise to tighten standards when credit growth is slowing. Obiero (2002) researched on adequacy of the banking sector regulatory framework in reducing bank failures. No known study has been done in Kenya to establish the relationship between demographic characteristics and loan performance within the Kenyan banking sector. This study therefore seeks to answer the question: What are the effects of income level, education level age, and gender on loan performance of commercial banks in Kenya?

1.3 Research Objectives

The general objective of this study was to examine the effects of demographics characteristics on loan performance of commercial banks in Kenya

The following specific objectives will guide the study:

- i) To examine the influence of income level on loan performance of commercial banks in Kenya
- ii) To investigate the influence of level of education on loan performance of commercial banks in Kenya
- iii) To establish the effects of age on loan performance of commercial banks in Kenya.

- iv) To determine the influence of gender on loan performance of commercial banks in Kenya.

1.4 Value of the Study

In theory the study adds and enriches the existing body of knowledge on loan performance in commercial banks not only in Kenya but other regions , taking into consideration the circumstance that bank operate in Kenya. The study further provides the background information to research organizations and scholars and identify gaps in the current research for further research.

In practice the study is significant to financial institutions because they are able to understand the relationship between demographic characteristics and loan performance in commercial banks credit, how customers, demographic characteristics influence the loan performance and therefore the overall performance of banks and facilitate bank management to seek ways to leveraged on the same to achieve high financial performance. The findings of the study assists central bank of Kenya in formulating guidelines and policies to facilitate banks in profiling their clients based on the demographic characteristics so as to enhance credit risk management in the banking sector and reduce the number of non performing loans.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

In this chapter, literature, which is related to and consistent with the objectives of the study, is reviewed. Important theoretical and practical problems are brought out; relevant literature on the aspects pertaining to effects of demographics characteristics on loan performance of commercial banks in Kenya is discussed.

2.2 Theoretical Framework

2.2.1 Theory of Informational Asymmetry

Information asymmetries arise when gaining information on the characteristics or on the behavior of the borrower are costly for the financial institution. Information asymmetries generate problems of allocation of loans to borrowers with undesirable characteristics such as a high level of risk or inability to take advantage of the loan (Lown and Morgan, 2003).

Early works of Brown & Zehnder (2006) stress the information production function of banks. Screening and monitoring procedures give an information advantage to banks that allow them to overcome information and incentive problems between the bank and the borrower. Therefore, the main benefit attributed to bank financing with respect to other sources of finance is that banks help overcome problems of asymmetric information by producing and analyzing information and by designing loan contracts that improve borrowers' incentives. Bank financing may also entail some costs (Degryse & Cayseele, 2000).

The difficulties in assessing the often complex demographic and credit information about individuals' past and current experience with credit has helped motivate the adoption of scoring methods for interpreting credit history (Lown & Morgan, 2003). A credit history score represents the estimated relationship between information on the credit histories of individuals contained in credit bureau reports and the likelihood of poor loan performance. In credit history scoring systems, prospective applicants receive a numerical score based on their individual credit history information; the score reflects the historic performance of loans extended to individuals with similar characteristics. Individuals with identical credit scores may have received them for different reasons, but within the context of the credit scoring index, they are assessed to have equal likelihoods of the predicted behavior, that is, they are considered to pose the same credit risk (Brown & Zehnder, 2006).

2.2.2 Adverse Selection Theory

The adverse selection theory of credit markets originates with the paper by Stiglitz and Weiss (1981). The theory rests on two main assumptions: that lenders cannot distinguish between borrowers of different degrees of risk, and that loan contracts are subject to limited liability.

Adverse selection and moral hazard increase the proportion of borrowers who cannot repay their loans on time. Borrowers that have enough money to reimburse their loan might also default strategically. The cost of strategic default might indeed be low if the lending institution has low collateral requirements and if the legal system gives little power to the financial institution to enforce contracts. Financial institutions try to restrict the occurrence of those three types of situations in designing appropriate credit schemes

Moral hazard occurs when borrowers exert low efforts on production (non-contractible effort) or divert production loans for consumption purpose (credit diversion). These two problems raise default rates and lower lenders' expected return (Armendariz & Morduch, 2010). To mitigate moral hazard problems lenders often ask borrowers to provide collateral. However, collateral requirement results in severe quantity rationing and risk rationing, as poor households who do not have assets or fear of risking their assets to put as collateral are excluded from the credit market (Berhanu, 2005).

Armendariz and Morduch (2010) stated that adverse selection problems could potentially be eliminated if lenders had cheap ways to gather and evaluate demographic information on their clients and to enforce contracts. However, lenders typically face relatively high transactions costs when working with low income people since handling many small transactions is far more expensive than servicing one large transaction for a richer borrower. Another potential solution would be available if borrowers had marketable assets to offer as collateral. In this sense, any problem on the loan was covered by the borrower's asset. Thus, the lender could lend without a lot of risk (Karlan & Zinman, 2006).

2.2.3 Theories of Loan Performance

While option-based theories emphasize the role of equity in determining loan performance, other theories of loan performance additionally emphasize the financial footing of borrowers and their corresponding vulnerability to significant adverse changes in their financial or personal circumstances, referred to as triggering events. In this view, both negative equity and a triggering event would be associated with most defaults. A triggering event alone would not ordinarily cause a default when a

borrower has equity as collateral; rather, the borrower would sell the property and fully repay the loan to avoid the adverse consequences of a default. The role of triggering events focuses on adversities such as reductions in income brought about by a period of unemployment. Other events that may lead to repayment problems include bouts of illness, which may result in both large expenses and a disruption in income, and changes in family circumstances, particularly divorce.

Option-based and triggering-event theories suggest different relationships between delinquency and default. The options-based theory views default likelihoods that are closely linked to measures of income stability. Default rates are generally higher for the self employed and for those with higher percentages of non salary income and lower for those with longer employment tenures.

In assessing credit risk, lenders consider the size of the proposed down payment and the value of the collateral as determined by a property appraisal, which together determine the loan-to-value ratio. Lenders also evaluate the capacity of the prospective borrower to meet scheduled debt payments and to provide the initial funds required to close the loan. In so doing, lenders rely on many of the same factors that researchers have found to be important predictors of loan performance, including borrower sources of income; employment history (such as measures of employment stability and prospects for income growth); ratios of debt payment to income; and asset holdings, particularly the amount of liquid assets available to meet down-payment, closing cost, and cash reserve requirements. Lender may approve the loan if the applicant exhibits stable income and an excellent credit history. Similarly, a lender might consider large collateral to be a compensating factor offsetting weakness in some other area.

2.3 Empirical Review

In his study of loan performance Yaw Mensah (2012) sought to determine some risk factors that influence loan default repayment among customers in Akatakyiman Rural Bank Ltd –Komenda. To this end, some secondary data on some variables which influenced whether a customer defaulted or not in a loan accessed, was obtained from the credit department of Akatakyiman Rural Bank Ltd –Komenda. A total of 100 observations for a period of four (4) years (2006-2010) were done. There were eleven (11) variables in the data set. A logistic regression model was fitted to the data. It was found that among the variables that were significant included security and type of loan were significant to the study, besides Sex, Marital Status, Age, Educational Level,

In their study on the determinants of loan repayment performance of fishermen in Ghana, Acquah and Addo (2011) surveyed 67 randomly sampled fishermen using a standard questionnaire. An interview schedule was the main tool of data collection while descriptive statistics and multiple regression analysis were the main analytical techniques. The study showed that majority of the fishermen interviewed were in the productive age range, had high average annual income and were experienced fishermen. Empirical results indicated that 70.1% of the fishermen interviewed had delayed repayment and this was partly attributed to low catch and high debts from fishmongers. Regression estimation results reveals that loan repayment increased with years of education, fishing income, years of fishing experience and amount of loan whilst the age and investment made negatively influenced the amount of loan repaid. The regression analysis finds the fishing income, loan and amount of investment made as significant predictors of the amount of loan repaid.

The Microfinance Centre for Central Asia (2011) sought to understand the aspects of untimely repayments which are usually, although not always, a symptom of over-indebtedness. The study sought to answer the question of the risk factors affecting timely repayments and generally understand the borrowing patterns in Kyrgyzstan. The objectives of the research were the following: Measure the level of debt use in the population of Kyrgyzstan, Understand the patterns of credit use; identify credit use characteristics and demographic features of borrowers with repayment problems and identify factors considered by financial institutions to affect indebtedness level. The analysis was conducted on a sample of 2,603 active borrowers – private persons. The sample consisted of two sub-samples: borrowers with all active loans repaid on time or with a delay not exceeding 30 days, borrowers with at least one loan overdue for more than 30 days. Credit records of active and past loans were analysed. The study findings indicated that Age: the youngest and oldest clients were the most disciplined ones in the repayment. The percentage of those delayed over 30 days was below 1% in both groups. The ones most often overdue were middle-aged.

Alsadek (2009) in his research study investigated the extent to which Libyan retail consumers' demographic variables influence their attitudes towards potential use of Islamic methods of finance. A self-administered survey, covering a random sample of 385 consumers was conducted using phone interviews during the months of December 2007 and January-February 2008 to gather their demographic variables and their opinions towards Islamic methods of finance. Descriptive statistics is used to indicate the main characteristics of the sample and potential use of Islamic methods of finance. The results indicate that most of respondents (85.9%) are potential users of Islamic methods of finance. Discriminant analysis is used to indicate which of these demographic variables has much impact on the attitudes of Libyan retail consumers

towards Islamic methods of finance. This analysis illustrates that professional status, monthly income; age and level of education are the most important variables in discriminating between the two groups of retail consumers (those who are potential users of Islamic methods of finance and those who are not).

In a related study Oladeebo (2008), examined socio-economic factors influencing loan repayment among small scale farmers in Ogbomoso agricultural zone of Oyo State of Nigeria. Results of multiple regression analysis showed that amount of loan obtained by farmers; years of farming experience with credit use and level of education were the major factors that positively and significantly influenced loan repayment. According to Oni et al. (2005) study on factors influencing loan default among poultry farmers in Ijebu Ode Local Government Area of Ogun State Nigeria; the result from the probit model revealed that flock size of the farmers significantly influence default in loan repayment at ($P < 0.10$) level. Age of the farmers significantly influence default in loan repayment at ($P < 0.01$) level, while Educational level and Income of the farmers also significantly influence default in loan repayment at ($P < 0.05$) level.

The use of Cohort Default Rate (CDR) as the primary measure of student loan defaults among undergraduates was investigated by Kesterman (2006). The study used data extracted from the National Student Loan Data System (NSLDS), quantitative analysis of Likert-scale survey responses from 153 student financial aid professionals on proposed changes to present metrics and methods, and anonymous, qualitative interviews with 12 notable scholars and experts about default aversion strategies. Sample of defaults over eight years revealed a default rate of 17.91%, or almost double the published two-year CDR of 9.6% for the 1996 cohort. Further, the actual average default rate for the entire student loan portfolio was found to be

13.65%, or 2.44 times higher than a point-in time CDR of 5.6% as of September 30, 2002, suggesting limitations of the CDR as the sole loan portfolio measurement tool. Additionally, there is dissatisfaction with the present 25% default rate ceiling required for schools to maintain institutional eligibility to participate in the Title IV federal student aid programs. Entire school groups exceeded the 25% default ceiling when viewed over eight years. The study also found strong support for greater utilization of loan guaranty agencies in default aversion instead of debt collection. The sample also indicates that the second, third, and fourth years of repayment constitute a high-risk period over the life of loan. Clearly, the second year is the peak in the risk profile. This finding also supports the use of the CDR as a useful short-term risk indicator that would be even more useful if it were extended to four years, as recommended by the qualitative survey results. The risk relationship over time holds true for individual school types.

In analyzing Student Loan Defaulters at the University of South Florida, Steiner and Tym (2005) used a sample of 17,036 undergraduate borrowers who attended the University of South Florida (USF), and who entered repayment on Federal Family Education Loan Program (FFELP) loans during federal fiscal years 1999, 2000, 2001, and 2002. Of the 17,036 USF undergraduate borrowers, 766 defaulted (4.5 percent). The report employed a technique known as logistic regression that isolates the independent relationship of each variable to the probability of default after accounting for the relationships of other relevant variables. The key findings were: Student borrowers who graduate are three percentage points less likely to default than those who do not graduate. Borrowers who enter repayment at age 31 or older are two percentage points more likely to default than those who are age 22 to 30. A Female student is one percentage point less likely to default on her student loan than a 'Male'

student is, all other things being equal. This finding is consistent with the findings in other studies. This study shows that the higher a student's grade point average, the lower the probability the student will default. A student with a GPA that falls between 0.00 – 1.99 is three percentage points more likely to default than a student whose GPA is 3.00 – 4.00, controlling for other variables.

In a study on loan performance Jemal (2003) sought to analyze the factors that influence microfinance loan repayment, evaluating the loan rationing mechanism and also assessing the impact of the program on the livelihood of borrowers, using primary data collected through structured questionnaire. The estimation results of the descriptive statistics and the probit model show that education, income, loan supervision, suitability of repayment period, availability of other credit sources and livestock are important and significant factors that enhance the loan repayment performance, while loan diversion and loan size are found to significantly increase loan default. In addition female borrowers were found better in terms of loan repayment. According to these findings the institution is recommended to see into these factors with care and design a better lending strategy focusing on effective supervision, training and approval of appropriate loan size so as to minimize the loan default problem observed. Moreover, it should pay attention to expanding of its services so that more poor women join the program and benefit from it there by contributing to the improvement of the repayment performance.

2.4 Summary

Previous research has determined that demographic characteristics have significant, associations to default. Income appears to be the most commonly-tested demographic variable, and studies have found higher income levels to be associated with decreases in the probability of default (Woo, 2002). Gender has also been analyzed, and researchers usually conclude that being female is related to a substantial reduction in the likelihood of defaulting. Podgursky et. al., Woo, and Meyer (1998) examined the age of the borrower and determined it to have a significant but small effect on default behavior, with increases in age related to higher probabilities of defaulting. In contrast, Knapp & Seaks (1992) did not detect a statistically significant relationship for either the gender or age of the borrower. Volkwein and Szelest (1995) also did not find an association between gender and default behavior. Among the other demographic variables that researchers have found to have significant relationships to default are the marital statuses of parents, (Kantrowitz, 2010). The parents' educational level, having dependants, the marital status of the borrower, the borrower's income have significant relationship with loan performance in banks.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This section presents the different methods that the researcher used to collect, analyze, present and discuss the findings of the study. This includes details on the research strategy, the different categories of respondents and how the data was collected during fieldwork. Also the ways through which the different data sets were analyzed and presented is discussed.

3.2 Research Design

The study used a descriptive survey approach in collecting data from the respondents. Descriptive survey research portrays an accurate profile of persons, events, or account of the characteristics, for example behaviour, opinions, abilities, beliefs, and knowledge of a particular individual, situation or group. The descriptive survey method was preferred because it ensured complete description of the situations, making sure that there is minimum bias in the collection of data (Kothari 2008).

3.3 Population

The Target population refers to the entire group of individuals or objects from which the study seeks to generalize its findings (Cooper and Schindler, 2008). The target population was drawn from the 43 licensed commercial banks which comprises of 6 large banks, 15 medium sized banks and 22 small banks (Central Bank of Kenya Supervision Report, 2011). The target population consisted of one (1) respondent from each of the 43 banks in Kenya. The study respondents therefore consisted of 43 credit managers, credit officers or credit analyst drawn from the 43 commercial Banks. The loan performance was for the year 2012 and a census sampling

methodology was used. Census is the total enumeration of all the subjects in the population (Mugenda & Mugenda 2004).

3.4 Data collection

3.4.1 Data Instrument

The primary data for this study was collected using the questionnaires, while secondary data involved review of written literature on the subject. This ensured that detailed and relevant information on the subject of study was collected.

3.4.2 Data collection Procedure

The questionnaires were self administered and each respondent received the same set of questions in exactly the same way. A letter requesting for information accompanied the questionnaire explaining the purpose of study to the respondents. Library and desk research was also carried out by scrutinizing official reports, guides and loan performance documentation which was availed by relevant banks. The researcher also looked out for loan performance trends from written literature in the libraries and other relevant sources

3.5 Data analysis

The study variables were categorized into dependent and independent variables. The dependent variable of this study was loan performance of commercial banks in Kenya, which was measured by the ratio of the banks Non-performing loans to the banks total loan book ; while the independent variables included: income level- measured by customers annual turnovers; education- measured by the different levels of education such as primary, secondary and tertiary; age which was measured by

the different age categories with a benchmark of 18 years; gender which was based on either one was a male or female

Quantitative data collected was presented in terms of descriptive statistics, means and standard deviations and was represented in tables and figures. The study used regression models to analyze the effects of demographics characteristics on loan performance of commercial banks in Kenya with the aid of Excel. The models were as presented in the equations below:

$$Y = \alpha + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + \varepsilon$$

Where;

Y = Loan performance in commercial banks = Total Non Performing Loans

Total loans

α_{1-4} = constants

b_{1-4} = Régression Coefficient

X_1 = Income level

X_2 = Age

X_3 = Level of Education

X_4 = Gender

ε = error term

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

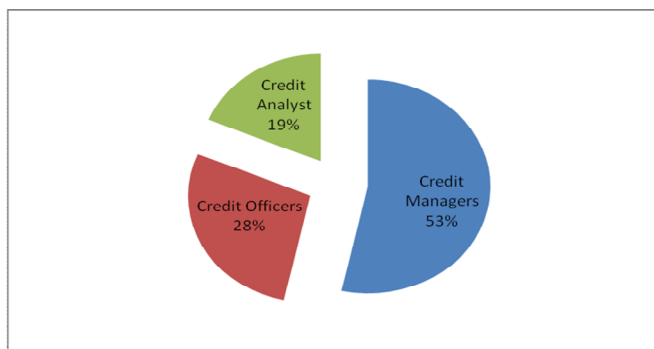
4.1 Introduction

This chapter presents the results of the study conducted based on the research methodology discussed in the previous chapter. This is followed by a discussion of the findings. Section 4.2 shows summary statistics, section 4.3 presents a discussion of the results, shows test of the hypotheses and finally presents a review of the proposed model.

4.2 Summary Statistics

All participants responded hence a total of 43 questionnaires were received from the respondents. The raw response data was visually checked for completeness and no questionnaire response was found with missing data. The data was summarized and coded. Majority of the respondents were credit managers (53%), 12 (28%) were credit officers while the rest 8(19%) were credit analysts. Figure 1 shows the classification of respondents by Job title.

Figure 4.1: Classification of Respondents by Job title



Source, Author 2013

To get descriptive statistics from the data set, the raw response data was computed and the value of the indicator variables was calculated as the mean of the constituent questionnaire items. The resultant statistics are as summarized in Table 1 below.

Table 4.1: Descriptive Statistics of Variables

Variable	Abbreviation	Median	mean	standard Deviation
Income level	X1	3.00	2.90	0.79
Age	X2	3.00	2.90	0.87
Level of Education	X3	3.00	3.03	0.92
Gender	X4	3.00	3.00	0.82
Loan Performance	Y	8.60	8.34	6.81

Source: Field Data (2013)

This table indicates the medians, means and the standard deviations of the variables. Among the independent variables, level of education had the highest mean of 3.03 while income level and age had the least means of 2.9. The dependent variable (loan performance) had an average of 8.7.

To determine the patterns of relationships between the dependent variable (loan performance and independent variables (demographic characteristics) regression analysis was carried out. The demographic characteristics were regressed on Loan performance. Specifically, a multiple regression analysis was conducted on income

level, Age, level of education and gender on loan performance. The output of these is summarized in the table below.

Table 4.2: Summary output of the regression of demographic characteristics on loan performance

<i>Regression Statistics</i>	
Multiple R	0.256964516
R Square	0.066030762
Adjusted R Square	0.032281789
Standard Error	0.275058648
Observations	43

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	4	0.203258139	0.050814535	0.671641226	0.615723007
Residual	38	2.874975868	0.07565726		
Total	42	3.078234007			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>
Intercept	1.197984953	1.08857439	1.100508118	0.278033532	1.005718671
X 1	0.013294319	0.251740144	0.05280969	0.958160192	0.496326956
X 2	0.203758067	0.137040084	-1.48685013	0.145305436	0.481181211
X 3	0.036348528	0.168262692	0.216022501	0.830125641	0.376978537
X 4	0.062510874	0.125604968	0.497678358	0.621578639	0.316784837

Source: Field Data (2013)

The resultant regression line is; $Y = 1.20 + 0.01X_1 - 0.20X_2 - 0.04X_3 - 0.06X_4 + 0.27$

The table above (Table 4.2) shows a multiple regression of demographic characteristics on loan performance, the results show that the P values are greater

than 0.05($P>0.05$) meaning that there is no statistical significant relationship between demographic characteristics and loan performance.

4.3 Discussion of Results

To achieve the study objectives, four null hypotheses were tested. The first null hypothesis asserts that income level has no influence on loan performance. Conversely, the alternative hypothesis states that income level influences loan performance. From the regression output (Table 4.2), the p value was 0.96. This means that there is a 96% chance that the results of the regression would have come up due to random distribution. Since the P value is greater than 0.05($P>0.05$) the null hypothesis is accepted while the alternative hypothesis rejected. The conclusion is that there is no statistical significant relationship between income level and loan performance. The regression equation($Y = 1.20+0.01X_1 -0.20X_2 -0.04X_3 -0.06X_4 +0.27$) implies that when all other independent variables are held constant, a unit change in income levels would increase loan performance by 0.01.

The second null hypothesis states that age does not affect loan performance. From the regression output (Table 4.2), the p value is 0.15 and since the p value is greater than 0.05($P>0.05$) this null hypothesis is also accepted. The conclusion is that influence of age on loan performance is statistically insignificant. The regression equation($Y = 1.20+0.01X_1 -0.20X_2 -0.04X_3 -0.06 X_4 +0.27$) shows that when all other independent variables are held constant an increase in age decreases loan performance by 0.20.

The third alternative hypothesis asserts that level of education influences loan performance. The p value for this regression was 0.83. The null hypothesis was accepted and the alternative hypothesis rejected since the p value was greater than 0.05. Therefore level of education does not influence loan performance.

Finally, the fourth null hypothesis states that gender has no influence on loan performance. The alternative hypothesis holds that gender influences loan performance. The regression output (Table 4.2) showed that the p value was 0.62. The alternative hypothesis was rejected and the null hypothesis accepted since the p value was greater than 0.05. Gender has therefore no influence on loan performance. Interpreting the regression equation ($Y = 1.20 + 0.01X_1 - 0.20X_2 - 0.04X_3 - 0.06X_4 + 0.27$) shows that when all other independent variables are held constant an increase in gender uptake of loans decreases loan performance by 0.06.

The acceptance of the four null hypotheses and the consequent rejection of the alternative hypotheses imply that there's no significant relationship between demographic characteristics and loan performance.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMEDATIONS

5.1 Introduction

This chapter presents a summary of the findings to the study, and in the process, draws conclusions based on the finding of the study. The chapter subsequently, makes recommendations arising from the conclusions of the study. Finally the chapter makes suggestions for further research in connection with certain specific areas of this study.

5.2 Summary of Findings

The purpose of the study was to examine the effects of demographics characteristics on loan performance of commercial banks in Kenya. The data was collected from participants drawn from all the operational commercial banks in Kenya. The analysis of the data provided an understanding of the influence of demographic characteristics on the loan performance of commercial banks in Kenya.

To determine the relationships between the dependent and independent variables, regression analysis was conducted. The results of the study indicate that at 95% confidence level, the study variables were statistically insignificant. The p values of the regressions were greater than 0.05 hence all the null hypotheses were accepted. Income levels, age, level of education and gender have no influence on loan performance.

Demographic characteristics have therefore no significant influence on loan performance.

5.3 Conclusion

The study brings to the fore the understanding of the relationship between demographic characteristics and loan performance within commercial banks in Kenya. Though the practice has been that customer demographic characteristics form an important aspect that Banks consider when advancing loans, this study finds that borrowers' demographic characteristics do not influence loan performance in commercial Banks in Kenya. It therefore brings to fore the fact that there might be other factors other than demographic characteristics that affect loan performance of commercial banks in Kenya.

It therefore follows that knowledge about the demographic characteristics of customer, that is, the customer's income levels, level of education, age and gender does not directly translate to better or worse performance of a Bank's loan book.

5.4 Limitations of the study

This study was constrained with time. Timeframe for the study was too short and limited the scope and depth of the study. There were also limitations of measurement which are common to social researchers, measuring beliefs, opinions, feelings that are common in perception studies is a great challenge since they tend to change so frequently and across perspectives.

Matters concerning banking and financial status are more often regarded as confidential information hence there were some respondents who did not provide full information for fear of being reprimanded by their seniors for giving out information that they might consider confidential in terms of customer and bank confidentiality. However, the researcher assured the respondents of the confidentiality of the

information that they provided and sought authority from management to undertake research in the institution.

There were some respondents who did not provide authentic information but instead provided general information making it difficult to obtain the required information

Most respondents seemed to be too busy to cooperate in filling the questionnaires.

The researcher had to do various follow ups on email and or calls to remind them to fill the questionnaires. This turned out to be both expensive in terms of time and resources. Finally the study was limited to commercial banks and its findings cannot be used to generalize on all financial institutions.

5.5 Recommendations for further Research

Although the research objectives were achieved, the study findings seem to open up the need for further research. First, this study can be extended to other financial institutions in Kenya to establish the relationships between demographic characteristics and loan performance. Further research is also required to explore what factors influence loan performance in commercial Banks in Kenya such as interest rates on loans, credit management practices among other factors. However, despite the limitations, this study can act as a stepping-stone in the assessment of the influence demographic factors have on loan performance.

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APPENDICES

Appendix 1: Research Questionnaire

Please answer all the questions as best as you can.

Please Tick as appropriate

PART 1: Bio Data

1. Name : _____ Optional

2 Positions in the Bank

a) Credit Manager b) Credit Officer c) Credit Analyst

PART 2: Income Level

3. What was the average income level in Kenya shilling for your borrowing clients as evidenced by their monthly bank transactions in the year 2012?

1000- 20,000 21,000- 40,000 41,000- 60, 0000 61,000- 80,000

81,000- 100,000 101, 0000 –120,000 121,000- 140, 0000 over 140,000

4. what was the frequency of loan uptake per income category of bank's borrowing clients in the year 2012

Income Categories (In Kshs)	Most	Frequently	Frequently	Occasionally	Not at all
1,000- 20,000					
21,000-40,000					
41,000-60,000					
61,000- 80,000					
81,000- 100,000					
101, 0000 – 120,000					
121,000 -140,000					
Over 140,000					

5. Rate the average performance of the loans taken per income category by bank's borrowing clients in the year 2012.

Income Categories (In Kshs)	Very High	High	Moderate	Low
1,000-20,000				
21,000- 40,000				
41,000- 60, 0000				
61,000- 80,000				
81,000- 100,000				
101 0000 – 120,000				
121,000-140,000				
over 141,000				

PART. 3- Age

6. What was the average age bracket of the bank's borrowing clients in the year 2012?

18- 28 [] 29- 39 [] 40- 50 [] 51- 61 [] 62- 72 [] over 72 []

7. Indicate the annual frequency of loan uptake per age- category of bank's borrowing clients in the year 2012

Age Categories	Most Frequently	Frequently	Occasionally	Not at all
18- 28				
29- 39				
40- 50				
51- 61				
62- 72				
Over 72				

8. Rate the annual average performance of the loans taken by the bank's clients as per age category in the year 2012

Age Categories	Very High	High	Moderate	Low
18- 28				
29- 39				
40-50				
51-61				
62- 72				
Over 72				

PART 4: Level of Education

9. What was the average level of education for the bank's borrowing clients in the year 2012?

Primary level []

Secondary level []

Diploma level []

Degree level []

Post graduate []

10. What was the frequency of loan uptake per level of education of bank clients in the year 2012?

Level of Education	Most Frequently	Frequently	Occasionally	Not at all
Primary level				
Secondary level				
Diploma level				
Degree level				
Post graduate				

11. Rate the average performance of the loans taken by the bank's borrowing clients as per level of education category in the year 2012.

Level of Education	Very High	High	Moderate	Low
Primary level				
Secondary level				
Diploma level				
Degree level				
Post graduate				

PART 5: Gender

12. What is the proportion of men to women who borrow in your bank?

50\ 50 [] 40\60 [] 70\30 [] 80\ 20 [] 90\10 []

13. Indicate the frequency of loan uptake per gender category of bank’s borrowing clients in the year 2012

Gender Category	Most	Frequently	Frequently	Occasionally	Not at all
Men					
Women					

14. Rate the annual average performance of the loans taken by the bank’s borrowing client as per gender category in the year 2012

Gender Category	Very High	High	Moderate	Low
Male				
Female				

Thank You for Your Co-Operation

Appendix 2: List of Commercial Banks in Kenya Classified as Per Peer Group

COMMERCIAL BANKS	PEER GROUP
1. Barclays Bank of Kenya Ltd	Large
2. CFC Stanbic Bank Ltd	Large
3. Co-operative Bank of Kenya Ltd	Large
4. Equity Bank Ltd	Large
5. Kenya Commercial Bank Ltd	Large
6. Standard Chartered Bank Kenya Ltd	Large
7. Bank of Africa Kenya Ltd.	Medium
8. Bank of Baroda (K) Ltd.	Medium
9. Bank of India	Medium
10. Chase Bank (K) Ltd	Medium
11. Citibank N.A Kenya	Medium
12. Commercial Bank of Africa Ltd	Medium
13. Diamond Trust Bank Kenya Ltd	Medium
14. Ecobank Kenya Ltd	Medium
15. Family Bank Limited	Medium
16. Guardian Bank Ltd	Medium
17. Imperial Bank Ltd	Medium
18. I & M Bank Ltd	Medium
19. National Bank of Kenya Ltd	Medium
20. NIC Bank Ltd	Medium
21. Prime Bank Ltd	Medium
22. African Banking Corporation Ltd.	Small

23. Housing finance corporation ltd	Medium
24. Consolidated Bank of Kenya Ltd	Small
25. Credit Bank Ltd	Small
26. Development Bank of Kenya Ltd.	Small
27. Dubai Bank Kenya Ltd.	Small
28. Equatorial Commercial Bank Ltd	Small
29. Fidelity Commercial Bank Ltd	Small
30. Fina Bank Ltd	Small
31. First community Bank Limited	Small
32. Giro Commercial Bank Ltd	Small
33. Gulf African Bank Limited	Small
34. Habib Bank A.G Zurich	Small
35. Habib Bank Ltd.	Small
36. Jamii Bora Bank Limited	Small
37. K-Rep Bank Ltd	Small
38. Middle East Bank (K) Ltd	Small
39. Oriental Commercial Bank Ltd	Small
40. Paramount Universal Bank Ltd	Small
41. Trans-National Bank Ltd	Small
42. UBA Kenya Bank Limited	Small
43. Victoria Commercial Bank Ltd	Small

Source: Central Bank of Kenya

[http://www.centralbank.go.ke/images/docs/Bank Supervision Reports/Commercial Banks Directrory - 13 December 2011.pdf](http://www.centralbank.go.ke/images/docs/Bank_Supervision_Reports/Commercial_Banks_Directrory_-_13_December_2011.pdf)