

# Influence of Loan Design on Loan Delinquency by Corporate Customers in Kenya

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**Abstract:** *Delinquency refers to loan repayment rate while a loan is delinquent when a payment is late. Delinquency is measured because it indicates an increased risk of loss, warnings of operational problems, and may help predicting how much of the portfolio will eventually be lost because it never gets repaid. This study analyzed the influence of loan design on loan delinquency by corporate customers in commercial banks in Kenya. The study was motivated by the economic trend and behavior of corporate customers in Kenya which has been varying consistently with the decreasing rate of nonperforming loans. Hence, this analysis was built on the regression model where the relation between loan default and the Loan design was investigated to examine the relationship between these two aspects. The study used a survey study where a questionnaire is to be administered to establish the effect of these factors. The study picked a sample of 9 banks on a twenty percent basis of the banking population in Kenya. The study found out that Loan design affects the rate of defaulting by corporate clients highly as expressed in the findings of the study. The study recommended that the management of the financial institutions involved in the banking sector should ensure that the purpose of the different loans offered is pre-determined and enforce the implementation of the same through close supervision and monitoring of the bank's officers to the usage of the borrowed funds from the bank, this will significantly reduce the rate of delinquency thus enhancing growth of the commercial banks.*

**Keywords:** Loan design, Loan size, Loan term, Interest rate, Commercial Bank, and Kenya

## 1. Introduction

Delinquency refers to loan repayment rate while a loan is delinquent when a payment is late (CGAP, 1999). Delinquency is measured because it indicates an increased risk of loss, warnings of operational problems, and may help predicting how much of the portfolio will eventually be lost because it never gets repaid. In lending services, a default is the failure to pay back a loan. A loan is delinquent when a payment is late (CGAP, 1999). A delinquent loan becomes a defaulted loan when the chance of recovery becomes minimal.

Managers must be aware of the number and values of loans that have been rescheduled and this segment of the portfolio should be tracked separately. While repayment rate is typically cited as portfolio quality indicator (Craig, 2006), in practice it is not as effective as portfolio at risk because it does not reveal the full degree of vulnerability that an organization faces when a loan repayment is late. Portfolio at risk accounts for both; the loss that an MFI faces today due to late repayment and the potential loss that it faces if no future payments are made on that now delinquent loan. This brings us to the importance of financial ratio analysis in MFIs with a focus on portfolio quality ratios. According to Joan (2000), portfolio quality ratios include; portfolio in arrears: "arrears" ratio considers only the value of the past due payments; portfolio at risk: "at risk" ratio considers the entire outstanding balance of loans that are delinquent by one or more payments.

Financial institutions facilitate mobilization of savings, diversification and pooling of risks and allocation of resources (Collins NJ, et al, 2011). However, since the receipts for deposits and loans are not harmonized, intermediaries like banks incur certain costs (Ngugi, 2001). They charge a price for the intermediation services offered under uncertainty and set the interest rate levels for deposits

and loans. The disparity between the gross costs of borrowing and the net return on lending defines the intermediary costs which include information costs, transaction costs, administration, default costs and operational costs (Rhyne, 2002). Interest rate spread is well-defined by market microstructure characteristics of the banking sector and the policy environment (Ngugi, 2001). The growth of the output of any economy depends on capital accumulation, and capital accumulation requires investment and an equivalent amount of savings to match it. Two of the most important issues in development economics, and for developing countries, are how to stimulate investment and savings. There is no doubt that the challenge of boosting savings and obtaining loans is of great importance if banks were to sustain the desired growth rate and increase in its investment rate (Nell & Thirlwall, 2014).

It is expected that customer profiling and credit scoring will help borrowers negotiate the terms and conditions of their loans, a move that should help those with high credit scores get favourable terms. Lenders say borrowers with good credit ratings could benefit from reduced interest rates besides getting waivers on other lending conditions such as collateral requirements while the banks get an additional tool to minimize non-performing loans. The high level of non-performing loans in the banking industry has been a hindrance to economic stability (Oloo, 2003).

## 2. Statement of the problem

The banking sector in Kenya plays a critical role in facilitating financial transactions in terms of both local and international business. Ngugi (2001) identifies the significance of the financial sector in Kenya as paramount because banks facilitate financial intermediation between savers and borrowers, execution of the monetary policy and provides smooth avenues for the payment systems. The most

important economic function of a bank is to enhance ease in accessibility of finances, which is in form of loans.

Existence of nonperforming loans reduces the profitability of an institution and its sustainability or survival (Ahmed, 2006). Statistics show that non-performing loan has continued to increase over the years from 9.55% in 1997 to 38.4% in 2001 (MI, Banking Survey 2002). Past studies have been based on effects of loan information sharing on non-performing loans (Daniel 2013). However, little has been done on the factors influencing loan delinquency by corporate customers in Kenya and thus the researcher wishes to address the problem through the conduct of the study.

### The General objective of the study

The general objective of the study was to investigate the influence of loan design on loan delinquency by corporate customers in Kenya.

### The Specific objectives of the study

- 1) To find out the influence of loan size on loan delinquency by corporate customers in Kenya.
- 2) To evaluate the consequence of loan term on loan delinquency by corporate customers in Kenya.
- 3) To determine the effects of interest rates on loan delinquency by corporate customers in Kenya.

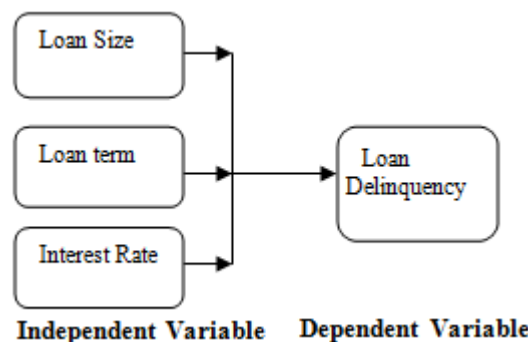
## 3. Theoretical Review:

### Credit risk theory

Although people have been facing credit risk ever since early ages, credit risk has not been widely studied until recent 30 years. Early literature (before 1974) on credit uses traditional actuarial methods of credit risk, whose major difficulty lies in their complete dependence on historical data. Up to now, there are three quantitative approaches of analyzing credit risk: structural approach, reduced form appraisal and incomplete information approach. Melton 1974 introduced the credit risk theory otherwise called the structural theory which is said the default event derives from a firm's asset evolution modeled by a diffusion process with constant parameters. Such models are commonly defined as "structural model" and based on variables related a specific issuer. An evolution of this category is represented by a set of models where the loss conditional on default is exogenously specific. In these models, the default can happen throughout all the life of a corporate bond and not only in maturity (Duffie & Singleton, 2012).

## 4. Conceptual Framework

The study adopted the following conceptual framework:



Source: Author 2017  
Conceptual framework

### Loan design

To mitigate default risk, banks should start by designing loan products that meet client's needs. It is designed to address specific purpose for which the loan is intended (Churchill and Frankiewicz 2012). One of the features that banks deliberate when deciding on a loan design is the estimated chances of recovery. To arrive at this, the bank reviews past delinquent situations and amend the design of the loan which determines the usage. This undertaking is important because there is usually a definite relationship between past and future performance in loan repayment.

Whenever a borrower gets a loan with specified usage, it helps reduce the rate of non-repayment since the forecasted recoverability will be regenerated. Kalberg and Udell (2003) also point out that information exchange from multiple sources improves the precision of the signal about the quality of the credit seeker. As a result, the default rate reduces. In contrast, the effect on lending is vague, because when banks dictates the uses of a specific loan, the implied increase in lending to good borrowers may fail to compensate for the reduction in lending to risky borrowers.

Banking competition for borrowers strengthens the positive effect of information sharing on lending: when credit markets are competitive, information sharing reduces informational interest charged and increases banking competition, which in turn leads to increased lending. Information sharing can also create incentives for borrowers to perform in line with banks' interests. Klein (1992) and Karapetyan & Stacescu (2014) shows that information sharing can motivate borrowers to pay their loans, when the legal atmosphere makes it difficult for banks to implement credit agreements. In this model borrowers repay their loans because they know that defaulters will be blacklisted, reducing external finance in the near future.

Kenya government recognizes the chronic burden of non-performing loans in the banking industry. For instance, in the budget speech of June 2003, the Minister of Finance indicated that, the government was exploring possibilities of setting up a non-performing loan agency with judicial powers to deal with the issue of bad debts (Oloo, 2003). In the year 2007, the Kenyan government introduced the induplum rule providing that interest on non-performing loans be stopped from accruing further interest, as soon as the interest already levied equals the principal borrowed (Oloo

2007). This bill was meant to check further escalation of non-performing loans.

### Loan delinquency (non-performing loans)

Banks mostly term loans to be non-performing based on the time after the final date of repayment has passed. If a loan repayment is late by for example a few months like 2 or 3, it's usually not considered critical compared to loan whose repayment is late by a year. Prudential financial policy department in there issue on Classification of Non-performing loans and provision for substandard, bad and doubtful debts (BNM/GP3, 2011) gives guidelines on how a bank can classify its various credit facilities as non-performing loans, based on the aspect of time.

Overdrafts are classified as nonperforming if the account drawn from has been dormant for six or more than six months and the outstanding amount is more than the approved limit for overdrawing. For active accounts overdrawing is considered as non-performing when the overdrafts in excess of the specified limit are not settled within six months from the date the specified limit was breached. Another scenario is when the bank recalls an overdraft facility, in such a case the account will be classified as non-performing.

Credit cards are forms of lending facilities where by a card is issued by a financial company giving the holder an option to borrow funds, usually at point of sale and limits are pre-set according to the individual credit rating. When the credit card holder fails to settle his minimum monthly repayments for three months or more from first day of default a bank is within its powers to declare such an account non-performing. Finally, loans that have principle and interest repayment component such as Term loans, revolving credit facilities, leasing loans, block-discounting facilities, hire-purchase loans and other loans are usually put under the category of non-performing loans by banks if the principle amount or interest is due and unpaid for a duration of six months or more from the first day of default. Therefore its, observed in all the above credit facilities that the major decision criteria for classifying them as non-performing is mostly based of the duration aspect, meaning the more a debt duration of repayment after default increases the higher the rate of default.

## 5. Research Methodology

Descriptive research design was adopted in the study since it helps in achievement of measurable findings. Descriptive research involves gathering data that describe events and then organizes, tabulates, depicts, and describes the data collection (Kane, 1983). The method was preferred because it allows for an in-depth study of the subject in a quantitative aspect of the overall research. Descriptive research design aims to gather data without any manipulation of the research context, focusing on individual subjects and going into depth and detail in describing them. In the study the variables included loan size, loan term as well as interest rate which were analyzed further by use of the named research design.

A target population of all the 43 Commercial banks in Kenyawas drawn from the total population from which the study draws its respondent components. The researcher used simple random method in selecting the banks, the sample size was determined on the following basis; 20% of the total population of banks. The researcher used this method to avoid bias and thus increasing the validity of the research findings.

The researcher employed the use of questionnaires in gathering firsthand information from the respondents which comprised of open ended questions to allow ease in data analysis, interpretation and tabulation of the questionnaires, and the closed ended questions which restricts respondents to yes and no answers. Each of the 9 sampled banks got 10 questionnaires, which were filled by departmental heads and employees of the relevant offices in relation to the scope under study i.e. Finance Department, Accounting Department, the Investment Department, Audit and Risk Department. The instrument of research was then distributed prior to the actual research date in order to test the validity of the question and the availability of the respondents in a pilot study.

The completed questionnaires were edited for completeness and consistency. The data was then coded to enable the responses to be grouped into various categories. Data collected was purely quantitative and it was analyzed by descriptive analysis methods such as measure of central tendency e.g. mean, mode, median and measure of dispersion e.g. standard deviation, ratio as well as percentages. The descriptive statistical tools assisted in describing the data and determining the extent to be used. Data analysis also used SPSS to generate quantitative reports. The researcher then presented the analyzed data through tables, pie charts, and graphs.

## 6. Results and discussions of the Findings

General rate of loan delinquency among Kenyan commercial banks.

**Table on Perceived Rate of Loan Delinquency Among Corporate Clients**

	Very high	High	Average	Low	Very low	Totals
Points(x)	5	4	3	2	1	
Frequency(f)	15	7	32	18	10	82
Fx	75	28	96	36	10	245
-x(mean)	-	-	-	-	-	2.987

The researchersought to find out the how respondents viewed the general rate of loan delinquency in their specific financial institutions. The mean of 2.987 indicates that the rate of delinquency is at average levels and thus the bank should incorporate the use of the suggested recommendations of the study to reduce the rate of loan delinquency to minimally low and very low level and thus the bank will have won the battle which will improve its general financial performance.

The researcher alsosought to find out the major reasons for loan delinquency. The respondents were requested to list the



major reasons they thought caused loan defaulting. The frequency Table below captured the respondents' opinions.

**Table for Reasons for Loan Delinquency**

		Agree	Strongly Agree	Neutral	Disagree	Strongly Disagree
1	High income earners have better loan repayment than low income earners	13%	77%	10%		
2	Diversion of funds from intended purpose		100%			
3	Long term loans are easily repaid compared to medium term loans.	24%	62%	14%		
4.	High interest's rates in the financial markets is a major contributing factor to loan delinquency by customers.	8%	92%			
5	Death or incapacitation of borrower	15%	85%			

## 7. Summary of the findings

Respondents view on whether loan design affects the rate of loan delinquency where 77% of them agreed with the statement while the rest 23% disagreed with the researcher's hypothesis. Majority of the respondents agreed indicating that the purpose to which loan is meant for is critical in reducing the chances of corporate clients defaulting. On the extent to which loan design affect the rate of loan delinquency in the banking sector, majority of them indicated very high extent where, 33% very high, 16% high, 20% average, 26% very low and the rest 6% low.

Majority of the respondents strongly agreed that the purpose to which the loan serves determines the repayment and thus affect the rate of delinquency where, 20% of them agreed, 33% strongly agreed, 16% were neutral, 26% disagreed and 6% strongly disagreed. Majority of the respondents strongly disagreed that the bank's loan officers monitors the implementation of the loans given to corporate customers, where 22% of them agreed, 12% strongly agreed, 15% were neutral, 18% disagreed while 33% strongly disagreed. Majority of the respondents indicated that non-business loans have a high rate of delinquency among corporate customers, in this case 30% strongly agreed, 16% agreed, 20% were neutral, 13% disagreed and 21% strongly disagreed. Majority of the respondents strongly agreed that different loans have a prescribed recovery procedures based on policies where, 33% strongly agreed, 18% agreed, 22% were neutral, 12% disagreed and 15% strongly disagreed.

However, 100% of the respondents from the bank asserted that the problem of loan default always originated from the borrower. The results indicated that diversion of funds from the intended purpose (100%) and high interest rates (92%) were the main reasons cited by respondents behind loan defaulting. Additionally, death or incapacitation of the borrower (85%) were the major reasons that attributed to loan default. The researcher also observed several reasons whose contribution to loan delinquency was less impactful, this included the status of the loan i.e. whether it is long term or short term (62%), and whether the borrower is a high income earner or low income earner (77%).

## 8. Conclusions

Loan design affects the rate of defaulting by corporate clients highly as expressed in the findings of the study. The purpose to which the loan is designed determines the rate of loan delinquency since some loans are meant to yield profit after some time of use while others don't. The bank's loan

officers do not ensure full implementation of the loan especially through supervision of the usage of the money by the borrower, this increases chances of misuse by the corporate customers leading to high rate of defaulting by the clients. Non-business loans have a high rate of delinquency among corporate clients; these loans include car loan, mortgage as well as the general loans applied by the corporate customers such as holiday loan. This is because the loan does not generate income and thus uncertainty from other anticipated sources fuels the increased rate of delinquency by the corporate clients. Different loans have a prescribed recovery procedures based on policies and thus the bank should strictly follow and impose to borrowers to reduce the high rate of delinquency.

## 9. Recommendations

The management of the financial institutions involved in the banking sector should ensure that the purpose of the different loans offered is pre-determined and enforce the implementation of the same through close supervision and monitoring of the bank's officers to the usage of the borrowed funds from the bank, this will significantly reduce the rate of delinquency thus enhancing growth of the commercial banks. The banks should make sure that the information from the credit reference bureau is used for the right purpose in assisting the loan officers in making their credit decisions. This will assist in enacting fairness in assessing as well as in measuring the clients' risk of payment and thus reduce the rate of loan delinquency through accurate assessment.

## References

- [1] Ahmed, S.Z. (2006). *An investigation of the relationship between Non-performing loans, macroeconomic factors, and financial factors in context of private commercial banks in Bangladesh*. (Internship report Independent University, Bangladesh).
- [2] Alex, K. (2011). Credit Policy and Loan Recovery in Microfinance Institutions.
- [3] Andrianova, S., Baltagi, B., Demetriades, P., & Fielding, D. (2015). Why do African banks lend so little? *Oxford Bulletin of Economics and Statistics*, 77(3), 339-359.
- [4] Barnes, Z., Miller, C., Verma, N., Collins, M. J. M., & Walsh, K. (2011). Save, spend, or pay down debt: Financial literacy and decisions among low-income households. *Center for Financial Security CFS Research Brief*, 11-3.

- [5] Craig, C&Frankiewicz.C (2006).*Making Microfinance Work: Managing for Improved Performance*.Geneva International labour office
- [6] Central Bank of Kenya, (2001). Bank Supervision Annual Report 2000. Nairobi, Kenya Cooper& Schindler (2004).Business Research Methods. New Delhi: Tata McGraw-Hill Publishing Company.
- [7] Daumont, R., Gall, F., &Leroux, F., 2004. Banking in Sub -Saharan Africa: What went wrong? IMF Working Paper, WP/04/55156 - 67
- [8] Duffie, D., & Singleton, K. J. (2012).*Credit risk: pricing, measurement, and management*. Princeton University Press.
- [9] Foucault, T., Pagano, M., &Röell, A. (2013).*Market liquidity: theory, evidence, and policy*. Oxford University Press.
- [10] Frankiewicz, C., & Churchill, C. (2012).Making Microfinance Work.
- [11] Gaitho.M (2010).Credit risk management practices by Saccos in Nairobi. Unpublished MBA Project.
- [12] Gertler, M., &Kiyotaki, N. (2010). Financial intermediation and credit policy in business cycle analysis. *Handbook of monetary economics*, 3(3), 547-599.
- [13] Godquin, M. (2004). Microfinance repayment performance in Bangladesh: How to improve the allocation of loans by MFIs. *World Development*, 32(11), 1909-1926.
- [14] Goodman, R. (1997). The Strengths and Difficulties Questionnaire: a research note. *Journal of child psychology and psychiatry*, 38(5), 581-586.
- [15] Höbe, L., & Alas, R. (2015, March).Management Challenges for the Financial Services Sector. In *ICMLG2015-The 3rd International Conference on Management, Leadership and Governance: ICMLG2015* (p. 103). Academic Conferences and Publishing Limited.
- [16] Honohan, P., & Beck, T. (2007).*Making finance work for Africa*.World Bank Publications.
- [17] Hox, J. J., &Boeije, H. R. (2005).Data collection, primary vs. secondary.*Encyclopedia of social measurement*, 1, 593-599.
- [18] Hull, J. (2012). *Risk Management and Financial Institutions*, + Web Site (Vol. 733). John Wiley & Sons.
- [19] KalbergJ., and G. Udell (2003). "Private Sector Credit Information: The U.S. Case." In Credit Reporting Systems and the International Economy edition. Margaret Miller.
- [20] Kane, E. (1983). *Doing your own research: Basic descriptive research in the social sciences and humanities*.Marion Boyars.
- [21] Kane, E. J. and T. Rice (2001). 'Bank Runs and Banking Policies: Lessons for African Policy Makers', *Journal of African Economies*, 10 (Supplement 1): 36-71.
- [22] Karapetyan, A., &Stacescu, B. (2014).Information sharing and information acquisition in credit markets.*Review of Finance*, 18(4), 1583-1615.
- [23] Klein, Daniel B. (1992). "Promise Keeping in the Great Society: A Model of Credit Information Sharing", *Economics and Politics*, vol. 4, no. 2, 117-136.
- [24] Kothari, C. (2004). Research Methodology, Methods and Techniques.New Delphi: International P Limited.
- [25] Ledgerwood, J. (2014). *Microfinance handbook: an institutional and financial perspective*. World Bank Publications.
- [26] Mugenda, O.M., &Mugenda, A.G. (2010).Research methods qualitative & quantitative approaches. Nairobi: African Centre for Technology Studies
- [27] Michael, Sproul. (1998).The Quantity Theory Versus the Real Bills Doctrine in Colonial America. In *Economics Working Papers*.
- [28] Markowitz H.M (1952), Portfolio Selection. *Journal of Finance*, Vol 7 no1.
- [29] Mullei A. (2003). Improving financial Sector performance in Kenya; African Centre for Economic Growth Nairobi
- [30] Nell, K. S., &Thirlwall, A. P. (2014).*Explaining Differences in the Productivity of Capital across Countries in the Context of'New'Growth Theory* (No. 1412). School of Economics Discussion Papers.
- [31] Ngugi, R. (2001). *An empirical analysis of interest rate spread in Kenya* (Vol. 106). Nairobi: African Economic Research Consortium.
- [32] Oloo O. (2001). A Comprehensive, Analysis of Banking of Kenya's' Banking Sector.In Market Intelligence. The Business and Finance Journal: Annual Special Edition.
- [33] Owusu K.D (2008) "Credit management policies in rural banks in Accra Ghana
- [34] Rhyne, E., (2002). The Yin and Yang of Microfinance: Reaching the Poor and Sustainability. *Micro-banking Bulletin*, July 1998, pp 45.
- [35] Silikhe.S (2008) "Credit risk management in Microfinance Institutions in Kenya" Unpublished MBA Project.
- [36] Vayanos, D., & Wang, J. (2012).*Market Liquidity--Theory and Empirical Evidence* (No. w18251).National Bureau of Economic Research.
- [37] Waweru N. M and Kalani V. M (2009). Commercial Banking Crises in Kenya: Causes and Remedies. *African Journal of accounting, Economics, Finance and Banking Research*, 4 (4), 12 – 33.
- [38] Zeller M (2011). Determinants of Repayment Performance in Credit Groups, the Role of Program Design, Inter-group Risk Pooling and Social Cohesion, *Eco. Dev. and Cultural Change*, 46: 3