THE EFFECT OF CREDIT CARD DEFAULT ON THE FINANCIAL PERFORMANCE OF THE KENYA COMMERCIAL BANK

BY

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DECLARATION

I, the undersigned declare that this is my original work and has not been submitted to any other college, institution or university for an award of a degree.

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DEDICATION

I dedicate this project to my loving husband, Mr. Morrison Kiruchi, my twins Lynn Wangeci and Lemmy Githinji, and my last born Lewis Kibe.

I also dedicate to my caring mom, Ms. Charity Wamuyu.

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I gives thanks to God Almighty for the gift of life and good health, family, resources and environment conducive for carrying out this project

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I that the management of my employer, Kenya Commercial Bank, for providing me with conducive environment for carrying out this project, and also for providing that the required research data.

Thank you all, and God bless you.

ABSTRACT

The purpose of this report was to the effect of credit card default on the financial performance of the Kenya Commercial Bank. Independent variables were number of accounts closed, non-performing loans and bad debt written off as a result of credit card default. The source of this information was data from the bank's credit card and financial system. Dependent variables were Earnings Per Share, Dividends per share, loans to customers, total asset and customer deposits. The source of this information was the bank annual financial reports. The period under evaluation was between year 2008 and year 2012. Linear regression was used to determine the rate and direction of change in performance with change in nonperforming loans.

In summary, the research findings are that Gold card holders are the majority card holders in KCB at 56%. Further, majority card cardholders are men (53%) with the proportion of female being 47% only. In terms of revenue, although gold card has the highest number of card holders (56), it only contributes 33% of the revenue collected through credit cards. In terms of credit card default, 100% of all the holders of local credit cards are defaulters. In terms of revenue, although gold card has the highest number of card holders (56), it only contributes 33% of the revenue collected through credit cards. In terms of credit card default, 100% of all the holders of local credit cards are defaulters.

This research's conclusion therefore is that The proportions of credit card holders, revenue collected as well as the amounts and proportion defaults from credit cards vary between different types of cards. The distribution of cardholders seems to take a bell shaped curve with respect to age, with the age group between 35-45 being the highest number of card holders. On the other hand, the distribution of credit card defaulters takes a left skewed curve, with the age between 25-35 year having the highest proportion of defaulters.

Given that age between 25-35 years has the highest proportion of defaulters, it has been recommended that bank be more vigilant when managing the card holders within this age group. The bank should also establish and address factors that make this group have the highest proportion of defaulters. Further, further, due to the finding that credit card defaults negatively affects the bank performance on EPS, DPS, customer deposits as well as total assets, it has been recommended that KCB to continue ensuring that there is decline in number of credit card default. Finally, since this research has further established that the proportions of credit card holders, revenue collected as well as the amounts and proportion defaults from credit cards vary between different types of cards, recommendation is that there is need to have policies that are tailor made for each category of credit cards. This will aim to maximize revenue while still minimizing the risk of default per each type of credit card.

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LIST OF ACRONYMS

ATO	-	Ankara Chamber of Commerce
BBK	-	Barclays Bank of Kenya
CAMEL	-	Capital adequacy, Asset quality, Management efficiency, Earnings performance and Liquidity
CAMPARI	-	Character, ability, margin, purpose, amount, repayment, insurance
CAR	-	Cumulative abnormal return
CBK	-	Central Bank of Kenya
CTRs	-	Currency Transaction Reports
DPS	-	Dividends Per Share
EPS	-	Earnings Per Share
FDIC	-	Federal Deposit Insurance Corporation
IMF	-	International Monetary Fund
KCB	-	Kenya Commercial Bank
MP	-	Market power
NPL	-	Non performing loan
RMP	-	Relative market power
ROA	-	Return on Assets
ROE	-	Return on Equity
SPSS	-	Statistical Package for the Social Sciences
SCP	-	Structure conduct performance

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CHAPTER ONE: INTRODUCTION

1.1   Background of the Study

The credit card system is one whereby the card holder can make purchases on credit up to an amount agreed by him / her with the credit card company by presenting the card in lieu of cash. It is used both as a convenient payment medium in place of cash and checks and as a means of obtaining short-term revolving credit (Goyal, 2006). Further, Cohen (2005) posits that approximately half of credit amount represents 'convenience debt' that is fully paid off each month and, from consumers' point of view, simply represents an expedient form of payment. Used in this manner, credit cards are an eminently practical means to access a costless short-term loan; moreover, because of the rewards that often accrue, this kind of usage can actually be quite beneficial for cardholders.

1.1.1   Credit Card Default

Calem and Mester (1995) investigated the situation of the people's inability about paying their credit card debts and found that card holders with high unpaid debts have higher probability of default. In their study, Black and Morgan (1998) stated that there are important effects of the social and demographic factors about the rise of not paying the credit card debts. Dunn and Kim (1999) found that the variables, the total minimum required payment to income ratio, the percentage of total credit line which the consumer has used and the number of credit cards on which the consumer has charged to the credit limit have statistically significant positive effects on the probability of credit card default. They found that the total credit card debt to income ratio has no explanatory power on the default probability.

Credit Default is a continual risk to credit card issuers. They take responsibility for paying the acquiring banks, who then pay the merchants for the transactions, then bill the card holder for the balance. If the card holder cannot pay, however, the card issuer still

must pay the acquiring bank. This risk is mitigated, however, by legal regulation that allows the credit card issuer to pursue the defaulted borrower for the money owed. Furthermore, credit card companies actually profit when people don't pay their credit card bills on time, because they earn interest on the late payments. Credit cards are typically unsecured, which means that when you take out a credit card, the card issuer provides you with access to credit without requiring you to secure the debt with any kind of collateral. Unsecured debts expose banks to a higher risk of loss than secured debts; however, banks take measures to not only minimize credit card losses but also to maximize credit card profits.

Financial institutions are exposed to a variety of risks among them credit risk (Cooperman, Gardener and Mills, 2000). In some instances Commercial banks have approved decisions that are not vetted well, especially while issuing credit cards leading to many cases of defaults and non performing loans in their books. These adversaries have in turn affected the performance of the commercial banks in the recent years. While the commercial banks have faced difficulties over the years for a multitude of reasons, the major cause of serious financial problems continues to be the size of the bad loan book which is mainly being contributed to the rising number of cases on the credit card default. Credit extended to borrowers in terms of credit cards may be at risk of default leading to a decrease in income for the banks due to the need to provision for the bad book. CAMPARI focused on assessing the borrower and was supposed to determine whether a loan is good or bad, recoverable or not recoverable. The acronym stands for character (says a lot about the probability of a loan arrangement going sour), ability (borrower's ability in managing financial affairs), margin (the bank should obtain a reasonable return in view of the risks taken), purpose (should be accepted to the bank), amount (the

potential customer should justify the amount requested), repayment (lender should ensure the source of repayment is clear) and insurance (security is necessary in case the repayment proposals fails to materialize (Kaynak 2001).

Financial institutions should ensure to make use of credit rating or scoring bureaus to ensure that they catch some of the fraudulent applications before credit cards risks are experienced by the bank. Prevention is definitely better than cure. The credit reference bureaus have to ensure that they keep updated and accurate information in their data. If the integrity of the bureaus is compromised, then credit card risks management would become harder to frustrate and contain to manageable levels. It is therefore extremely important for the financial institutions to consider the losses they incur due to weak or nonexistent credit card risks in Kenya management department or unit that is involved in vetting credit card application forms.

1.1.2 Financial Performance

There are many aspects of the performance of commercial banks that can be analyzed. This study focuses on the profitability performance of commercial banks in Kenya. Kamau (2009) observed that the importance of bank profitability can be appraised at the micro and macro levels of the economy. At the micro level, profit is the essential prerequisite of a competitive banking institution and the cheapest source of funds. It is not merely a result, but also a necessity for successful banking in a period of growing competition on financial markets. Hence the basic aim of every bank management is to maximize profit, as an essential requirement for conducting business. At the macro level, a sound and profitable banking sector is better able to withstand negative shocks and contribute to the stability of the financial system. Bank profits provide an important

source of equity especially if re-invested into the business. This should lead to safe banks, and as such high profits could promote financial stability (Flamini et al, 2009).

To identify the relevant factors influencing commercial bank profitability in Kenya, this study concentrated on bank-specific factors based on the CAMEL framework and market structural factors; ownership and market concentration. CAMEL is a widely used framework for evaluating bank performance. Several studies (Elyor (2009), Uzhegova (2010)) have used CAMEL to examine factors affecting bank profitability with success. CAMEL stands for Capital adequacy, Asset quality, Management efficiency, Earnings performance and Liquidity.

1.1.3 Effect of Credit Card Default on Financial Performance

Despite the bank's attempts to limit credit cards to only the most creditworthy borrowers, some people inevitably fall on hard times and default on their debts. Banks can lose huge sums of money when borrowers default. However, banks offset their losses by charging higher interest rates to other borrowers.

During severe recessions banks incur higher than normal losses on credit cards. To offset these losses, banks charge annual fees and sell other card-related services, such as credit monitoring services to raise more fee income. In a worse case scenario, a bank faced with heavy losses could turn an unsecured credit card into a secured debt. Laws in many states enable creditors to place liens on residential property to force the repayment of debts. This rarely happens, but the fact that it could, provides some peace of mind to the credit card companies during tough economic times.

This may adversely affect the credit card industry as a whole. For the credit payment system to thrive, card holders must continuously and increasingly consume with their

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credit cards. A downturn in the economy will reduce overall transaction volume and in turn the profits of credit card companies. In addition, downward economic trends may cause more card holders to default on their payments, thereby forcing issuing banks to sustain losses.

1.1.4   The Kenya Commercial Bank

Kenya Commercial Bank (KCB) is a financial services provider headquartered in Nairobi, Kenya. Shares of the stock of the parent company of Kenya Commercial Bank, are listed on the Nairobi Stock Exchange (NSE). The Group's stock is also cross listed on the Uganda Securities Exchange (USE), the Rwanda Stock Exchange (RSE) and the Dar es Salaam Stock Exchange (DSE). The bank's profit after tax for the year 2012 amounted to KSH 12,203,531,000 with earnings per share being KSH 4.11. As per its financial position, total assets amounted to KSH 367,379,285,000, there largest proportion being Loans and advances to customers (KSH 211,664,226). Also, the market price per share of KCB as at the end of year 2013 was KShs 21.6, with expected dividends growth of 5.8%. The dividend per share was KSH 1.9, resulting to dividend payout ratio of 46%. (Source: ke.kcbbankgroup.com/media)

In terms of market performance, KCB has the largest market share in Kenya in terms of Net assets (13.54% od KSH 2,330,335 millions), and in terms of customer deposits (13.1% of KSH 1,707,834 millions). In terms of number of deposit accounts, it had 1.283 millions, this being 8.09% of the market. Also, the bank had 0.221 millon loan accounts, this being 10.6% of total market. The bank's return on asset as at end of year 2012 was 5.2% which return on equity was 29.8%. also, as at the end of same period, the outstanding mortgage amounted to KSh 31,455 millions, out of which KSH 2,218 million was non performing   (Source: http://www.centralbank.go.ke/index.php/news/295-banking-sector-records-improved-performance-in-2012)

KCB has five categories of credit cards to meet the varying needs for its customers. The first is gold card which targets mature established individuals who have a high class lifestyle that their financial status has accorded them. Its benefits are; is has 45 days interest free period on purchases, flexible payment options and global card acceptability. The second type is the International Classic targeting individuals earning a minimum net salary of Ksh. 20,000. Its benefits are; The credit card bill can be settled via M-Pesa, Mobile Baking and Internet banking, one does not have to bank with KCB to obtain a credit card and, the cardholder can choose to pay for the outstanding amount in full.

The third type is Serena Card that Card is co-branded KCB and Serena hotels which allow customers to enjoy incentives at Serena Hotels worldwide. Its benefits are; Access to over 5000 establishments countrywide and 24M outlets worldwide, the credit card bill can be settled via M-Pesa, Mobile Baking and Internet banking, and Available for both KCB Non-KCB account holders.

The fourth type of KCB credit cards is Enables customers to transact safely and conveniently at any outlet that is accepts MasterCard worldwide and pay at a later date. It value proposition is; The credit card bill can be settled via M-Pesa, Mobile Banking or Internet banking, The cardholder can choose to pay for the outstanding amount in full, Line of credit is attached directly to card account and is available to cardholders with a revolving option. The last type is the Corporate Card . This is for corporate customers, Business banking and merchants, Used for senior staff allowances, Corporate travel, Entertainment etc. Its value proposition is; Flexible corporate statements for easy reconciliation, Convenient and easy tracking of staff allowances and, Releases employees from the hassle of carrying cash while out on official duties (Source: http://staging.ke.kcbbankgroup.com/personal-banking/kcb-cards/credit-cards)

1.2   Research Problem

As credit cards usage increased over the years so has the default rate by card holders. According to the credit report this has been affecting the banks net profit because these defaults end up becoming bad debts which the bank end up writing off. Several studies have been conducted in relation to credit card defaults but many of these studies have concentrated on credit card markets in the developed world.

Further, unlike many traditional loans, credit card borrowing does not require consumers to post collateral which may place a greater risk on the lender. Stiglitz and Weiss (1981) studied the tradition loan market theoretically using the tools of asymmetric information and adverse selection. However, with the growth of credit card debt in the U.S. economy in the last decade, researchers have increasingly turned their attention to various aspects of this unique credit instrument.

Locally, there is a paucity of research on the factors influencing credit card usage in Kenya. A similar research was conducted by Rotich (2006) using the case of Post Bank. However, their research was not based on any theoretical model with which to explain the prevalence of credit card default in Kenya, yet the question of cause-effect calls for a priori theory in research (Ghauri and Cronhaug, 2002). Furthermore, since their research was a case study, several other such case studies are necessary before generalization of research findings can be made.

Ondieki (2011) did a study The study indeed found out that the performance of KCB, as measured by the key performance indicators, has improved since the inception of the strategy in 2008. Using both primary and secondary data, Ondieki (2011) did a study that sought to establish the effect of the customer experience strategy on the performance of Kenya Commercial Bank. The study indeed found out that the performance of KCB, as

measured by the key performance indicators, has improved since the inception of the strategy in 2008. The growth of customer numbers, loans and deposits and profit before tax was phenomenon. Ndete (2011) carried out the study on the effect of The effect of M-Pesa technology strategy on the performance of Kenya Commercial Bank ltd. Ongore and Kusa (2013) studied on determinants of financial performance of commercial banks in Kenya. They used linear multiple regression model and Generalized Least Square on panel data to estimate the parameters, where they found that bank specific factors significantly affect the performance of commercial banks in Kenya, except for liquidity variable, and that the financial performance of commercial banks in Kenya is driven mainly by board and management decisions, while macroeconomic factors have insignificant contribution.

Studies so far been done locally include Mbijiwe (2005) on application of discriminant model of credit scoring process; a case of Barclaycard and Mucheru (2008) on investigation into credit card risk management a case study of Imperial Bank. It is evident from the above review that most of the studies were conducted in developed countries. There are limited studies targeting the emerging markets like Kenya. The local studies conducted examine individual commercial banks. Therefore this study attempted to fill this gap by proposing to explain effect of credit card default on the general profitability of commercial banks. The following research question guided the study: What is the effect of credit card default on the profitability of the issuing bank?

1.3 Objective of the Study
To establish the effect of credit card default on the financial performance of Kenya Commercial Bank

1.4　Value of the Study

This study will give policy makers a clear understanding of the factors that are more likely to have caused increase in credit card defaults, thus enabling them take adequate measures to revert this trend. This research will inform the bank's decisions regarding the maximum permissible credit that they should reasonably allow for each card holder.

Future in the field of academia, researchers interested in credit cards as an area of study would find this study useful as a point of reference in furthering their research.

As for theoretical application, this research will touch of the agency theory, by showing the effect of moral hazard in credit management on bank performance.

CHAPTER TWO: LITERATURE REVIEW

2.1   Introduction

This chapter reviews literature by previous scholars and authors on the topic of study. The chapter considers concepts, theories and previous research on: credit card default, financial performance of commercial banks, and the financial implication of credit card defaults on banks profitability.

2.2   Theoretical Review

In the theoretical review, the three main theories reviewed include the agency theory, transactions cost theory and production quality theory. Under agency theory, the bank is the principal while the credit card holder is the agent. On the other hand, , the bank can establish the credit worthiness of the cards holder by evaluating the frequency and amount of transactions that the customer has spent on credit card. The product quality theory infers that trade credit relation gives rise to two problems. On the one hand, sellers do not usually know the real credit-worthiness of their buyers and; on the other, buyers do not properly know the quality of the product that is being acquired.

2.2.1   Agency Theory

Consistent with the legal understanding of agency, Jensen and Meckling (1976) described the agency relationship as a contract (explicit or implied) in which one person, the principal, hires a second person, the agent, to perform some action. In such cases the principal formally delegates decision-making authority to the chosen agent. Jensen and Meckling(1976) began by assuming that each party to the contract consistently chooses those actions that are most likely to maximize his own expected utility (in other words, both agent and principal always act so as to promote their own self-interest). Although an agent's motivations may include the desire to work hard to achieve the principal's goals,

he may also be motivated by a desire to maintain the prestige or perquisites associated with the job, such as well-appointed offices and the use of corporate jets (all of which can be viewed as an economic loss from the principal's perspective). Although the assumption that both parties seek to promote their own self-interest is controversial among economists, a fact that Jensen and Meckling (1976) acknowledge, it remains the central tenet of agency theory.

Agency relationship is also manifested in credit cards. In this case, the bank is the principal while the credit card holder is the agent. The credit card holder is expected by the bank to pay back the amounts borrowed via credit cards together with their respective charges and interest. The customer is also expected to inform the bank whenever there is adverse variations in factors such as job termination, business close or relocation to out of country.

2.2.2 Transactions Costs Theory

This theory was developed by Schwartz (1974) and infers that suppliers may have an advantage over lenders in checking the real financial situation or the credit worthiness of their clients. In relation to credit cards, the bank can establish the credit worthiness of the cards holder by evaluating the frequency and amount of transactions that the customer has spent on credit card. It can also determine whether the card holder is creditworthy for large amount of debt especially if the customer has not had any incidence of credit card default. Suppliers also have a better ability to monitor and force repayment of the credit. The same also applies to credit cards, where the bank can monitor and force repayment of credit. This more so because the credit bureau give the right to the financial institution to recover credit from any bank account in any bank where the defaulter has money in his/her account. All these superiorities may give credit card a cost advantage when

compared with other normal issuance of loans. Three sources of cost advantage were classified by Petersen and Rajan (1997) as follows: information acquisition, controlling the buyer and salvaging value from existing assets.

The first source of cost advantage can be explained by the fact that sellers can get information about buyers faster and at lower cost because it is obtained in the normal course of business. That is, the frequency and the amount of the buyer's orders give suppliers an idea of the client's situation; the buyer's rejection of discounts for early payment may serve to alert the supplier of a weakening in the credit-worthiness of the buyer, and sellers usually visit customers more often than financial institutions do. In his model, Smith (1987) concludes that in two-part credit terms with a high interest rate, those buyers that do not choose to take advantage of the discount can be identified as high risks, because they may be having financial difficulties. In relation to credit cards, the bank can obtain information about buyers faster and at lower cost because it is obtained in the normal course of business. That is, the frequency and the amount the credit card holder transacts using credit card gives the bank an idea of the client's situation.

The second source of cost advantage arises from the power of the seller to threaten buyers. In other words, in some cases there are only a few alternative suppliers for the product needed and, consequently, buyers have very restricted choice. In this case, suppliers can threaten to cut off future supplies if they note a reduction in the chances of repayment. This advantage can become stronger when either the buyers represent only a small part of the supplier's sales or the supplier is part of a network and future community sanctions can be made by a group, which makes this threat much stronger. In relation to credit card, the bank can threaten the holder of lowering the credit limit. This is even stronger where the credit card holder operates in vast or remote regions where it is

difficult to access loans or even acquire cash from his/her bank account due to non availability of branch network for the bank where he holds an account.

The seller's ability to salvage value from existing assets is the third source of cost advantage. In the case of buyer default, the seller can seize the goods that are supplied. Mian and Smith (1992) and Petersen and Rajan (1997) provide two interesting approaches related to this cost advantage. The former obtain evidence supporting the idea that the more durable the goods, the better collateral they provide and the greater the credit offered by the suppliers. The latter point out that the extent to which the customers transform the product is also very important. The less they are transformed, the easier it will be for the supplier to repossess and sell the asset using the same channel. This least applies to credit card holders in that majority of banks do not asked for collateral for them to issue credit cards. To mitigate this, bank normally evaluate the potential sources of funds where the institution can salvage in case of default. For instance when issuing the cards to employed person, the institution gathers information of the employer, and requires the card holder to give the right to demand direct deduction from the salary in case of any default.

2.2.3 Product Quality Theory

The trade credit relation gives rise to two problems. On the one hand, sellers do not usually know the real credit-worthiness of their buyers and; on the other, buyers do not properly know the quality of the product that is being acquired. To solve the first problem, Smith (1987) suggests a model where sellers offer two-part credit terms because they can recognize potential defaults faster than financial intermediaries. Regarding the second problem, Smith (1987) also claims that with asymmetric information about product quality, sellers offer trade credit to allow buyers to verify product quality before

payment. In relation to credit cards, at initial point, the bank does not know the real credit-worthiness of applicants for the credit cards, on the other hand, there are situations where the credit cards carries some hidden charges that the applicant is not aware of. In application of two part credit terms as suggested by Smith (1987), the bank commits to periodically review the credit holders performance, based on which the credit limits are revised upwards or downwards as the case may be. Also, the credit card holders have the right to terminate the contract if they discover that there were hidden costs, terms and conditions unknown them

2.3   Measurement of Financial Performance of Banks

There are variations of bank performance measurement. Revell (1980) uses interest margin as a performance measure for U.S. commercial banks. He defines interest margin as the difference between interest income and expense divided by total assets. Arshadi and Lawrence (1987) measure bank performance using normal correlation analysis. Their multidimensional indexes include indexes of profitability, pricing of bank services and loan market share. However, those measures of bank competitiveness are not the ones evaluated by the financial market. Size affects the efficiency of banks. Previous research, especially in the United States, indicates that scale economies appear in small banks and not in large ones (Short, 1979; Miller and Noulas, 1996). More recent research shows that the levels of size for the existence of scale economies are higher due to economic development and market liberalization (Miller and Noulas, 1997)

Further, efficiency of the banking system has been one of the major issues in the new monetary and financial environment. The efficiency and competitiveness of financial institutions cannot easily be measured, since their products and services are of an intangible nature. Many researchers have attempted to measure the productivity and efficiency of the banking industry using outputs, costs, efficiency and performance.

The scale and scope economies of banking have been one of the issues related to the competitiveness and efficiency of banks which have been studied extensively. Murray and White (1983), recognized the multi-product nature of financial intermediaries and used a translog cost function to evaluate the scale and scope economies of credit unions in Canada. They found that large multi-product credit unions are more cost-efficient than small single-product credit unions. Gilligann *et al*. (1984) also utilize the translog cost function to examine scale and scope economies in U.S. banking firms. They found economies of scope but not economies of scale among U.S. banks in their sample. Hunter *et al*. (1990) analyze U.S. bank production using an intermediation approach and multi-cost production function. They found no evidence of cost complementary i.e. no sub-additive cost functions.

It has also been proved that in this new competitive environment, large banks will survive. Small banks could only survive if they specialized in a few of their activities (Peterson and Rajan, 1995; Hardy and Simigiannis, 1998). The efficiency and technical progress of German cooperative banks were examined by Lang and Welzel (1996). All banks enjoy productivity, which is higher in small banks according to this sample. The technical efficiency of large banks was examined by Miller and Noulas (1996). Larger and more profitable banks have higher levels of technical efficiency. At the same time, larger banks are more likely to operate under decreasing returns of and Hasan (1998). The profit efficiency of the new banks improves rapidly during the first years of operation, but on average it takes about nine years to reach established bank levels. Small banks lend a larger proportion of their assets to small businesses than do large banks.

2.4   Empirical Review

Slocum and Mathews (1970) testes whether social class and income can be considered as indicators of consumer credit behavior. They found out that while members of different

income segments exhibits different credit card use patterns, social class is not the most useful market segmentation variable for the credit card behavior of consumers and concluded that income level is better indicator of consumer credit card behavior than social class. In their studies Slocum and Mathews (1970) found out that cardholders with low income and socioeconomic status use cards to generate revolving credit more frequently than do rich and high status card holders.

Barker and Sekerkaya (1992) reported that the middle age group is the most likely to hold and use credit cards. There are studies in the literature related to credit attitudes of the individuals. In a study, Kaynak and Harcar (2001) investigated consumer attitudes and intentions towards credit card ownership in Turkey and found that the age group between 36 and 45 is more likely to own credit cards than any other group.

Stango (2002) did a study to find out information about the credit cards such as the number of credit card a card holder has, implemented interests rates, amount of credit card debt consumers have, expenses done with credit card and the problems caused by credit cards use. According to the survey results, 70.6 % of the card holders use more than one credit card. The answers given for some of the questions stated in the survey as follows: For the question of "Do you have any difficulty for paying the credit card bills in a year, if so; how many times?", 8.3 % said once, 17 % said twice, 14.2 % said three times, 6 % said four times, 9 % said 5 times, 13 % said always and 36.6 % said never. Devoted to the credit card payments, 28.2 % of the survey participants paid all their debts every month, 34 % of those paid the minimum required payment, 20.5 % of those paid a bit more than minimum level and 17.2 % of those did not pay any of the debts for several times.

Bakar and Tahir (2009) evaluated the performance of the multiple linear regression technique and artificial neural network techniques with a goal to find a powerful tool in predicting bank performance. Data of thirteen banks in Malaysia for the period 2001-2006 was used in the study. ROA was used as a measure of bank performance and seven variables including liquidity, credit risk, cost to income ratio, size, concentration ratio, were used as independent variables. They note that neural network method outperforms the multiple linear regression method but it lacks explanation on the parameters used and they concluded that multiple linear regressions, not withstanding its limitations (i.e. violations of its assumptions), can be used as a simple tool to study the linear relationship between the dependent variable and independent variables. The method provides significant explanatory variables to bank performance and explains the effect of the contributing factors in a simple, understood manner. This study adopted this approach to determine the effects of credit card default on the bank profitability in Kenya.

Mokaya (2011) conducted a study on the relationship between credit card default and cardholder characteristics, credit card characteristics, behavioral scoring process among commercial banks in Kenya. The study found out that majority of card holders charged up to about half (49%) of their shopping expenses to credit card. The study also found out that 34.4% of card holders carried forward 75%-100% of their credit card obligations every month while 25% of the card holders carried forward 50 – 74% of the obligations. Majority of card holders were in the income bracket of between Kshs. 25,000 – 50,000. The study found out that gender, assets held and other cards held affected credit card default to a small extent, whereas age, education, card holder's self control and lifestyle did affect credit card default to a large extent. An inverse relationship was found between card holder's age, income and loans held on credit card default.

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2.5   Summary of Literature Review

In a nutshell, the chapter presented a review of studies conducted on factors influencing credit card default, the impact of non performing loans default on banks performance. It was evident from the above literature review that most of these studies conducted targeted developed Countries. It was also evident that most of the studies done target the effects of default on traditional loans on the commercial banks profitability. Studies conducted in Kenya on credit card default were mostly on the relationship between credit card default and the causes and effect; no single study had been conducted to examine the effect of credit card default on the financial performance of commercial banks in Kenya. The study thus sought to fill in the identified knowledge gaps.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1   Introduction

The general objective of the study was to establish the effect of credit card default on the financial performance of Kenya Commercial Bank. This chapter describes the methodology used to carry out the research. It details the research design, the population, data collection methods, research procedures and the data analysis methods.

3.2   Research Design

Research design is the plan or strategy of shaping the research (Henn, Weinstein and Ford, 2006). This study took the form of descriptive design. According to Saunders, Lewis and Thornhill (2009) descriptive research design is defined as research where purpose is to produce an accurate representation of persons, events or situation. The independent variable was the credit card default while the dependent variable is the performance of KCB in terms of the non-performing loans, number of accounts closed and ban debts written off.

3.3   Data Collection

This research used secondary data from the Kenya Commercial Bank. The number list of credit cards default was generated from the bank's credit card management system. The bank system was also generated the number of accounts closed, Non performing loans and Bad debts written off.

3.4   Data Analysis

The data analysis was carried out in the form of descriptive statistical techniques. According to Healey (2009), descriptive aspects of statistics allow researchers to

summarize large quantities of data using measures that are easily understood by an observer. It consists of graphical and numerical techniques for summarizing data, that is, reducing a large mass of data to simpler, more understandable terms. Inferential statistical techniques such as correlation were established. The data was analyzed using Advanced Microsoft Excel

In evaluating the features of credit card default, this study compared the credit card default between the five types of KCB's credit cards and determines the type of card that contributes the defaults in terms of frequency and amounts defaulted. Further and still under objective this study was to evaluate the profile of credit card defaulters in terms of gender, age, and length of use of card to determine the areas where default is rampant in terms of frequency and amounts defaulted. The study also involved comparative analysis of the amounts defaulted between those relating to customers also holding bank accounts with KCB and those who don't. In each of the above, there was a trend analysis to evaluate how credit card default has changed over time for five years (2008 to 2012).

For the second objective, linier regression models were used to determine the rate and direction of change in bank performance with change in the number of credit card defaults. The following model were used to establish the effect of credit card default on bank performance.

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3;$$
Where,

Y = Bank performance as measured by Earnings Per Share, Dividends Per Share, loan and advances to customers and customer deposits

X_1 = Accounts closed relating to credit card default

X_1 = Non Performing Loans relating to credit card default

X_1 = Bad Debts written off relating to credit card default

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β_1, β_2, and β_3 are rates n change in performance with change in Accounts closed, Non Performing Loans and Bad Debts written off relating to credit card default respectively.

The key indicators for measuring bank performance was Profit after tax, loan and advances/total assets, Asset turnover ratios, Loan loss reserves/Non-performing loans, Price/Earnings Ratio and Dividend payout ratio

3.5   Test of significance

For the model's reliability testing, this study used the coefficient of determinant to determine the proportion of performance the can be predicted by the model. Coefficient of determinant, also referred to as R-squared, is a statistical measure of how close the data are to the fitted regression line. This is the percentage of the response variable variation that is explained by a linear model.

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Analysis of the Each type of Credit Cards

Table 4-1: Number of Card Holders

TYPE	Total Cards	Proportion
Gold	3179	56%
Serena	987	17%
Tuskys	752	13%
Classic international	480	8%
Local card	297	5%
TOTAL	**5695**	**100%**

Source: Research Findings

Gold card holders are the majority card holders at 56%, followed by Serena (17%), Tuskeys (13%), Classical International (8%), while the least are the Local Card holders (5%).

Table 4-2: Revenue collected

Gold	Amount (KShs.)	Proportion
Classic international	397,158,588	43%
Gold	301,200,199	33%
Serena	118,728,015	13%
Tuskys	78,152,181	8%
Local card	25,200,004	3%
TOTAL	**920,438,987**	**100%**

Source: Research Findings

Although gold card has the highest number of card holders (56), it only contributes 33% of the revenue collected through credit cards. On the other hand, while classic international card consists of 8% only of total number of credit card holders, it contributes this highest proportion of revenue (43%). This is followed by gold card (33%), serena (13%), tuskeys (8%) and last one being local cards (5%). Also worth noting is that the local card has the least number on credit card holder (5%) and contributes the least amount of revenue (3% only). The graph below gives an analysis the proportion of credit card holders per credit cards against total numbers of credits card holders, compared to revenue

Figure 4-1: Revenue collected

A bar chart showing Proportions (y-axis, 0% to 60%) versus Type of credit card (x-axis: Gold, Serena, Tuskys, Classic international, Local card). Legend: Proportion of card holders per type of card (blue); Proportion of card revenue per type of card (red).
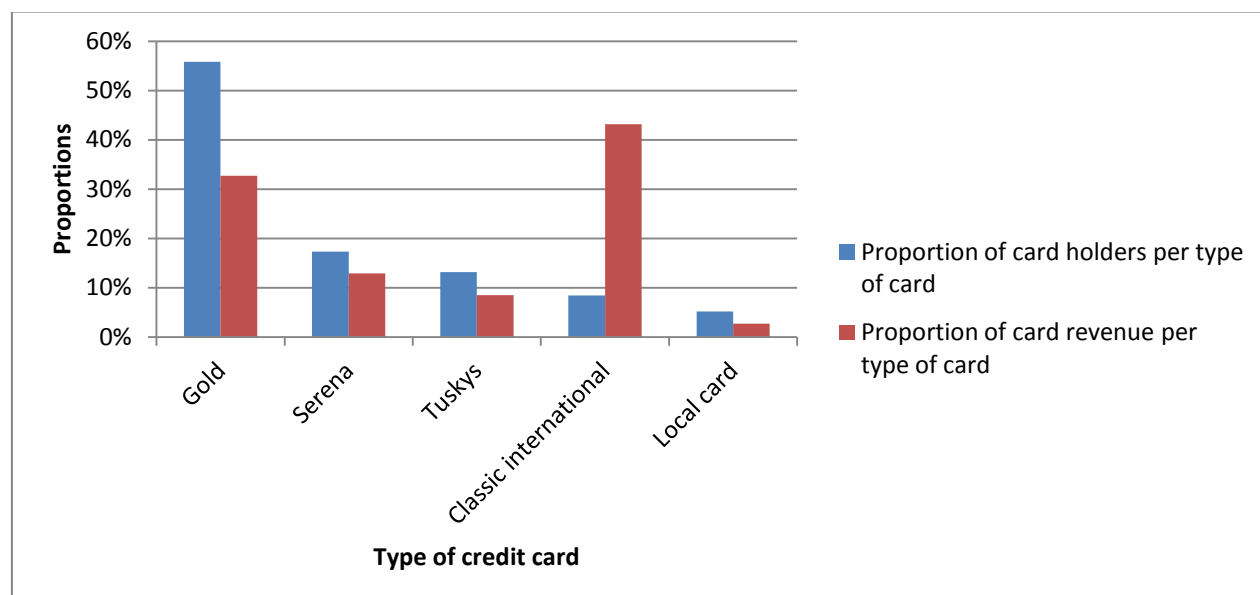
Source: Research Findings

As per the analysis above, proportion of cards holders is higher than that of revenue is higher than that of revenues all types of credit cards, except for the case of classic international, which is vice versa. This means that the major contributor of credit card revenues is the very classic international card with only 8% proportion of credit card holders.

Table 4-3: Analysis of credit card default

TYPE	Total Cards	Card Defaulted	Percentage of Card Defaulted	Total Amounts	Amounts Defaulted	Percentage of Amounts Defaulted
Gold	480	74	15%	301,200,199	22,217,903	7%
Serena	752	261	35%	118,728,015	22,996,612	19%
Tuskys	987	562	57%	78,152,181	28,506,124	36%
Classic international	3179	1160	36%	397,158,588	113,623,792	29%
Local card	297	297	100%	25,200,004	25,200,004	100%
TOTAL	**5695**	**2354**	**41%**	**920,438,987**	**212,544,436**	**23%**

Source: Research Findings

100% of all the holders of local credit cards are defaulters. For the rest, the proportion of amount defaulted is lower than the number of defaulters. This may mean that the defaulters do not default full amount of credit card revenue. It may also mean that the defaulters are those that do not frequently use their credit cards.

Local credit card holders has the high proportion of the of defaulters (100%), followed by tuskeys (57%), classic international (36%), serena (35%) and least is gold card holders (15%). In terms of revenue defaulted, local card defaults are still leading with 100%, followed by tuskey (36%), classic international (29%), Serena (19%) and least being the gold card holders (7%).

Table 4-4: Genderwise analysis of credit card holders and defaulters

Gender	No of Card Holders	Proportion of card holders per gender against aggregate	No of Defaulters	Defaulters per gender/total defaulters	Defaulters per gender/Card holders per gender	Defaulters per gender/Aggregate Number of Card holder
Female defaulters	2684	47%	961	41%	36%	17%
Male defaulters	3011	53%	1393	59%	46%	24%
Aggregate	**5695**	**100%**	**2354**	**100%**	**41%**	**41%**

Source: Research Findings

Majority card cardholders are men (53%) with the proportion of female being 47% only. This means that for every 100 cardholders, there are 53 men and 47 women. In terms of defaulters, the following graphs show the analysis against different dimensions.

Figure 4-2: Defaulters per gender/Card holders per gender
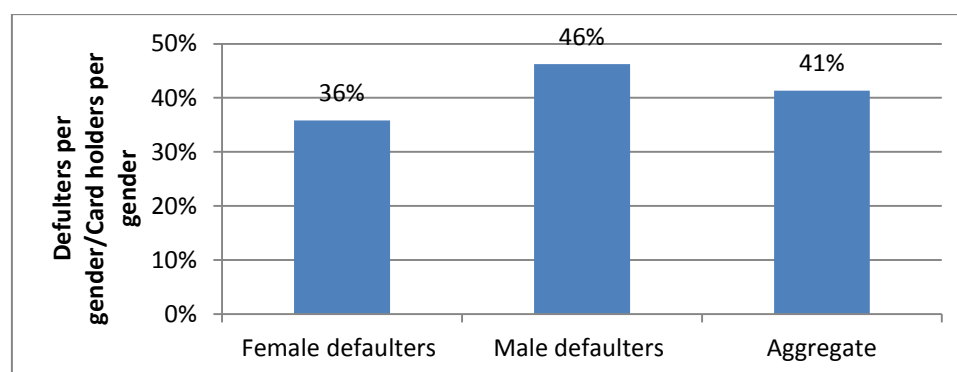
Source: Research Findings

Total number of male card holders is 3011 out of which 46% are defaulter. On the other hand 36% of 2684 female holders of credit cardholders are defaulted. In aggregate, 41%

of the total number of female and male cardholders is defaulters. This can thus be inferred that the rate of card default is higher in men as compared to women.

Figure 4-3: Defaulters per gender/total defaulters
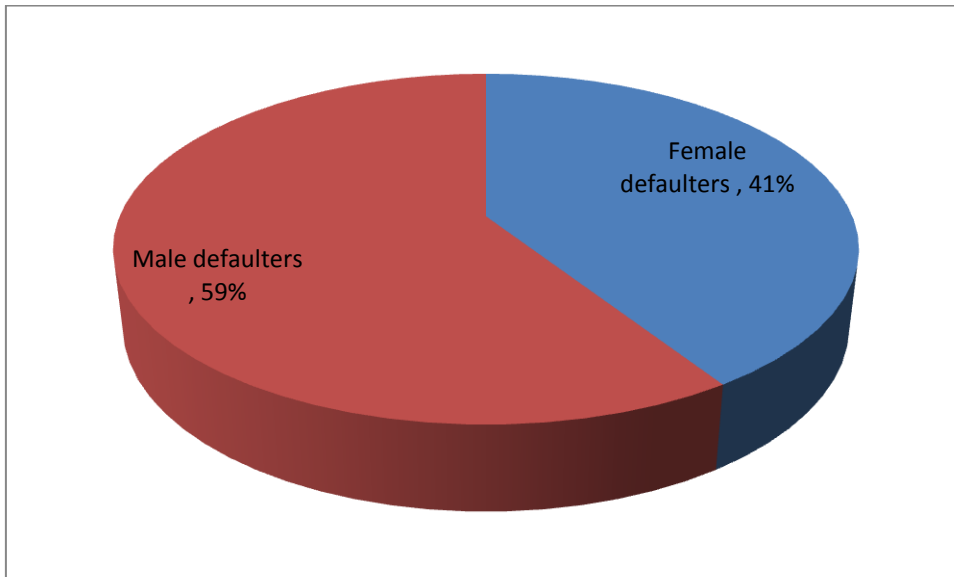
Source: Research Findings

59% of total defaulters are men while the rest 41 percent are female. This means that if one picks 100 defaulters, it is expected there men will be more than women by 18.

Figure 4-4: Defaulters per gender/Aggregate Number of Card holder
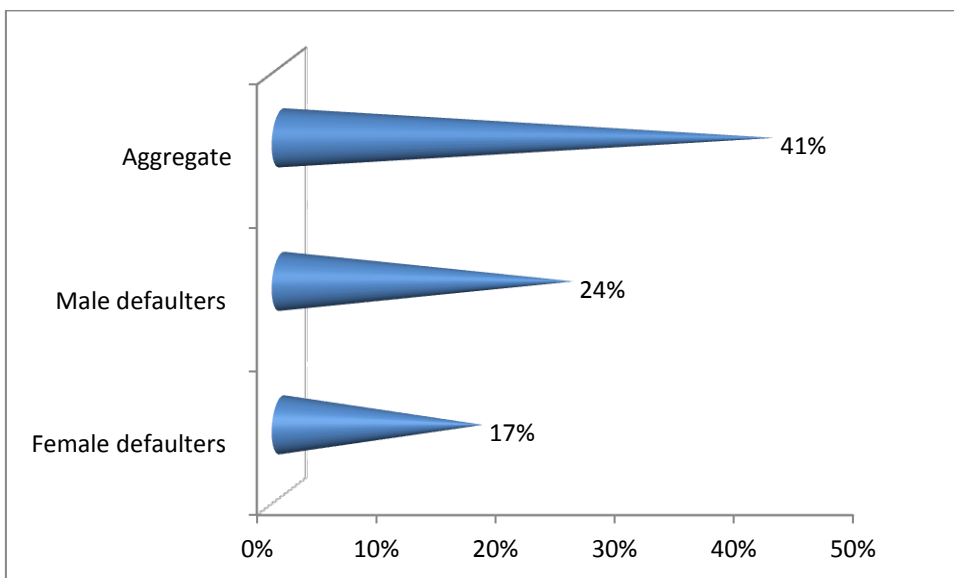
Source: Research Findings

In aggregate of 5695 cardholders, 24% are male defaulter and 17% are female defaulters. Therefore 41% of KCB card holders are defaulters. This means that if one randomly select a sample of 100 card holder it is likely that 41 of them will be defaulters, out whom 24 of them will be men while only 17 will be women.

Table 4-5: Agewise analysis of credit card holders and defaulters

Age Group	No of Card Holders	Proportion of card holders per Age Group against aggregate	No of Defaulters	Defaulters per Age Group/Aggregate no of defaulters	Defaulters per Age Group/Card holders per Age Group	Defaulters per Age Group/Aggregate Number of Card holder
Between 18-25	513	9%	93	4%	18%	1.6%
Between 25-35	1139	20%	916	39%	80%	16.1%
Between 35-45	1936	34%	805	34%	42%	14.1%
Between 45-55	1367	24%	517	22%	38%	9.1%
Above 55 years	740	13%	23	1%	3%	0.4%
Aggregate	**5695**	**100%**	**2354**	**100%**	**41%**	**41%**

Source: Research Findings

Figure 4-5: Distribution of credit card holders
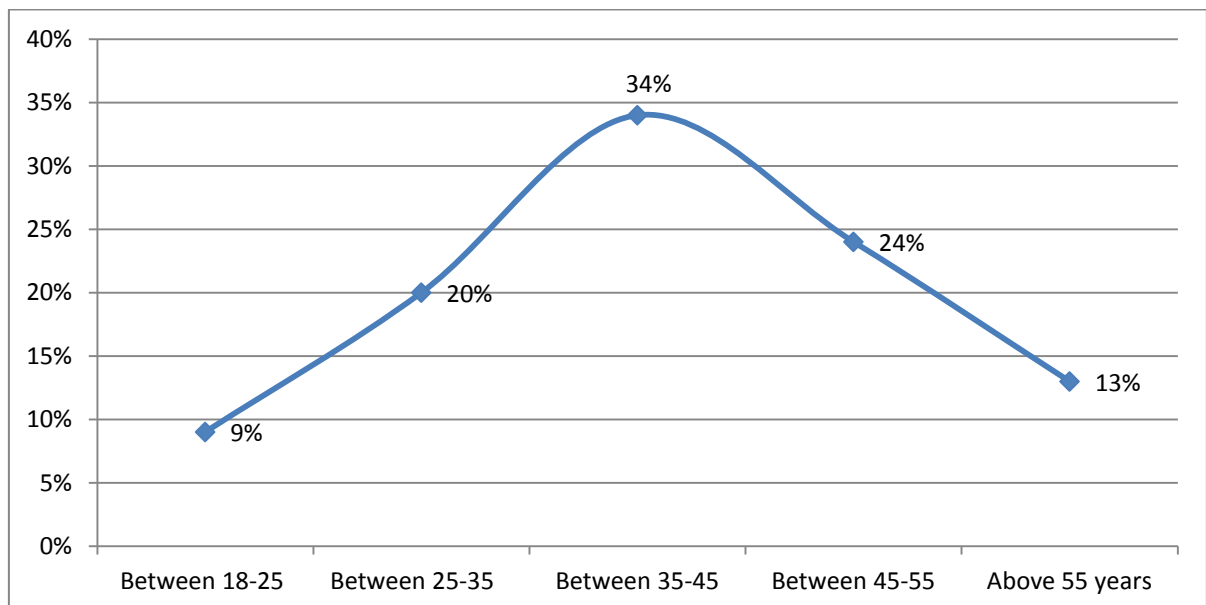
Source: Research Findings

The distribution of cardholders seems to take a bell shaped curve with respect to age. The proportion of card holders is lowest as the age between 18-15 years (9%), followed by 25-25 years (20%), maximizes at 35-35 years (34%), then declines to 24 at 45-55 year and further declines to 13% beyond 55 years.

Figure 4-6: Distribution of credit card defaulters
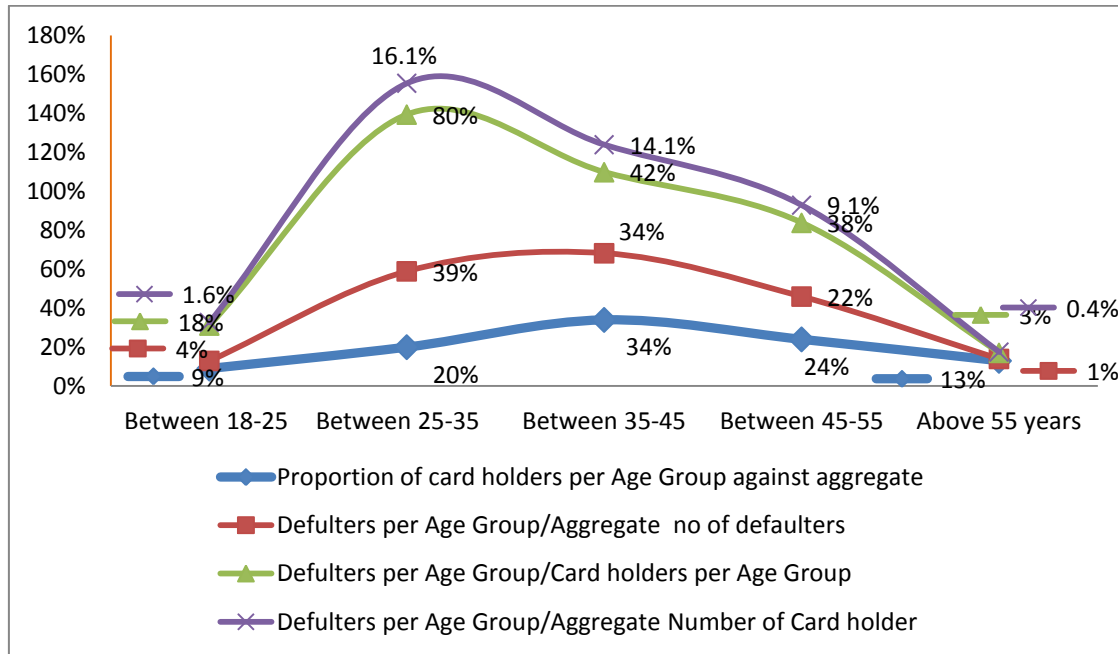
Source: Research Findings

As per the lines graph above, it is clear that distribution of credit card defaulters takes a left skewed curve, with the age between 25-35 year having the highest proportion of defaulters. Further, worth noting is that while the majority card holders are at the age between 35-55, as opposed to majority card that fall under the age between 25 and 35 years.

4.2 Accounts closed relating to credit card default
Five years trend analysis

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Table 4-6: Analysis of accounts closed to credit card default for a period of five years

	Years				
Description	**2008**	**2009**	**2010**	**2011**	**2012**
Accounts closed per year	-	176	130	96	72
Cumulative No. of accounts closed	663	839	969	1,065	1,137
Rate of growth per year	**0**	**27%**	**16%**	**10%**	**7%**

Source: Research Findings

Figure 4-7: The graph of Analysis of accounts closed to credit card default for a period of five years
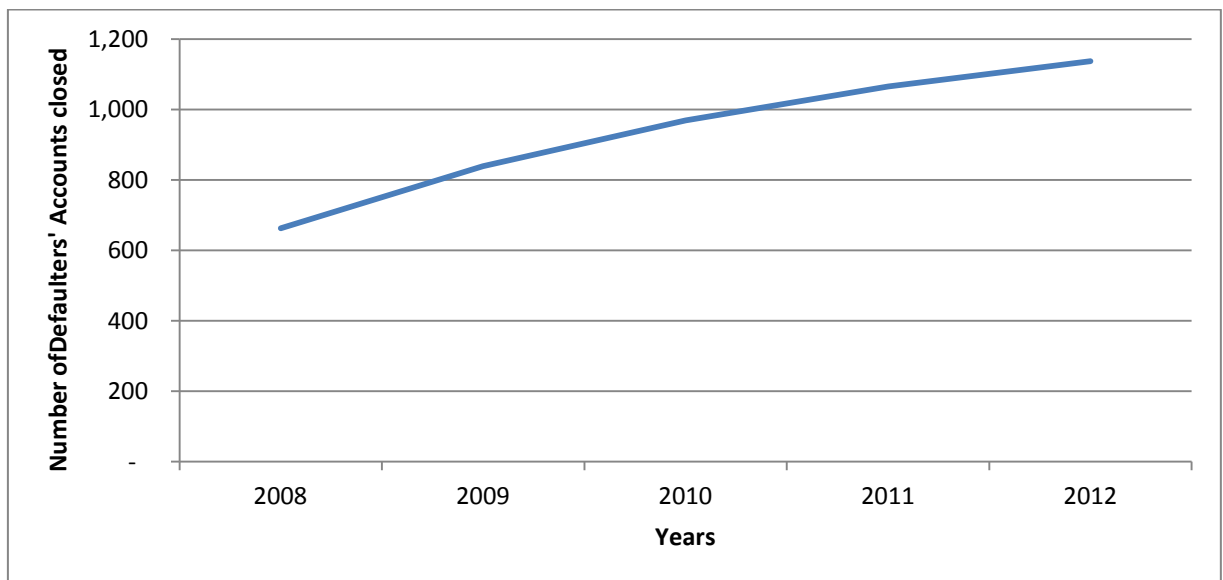
Source: Research Findings

The grand and the table above shows that the number of accounts closed due to credit card default has been on the rise but with a decreasing rate. The table below therefore evaluates the relationship between the change in growth rate and bank performance

Table 4-7: Relationship between defaulter's accounts closed and performance

Description	Year 2008	Year 2009	Year 2010	Year 2011	Year 2012	Value of b (the slope)	Value of r^2
X_1: Rate of Growth in the number of accounts closed	0.0%	26.5%	15.5%	9.9%	6.8%		
EPS	1.97	1.84	2.76	3.72	4.11	(3.21)	10%
Dividend payout ratio	51%	54%	45%	50%	46%	0.14	15%
loan and advances - KSh. Millions	94,000	123,000	148,000	199,000	212,000	(36,531.70)	1%
total assets - KSh. Millions	191,000	195,000	251,000	331,000	367,000	(211,979.38)	7%
Customer Deposits - KSh. Millions	127,000	163,000	197,000	259,000	288,000	(61,407.44)	1%

Source: Research Findings

The slope for Earnings per share (EPS), Loan advance, total assets and customer deposits is negative. This means there is positive relationship between the number of accounts closed due to credit card default and these performance indicators. That is, the lower the late of change in accounts closed, the better the performance. Coefficient of determinant between accounts closed and EPS is 10%, meaning that only 10% can be predicted by the change in accounts closed due to credit card default. Further, coefficient of determinant for loans advanced and customer deposits is 1%, meaning that 99% of loan and customers deposits are not affected by rate of change in accounts closed due to credit card default. Contrary to the above performance indicators, there is a positive relationship between the accounts closed and the dividend payout ratio. This means that any increase in the rate of change in accounts closed will lead to in increase in dividend payout ratio. As indicated by coefficient of determinant, 15% of dividend payout ratio are determined by the rate of change in accounts closed following the credit card default.

4.3 Non Performing Loans relating to credit card default
Five years trend analysis

Table 4-8: Five year analysis of non-performing loans

Years	2008	2009	2010	2011	2012
Per Year -KSH Millions	-	47	41	26	10
Cummulative Amounts - KSH Millions	89	136	177	202	213
Rate of growth per year	**1.00**	**1.53**	**1.30**	**1.15**	**1.05**

Source: Research Findings

Figure 4-8: Graphic presentation of Five year analysis of non-performing loans
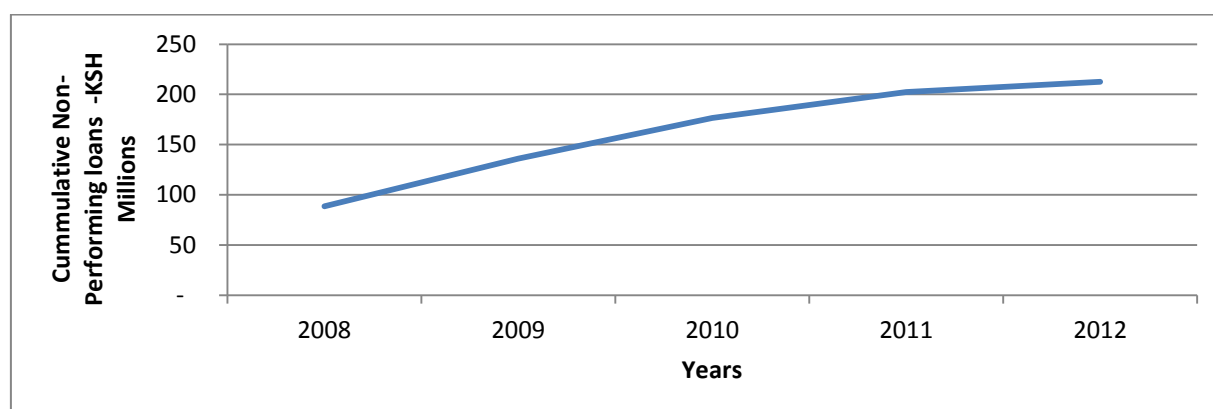
Source: Research Findings

Just like accounts closed as a result of credit cards default, the graph and the table above shows that the non-performing loans relating to credit card default has been on the rise but with a decreasing rate. The table below therefore evaluates the relationship between the change in growth rate and bank performance

Table 4-9: Effect of Credit card default Non-Performing loan on performance

Description	Values of a (y intercept)	Value of b (the slope)	Coefficient of Determinants
EPS	5.51	(2.18)	21%
DPS	2.48	(0.90)	19%
loan and advances - KSh. Millions	220,380.40	(54,052.30)	5%
total assets - KSh. Millions	453,436.33	(154,606.47)	18%
Customer Deposits - KSh. Millions	301,127.54	(78,223.21)	6%

Source: Research Findings

The slope and the coefficient of determination of EPS is negative 2.18 and 21% respectively. This means that for every percent change in the rate of growth in non-performing loans, EPS will change by KSH 2.18 in the opposite direction. This only applies to only 21% of EPS while the other 79% change in EPS is affected by factors other than growth in the level of nonperforming loans relating to credit card default.

The slope and the coefficient of determination of dividends per share (DPS) is negative 0.9 and 19% respectively. This means that for every percent change in the rate of growth in non-performing loans, DPS will change by KSH 0.9 in the opposite direction. This only applies to only 19% of EPS while the other 81% change in DPS is affected by factors other than growth in the level of nonperforming loans relating to credit card default.

The slopes for loans advanced to customers, total assets and customer deposits are negatives KSH 54,052.30, KSH 154,606.47 and KSH 78,223.21 million respectively. This means that a one percent increase in rate of change in non-performing loan relating to credit card default will lead to reduction in loans advanced to customers, total assets and customer deposits by KSH 54,052.30, KSH 154,606.47 and KSH 78,223.21 million respectively. This means that the magnitude of change in rate of growth in non-performing loans is greatest on the total assets, customer deposit and least affected by amounts of loans advanced to customers.

Further, coefficient of determinants for loans advanced to customers, total assets and customer deposits are 5%, 10% and 6% respectively. This means that only 5% of loans advanced to customers is affected by change in rate of growth in non-performing loans while 90% of the same is affected by factors other than non-performing loans. Similarly, the proportion of total assets and customer deposits is affected by non-performing loans is

10% and 6% respectively. This therefore means that total assets have the largest proportion that is affected by non-performing loans relating credit card default.

4.4 Bad Debts written off relating to credit card default
Five years trend analysis

Table 4-10: Five year analysis of Bad Debts written off relating to credit card default

Years	2008	2009	2010	2011	2012
Per Year -KSH Millions	-	62	53	36	29
Cumulative -KSH Millions	207	268	321	357	386
Rate of growth per year	1.0000	1.2980	1.1978	1.1123	1.0555

Source: Research Findings

Figure 4-9: The graph of Bad debts written off relating to credit card default
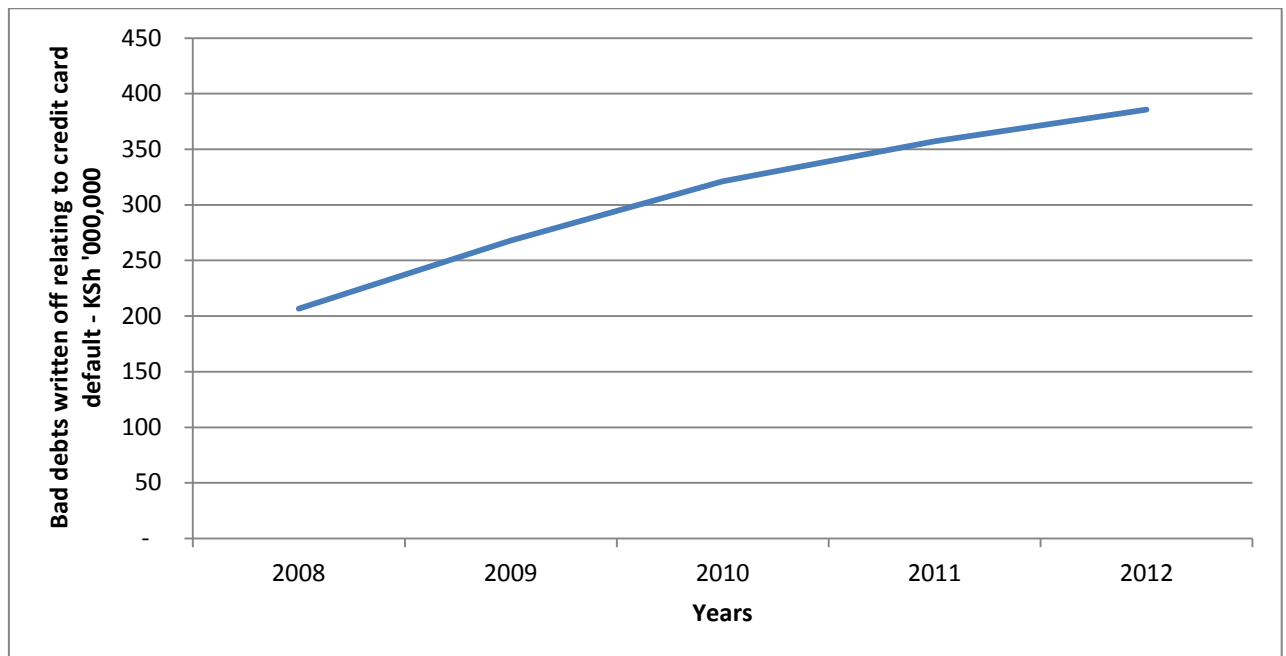
Source: Research Findings

Just like accounts closed as a result of credit cards default and non-performing loans relating to credit card default, the graph and the table above shows that bad debts written off relating to credit card default has been on the rise but with a decreasing rate. The table below therefore evaluates the relationship between the change in growth rate and bank performance

Table 4-11: The relationship between bad debts written off relating to credit card default and bank performance

Description	Values of a (y intercept)	Value of b (the slope)	Coefficient of Determinants
EPS	6.37	(3.08)	13%
DPS	2.84	(1.27)	11%
loan and advances - KSh. Millions	215,371	(53,121)	2%
total assets - KSh. Millions	509,387	(213,988)	10%
Customer Deposits - KSh. Millions	301,115	(83,265)	2%

Source: Research Findings

The slope and the coefficient of determination of EPS is negative 3.08 and 13% respectively. This means that for every percent change in the rate of growth in bad debts written off, EPS will change by KSH 3.08 in the opposite direction. This only applies to only 13% of EPS while the other 87% change in EPS is affected by factors other than growth in the level of bad debts written off relating to credit card default.

The slope and the coefficient of determination of dividends per share (DPS) is negative 1.27 and 11% respectively. This means that for every percent change in the rate of growth in bad debts written off, DPS will change by KSH 1.27 in the opposite direction. This only applies to only 11% of EPS while the other 89% change in DPS is affected by factors other than growth in the level of bad debts written off relating to credit card default.

The slopes for loans advanced to customers, total assets and customer deposits are negatives KSH 53,121, KSH 213,988 and KSH 83,265 million respectively. This means that a one percent increase in rate of change in non-performing loan relating to credit card default will lead to reduction in loans advanced to customers, total assets and customer deposits KSH 53,121, KSH 213,988 and KSH 83,265 million respectively. This means that the magnitude of change in rate of growth in bad debts written off is greatest on the

total assets, then followed by customer deposit and least affected by amounts of loans advanced to customers.

Further, coefficient of determinants for loans advanced to customers, total assets and customer deposits are 2%, 10% and 2% respectively. This means that only 2% of loans advanced to customers is affected by change in rate of growth in bad debts written off while 98% of the same is affected by factors other than bad debts written off. Similarly, the proportion of total assets and customer deposits is affected by bad debts written off is 10% and 2% respectively. This therefore means that total assets have the largest proportion that is affected by bad debts written off relating credit card default.

4.5 Comparison of the rate of growth between indicators of default
Table 4-12: The growth rate in indicators of credit card default

Years	2008	2009	2010	2011	2012
Accounts Closed	1.0000	1.2650	1.4611	1.6060	1.7149
Non performing loans	1.0000	1.2980	1.5547	1.7293	1.8252
Bad debts written off	1.0000	1.2980	1.5547	1.7293	1.8252

Source: Research Findings

Figure 4-10: Growth in levels of credit card default
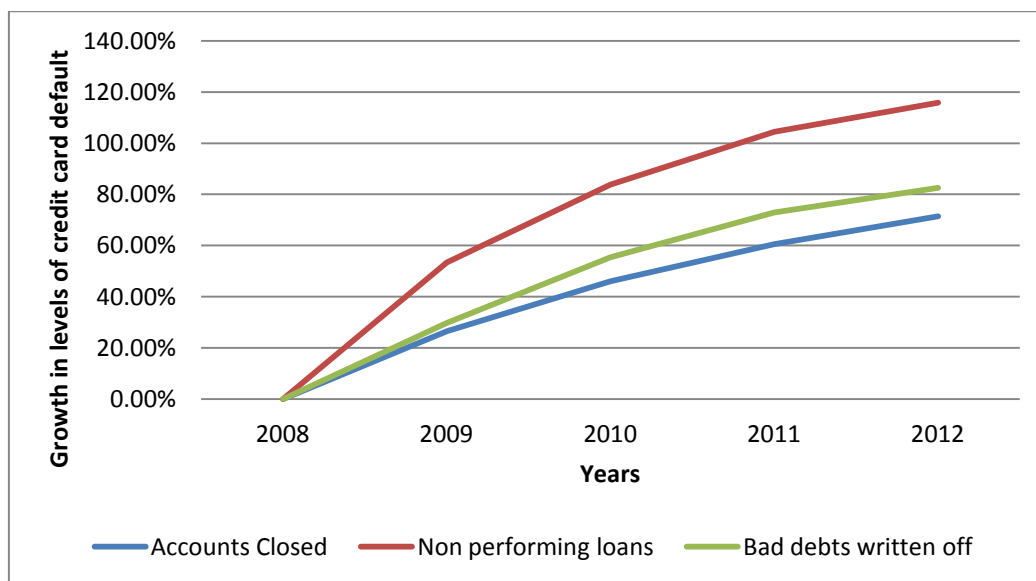
Source: Research Findings

The data shows that since 2008, the Accounts Closed, Non performing loans and Bad debts written off as a result of credit card default all grow with a decreasing rate. It also shows that nonperforming loans have the highest growth rate, followed by bad debts written off and least being the accounts closed as a result of nonperforming loans. This means that there is likelihood that some credit card default continue operating bank accounts even after default.

4.6 Interpretation of findings

It has been established that although gold card has the highest number of card holders (56), it only contributes 33% of the revenue collected through credit cards. This therefore means that the holders of this card either do not use cards frequently or they use cards to do transactions of low value. On the other hand, while classic international card consists of 8% only of total number of credit card holders, it contributes this highest proportion of revenue (43%). This may mean that the holders of such cards use them very frequently and for transactions with large amounts.

The research has further established that As per the analysis above, proportion of cards holders is higher than that of revenue is higher than that of revenues. This may mean that the defaulters really and not core users of the cards. Further, the proportion of credit card defaulters vary between credit cards, meaning that there banks due diligence is not evenly applied across all the card holders. Also worth noting is that the rate of credit card default is higher in men than women, meaning men's tendency to default is higher than that of women.

It has been established that number of accounts closed due to credit card default has been on the rise but with a decreasing rate. The same applies to nonperforming loans and bad debts written off. This may mean that either KCB has been putting in more stringent

measures to mitigate credit card default. Alternative the national policy on the credit recovery has been the key contributor. Still, it can be that the public has now been aware of the advantages of having a good credit card history.

Finally, this project has established that there is negative slope between credit card default against bank performance. This therefore means that whenever there is credit card default, EPS goes, DPS, loans to customers and customer deposits reduces

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter provide summary of the finding, conclusions and policy recommendations on credit card, credit card default and its effect on bank performance.

5.2 Summary

Gold card holders are the majority card holders in KCB at 56%. Further, majority card cardholders are men (53%) with the proportion of female being 47% only.

In terms of revenue, although gold card has the highest number of card holders (56), it only contributes 33% of the revenue collected through credit cards. In terms of credit card default, 100% of all the holders of local credit cards are defaulters. For the rest, the proportion of amount defaulted is lower than the number of defaulters. This may mean that the defaulters do not default full amount of credit card revenue. It may also mean that the defaulters are those that do not frequently use their credit cards. Also worth noting is that Total number of male card holders is 3011 out of which 46% are defaulter. On the other hand 36% of 2684 female holders of credit cardholders are defaulted.

The study also found that the Accounts Closed, Non performing loans and Bad debts written off as a result of credit card default all grow with a decreasing rate. Also worth noting is the slope of EPS, PDS, Loans to customer, total assets and customer deposits against Accounts Closed, Nonperforming loans and Bad debts written off is negative. This in general means that credit card default has a negative effect of bank performance. Further, the slope varied between indicators of bank performance against different indicators of non-performing loans.

5.3   Conclusion

The proportions of credit card holders, revenue collected as well as the amounts and proportion defaults from credit cards vary between different types of cards. The distribution of cardholders seems to take a bell shaped curve with respect to age, with the age group between 35-45 being the highest number of card holders. On the other hand, the distribution of credit card defaulters takes a left skewed curve, with the age between 25-35 year having the highest proportion of defaulters. Further, the Accounts Closed, Non performing loans and Bad debts written off as a result of credit card default all grow with a decreasing rate.

Further conclusion is all areas of bank performance are adversely affected by the credit cart default. However, credit card default affect different areas performance in different magnitude and in different proportion. Finally, not entire change in bank performance can be determined by credit card default. Only a proportion, with some being lower than 10%. This means that the greater part of bank performance is affected by factors other than credit card default.

5.4   Recommendation for the policy

The age between 25-35 years has the highest proportion of defaulters. This means that the bank needs to be more vigilant in managing card holders within this group. Bank should establish and address factors making this group have the highest proportion of defaulters.

Further as pointed out credit card defaults negatively affects the bank performance on EPS, DPS, customer deposits as well as total assets. KCB therefore need to continue ensuring that there is decline in number of credit card default.

This research has further established that the proportions of credit card holders, revenue collected as well as the amounts and proportion defaults from credit cards vary between

different types of cards. There is thus need to have policies that are tailor made for each category of credit cards that will aim to maximize revenue while still minimizing the risk of default per each type of credit card.

5.5   Limitation of the study

This research only revealed that the proportion of credit card default vary with age group, without evaluating factors that contribute to such variations.

The study has also revealed that credit card default have been increasing at a decreasing rate. However, it has not provided any information as what contributes to such phenomenon.

Finally the research has not evaluated the phenomenon that that credit card default rate of change in performance with change in credit card default varies between different performance indicators. And research is needed to establish the cause of this behavior

5.6   Recommendation for further research

The study has revealed that the proportion of credit card default vary with age group. Further study is thus required to establish the contributing factors

The study has also revealed that credit card default have been increasing at a decreasing rate. There is need for study to evaluate the effective of credit card control measures put in place that have contributed to such a trend.

Finally, the study has revealed that credit card default rate of change in performance with change in credit card default varies between different performance indicators. And research is needed to establish the cause of this behavior.

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APPENDICES

7.1 Appendix I: Raw data on credit card default and bank performance

<table>
<tr><td></td><td></td><td></td><td colspan="5">Values</td></tr>
<tr><td></td><td></td><td>Years</td><td>2008</td><td>2009</td><td>2010</td><td>2011</td><td>2012</td></tr>
<tr><td rowspan="12">Independent Variables</td><td>Accounts closed relating to credit card default</td><td>Per Year in KSH Millions</td><td>-</td><td>176</td><td>130</td><td>96</td><td>72</td></tr>
<tr><td>Accounts closed relating to credit card default</td><td>Cummulative -KSH Millions</td><td>663</td><td>839</td><td>969</td><td>1,065</td><td>1,137</td></tr>
<tr><td>X_1= Accounts closed relating to credit card default</td><td>Cummulative Growth</td><td>1</td><td>1.265</td><td>1.46</td><td>1.61</td><td>1.71</td></tr>
<tr><td>X_1= Accounts closed relating to credit card default</td><td>Rate of growth per year</td><td>1</td><td>1.27</td><td>1.16</td><td>1.10</td><td>1.07</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Non Performing Loans relating to credit card default - KSh. Millions</td><td>Per Year -KSH Millions</td><td>-</td><td>47</td><td>41</td><td>26</td><td>10</td></tr>
<tr><td>Non Performing Loans relating to credit card default - KSh. Millions</td><td>Cummulative -KSH Millions</td><td>89</td><td>136</td><td>177</td><td>202</td><td>213</td></tr>
<tr><td>X_2= Non Performing Loans relating to credit card default - KSh. Millions</td><td>Rate of growth per year</td><td>1.00</td><td>1.53</td><td>1.30</td><td>1.15</td><td>1.05</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Bad Debts written off relating to credit card default</td><td>Per Year -KSH Millions</td><td>-</td><td>62</td><td>53</td><td>36</td><td>29</td></tr>
</table>

			Values				
		Years	2008	2009	2010	2011	2012
	Bad Debts written off relating to credit card default	Cummulative -KSH Millions	207	268	321	357	386
	X_3= **Bad Debts written off relating to credit card default**	**Rate of growth per year**	**1.0000**	**1.2980**	**1.1978**	**1.1123**	**1.0555**
			1	1.30	1.55	1.33	1.17
Dependent Variables							
1	EPS		1.97	1.84	2.76	3.72	4.11
	DPS		1.00	1.00	1.25	1.85	1.90
2	Dividend payout ratio		51%	54%	45%	50%	46%
3	loan and advances - KSh. Millions		94,000	123,000	148,000	199,000	212,000
4	total assets - KSh. Millions		191,000	195,000	251,000	331,000	367,000
5	loan and advances/total assets,		49%	63%	59%	60%	58%
6	Customer Deposits - KSh. Millions		127,000	163,000	197,000	259,000	288,000

7.2 Appendix II: Extract of KCB's Financial Analysis