IMPACT OF CREDIT RISK MANAGEMENT PRACTICES ON MOBILE LOANS IN KENYA

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DECLARATION

This project is my original work and has not been presented for award of a degree or for any similar purpose in any other institution

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I thank Mr. and Mrs. Ngotho for being a pillar of my life and in particular providing every resource that I needed to do this research project. Thank you very much for supporting my dream and making it real. I will forever be grateful.

DEDICATION

I dedicate this work to my parents Mr. and Mrs. Ngotho for being my mentor, teacher, and disciplinarian to ensure each day I become a better person, responsible and rise to occasion to tackle any problem that comes on my way. I owe you a lot and endeavor to make you proud.

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ABBREVIATION AND ACRONYMS

CBA-   Commercial Bank of Africa

CRB-   Credit Reference Bureau

CRMP- Credit Risk Management Practices

ID-   Identification Document

NPLs-   Non-Performing Loans

PIN- Personal Identification

OPERATIONAL DEFINITION OF TERMS

Credit Risk Management Performance- These are results realized by mobile credit institutions after issuing loan and its full repayment.

Mobile loans- This is loan issued to applicants with the choice of preferred mobile loan application via mobile phone with an agreement.

ABSTRACT

The number of mobile loan application is growing at a high rate and the Kenyans seem to embrace this technology and applying for loan to cater their immediate need. Customers especially on mobile loan application have been growing exponentially. The condition for getting mobile loan has been simplified with no collateral required. This study examined the impact of credit risk management practices on mobile loan in Kenya. The study examined three specific objectives that entailed credit risk identification, monitoring and collection policies. Modern portfolio theory guided this study. This study adopted descriptive survey design. Mobile loan applicants and lenders formed the target population. A sample size of a hundred respondents was used and simple random sampling design was used to select respondents. Seventy-four respondents actively took part in the study. The study was located in Nairobi. The study used questionnaire and structured interview to collect primary data and were pre-tested to enhance reliability and validity. Data was analyzed quantitatively and presented in frequency tables via use of mean, standard deviation and regression analysis. The study revealed that borrowers of mobile loan were identified through mobile money transactions, credit history as indicated by credit reference bureau, frequent borrowing and repayment using mobile loan. It was also found that after identification, lenders either declined or approved loan based on the parameters scoring and the higher the scoring the higher the chances of getting a higher credit limit. The findings indicated that credit risk monitoring began immediately after the mobile loan application was successfully approved and sent with clear stipulation of the deadline to repay the loan. The study noted that borrower was frequently sent messages with a polite reminder to start making partial payment before the repayment period elapses. Respondents indicated that defaulters were sent messages with conditions to repay the outstanding loan and issued threat of collection agents coming to reclaim the outstanding loan but the threats never materialized. The data analyzed found that after collection of bad debt had been futile, they left defaulter to repay debt at their own pace. The study findings also indicated that defaulter was forwarded to CRB and blacklisted. There is need for mobile loan providers to consider reviewing their collection policies as it was found that they were weak hence the reason for majority of the defaulters not clearing their outstanding loan.

CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

In U.S.A in the 1980s, bad loans were noted in the National credit Unions due to inadequate credit risk management measures. Bad loans were realized as a result of weak credit risk management (Parrenas, 2016). Grameen bank in Bangladesh had reported 85% of positive outcome of loan repayment by 2000 which was guided by adoption of effective and sound Credit Risk Management Practices (CRMP) in regulating credit (Meyer, 2015).

Financial institutions lend loan to customers with a sole aim of providing credit to boost economic growth of a country (Shanmugan & Bourke, 2017). The major risk that a financial institution does is giving credit to a customer despite credit assessment. Every financial institution in the world takes risk of lending loan to their customers with a vision that they will repay later with an agreed interest. Financial institutions are suffering from bad loans due to ever increasing defaulters hence reducing the profitability. There is a need to develop an effective and efficient credit system to minimize bad loans and ensure customers honour their loan repayment (Basel, 2015). Credit risk has been the case where loanee don't pay on time. Financial institutions are forced to apply measures to ensure they recover loan from defaulters.

Lalon (2015) conducted a research on CRMP in Bangladesh Basic Bank Limited and noted that it had strong credit policies. However, despite strong credit policies, there were notable cases of defaulters. Lalon (2015) further recommended the need of Basic Bank Limited to follow Bangladesh Credit Risk model, to effectively train their employees on CRMP, know their customers well and delegate some duties of credit to other committees instead of entirely relying on executive committee.

CRMP which are practical, makes the borrower repay on time, minimizes the risk of defaulters and bad debts are managed in a way that loan is repaid without destroying the relationship between the lender and lendee. Practical and sound CRMP help spot foreseeable risk factors and their impact and putting in place appropriate control measures to minimize undesirable impacts (Kaijage, Chijoriga & Richard, 2016). Every financial institution applies their own credit score card to borrowers based on risk and employ sound strategies. Unsecured personal loan makes lender charge higher interest. Financial institutions make use of credit limit to regulate credit risk (Yogi, 2018).

In a case study of Nigerian banks in a period of 2004-2008, a research was conducted and the findings concluded that there was a strong correlation between credit risk management and performance of the banks. It further argued that asset quality of a bank is greatly determined by factors such as non-performing loans, advances and loans (Kargi,2011).

Non-Performing Loans (NPLs) are contributed by use of qualitative methods of loan assessment, inadequate credit policy guidelines, poor CRMP and monitoring and poor evaluation systems. Lack of often update of credit policy, banks being silent on the ever-rising borrowers default rate and insufficient monitoring of credits have led to the rise of bad loans (Mathara, 2017).

In Kenya there are many mobile loan applications for example Mshwari by Safaricom, KCB Mpesa Loans, Haraka, Saida Loans, Tala Loans, Okoa Stima, Branch Loans, Zidisha and among others. Banks that offers digital mobile lending are KCB (KCB M-pesa), Cooperative bank (Mco-op Cash), Equity (Equitel), Barclays (Timiza) among other banks. In this case, researcher discussed one of mobile loan and in particular M-Shwari loan since it's the one that open gateway to other mobile loan that came after. M-Shwari was launched in 2012 by Safaricom

Limited which was anchored by M-pesa that came earlier in 2007. M-Shwari is a partnership between Safaricom and Commercial bank of Africa (CBA). Within three years of its establishment, more than ten million users of Safaricom line had registered. Among ten million registered Safaricom M-PESA subscribers, four point five million customers had access to M-Shwari loan. The advantage of accessing loan is that customers of M-Shwari can access loan without either a banking or a credit history. All M-Shwari loan are charged an interest rate of 7.5% and repaid within 30 days (Gubbins & Suri, 2018). M-Shwari loan credit score is based on regular use of Safaricom services, M-Shwari savings and repayment behaviour (World Bank Group, n.d). Defaulters are further given another 30 days to repay and failure to repay within 120 days, their names are blacklisted by being forwarded to Credit Reference Bureau (CRB) (Gubbins & Suri, 2018).

1.2 Statement of the Problem

Flexible credit score for lenders to low income earners increases the high rate of defaulters (Muchoki, 2015). Zhang (2012), effectiveness of a credit system is dominantly determined by financial institution practices. Successful credit risk management should ensure that there is financial institution transparency, strong risk culture and risk governance structures (Saporoschenko & Dellande, 2013). Poor CRMP results to high chances of bad loans that narrows the profit margin of any lender.

Majority of research done had focused on the impacts of credit risk management practices on financial and micro-financial institutions as in the case of Korir (2010), Kimeu (2008), Simiyu (2008), Ngare (2008), Muturi (2010), Bonaya (2013), Karugu and Ntoiti (2015) and Muchoki (2015). The main aim of M-Shwari was to promote saving culture but the reverse has been witnessed with more borrowings and less saving (Wainaina, 2019). Owiti (2016), conducted a

research on strategic alliances between Safaricom and CBA in the provision of M-Shwari services and problems encountered. This research focused on the impact of credit risk management practices on mobile loans in Kenya.

1.3 Purpose of the Study

This study sought to examine the impact of credit risk management practices on mobile loans in Kenya.

1.4 Conceptual Framework

Independent Variables   **Dependent variable**

```
┌─────────────────────────────┐
│ Credit Risk Identification  │
│                             │
│ -previous payment record    │
│                             │              ┌──────────────────────────┐
│ - Credit referencing        │─────┐        │ Mobile Loan              │
│                             │     │        │                          │
└─────────────────────────────┘     └───────▶│    -  Criteria for       │
                                              │       obtaining loan     │
                                              │    -  Interest rate      │
┌─────────────────────────────┐               │    -  Repayment period   │
│ Credit Risk Monitoring      │               │                          │
│                             │               │                          │
│   -  Contact with the persons│──────────────▶                          │
│   -  Follow up customers    │               └──────────────────────────┘
│   -  Updating credit files  │
│                             │
└─────────────────────────────┘


┌─────────────────────────────┐
│ Credit Collection Policies  │
│                             │
│   -  Repayment records      │
│   -  Use of collection agents│──────┐
│   -  Repayment Extension    │      │
│                             │      ▶
└─────────────────────────────┘
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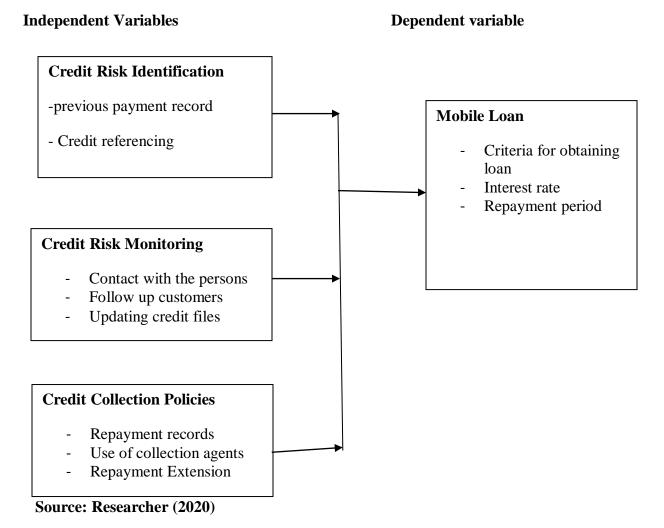**Source: Researcher (2020)**

Figure 1: Conceptual Framework

1.5 Objectives of the Study

1.5.1 General Objective

To investigate the impact of credit risk management practices on mobile loans in Kenya.

1.5.2 Specific Objective

1. To examine the impact of credit risk identification on mobile loans in Kenya.

2. To assess the impact of credit risk monitoring on mobile loans in Kenya.

3. To evaluate the impact of credit collection policies on mobile loans in Kenya.

1.6 Research Question

1. What is the impact of credit risk identification on mobile loans in Kenya?

2. What is the impact of credit risk monitoring on mobile loans in Kenya?

3. What is the impact of credit collection policies on mobile loans in Kenya?

1.7 Significance of the Study

The study findings inform the policymakers such as formal and informal lenders on necessity of coming up with the efficient, practical and effective credit risk management practices and its impact on minimizing loan defaulters and improve the performance of the loan repayment.

This research work is valuable to the future researcher who will be interested in the relevant field while reviewing literature and act as guide.

1.8 Scope of the Study

The study was confined on the impacts of credit risk management practices on mobile loans in Kenya. It mainly concentrated on the credit risk identification, credit risk monitoring and credit collection policies. The study was located in Nairobi. Respondents were mainly the mobile loan applicants and mobile loan lenders M-Shwari. Simple random sampling technique was used while selecting respondents.

1.9 Limitation of the Study

The respondents were reluctant to provide data. This was because they were not certain if the data provided was to be misused and used to damage the reputation of the mobile loan applicant and lender. The researcher had an introduction letter and assured respondents that data provided was to be used solely for the partial fulfilment of the award of degree of Gretsa University.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter entails reviewing relevant literature on the impacts of credit risk management practices on mobile loans in Kenya. Literature review was guided by independent and dependent variables. Independent variables included credit risk assessment, credit risk monitoring, and credit collection policies. Dependent variable was Mobile loan. The chapter also looked at theoretical framework.

2.2 Mobile Loan

Mobile loan application and disbursement has been truly instant, creating an unbelievably heavenly experience for borrowers who are already bogged down by the tedious loan application process used by banks, Saccos and microfinance institutions (MFIs). But there might be a sad ending to what was supposed to be an uplifting story of financial inclusion in Kenya (Alushuhula & Omondi, 2018).

In Kenya, mobile loans from commercial banks according to Baraka Jefwa (2016) are offered through applications such as KCB's M-Benki mobile platform in collaboration with M-Pesa, MCoop Cash by Cooperative bank, Standard Chartered mobile banking, Hello money by Barclays Bank and Equitel by Equity Bank Kenya. Mobile banking applications have changed how Kenyans get credit facilities, by doing away with lengthy paperwork, demand for securities or lengthy appraisal by credit officers.

The mobile loan rates used are not bound by the Central Bank interest regime currently at a maximum of 13.5 per cent, giving a leeway for digital loan providers to charge higher. Some providers charge between 7.5 to 10 per cent interest for a one-month loan. Million of borrowers

did not understand the interest regime applied where some had disbursed loans, still held in the mobile account, withdrawn abruptly (Business Daily, 2018).

Rather than leave the users better off, the many digital credit providers might have pushed them into a financial bondage. Many Kenyans are now hooked to several of such firms, sometimes being forced to borrow from one mobile loan app to pay another. Mobile lender, Branch, which has over one million people using the application, recently raised Sh7 billion to deepen its ability to meet the rising demand for mobile loans. Branch currently loans out $4 million (Sh400 million) monthly and is one of the top five most downloaded apps in Kenya, according to Jumia's Kenya Mobile White Paper 2018. Many Kenyans are now caught in several mobile loans to service forcing them to jump from one service provider to another, according to Financial Sector Deepening Kenya (FSD- Kenya) (The Standard, 2018).

To borrow loan through mobile application, customers must agree to a set of terms and conditions that is provided. Given that a majority of people do not have Internet access through their phone (or otherwise), most customers accept the conditions without accessing the link, and even those who have access seldom read it all (Cook & Mckay, 2015). Most of the terms and conditions are standard legal language consistent with many banking documents. However, the terms and conditions also include important information about how the customer's Safaricom mobile phone data will be shared with CBA. It gives CBA permission to provide the customer's credit use information to the CRB (Gubbins & Suri, 2018).

By 2015, 10 million accounts were opened and 4.5 million account holders had borrowed loan. This transformed way Kenyans saved and borrowed money, within less than five minutes, one can access credit based on individual credit limit. Though it wasn't long before other competitors

came up with similar platform where individuals could access credit from their phone (Jack, Suri & Bharadwaj, 2018).

Mobile loan disbursement doesn't require collateral. Regardless of the loan approved, an interest rate varies depending on the mobile application. The loan is supposed to be repaid within 30 days. Mobile loan credit score is based on regular use of mobile loan application such as savings and repayment behaviour (World Bank Group, n.d). This helps determine the credit limit and frequent users who access loan and repay on time, their loan limit grows once they apply for a new loan. Defaulters are blacklisted by being forwarded to CRB. Access to Mobile loan increases the number of loans held by households while not reducing the likelihood of borrowing from other formal or informal sources (Gubbins & Suri, 2018).

2.3 Impact of Credit Risk Management Performance
2.3.1 Credit Risk Identification
Muchoki (2015) asserts that credit risk is the likelihood of a loanee defaulting to pay loan on time where financial institution will suffer loss of principal, interest rate and rise of collection cost. Therefore, credit risk identification becomes a cardinal aspect to minimize the probability of the impact of credit risk to be suffered. Hasfa (2013), a thorough credit check and identification is paramount for a prospective loanee to minimize any potential credit risk. The credit risk is managed by establishing credit limit of a borrower (Yogi, 2018).

There is either a significant relationship between credit risk identification and NPLs or performing loans based on risk identification practices of any financial institution. Risk identification focuses on financial statement of the borrower, previous payment records if any, credit score, examining the credit standards, credit risk rating and the credit worthiness of the borrower (Bonaya, 2013). Credit risk identification should also entail the risk identification of

the particular loan applicant to the end of loan approval. Credit identification involves singling out of the risks associated with a particular credit. The borrower credit risk might arise due to his/her changes in the credit quality. The lender should identify risk of loss that it considers that the obligor is unlikely to pay its credit obligations in full or the obligor is more than 90 days past due on any material credit obligation. Credit Reference Bureau (CRB) has been an important avenue for lenders to check the borrower credit history. This provides an imminent information about borrower past borrowings and loan repayment habits. Borrowers with good credit history in CRB are likely to get loan with minimal bottlenecks. Those blacklisted are likely to have high credit score and incur high interest rates. This is because financial institutions are likely to have high risk as the principal source of income is the credit they offer to their customers (Kithinji, 2010).

One of the key factor lenders identifies before any credit approval is calculated moves of recovering loan in case the borrower defaults. Financial institutions are guided by credit information of loan applicant based on how he/she has obliged to previous loan and payment records. This has been a salient feature in outlining the relationship of loan repayment between past and future performance (Nwude & Okeke 2018). A borrower with shaky relationship with past lender on loan repayment might tell a lot also on the future loan repayment. A strong and committed relationship of borrower and lender with smooth loan repayment will strongly influence future lender to engage into a relationship with that particular borrower (Getenga, 2012).

According to Muthara (2017), in his findings to challenges of NPLs of National Bank of Kenya, argues that total dependence on borrowers' qualitative credit analysis techniques have been a key factor contributing to NPLs portfolio. The borrowers' qualitative credit analysis techniques that

are stressed on include the historical financial capability, credit reputation and the borrowers' character. This is in contrast to borrowers' quantitative techniques that focus on financial books of accounts that have been audited and analyzed and projected cash flows. Muthara (2017), concludes that there is need for lenders to also stress much on borrowers' quantitative techniques.

2.3.2 Credit Risk Monitoring

When credit is issued to borrowers, financial institution assigns credit officers to monitor credit repayment by ensuring credit data is shared to the relevant staffs for necessary actions to minimize losses. Credit risk monitoring practices helps financial institutions spot the NPLs and reinforce appropriate provisions, monitors if the borrower is complying with the terms and conditions and comprehend the financial condition of the loanee (Carey, 2014).

Wachira (2017), asserts that credit follow up is cardinal for early identification in case of changes in the loan repayment. Follow up also helps regularly monitor loan repayment for the case of defaulters.

Lalon (2015) noted that Basic Bank Limited in Bangladesh had various credit risk monitoring processes in case a loanee fails to commit to repay loan as per the agreement. Loan is monitored to check if the loanee is paying as per the agreement. In case of default noted, appropriate measures are taken. For the case of Basic Bank Limited when default is noted, the following measures are taken; within 15 days, a letter is written accompanied with a follow up and a phone call. Lalon (2015), also notes that within fifteen to twenty-nine days, there is first reminder letter and follow up. In thirty to forty-four days past payments, defaulter is served with second and third reminder letter and also single visit. Within forty-five to eighty-nine days past due, legal

action is taken, phone calls and warnings. Lalon (2015) further assert that 90 days past due, collection efforts begin.

Borrower with collateral helps minimize the risk, this is because while monitoring the repayment methods and default is noted, the collateral and guarantee helps mitigate the credit risk (Hussain, Shafique, & Hassan, 2013). There is need to have efficient data to expedite monitoring process when the data is in need for successful credit risk management (Rahman, Omar & Tafri, 2015).

Monitoring becomes very imminent to financial institutions as it informs about borrowers with repayment of loan and when changes occur contrary to the repayment agreement. Monitoring entails lender being in frequent contact with borrower, credit union creating an enabling environment where they are seen as a trusted advisor and problem solver, reviewing the borrower report regularly, being on borrower site visit, updating credit file of the borrower, credit rating of the borrower based on the loan repayment and chipping in when borrower is encountering difficulties in the loan repayment and striving to overcome it (Turvey, Xu & Kong, 2014).

Timely monitoring enables credit union to have a better understanding of the borrower while repaying loan and detect early behaviour and default and give advice accordingly. It helps inform if there is need of loan restructuring to overcome financial distress of the borrower and possible bankruptcy (Lawrence & Dbouk, 2016).

2.3.3 Credit Collection Policies
Rajedom (2010), defines a collection effort as the procedure an institution follows to collect past due account. Collection policy refers to the procedures micro finance institutions use to collect due accounts. The collection process can be rather expensive in terms of both product

expenditure and lost good will. Methods used by Micro finance institutions could include letters, demand letters, telephone calls, visits by the firm's officials for face to face reminders to pay and legal enforcements (Anderson, Williams & Sweeney, 2009).

Rajan (1995), asserts that collection policy is a guide that ensures prompt payment and regular collections. The rationale is that not all clients meet their obligations, some just take it for granted, others simply forget while others just don't have a culture of paying until persuaded to do so. Many micro finance institutions may send a letter to such individuals (borrowers) when say ten days elapse or phone calls and if payment is not received within thirty days, it may turn over the account to a collection agency. Collection procedure is required because some clients do not pay the loan in time some are slower while others never pay (Stiglitz & Weiss, 1981).

Thus, collection efforts aim at accelerating collections from slower payers to avoid bad debts. Prompt payments are aimed at increasing turn over while keeping low and bad debts within limits. However, caution should be taken against stringent steps especially on permanent clients because harsh measures may cause them to shift to competitors. Collection effort are directed at accelerating recovery from slow payers and decreases bad debts losses (Padilla & Pagano, 2000).

2.4 Theoretical Framework
2.4.1 Modern Portfolio Theory
Markowitz (2000), came up with the theory of optimal portfolio selection in the context of trade-offs between risk and return, concentrating on the idea of portfolio diversification as a strategy of minimizing risk.

Lenders use value at risk models to manage their interest rate and market risk exposures. Unfortunately, however, even though credit risk remains the largest risk facing most credit Unions, the practical of modern portfolio theory to credit risk has lagged (Margrabe, 2007).

Lenders recognize how credit concentrations can adversely impact financial performance. As a result, a number of sophisticated institutions are actively pursuing quantitative approaches to credit risk measurement, while data problems remain an obstacle. Banking industry is making an important progress toward developing tools that measure credit risk in a portfolio context. Credit Unions are using credit derivatives to transfer risk efficiently while preserving customer relationships. The combination of these two developments has precipitated vastly accelerated progress in managing credit risk in a portfolio context over the past several years (Grinblatt, & Titman, 2014).

2.5 Summary of Identified Gap

The reviewed literature has given much weight on commercial banks and non-commercial banks. Few scholars have partially reviewed on the credit issued by tele-communication. This study aims to look at the credit risk management practices employed by Mobile loans in Kenya and their   impacts.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter discussed methodology that was employed while collecting data. The subtopics discussed in sequel entailed research design, study area, target population and sample size. The study also discussed reliability and validity of instruments and data collection techniques. It further discussed data analysis and logistical and ethical consideration.

3.2 Research Design

Descriptive survey design was employed in this study. It helped researcher in describing the concept of impact of credit risk management practices on mobile loans in Kenya. The study used questionnaire to collect primary data. This design does not give room for manipulation of data (Kothari, 2012).

3.3 Study Area

The study was confined in Nairobi. It was mainly in Central Business District (CBD). This was because majority of the mobile loan application lenders are situated there and also the area is densely populated.

3.4 Target Population

Mobile loan applicants and lenders formed the target population. According to Credit Reference Bureau (2019), there are 2.7 million defaulters' digital mobile lenders had borrowed loan. Nationally, there are 7.6 million Kenyans that have more than one mobile digital lender. In Nairobi Central Business District, there were 1,000 loan applicants on daily basis (Credit Reference Bureau, 2019).

3.5 Sample Size

Mugenda and Mugenda (2003), assert that a target population that is less than 1000, 10% of the target population can be used as a sample size. This study used 10% of the target population as a sample size. A sample size of 100 respondents was employed. Due to Corona virus pandemic and its containment measure, researcher could not incorporate a large sample size. Simple random sampling technique was used to get the sample size. This gave every participant a fair opportunity of being selected.

3.6 Reliability and Validity of Instrument

Content of the study was verified by the university supervisor to ensure it was up to the standard. Questionnaire was checked to enhance reliability by simplifying the grammar and getting rid of ambiguous words. Pretesting was done prior the study to ensure similar participants were given questionnaires to respond to. This informed the researcher that participants comprehended the questionnaire and consistent results were achieved.

Validity helps the researcher to confirm if the study results can be trusted (Brotherton, 2008). Researcher issued questionnaire to the same respondents and in the same area of the study. Questionnaires were designed as per research objectives guided by conceptual framework to achieve one and similar results.

3.7 Data Collection Techniques

The researcher collected data by use of questionnaire. Questionnaire were designed in a likert format. It entailed four section that is biodata, Mobile loan, credit risk identification, credit risk monitoring, and credit collection policies. The researcher issued questionnaires to respondents personally and collected them later with the respondent's agreement.

Secondary data was collected from journal articles, books, universities repositories for unpublished dissertation and documentary letters. This was much reflected in the literature review as it was in the intext citations. All reviewed works were referenced.

3.8 Data Analysis

After data collection, the raw data was sorted. The collected data was analyzed quantitatively. The data was analyzed as per each section of the questionnaire. Each section formed the theme that was discussed in chapter four of the research project. Data was presented in frequency tables by use of mean, standard deviation and regression analysis.

3.9 Logistical and Ethical Considerations

The researcher had a work plan and a budget to ensure research work was completed in the appropriate time frame with required resources such as finances.

Prior the primary data collection, researcher got an introduction letter from the relevant department in the university. A cover letter was accompanied with questionnaire to identify the researcher and the required conditions before responding to posed questions. The required conditions; participation was voluntary, anonymity was assured, responses were used purely for academic purposes and treated with confidentiality.

CHAPTER FOUR: FINDINGS AND DISCUSSION

4.1 Introduction

This chapter endavour to report the findings of the study with a depth discussion. The findings will be qualitatively discussed in thematic format and quantitatively presented in descriptive statistics. After every thematic discussion, it will be summarized with a frequency table.

4.2 Response Rate

A sample of fifty respondents were given questionnaires through drop and pick method. The study noted that seventy-four respondents returned the questionnaires while twenty-six respondents did not return the questionnaires hence rendered as passive participants. The response rate was above 70% which was considered excellent as per Mugenda and Mugenda (2003). The seventy-four participants that returned questionnaires, fifty-eight were loanee while sixteen respondents were mobile loan application lenders.

Response	Frequency	Percentage
Active	74	74%
Passive	26	26%
Total	**100**	**100%**

Table 1: Response rate

Response	Frequency	Percentage
Loanee	58	78%
Lender	16	22%

Total	**74**	**100%**

Table 2: Classification of respondents

4.3 Respondents Gender

The study noted that participants that took part in the study were of different gender. It was revealed that thirty-nine respondents were male and thirty-five were female. The study wanted to find out if indeed participants of different gender had various influence and reasons for mobile loan application. However, from the interviews conducted, it was noted that loan application was based on the individual need.

Gender	Frequency	Percentage
Male	39	53%
Female	35	47%
Total	**74**	**100%**

Table 3: Respondents gender

4.4 Educational Background

The study revealed that respondents had various educational background. Participants that had secondary education were twenty-eight. The data analyzed also shown that twenty-seven respondents had attained diploma at various colleges. The analysis further revealed that nineteen respondents had attained various degrees in their respective fields. The study wanted to find out if educational background had correlation with the mobile loan borrowing and how often and what dictated the borrowing. The study found out that respondents differed on the borrowings and the reasons of borrowing. Through interviews, respondents agreed to have borrowed loan through mobile application with various apps but first with M-shwari loan serviced by Safaricom

in partnership with CBA. Respondents stated that they have borrowed severally for various reasons such as for stocking business, paying house rent, servicing another loan, school fee, hospital bill, consumption and entertainment.

Educational background	Frequency	Percentage
Secondary	28	38%
College	27	36%
University	19	26%
Total	**74**	**100%**

Table 4: Educational background

4.5 Age of the Respondents

The study noted that twenty-five respondents were in the age of 22-27 years. These were the majority of the respondents. The results shown that respondents aging between 27-31 years were eighteen. As the analyzed data, it was revealed that fourteen respondents ranged between 18-22 years while ten respondents were in the aged bracket of 31-36 years. The findings also indicated that seven respondents had 36 years and above.

Age	Frequency	Percentage
18-22 years	14	19%
22-27 years	25	34%
27-31 years	18	24%
31-36 years	10	14%
36 years and above	7	9%

	Total	74	100%

Table 5: Age of the respondents

4.6 Mobile Digital Loan

The study wanted to find out if the respondents have ever used their mobile phone to borrow loan digitally. From the findings, results indicated that sixty-nine respondents had used their mobile phones to borrow loan from various digital applications. However, the study noted that five respondents had never borrowed loan from any of the digital mobile loan application.

Mobile digital loan	Frequency	Percentage
Yes	69	93%
No	5	7%
Total	74	100%

Table 6: Mobile digital loan

4.7 Reasons for Borrowing Loan

The study wanted to find out the purpose of borrowing using mobile digital loan platform. It was noted that twenty-three respondents stated that the reason for borrowing mobile loan was because of their own upkeep. The study noted that fifteen respondents indicated that they borrowed loan because of emergencies which were inevitable. From the findings, thirteen respondents stated that due to sometimes delay of the salaries, they would borrow to pay rent. The study noted that nine respondents borrowed to pay the school fees while seven respondents borrowed for their own entertainment. However, it was also revealed that four respondents borrowed to service their own debt to borrow again. The results shown that three respondents stated that they borrowed for other reasons such as stocking business.

Reasons for borrowing	Frequency	Percentage
Upkeep	23	31%
Emergencies	15	20%
Rent	13	18%
School fees	9	12%
Entertainment	7	10%
Debt repayment	4	5%
Stocking business	3	4%
Total	**74**	**100%**

Table 7: Reasons for borrowing loan

4.8 Reliability Analysis

The study used Cronbach Alpha to measure construct validity. Since the questionnaire had an internal scale of 1-5, hence Cronbach Alpha was used to test the internal consistency of the likert scale questions and reliability of the questionnaire. A higher score signals that data instrument is more reliable. According to Davakol and Dennick (2011), a Cronbach alpha ranging from 0.70 to 0.95 is usually an accepted value. In table five below, Cronbach alpha coefficient ranged from 0.705 to 0.801. This indicated that there was a high internal consistency.

Independent variables	Cronbach's Alpha
Credit identification	0.705
Credit monitoring and evaluation	0.801
Credit collection policies	0.742

Table 8: Reliability test

4.9 Credit Risk Application and Identification

Respondents argued that customers are known through money transfer and mobile loan application as they are known through borrowing (Mean=4.45; std dev=0.513). Participants admitted that credit worthiness of the borrower was to a greater extent determined by credit reference bureau (Mean=4.85; std dev=0.627). Through interviews majority of the respondents agreed that they had been blacklisted due to lack of paying the credit. The study established that there was a menu guideline for mobile loan application however only few respondents managed to go through it and comprehend while other respondents stated that they relied on the information of their friends (Mean=4.05; std dev=0.841). As outlined in table six below, mobile loan borrowing and repayment within the stipulated period determined the credit limit of the applicant (Mean= 4.15; std dev=0.638). The study noted that frequency of borrowing and timely payment indicated a positive credit history and increased the chances of getting a higher credit limit (Mean=4.72; std dev=0.586). It was noted that first time borrowers got credit but they had relatively lower credit limit (Mean=4.02; Std dev=0.954). The study found out that mobile loan application had gained popularity as there was no collateral required and any guarantor (Mean= 4.30; std dev=0.677). This finding concurs with Jack, Suri and Bharadwaj (2018), where mobile loan application does not have collateral at all. Respondents stated that mobile loan applicant would get access loan without any examination of either have savings or not (Mean=3.82; std dev=0.816). The data analyzed revealed that mobile loan applicant got a message notifying him/her if the loan applied had been accepted/denied in less than 5 minutes (Mean=4.52; std dev=0.625). The study further revealed that mobile loan application was simplified for the borrower however majority did not even read the guidelines and just accepted terms and conditions and proceeded to borrowing loan (Mean=3.76; std dev=0.582).

Statements	Mean	Std dev
Frequent use of mobile loan applications and money transfers helps us know our customer better	4.45	.513
Credit Reference Bureau helps us know the credit worthiness of the borrower	4.85	.627

Mobile loan application is usually done through their menu guideline	4.05	.841
Applicants borrowing and repayment informs the credit limit of the borrower	4.15	.638
Frequent borrowers with a credit history of always paying loan within 30 days get access to loan faster with an increase in credit limit	4.72	.586
First time borrowers get access to loan even without credit history but with lower credit limit	4.02	.954
No collateral required while borrowing loan	4.30	.677
With or without savings, borrower get access to loan	3.82	.816
Credit approval/denied is usually sent via SMS within five minutes	4.52	.625
Guidelines for credit application/identification/measurement is simplified for borrowers to get access to loan.	3.76	.582

Table 9: Credit risk application

Statements	Mean	Std dev

4.10 Credit Risk Monitoring

After loan approval and sending the approved loan to customer account, borrower is given deadline to pay the loan within 30 days	4.73	.270
A follow up is done and borrower is reminded to pay loan via SMS on time and get access to an increase on the credit limit	4.46	.194
Failure to repay in full within 30 days, the borrower is given an additional day (s) to repay the outstanding balance	3.95	.808
If the borrower defaults to pay on time, a phone call is made to remind the defaulter to repay the loan	4.07	.664
If defaulter does not pay on time, follow up is done to pay the loan/outstanding balance	3.88	.582

In table seven below, the study found out that credit risk monitoring began immediately after the mobile loan application was successfully approved and sent with clear stipulation of the deadline to repay the loan as indicated with the highest mean of 4.73. The findings indicated that loan is disbursed to the mobile loan applicant, a follow up was done and frequent messages were sent to the loanee reminding him/her time remaining to repay loan and start making partial repayment as indicated by a mean of 4.46. Majority of the respondents indicated that when the borrower defaulted to pay on time, the borrower was reached through a phone call and message reminding the defaulter to repay the loan as indicated by a mean of 4.07. The analyzed data revealed that the defaulter was given another grace period to repay the loan with constant messages reminding the borrower to repay outstanding loan as indicated by a mean of 3.95. Respondents further stated that defaulter was still given additional time to clear outstanding loan but with conditions as noted with a least mean of 3.88.

Table 10: Credit risk monitoring

4.11 Credit Collection Policies

The study noted that after the repayment period had elapsed, messages and frequent calls were used to remind defaulters to repay outstanding loan and extending period of repayment as noted in table eight with the highest mean of 4.20. It was revealed that majority of the respondents stated that defaulters were issued threat of collection agents coming to reclaim the outstanding loan but the threats never materialized as indicated by a mean of 3.81. The data analyzed found that after collection of bad debt had been futile, they left defaulter to repay debt at their own pace as indicated by a mean of 3.68. The study findings indicated that defaulter was forwarded to CRB and blacklisted and the messages were sent to the defaulter to repay outstanding loan and upgrade his/her status in the CRB as noted with a mean of 3.56. The results further revealed that the mobile loan application lender wrote off the outstanding loan and treated it as bad debt as

Statements	Mean	Std dev

indicated by the lowest mean of 3.17.

The defaulter is left to repay at his/her own pace.	3.68	.340
Messages and frequent calls are used to remind defaulters to repay outstanding loan and extending period of repayment	4.20	.261
Uses collection agencies to follow up on the defaulters	3.81	.318
Forwarding the defaulter name to CRB for blacklisting	3.56	.459
Writing off the outstanding loan and treating it as bad debt	3.17	.781

Table 11: Credit collection policies

4.12 Impact of Mobile Loan

The study found that mobile loan application had widen a culture of borrowing and reduced the saving culture as was the initial idea of *Mshwari* serviced by Safaricom and CBA to promote a saving culture as indicated by the mean of 4.48 and 4.33 respectively. The findings concur with Gubbins and Suri (2018), argued that access to Mobile loan increased the number of loans held by households while not reducing the likelihood of borrowing from other formal or informal sources. The study noted that instant mobile loan application and approval had increased many borrowers and at the same time increased defaulters on daily basis as indicated by mean of 4.21 and 4.08 respectively. The results revealed that due to increased defaulters, non- performing loan had greatly affected profit margin and performance of mobile loan application as indicated by a mean of 4.02. The findings indicated that majority of borrowers were recording bad credit history in the CRB as a result of defaulting as noted in table nine as shown by a mean of 3.87. The study also noted that borrowers did not pay loan promptly and the study further revealed that mobile loan performance had deteriorated as indicated by mean of 3.01 and 2.78 respectively.

Statements	Mean	Std dev
Opening of Mobile loan is meant to widen a culture of borrowing	4.48	.610
Mobile loan has exceeded savings	4.33	.483
Instant loan has attracted many customers	4.21	.269
Borrowers did not pay loan promptly	3.01	.029
Defaulters are increasing on daily basis	4.08	.812
Non-performing loan has greatly affected profit margin and performance	4.02	.067
Majority of borrowers are recording bad credit history in the CRB as a result of defaulting	3.87	.585

	2.78	.817
Mobile loan performance has deteriorated		

Table 12: Impact of mobile loan

4.13 Regression Analysis

A multi regression analysis was applied to examine the impact of credit risk management practices on mobile loans in Kenya. In table 10 below, R is the relationship between observed and predicted values of mobile loan (dependent variable) insinuating that the association of 0.074 between mobile loan and credit risk management practices which include credit risk identification, credit risk monitoring and credit collection policies. The coefficient of determination in table 10 is R square. The model's three independent variables (credit risk identification, credit risk monitoring and credit collection policies) were explained by 73.3% of the mobile loan as revealed by R square. It signaled that the study independent variables contributed 73.3% to mobile loan while factors that were not examined by the study contributed to 26.7% (the difference between 100% and 73.3%). This calls for other researchers to study other factors of credit management practices that impact mobile loan application. Also, the 26.7% might have been error caused without knowing.

Model	R	R square	Adjusted R square	Std. Error of the Estimate
1	.856[a]	.733	.731	0.267

Table 13: Model summary

a. Predictors: (constant), credit risk identification, credit risk monitoring and credit collection policies

Dependent: Mobile loan

4.14 Analysis of Variance

The significant value is 0.000 which is less than 0.05 therefore the regression model was statistically significant in predicting how credit risk management practices (Credit risk identification, monitoring and collection policies) impact mobile loan in Kenya. As indicated in table 11, the F value is 35.179. When the value of F is less than 95% confidence level at 0.05, there is sufficient evidence to reject null hypothesis. Thus, this study rejects null hypothesis and the overall regression model is significant.

Model	Sum of the square	Df	Mean Square	F	Sig.
Regression	10.814	1	9.183	35.179	.000[b]
Residual	72.156	261	0.834		
Total	82.970	262			

Table 14: Analysis of variance

Dependent variable: Mobile loan

Predictors: (constant), credit risk, monitoring and collection policies.

4.15 Coefficient of Determination

The equation for regression model was $Y=\beta1X1+\beta2X2+\beta2X2+\beta3x3+c$ whereby the values of X1, X2 and X3 were derived from table 12. The initials X1 was credit risk identification, X2 was credit risk monitoring, and X3 was credit collection policies. The initial c represented the constant coefficient. Therefore, the equation was $Y= 0.226X1+0.294X2+0.218X3+0.371$. From the equation, Y was the dependent variable. The regression model in table 12 revealed that mobile loan application would be at 0.371 when the lenders do not apply credit risk management practices. Any unit increase in independent variables would impact mobile loan. The study noted that a unit increase in credit risk identification would impact mobile loan by a factor of 0.226 with a p value of 0.04. The findings revealed that a unit increase in credit risk monitoring would lead to a 0.294 increase with a p value of 0.02 in score of mobile loan. The study also found that unit increase in credit collection policies would impact mobile loan by a factor of 0.218 with a p value of 0.01. The p value for the three independent variables ranges from 0.01 to 0.04 which is less than 0.05. Thus, there is a significant relationship between independent variables and dependent variable.

Model		Unstandardized coefficient		Standardized coefficient	T	Sig.
		B	Std. error	Beta		

1	Constant	0.371	0.211		1.561	0.03
	Credit risk identification	0.226	0.087	0.085	2.618	0.04
	Credit risk monitoring	0.294	0.091	0.182	2.012	0.02
	Credit collection policies	0.218	0.084	0.071	2.457	0.01

Table 15: Coefficient of determination

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATION

5.1 Introduction

This chapter discuss the summary of the study findings guided by the study objectives. The chapter also aims to give a conclusion based on the study findings. This chapter further gives recommendations for policy and further research.

5.2 Summary

The study noted that seventy-four respondents actively took part in the study. Majority of the respondents had secondary education. Male participants comprised of the majority. The study examined the impact of credit risk management practices on mobile loans in Kenya. The objectives of the study were to examine the impact of credit risk identification on mobile loans, assess the impact of credit risk monitoring on mobile loans and to evaluate the impact of credit collection policies on mobile loans in Kenya. Regression analysis was conducted and revealed that there was a significant relationship between independent variables and dependent variable.

The first objective of the study was to examine the impact of credit risk identification on mobile loans in Kenya. The study revealed that borrowers of mobile loan were identified through mobile money transactions, credit history as indicated by credit reference bureau, frequent borrowing and repayment using mobile loan. It was also found that after identification, lenders either declined or approved loan based on the parameters scoring and the higher the scoring the higher the chances of getting a higher credit limit. The results showed that majority of the respondents had not read the menu guideline for mobile loan application and agreed to terms and conditions without even reading. The study found out that mobile loan application had gained popularity as there was no collateral required and any guarantor. The data analyzed revealed that mobile loan

applicant got a message notifying him/her if the loan applied had been accepted/denied in less than 5 minutes.

The second objective was to assess the impact of credit risk monitoring on mobile loans in Kenya. The findings indicated that credit risk monitoring began immediately after the mobile loan application was successfully approved and sent with clear stipulation of the deadline to repay the loan. The study noted that borrower was frequently sent messages with a polite reminder to start making partial payment before the repayment period elapses. Majority of the respondents indicated that when the borrower defaulted to pay on time, the borrower was reached through a phone call and message reminding the defaulter to repay the loan. The analyzed data revealed that the defaulter was given another grace period to repay the loan with constant messages reminding the borrower to repay outstanding loan.

The third objective was to evaluate the impact of credit collection policies on mobile loans in Kenya. The study found that after the repayment period had elapsed, messages and frequent calls were used to remind defaulters to repay outstanding loan and extending period of repayment. Respondents indicated that they were sent messages with conditions to repay the outstanding loan. Majority of the respondents stated that defaulters were issued threat of collection agents coming to reclaim the outstanding loan but the threats never materialized. The data analyzed found that after collection of bad debt had been futile, they left defaulter to repay debt at their own pace. The study findings also indicated that defaulter was forwarded to CRB and blacklisted. The study further established that the mobile loan application lender wrote off the outstanding loan and treated it as bad debt.

5.3 Conclusions

The study revealed that the instant mobile loan issuance with no collateral and with simple procedures of getting it had attracted many borrowers and at the same time increased defaulters. This had also skyrocketed non-performing loans in the mobile loan application sector. The weaker collection policies had many borrowers not honour their repayment of the outstanding loans. The instant mobile loan application was meant to aid emergency and urgent situations however it has sunken the majority of the youth into debt as they shift from one application to the other without repaying their initial to the previous mobile loan application. The study suggested policies for practice.

5.4 Recommendations for Policy/Practice

1. Due to borrowers shifting from one mobile loan provider to the other for borrowing loan without repaying previous loan, there is need for a harmonious policy for credit risk identification where if one mobile loan application has disbursed loan to a borrower should have an integrated system where the other mobile loan application can use before issuing loan to the same borrower to minimize credit risk and non-performing loans.

2. There is need for mobile loan providers to consider reviewing their collection policies as it was found that they were weak hence the reason for majority of the defaulters not clearing their outstanding loan.

3. There is need for financial education for mobile loan applicants to be nourished with why, when, whom and how to borrow to avoid being trapped in debts and struggling to repay loan that was not of any immediate and long-term benefit.

4. The mobile loan rates used are not bound by the Central Bank interest regime currently at a maximum of 13.5 per cent, giving a leeway for digital loan providers to charge higher. Some

providers charge between 7.5 to 10 per cent interest for a one-month loan. There is need for the

central bank to review and regulate the interest rates of these mobile loan rates.

5.5 Recommendations for Further Research

There is need to research on other factors of credit risk management practices such as credit risk

measurement, control and governance that might impact mobile loan providers. Also, the study

recommends for future researchers to study on the effect of credit risk management practices on

the profitability the mobile loan providers and non-performing loans.

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APPENDICES

Appendix I: Introduction Letter

Dear Respondent,

My name is Margaret Muthoni Ngotho (BUS-4-2493-18) currently pursuing Bachelor of Commerce in Credit Management at Gretsa University, Thika. I am conducting a research on the impact of credit risk management performance of mobile loans in Kenya. I am requesting for your voluntary participation in responding to the questionnaire for this study. Your response will be treated with confidentiality. Responses will be used for academic purposes. Kindly respond with sincerity. I humbly request you to assist me in responding to the posed questions in the questionnaire provided.

Note: Anonymity will be respected.

Thank you in advance for your response and participation.

Yours faithfully,

Margaret Muthoni Ngotho

0798965567

Appendix II: Questionnaire

SECTION I: BIODATA

1. Gender

Male ☐   Female ☐

2. Educational Background

Primary ☐   Secondary ☐   College ☐   University ☐

3. Age of the respondent

18- 22years ☐   22-27years ☐   27-31 years ☐

 31-36 years ☐   36 years and above ☐

4. Have you every borrowed money using mobile digital lending?

Yes ☐   No ☐

5. Reasons for borrowing?

Emergency ☐   Rent ☐   Entertainment ☐   Upkeep ☐

School Fees ☐   Debt Repayment ☐   Other reasons ☐

SECTION 1: MOBILE LOAN

Note: Kindly tick accordingly within the boxes provided. The numbers within the boxes signal

that 1=Strongly agree, 2=Agree 3=Neutral 4= Strongly disagree and 5=Disagree

Statements	1	2	3	4	5
Opening of Mobile loan is meant to widen a culture of borrowing					
Mobile loan has exceeded savings					
Instant loan has attracted many customers					
Mobile loan interest rate has attracted many borrowers					
Borrowers pay loan promptly					
Defaulters are increasing on daily basis					
Non-performing loan has greatly affected profit margin and performance					
Majority of borrowers are recording bad credit history in the CRB as a result of defaulting					
Mobile loan performance has grown exponentially					

SECTION 2: CREDIT RISK IDENTIFICATION AND APPLICATION

Note: Kindly tick accordingly within the boxes provided. The numbers within the boxes signal

Statements	1	2	3	4	5
Frequent use of mobile loan applications and money transfers helps us know our customer better					
Credit Reference Bureau helps us know the credit worthiness of the borrower					
Mobile loan application is usually done through their menu guideline					
Applicants borrowing and repayment informs the credit limit of the borrower					
Frequent borrowers with a credit history of always paying loan within 30 days get access to loan faster with an increase in credit limit					
First time borrowers get access to loan even without credit history but with lower credit limit					
No collateral required while borrowing loan					
With or without savings, borrower get access to loan					
Credit approval/denied is usually sent via SMS within five minutes					
Guidelines for credit application/identification/measurement is simplified for borrowers to get access to loan.					

that 1=Strongly agree, 2=Agree 3=Neutral 4= Strongly disagree and 5=Disagree

SECTION 3: CREDIT RISK MONITORING

Statements	1	2	3	4	5
After loan approval and sending the approved loan to customer account, borrower is given deadline to pay the loan within 30 days					
A follow up is done and borrower is reminded to pay loan via SMS on time and get access to an increase on the credit limit					
Failure to repay in full within 30 days, the borrower is given an additional day (s) to repay the outstanding balance					
If the borrower defaults to pay on time, a phone call is made to remind the defaulter to repay the loan					

Note: Kindly tick accordingly within the boxes provided. The numbers within the boxes signal that 1=Strongly agree, 2=Agree 3=Neutral 4= Strongly disagree and 5=Disagree

If defaulter does not pay on time, follow up is done to pay the loan/outstanding balance					

Statements	1	2	3	4	5

SECTION 4: CREDIT COLLECTION POLICIES

The defaulter is left to repay at his/her own pace.					
Messages and frequent calls are used to remind defaulters to repay outstanding loan and extending period of repayment					
Uses collection agencies to follow up on the defaulters					
Forwarding the defaulter name to CRB for blacklisting					
Writing off the outstanding loan and treating it as bad debt					

Note: Kindly tick accordingly within the boxes provided. The numbers within the boxes signal that 1=Strongly agree, 2=Agree 3=Neutral 4= Strongly disagree and 5=Disagree

THANK YOU FOR YOUR PARTICIPATION