

**INFLUENCE OF MOBILE-BASED LENDING ON THE FINANCIAL  
PERFORMANCE OF MICROFINANCE BANKS IN NAIROBI COUNTY,  
KENYA**

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**A Research project Presented to the Institute of Postgraduate Studies of  
Kabarak University in Partial Fulfilment of the Requirements for the Award  
of Degree of Master of Business Administration (Finance Option).**

**KABARAK UNIVERSITY**

**NOVEMBER, 2019**

**DECLARATION**

This research project is my original work and to the best of my knowledge has not been presented for academic award in any other University or College

Signature.....

Date.....

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REG. NO. GMB /NE /0198/01/18

## RECOMMENDATION

To the Institute of Postgraduate Studies:

The research project entitled” **Influence of Mobile-based lending on the Financial performance of Microfinance Banks in Nairobi County, Kenya**” and written by **Roselyn Siabei** is presented to the Institute of Postgraduate Studies of Kabarak University. We have reviewed the research project and recommend it to be accepted in partial fulfillment of the requirement for award of degree of Master of Business Administration (Finance Option).

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## **DEDICATION**

This work is dedicated to my family and friends.

## **ACKNOWLEDGEMENTS**

I would like to thank the almighty God for giving me strength during the entire compilation of this project. I wish to thank my supervisors, Dr. Patrick Kibati, and Dr. Njenga Gitahi for taking me through this research work. I also wish to thank my lecturers at Kabarak University in diverse units for this course. In particular I wish to thank my research methods lecturer, Prof. Lawrence Kangogo and my statistics lecturer, Dr. Symon Kiprop.

## ABSTRACT

The microfinance banks play a critical role in the economic development of diverse countries across the world especially amongst the developing countries. Microfinance banks offer financial services to those members of populations that are excluded from accessing these services from conventional financial systems. Therefore microfinance banks are critical in improving access to the financial services of the poor since the banks do not require high collaterals for its customers. However, the microfinance banks continue to face challenges in their financial performance which include profitability, loan processing costs and number of non-performing loans. This study sought to examine the influence of loan disbursement, loan appraisal process, loan repayment terms and convenience associated with mobile-based lending on the financial performance of microfinance banks. The study used Agency Costs of Free Cash Flow Theory, Asymmetric Information Theory, Adverse Selection Theory and Technology Acceptance Model. The study adopted descriptive research design to guide the study in meeting its objectives. The target population for the study was employees working in the department of finance from the 13 registered microfinance banks in Kenya. The target population of the study is 130 employees. Using a target population of 130 people and error margin of 0.05, a sample size of 98 respondents is achieved. The respondents were selected using stratified random sampling; whereby the microfinance at which the respondent works, formed the basis for stratification. The study constructed research questionnaires in line with the study objectives. The results found that loan disbursement had a regression coefficient of 0.202. This indicated that a unit increase in the loan disbursement led to 0.202 increases in financial performance of microfinance banks in Nairobi county Kenya with the other variables kept constant. The study concluded that there was a statistically significant influence of loan disbursement through mobile-based lending on financial performance at 5% level of significance. The study found that loan appraisal process had a regression coefficient of 0.227. This indicated that a unit increase in the loan appraisal process led to 0.227 increases in financial performance of microfinance banks in Nairobi county Kenya with the other variables kept constant. The study concluded that there was a statistically significant influence of loan appraisal process through mobile-based lending on financial performance at 5% level of significance. The results found that loan repayment terms of mobile banking had a regression coefficient of 0.205. This indicated that a unit increase in the loan repayment terms led to 0.205 increases in financial performance of microfinance banks in Nairobi county Kenya with the other variables kept constant. The study concluded that there was a statistically significant influence of loan repayment terms of mobile-based lending on financial performance at 5% level of significance. The results found that convenience associated with mobile-based lending had a regression coefficient of 0.167. The study concluded that there was a statistically significant influence of convenience associated with mobile-based lending on financial performance at 5% level of significance. The study recommends that the management of the microfinance bank should put an emphasis on the mobile based lending as it was found to have an influence of the financial performance of microfinance banks in Nairobi County, Kenya. Thus the management should place an emphasis on loan appraisal system through mobile based lending, loan repayment terms of mobile based lending, loan disbursement through mobile based lending and convenience associated with mobile based lending.

**Key Words:** *Loan Appraisal Process, Loan Disbursement, Loan Repayment Terms, Mobile-Based Lending, Financial Performance*

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## **ABBREVIATIONS AND ACRONYMS**

<b>ANOVA:</b>	Analysis of Variance
<b>CBK :</b>	Central Bank of Kenya
<b>CBA :</b>	Commercial Bank of Africa
<b>CVI :</b>	Content Validity Index
<b>DTM :</b>	Deposit Taking Microfinance
<b>KCB :</b>	Kenya Commercial Bank
<b>FCF :</b>	Free Cash Flow
<b>KCB :</b>	Kenya Commercial Bank
<b>MFBS :</b>	Microfinance Banks
<b>MFIs :</b>	Microfinance Institutions
<b>NACOSTI:</b>	National Commission for Technology and Innovation
<b>NPL :</b>	Non-Performing Loan
<b>OER :</b>	Operating Expense Ratio
<b>PY :</b>	Portfolio Yield
<b>ROA :</b>	Return on Assets
<b>ROE :</b>	Return on Equity
<b>SACCOS:</b>	Savings and Credit Cooperative Society
<b>SMEP :</b>	Small and Micro Enterprise Programme
<b>TAM :</b>	Technology Acceptance Model

## OPERATIONAL DEFINITION OF TERMS

**Microfinance banks:** financial institutions that seek to offer financial services to those members of populations that are excluded from accessing these services from conventional financial service providers (Sarah-Halim, Muhamad, Samer, Rashid, Rizal, & Majid, 2015).

**Loan Appraisal Process:** The process of evaluating the capacity of loan applicant to repay the loan facility applied for (Owens, Barrès, Rizzi, Díaz, Moore, Mckee, & Fischer, 2018).

**Loan Disbursement:** Loan disbursement refers to the act of releasing money to loan applicant or towards a specified transaction (Omar, 2016).

**Loan Repayment Terms:** The terms associated on how the loan was paid such as Interest rates, amount of loan repayment installments and period of loan repayment (Omar, 2016).

**Convenience Associated with Mobile-Based Lending:** This refers to the ease of accessing loan through the mobile banking platform (Sarah-Halim et al, 2015).

**Mobile-Based Lending:** Loans provided through a mobile device without visiting a financial services provider and filling loan application paper (Owens et al, 2018).

**Financial Performance:** It is an indication of how a firm can utilize its current assets from the firm's main business mode and operations to generate revenues (Omar, 2016).

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background to the Study

Microfinance banks play a critical role in the economic development OF diverse countries across the world especially amongst the developing countries (Brau & Woller, 2004; Durgavanshi, 2015; Spina, 2013; Sultakeev, Karymshakov, & Sulaimanova, 2018; Wediawati, 2018). Sarah-Halim *et al.*, (2015) defined the microfinance banks or institutions as financial institutions that seek to offer financial services to those members of populations that are excluded from conventional financial service providers. Their basis of exclusion is normally lack of collaterals and inability to pay the financial service providers fees making them an unattractive to these conventional financial service providers (Gwasi & Ngambi, 2014).

Similar to Sarah-Halim *et al.*, (2015), Sultakeev *et al.*, (2018) conceptualize the microfinance as provision of credit facilities in small amounts to poor people who often lack collateral requirements. In further concurrence to Sarah-Halim *et al.*, (2015) and Sultakeev *et al.*, (2018), Postelnicu & Hermes (2015) also conceptualized microfinance institutions as financial service providers focusing on providing financial services to poor people who are often excluded from formal financial systems.

The microfinance institutions play an important role in economic development of countries as well as social-economic development of the very poor persons. According to Bashir (2012) microfinance banks (MFB) improve access to the financial services of the poor who are often excluded from accessing formal financial services from established commercial banks. This is often due to the stringent operational conditions of these commercial banks as well as the financial costs of their services (Samer *et al.*, 2015).

The MFBs also enable the poor to access credit facilities that they wouldn't otherwise access from mainstream commercial banks. This is because these poor people often lack assets to serve as collaterals for credit access (Maroua, 2015). The poor are also often employed in the informal establishments and thus often lack pay slips that they can use to access credit facilities(Beck, Levine, Cull, & Morduch, 2018).

Given the importance of the microfinance banks or institutions to the economic development of the country and the social-economic wellbeing of poor persons, the financial performance of these institutions are critical. According to Kosgey & Njiru (2016), financial performance refers to the measurement of the results of a firm's operations through monetary terms. On the other hand, Samhan (2015) indicates that financial performance is the overall financial health of the organization over a period of time. Different from Kosgey & Njiru (2016), and Samhan (2015) conceptualizations of financial performance, Omar (2016) considers the financial performance as an indication of how a firm can utilize its current assets from the firm's main business mode and operations to generate revenues for the business.

The MFBs continue to face challenges of financial performance across the globe (Abrar, 2018; Durgavanshi, 2015; Gwasi & Ngambi, 2014; Imai & Annim, 2012; Nawaz & Iqbal, 2015; Ofeh & Jeanne, 2017; Reddy, Locke, & Thrikawala, 2018; Spina, 2013). Amongst the aspects that have been noted as a challenge to the financial performance include profitability, Return on Assets (ROA), Return on Equity (ROE), Portfolio yield (PY) and operating expense ratio (OER), and levels of Non-Performing Loans (NPL) (Nawaz & Iqbal, 2015). While these factors are due to various issues as such as management, the use of mobile based lending is one of the ways of addressing these challenges.

There has been an emergence and use of mobile based lending by commercial banks, microfinance banks, financial technology firms and diverse financial services providers across the globe (Alphonsine, 2017; Manship, 2014). The term mobile-based lending has also been referred to as mobile lending, digital credit products, mobile credits, and mobile cash lending. Owens *et al.*, (2018) views mobile-based lending as the loans provided through a mobile device without visiting a financial services provider and filling loan application paperwork. Anderson *et al.*, (2017) offers a broader examination of mobile based lending. In this context, Anderson *et al.*, (2017) indicates that mobile based lending refers to the provision of credit facilities to borrowers that can be applied for, approved, and disbursed remotely (often without any brick-and-mortar infrastructure), automatically (generally minimizing or eliminating person-to-person interaction), and instantly (often in less than 72 hours).



The use and growth of mobile-based lending has been attributed to the need to minimize costs associated with the loan processes such as loan appraisals, and disbursements for small amounts of credit facilities to a geographically dispersed target market (Alphonsine, 2017). The presence, distribution and wide-spread use of mobile phones across the world has enabled the provision of credit facilities remotely. The use of these mobile phones and associated products such as mobile banking leads to creation of financial history through purchases of airtime and loading of mobile cash into the mobile wallet. Such information can then be used together with data analytics to be able to create a credit profile of the user that can then be used for the purposes of mobile based lending.

### **1.1.1 Global Perspective of Mobile Based Lending and Financial Performance of Microfinance Banks**

In Sri Lanka, Reddy *et al.*, (2018) notes presence of financial performance challenges of microfinance institutions in the country. Amongst the noted issues for the microfinance sector in the country included reduced financial performance due to poor laws governing the sector.(Reddy *et al.*, 2018) further noted microfinance financial performance challenges indicated by an average portfolio yield and average operating cost ratio for asset value that is higher comparatively to other countries.

Financial related performance challenges have also been noted in microfinance institutions in India. Amongst the noted challenges in financial performance of Microfinance institutions in India included low asset sizes and returns, lower than the world average on the Return on Assets (ROA) for the Microfinance institutions, and low Return on Equity (ROE) (Durgavanshi, 2015)

### **1.1.2 Regional Perspective of Mobile Based Lending and Financial Performance of Microfinance Banks**

In Cameroon, Ofeh and Jeanne (2017) documents the challenges of financial performance of microfinance banks in the country. Amongst the financial performance metrics that were used by Ofeh and Jeanne (2017) in Cameroon Microfinance institution include deposits, loan periods, interest rates, and liquidity ratios. In this context, Ofeh & Jeanne (2017) noted that a majority of the loans were short term in nature thus leading low income from such loans, there was an extremely high interest rates charged on the microfinance products stood up to a high of 33% of

loaned amount, and a majority of the microfinance institutions were struggling with their liquidity ratios.

Yenesew (2014) documents an increasing improvement in the financial performance of microfinance banks in Ethiopia. Amongst the noted financial performance indicators that were improving were outstanding loan portfolio indicating an increase in loan uptake, improvement in saving balances, and increase in the number of active borrowers (Yenesew,2014). Zambia also continue to face financial performance challenges in respect to its microfinance sector. In this context, Ndonji (2013) notes that Zambian Microfinance Institutions have financial performance that is below that of its African counterparts. Amongst the challenging financial performance aspects included number of borrowers, return on assets, operating expense ratio and portfolio at risk aspects. Nigeria similar to other African countries also face similar financial performance challenges in its microfinance institutions (Mahmood & Abbas, 2011). These are challenges of return on assets for its microfinance sector.

### **1.1.3 Local Perspective of Mobile Based Lending and Financial Performance of Microfinance Banks**

Kenya is feted across the world for its pioneering technological innovation Mpesa product by Safaricom that marked the start of use of mobile phones for financial transactions into the country (Kinyanjui, Achoki, & Kiriri, 2018). The use of this product enabled the development of mobile banking platforms by diverse commercial banks and thereafter collaboration between Safaricom and diverse financial services providers to create lending platforms. Amongst the earliest mobile based lending was Mshwari product which was a collaboration between Safaricom and Commercial Bank of Africa (CBA) (Wainaina, 2017). Commercial banks joined with Safaricom in partnerships through use of their mobile technology to come up with similar mobile based lending products. These products included Barclays bank Timiza app and KCB bank's KCB Na Mpesa product amongst others (Kinyanjui *et al.*, 2018). Standalone non-bank financial institutions such as fintech came up with products that similarly utilized Mpesa's financial history as a basis for lending. Such products include Tala and Branch amongst others (Alphonsine, 2017). The microfinance banks have adopted mobile banking solutions that enable mobile lending aspects.

## **1.2 Statement of the Problem**

Microfinance banks offer financial services to those members of populations that are excluded from accessing these services from conventional financial services providers due to lack of collaterals and inability to pay the financial services providers' fees (Gwasi & Ngambi, 2014). However, the microfinance banks continue to face challenges in their financial performance which include profitability, Return on Assets (ROA), Return on Equity (ROE), Portfolio yield (PY) and operating expense ratio (OER), and levels of Non-Performing Loans (NPL) (Nawaz & Iqbal, 2015). According to the annual supervision report by Central Bank of Kenya (2018), the microfinance banks pretax losses increased to Sh935 million by end of June 2018, compared to a loss of Sh171 million in June 2017. This was a decline of 450 per cent that stretched the loss-making streak by CBK-regulated micro-lenders to three consecutive financial years. By the end of 2017, the Central Bank of Kenya had noted that about 70 per cent of MFBs recorded losses. During this period, Kenya Women Microfinance Bank, the biggest MFB and one of those which did not slide into the loss-making zone, however, saw its profit decline by 92 per cent to Sh18.7 million from Sh224 million in December 2016.

In response to these challenges, there has been emergence and adoption of mobile based lending by commercial banks, and microfinance banks. The study sought to examine the influence of loan disbursement, loan appraisal process, loan repayment terms and convenience associated with mobile-based lending on the financial performance of microfinance banks as the variables of the study. The mobile based lending in Kenya has been examined in respect to commercial banks (Alphonsine, 2017; Wainaina, 2017; Murunga & Kibati, 2017; Kinyanjui, 2018); performance (Kinyanjui, 2018) and in respect to Non-Performing Loans (NPL) (Murunga & Kibati, 2017). In filling this research gap, the current study sought to examine the influence of mobile based lending on financial performance focusing on microfinance banks in Nairobi County, Kenya.

## **1.3 Purpose of the Study**

### **1.3.1 General Objective of the Study**

The purpose of the study is to examine influence of mobile-based lending on the financial performance of microfinance banks.

### **1.3.2 Specific Objectives of the Study**

The study was based on the following objectives of the study;

- (i) To examine the influence of loan disbursement through mobile-based lending on the financial performance of microfinance banks in Nairobi county, Kenya
- (ii) To establish the influence of loan appraisal process through mobile-based lending on the financial performance of microfinance banks in Nairobi county, Kenya
- (iii) To examine the effect of the loan repayment terms of mobile-based lending on the financial performance of microfinance banks in Nairobi county, Kenya
- (iv) To examine the effect of the convenience associated with mobile-based lending on the financial performance of microfinance banks in Nairobi county, Kenya

#### **1.4 Research Hypotheses**

The study was based on the following research hypotheses;

- (i) **H<sub>01</sub>**: There is no statistically significant influence of loan disbursement through mobile-based lending on the financial performance of microfinance banks in Nairobi County, Kenya
- (ii) **H<sub>02</sub>**: There is no statistically significant influence of loan appraisal process through mobile-based lending on the financial performance of microfinance banks in Nairobi County, Kenya
- (iii) **H<sub>03</sub>**: There is no statistically significant influence of loan repayment terms of mobile-based lending on the financial performance of microfinance banks in Nairobi County, Kenya
- (iv) **H<sub>04</sub>**: There is no statistically significant influence of convenience associated with mobile-based lending on the financial performance of microfinance banks in Nairobi County, Kenya

#### **1.5 Justification of the Study**

The study is undertaken due to its importance to various stakeholders within the microfinance banks and the industry regulators. The study highlights to the management of the microfinance banks on the various ways in which technology such as mobile based lending influences their financial performance. The study highlights the specific aspects of Mobile-loan based lending that contributes to the financial performance of the microfinance banks. This would enable the management to understand the Mobile-loan based lending and makes appropriate policy change. The microfinance banks regulator that is Central Bank of Kenya (CBK) would also understand the manner in which the mobile based lending is affecting the financial performance of the financial services providers. This would enable CBK craft

regulations that enhance the mobile-loan based lending in order to enhance its usefulness to the financial services sector.

### **1.6 Significance of the Study**

This study was of significance to diverse group of people including Central Bank Officials, Microfinance Officials, researchers and general public. The CBK as the regulator gains an in-depth understanding of the operations of the mobile-based lending for the purposes of policy guidelines. The microfinance banks are able to gain an understanding on the operations of the mobile-based lending with a view of creating sustainable competitive advantage. The researchers' gains literature review for their studies.

### **1.7 Scope of the Study**

The scope of the study is examined in terms of the context, geographical and time scope. The mobile based lending has been prevalent in the country in the recent past and has affected diverse aspects within the financial services industry. This study however seeks to only examine the manner in which the mobile based lending influences the financial performance only. The other aspects that mobile-based lending may influence financial performance are not under consideration in this study. The data collection was undertaken within the head offices of the microfinance banks situated in Nairobi. This is undertaken with consideration that the operations of the mobile based lending are often centralized and it is only the finance department staff in head office that would be in a position to authoritatively know the implication of mobile based lending on the financial performance of their respective microfinance banks. The study was undertaken within the 2019 year as it is undertaken for academic purposes and therefore bound by the timelines availed for the same.

### **1.8 Limitations and Delimitations of the Study**

The respondents were reluctant to fill in the questionnaires due to the nature of the information sought. The respondents were concerned on the manner in which the collected information was to be utilized. The researcher addressed these concerns through issuance of a consent statement that advises the respondents on the need for the study and putting their responses confidential in nature. The researcher further sought the permission from NACOSTI for the purpose of data collection and showed the respondents as the basis for data collection.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

The chapter presents the literature review for the study. It covers the theoretical review, empirical review and concludes with a conceptual framework.

#### **2.2 Theoretical Review**

The theoretical review of the study was based on the Agency costs of free cash flow theory, Asymmetric Information Theory, Adverse Selection Theory, and Technology Acceptance Model (TAM).

##### **2.2.1 Agency Costs of Free Cash Flow Theory**

This theory was developed by Jensen in 1986 to explain how a firm discounts with excess free cash flow (Taleghani & Taleghani, 2017). The theory states that free cash flow (FCF) describes the excess cash flow above what is required to fund all projects. It also refers to the sum of the cash flow to equity and cash flow to debt holders after interest- tax-shield (Ymenu, 2018). The theory holds that when dividends are replaced with debts, managers of a firm are likely to be obliged to transfer excessive cash flows to investors and as such limit the allocation of resources to low-return projects (Radhakrishnan & Selvan, 2017). In other words, the theory substitutes debt for equity. In the context of banking, the theory can explain how banks transfer excess cash into debts in form of loan disbursement (Imbuhira Sopha & Kwasira, 2016). The free cash flow theory was relevant in explaining the influence of loan disbursement through mobile-based lending on the financial performance of microfinance banks.

##### **2.2.2 Asymmetric Information Theory**

Akerlof (1970) and Spence (1973) proposed this theory to explain the imbalance of information between sellers and buyers of a commodity (in this context, lenders and borrowers) (Ymenu, 2018). The theory states that there is always imbalance between the information that the sellers have from the information that buyers have about the traded commodity or service. In respect to this, one party has more information than the other party in regard to commodity or service traded. The asymmetry of information may lead to moral hazard. This is whereby the most knowledgeable party may misinform or mislead the other party and the risk transferred to the less knowledgeable party (European Investment Bank, 2016).

In the context of this study, borrowers of loan may have more information in regard to the details requested by the bank for appraisal purposes more than the bank. Due to this information asymmetry, the borrowers may provide false information about their credit worthiness and therefore misleading the bank. The bank will then end up approving loans that otherwise, should not be approved and therefore increasing chances of loan default (Taleghani & Taleghani, 2017). Therefore, the asymmetric information theory was relevant in guiding the current study in regard to the influence of loan appraisal process through mobile-based lending on the financial performance of microfinance banks.

### **2.2.3 Adverse Selection Theory**

This theory was developed by Akerlof in the year 1970 (Bakr, Salahuddin, Chowdhury, Mahtab, & Khabir, 2017). The theory states that due to asymmetry that exists between the information that the buyer has and the information that the seller there exists a risk on the part of the seller (Ymenu, 2018). To cover this risk, the seller may increase the pricing of the commodities and therefore resulting to adverse selection. In adverse selection, the benefits of pricing is limited to the seller and therefore affecting distribution of the commodities (Khraim, Shoubaki & Khraim, 2011). In the context of mobile banking, the borrower is well knowledgeable of the information needed for determining the credit worthiness. This may result into credit risk in cases where the bank is not able to determine the credit worthiness of the borrower. Due to this difference in information, the lender (bank) may increase the interest rates of the loan in order to cover the credit risk observed. The credit risk may also affect other loan repayment terms. In respect to this, where the credit risk is high (the asymmetry of information is high), the terms of loan repayment may be more strict as compared to cases where the credit risk is low (Tawaha, 2016). The adverse selection theory will therefore be relevant in guiding the current study in determine the influence of loan repayment terms of mobile-based lending on the financial performance of microfinance banks.

### **2.2.4 Technology Acceptance Model**

Technology Acceptance Model (TAM) was developed by Davis in the year 1989 to explain the factors that lead to acceptance of new technology commodities (Khraim, Shoubaki & Khraim, 2011). The theory outlines two of such factors, namely; ease of use of the technology, and usefulness of the technology. Ease of use refers to whether there are challenges or not in the use of the new technology. Ease of use may related

to difficulties associated in the use of new technology, learning/training requirement of the new technology and skill set in the use of the technology (Sundara & Perera, 2018). According to the proponents of the theory, a new technology that poses challenge in its use is more likely to be rejected. The proponents add that a new technology that is perceived to be easy in use is more likely to be accepted (Karma, Ibrahim, & Ali, 2014). On the other hand, usefulness of technology refers to the extent in which the new technology meets the needs of the users. If the users of the technology perceive the new technology as useful in meeting their needs, the users may accept to use the technology (Chuchuen, 2015).

Concerning the use of mobile banking services to borrow loans from financial institutions, the users may have different perceptions on the usefulness and ease of use of the technology that may determine the convenience of the mobile-based lending. If a loan applicant perceives the mobile-based lending as easy and useful, such applicant will find it convenient to use mobile technology to apply and receive loans (Mostafa & Eneizan, 2018). On the other hand, if the applicant faces challenges in the use of the mobile-based lending, then such applicant will find the use of mobile-based funding inconvenient. TAM was used to guide in examining the convenience associated with mobile-based lending on the financial performance of microfinance banks (Bakr, Salahuddin, Chowdhury, Mahtab, & Khabir, 2017).

This theory however faces criticism in use of perceptions of technology usefulness rather than the actual usefulness of the software. In this context, a technology may be useful but due to lack of awareness or relevant training, users may perceive it as not useful. This theory has however been widely used in the context of mobile applications in loan applications by diverse researchers (Chukwumah, 2017; Mostafa & Eneizan, 2018; Singh & Srivastava, 2018; Sundara & Perera, 2018; Wainaina, 2017). Therefore the theory was relevant in examining the convenience associated with mobile-based lending on the financial performance of microfinance banks.

### **2.3 Empirical Literature Review**

Empirical literature review refers to focusing on original researches carried out by experiment, surveys or observations rather than theory to gain understanding about a phenomena under investigation (Sekaran & Bougie, 2011). It is a discussion and summary of previous conducted studies and their findings (Shirish, 2012). The



purpose of empirical literature review is to give background understanding of the concept under investigation and laying a foundation for a proposed study (Saunders, Lewis, & Thornhill, 2009). This study gathered literature review on loan disbursement, loan appraisal process, loan repayment terms and convenience associated with mobile-based lending.

### **2.3.1 Loan Disbursement Through Mobile-Based Lending and Financial Performance**

Loan disbursement refers to the act of releasing money to loan applicant or towards a specified transaction. Loan disbursement has been associated with different financial performance aspects of organizations in diverse contexts (Abdul Rahman, Hameed Memon, & Sheda Mohd Zulkifli, 2014; Pinto & Alves, 2016). A study carried out by Ymenu (2018) sought to examine the effect of loan disbursement on financial performance of commercial banks in Ethiopia. The study employed an explanatory survey design with a quantitative approach. Secondary data was collected by reviewing audited financial statements for 13 banks for the period 2010 to 2016. Noted that loan was a major source of income and affected performance of commercial banks. In respect to this, the study concluded that there was a positive and significant relationship between amount of loan disbursed and financial performance of commercial banks. These findings are in line with those by Bhatt (2016) in a study on adoption rates of mobile banking in India. The study found out that the amount of loan that customers were able to access through mobile banking improved their satisfaction levels leading to better financial performance of banks. However, the two studies were done on commercial banks while the current study was done on microfinance institutions, which are regulated differently from commercial banks.

The timeliness of loan disbursement has also been focused as a predictor of financial performance of financial institutions. In respect to this, Ajiambo (2013) carried out a study to investigate among other aspects how loan disbursement affects the performance of Sacco's in Nairobi. The study used a sample size of 36 Sacco's from a total number of 1247 registered SACCOS in Nairobi County. The study established that the loans were disbursed immediately after the loan processing was done. The study concluded that the time taken to disburse loans negatively affected the financial performance of SACCOS in Nairobi County. The study noted that the longer the loan disbursement, the lower the loan is attractive and therefore negatively affecting the loan uptake and financial performance of the SACCOS. Sungwacha, Wanyama, and

Kirathi (2014) in a study on factors affecting repayment of loans agreed these findings by noting that the time taken for applied loans to be disbursed affected the attractiveness of loans and hence financial performance of lending micro-finance institutions in Bungoma County. Sungwacha, Wanyama, and Kirathi (2014) recommended loan officers to speed up the loan disbursement in order to make the loan facilities more attractive.

Loan characteristics such as interest rate, size and period of the loan disbursement are some of the metrics that have been linked with performance aspects of financial institutions (Muchiri, 2017). The study sampled 180 respondents who were borrowers of loans from microfinance institutions in Machakos County. The study concluded that there was a positive relationship between the period that was taken before a loan is disbursed to users and the loan uptake. The loan uptake on the other was found to significantly affect the financial performance of microfinance institutions in Machakos County. In agreement to these findings, Nyasaka (2017) Carried out a study on Kenya Commercial bank group to determine among other objectives the effect of loan disbursement on loan performance of KCB group at Nairobi headquarters. The study established that to a large extent, the banks reduced the loan processing period in order to timely disburse loan to applicants. Nyasaka(2017) concluded that timeliness loan disbursement has a negative relationship with financial performance of loan and hence affecting loan bank performance negatively. These studies were done outside Nairobi and since business environment of financial institutions may differ from place to place, carrying out a study in Nairobi County can help improve generalization of study results.

### **2.3.2 Loan appraisal process through mobile-based lending and financial performance**

Loan appraisal refers to the process of evaluating the capacity of loan applicant to repay the loan facility applied for (Ajiambo, 2013). Focusing of loan appraisal factors such as credit history, cash flow, income levels, borrowing frequencies and loan amount, Murunga (2018) sought to find out the relationship between loan appraisal process through mobile banking and financial performance of commercial banks in Nakuru County. Sampling 64 credit offers using structured questionnaires, the study found out that there was a positive and significant relationship between loan appraisal process and financial performance of the commercial banks. The study recommended commercial banks to use factual credit history of loan applicants through mobile

platform in order to establish creditworthiness of the applicants. This resonates well with a study by Wainaina (2017) on a study on mobile loan management practices and performance of commercial banks in Kenya. The study noted that loans credit scoring was positively related with mobile loan performance in commercial banks. The study recommended development of credit scoring systems that are able to capture more personal and business details of mobile loan applicants. There exists a research gap in both of the studies reviewed in this paragraph since they were done in commercial banks while the current study was done in microfinance institutions. Commercial banks are bigger in size and may have loan appraisal mechanism that are absent in microfinance.

Number of loan approvals has been used as an indicator of the loan appraisal process. In this context, Jafari (2013) carried out a study to examine the effectiveness of mobile loan approval process on the performance of commercial banks in Tanzania. The study achieved its objectives by sampling 10 loan officers and 30 customers using study questionnaires. The study concluded that there was a positive relationship between loan appraisal process and loan recover and hence performance of commercial banks issuing mobile loans. These findings concur with results established by Munguti (2013) on factors determining the performance of Small and Micro Enterprise Programme (SMEP) DTM at Machakos County. The study specifically focused on how loan appraisal process affects financial performance of the MFI. The study revealed that there was a positive relationship between loan appraisal process and performance of loans. In respect to this, the study recommended evaluation of applicants' education level, and financial capacity to repay loans in order to improve on loan recovery. The study by Jafari (2013) was done in Tanzania while that by Munguti (2013) was done in Machakos County while the current study was done on Nairobi county and therefore there is difference in business environment. This therefore opens a contextual research gap for the study.

The time taken to approve a loan after an application has been made has been seen as a dominant of adoption rate of mobile loan facilities. For example, Mostafa and Eneizan (2018) investigated the influence of loan appraisal process on mobile loan uptake in developing countries. The study used a sample of 319 existing customers in Libya. Using research questionnaire, Mostafa and Eneizan (2018) established that mobile loan appraisal process was quicker as compared to appraisal process in

traditional banks halls. In respect to this, the study concluded that there was a positive relationship between mobile loan appraisal period and loan uptake and financial inclusion leading to better financial performance. In line to these findings, Taleghani and Taleghani (2017) carried out a study to examine factors affecting decision making process of customers to use mobile loan facilities in Iran. The study revealed that majority of the respondents preferred the use of mobile loan since the loan took a short time to be approved and therefore could be used in cases of emergencies. The high loan preference through mobile banking led to better financial performance of commercial banks in Iran. These studies however presented a research gap since they were done outside Kenya and therefore by carrying out a study in Kenya that experience technological improvements in banking industry would help in filling this contextual research gap.

### **2.3.3 Loan Repayment Terms of Mobile-Based Lending and Financial Performance**

These are policies that are put in place to guide lending of money from financial institutions. Loan repayment terms are one of those policies that guide the repayment of loan. Loan repayment terms may be in terms of interest rates, amount of loan repayment installments and period of loan repayment (Ogolla, 2017). Using descriptive research design, Ong'era and Onditi (2016) examined how lending policies influence the repayment of loans in commercial banks in Kenya. The study sampled 18 commercial banks in Kisii County and whereby financial reports and statements were reviewed. The study noted that lending policies were positively related to financial performance of commercial banks in Kisii County. In respect to this, it was noted that there was elaborate loan repayment policies availed and explained to loan applicants before loan approval. It was further noted that the loan repayment terms improved loan recovery and hence financial performance of firms. On the same context, Sungwacha, Wanyama and Kirathi (2014) investigated the factors affecting performance of loan repayment among borrowers in Bungoma County. The study observed that there was a negative relationship between strict loan repayment schedule and loan default. It was also found out that policies on loan repayment had a significant and negative influence on non-performing loans. The study concluded that loan repayment terms predicts the level of financial performance of lending institution. Since the two studies were done outside Nairobi County, there exists a contextual research gap for a study to be carried out in Nairobi County that experiences different business environment issues.

Lending policies on interest rates charged on loans can determine the level of loan recovery. In regard to this, Ndegwa (2014) carried out a study to examine the influence mobile money on non-performing loans in Kenyan commercial banks. The study collected data from 43 commercial banks using secondary data collecting guide from the Central Bank of Kenya. Ndegwa (2014) revealed that the interest rates charged on mobile money loans affected the repayment of loans. In respect to this, the study revealed that high interest rates on loans reduced loan recovery rate and hence resulting to high volumes non-performing loans. The findings are in line with findings by Maranga and Nyakundi (2017) in a study on the effect of loan interest rates on the financial performance of commercial Banks in Kisii County. Targeting credit officers, branch managers and head of units, the study established that the amount of interest rates charged on loans affected the level of loan repayment and hence the financial performance of commercial banks. In respect to this, the study established that loan that required less security had the highest interest rate and also were the most likely to be non-performing loans. It was concluded that loan repayment terms was positively related to loan repayment. The two reviewed studies in this paragraph focused on commercial banks while the current study will focus on micro-finance institutions, which are run and governed different from commercial banks, and therefore a contextual research gap.

Credit risk management aspects such as credit policies, credit scoring, risk identification process and debt collection process have been associated with loan repayment performance (Kinyanjui, Achoki, & Kiriri, 2018; Oromo, 2015; Roy, 2017). Mwangi and Muturi (2016) carried out a study to examine the effect of credit risk management on performance of loan repayment in commercial banks in Kenya. The study employed descriptive research design and targeted the registered 43 commercial banks in Kenya. It concluded that credit policies, credit scoring, risk identification process and debt collection process had a significant and positive relationship with loan repayment performance. This is echoed by Mugambi, Njeru, Member and Tirimba (2015) on a study on the effect of credit policy on the financial performance of deposit taking SACCOS in Mount Kenya region. Using 94 research questionnaires, the researchers established that there was a positive relationship between loan repayment terms and financial performance of deposit taking Sacco from Mount Kenya Region of Kenya. The two studies however focused on all loans

while the current study focuses on mobile-based loans and therefore a contextual gap since the loan repayment terms may differ from loan books.

#### **2.3.4 Convenience Associated with Mobile-Based Lending and Financial Performance**

The ease of access of mobile loan has been indicated to improve financial inclusion in different contexts. Specifically, the conveniences of accessing loan through mobile platforms have increased the number of customers seeking loans and therefore implying financial performance of financial institutions. Atieno (2018) carried out a study to examine the effect of mobile banking and organizational performance. The study targeted banking institutions in Uasin Gishu County in Kenya, whereby 100 employees and 130 customers were sampled. The study revealed the flexibility, transaction security, service delivery speed and cost of operation associated with mobile-based lending improved financial performance of banking institutions in Uasin Gishu County. These findings are in agreement to those by Makori (2015) who carried out a study to examine the level of customer satisfaction in use of mobile banking to obtain loan from commercial banks in Kenya. The study noted that mobile banking required minimum information to access loans and loan disbursement information were simple to understand. It was also noted that it was easy for users to enquire about loan balances using mobile banking services. A study by Atieno (2018) was done outside Nairobi County and a study by Makori (2015) was done among commercial banks in Kenya and therefore presenting contextual research gaps to be filled by the current study.

Convenience in accessing loan through mobile platforms can also determine the number of loan applications and hence performance of lending institutions. Examining internet banking in India, Bhatt (2016) carried out a study to examine the influence of mobile banking on organizational performance. Using 200 respondents sampled using purposive sampling; the study revealed that convenience of using mobile platforms to access loan positively affected financial performance of the lending institutions. In respect to this, the study noted that convenience was in time-effectiveness, safety, ease of navigation and operational simplicity of mobile-based loans. Alsamydai (2014) in a study to examine the influence of mobile banking on uptake of loan in financial institutions in Jordan concurred with the findings established by Bhatt (2016). The study established that the ease of use and speed of loan application among other convenience factors affected the uptake of loan and

therefore improving financial performance of financial institutions in Jordan. The study concluded that convenience associated with mobile-based lending positively related to financial performance. It was recommended that financial institutions to carry out awareness programs to the public in order to change customers attitudes towards the use of mobile-based lending platforms. The two studies reviewed in this paragraph were done outside Kenya and therefore by carrying out a study in Kenya will fill this contextual gap since there are unique financial market characteristics in Kenya as compared to India and Jordan.

Mobile banking convenience aspects such as reduction of time and access barriers as well as improved customer experience in accessing financial services has been associated to better performance indicators (Alsamydai, 2014; Chukwumah, 2017; Karma *et al.*, 2014; Muiruri, 2015). In this context, Pankomera and Van Greunen (2018) carried out a study to examine the challenges, benefits and dynamics in adoption of mobile banking in South Africa. The authors used meta-analysis research design whereby studies carried out from the 2007 to 2018 were systematically reviewed. The study found out that accessing loan through mobile apps was convenience since it saved time instead of travelling to bank, saved on transport cost to the bank and loan applicants could apply loans at any time and place. The study concluded that there was improved loan uptake through mobile banking leading to better financial performance of financial institutions in Africa. This is in support to findings by Sundara and Perera (2018) in Sri-Lanka on the factors contributing to acceptance of mobile banking. The study revealed that mobile banking provided a convenient way of obtaining credit facilities from financial institutions in Sri-Lanka. The convenience was in terms of ease of use of the banking apps, low cost of access of loans and reduced paper work. Since reviewed studies were done outside Kenya, there is need to establish how the convenience associated with mobile-based lending affects performance of MFI in Kenya. This is because Kenya has different level of technology and economy from that of South Africa and Sri-Lanka.

#### **2.4 Summary of Knowledge and Gaps**

Loan disbursement has been associated with different financial performance aspects of organizations in diverse contexts. Ymenu (2018) found that there was a positive and significant relationship between amount of loan disbursed and financial performance of commercial banks. Bhatt (2016) indicated that the amount of loan that customers were able to access through mobile banking improved their satisfaction

levels leading to better financial performance of banks. The timeliness of loan disbursement has also been focused as a predictor of financial performance of financial institutions. The time taken to disburse loans negatively affected the financial performance of SACCOS since the longer the loan disbursement, the lower the loan is attractive and therefore negatively affecting the loan uptake and financial performance of the SACCOS. Loan characteristics such as interest rate, size and period of the loan disbursement are some of the metrics that have been linked with performance aspects of financial institutions.

Loan appraisal refers to the process of evaluating the capacity of loan applicant to repay the loan facility applied for. Amongst the loan appraisal factors such as credit history, cash flow, income levels, borrowing frequencies and loan amount. The number of loan approvals has been used as an indicator of the loan appraisal process (Jafari ,2013). The loan application process should evaluate components such as applicants' education level, and financial capacity to repay loans in order to improve on loan recovery.

Loan repayment terms of one of those policies that guide the repayment of loan. Loan repayment term may be in terms of interest rates, amount of loan repayment installments and period of loan repayment (Ogolla, 2017). Sungwacha, Wanyama and Kirathi (2014)found that there was a negative relationship between strict loan repayment schedule and loan default. Ndegwa (2014) revealed that the interest rates charged on mobile money loans affected the repayment of loans. Credit risk management aspects such as credit policies, credit scoring, risk identification process and debt collection process have been associated with loan repayment performance.

The conveniences of accessing loan through mobile platforms have increased the number of customers seeking loans and therefore implying financial performance of financial institutions. Bhatt (2016) established that the ease of use and speed of loan application among other convenience factors affected the uptake of loan and therefore improving financial performance of financial institutions. Mobile banking convenience aspects such as reduction of time and access barriers as well as improved customer experience in accessing financial services has been associated to better performance indicators.



## 2.5 Conceptual Framework

This study sought to examine the influence of loan disbursement, loan appraisal process, loan repayment terms and convenience associated with mobile-based lending on the financial performance of microfinance banks as the variables of the study. Figure 2.1 shows the conceptualized association of the study variables.

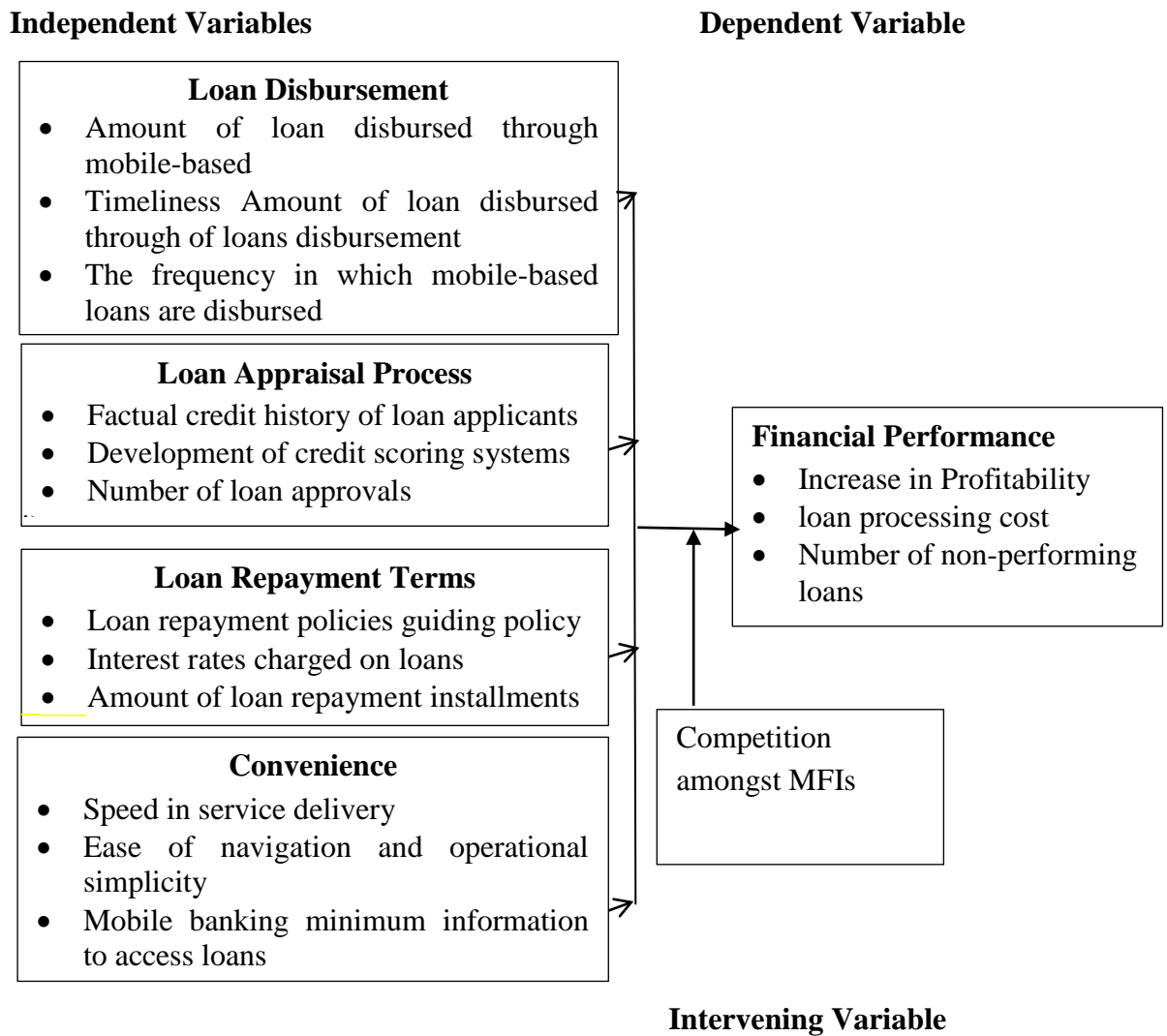


Figure 2.1: Conceptual Framework

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter presents all methodological aspects of the study. The study covers aspects of research design, location of the study, study population, sampling aspects, instrumentation and data analysis tools. The chapter concludes by giving the ethical considerations made by the study.

#### **3.2 Research Design**

A research design is the action plan that was undertaken during the research process. The study adopted correlation research design to guide the study in meeting its objectives. The correlation research design involves linking various variables in order to examine on whether a variable has a relationship with another variable (Mugenda, 2003). This research design was used since the study sought to examine the influence of independent variable on the dependent variable (Kothari, 2004). This study intends to investigate the influence of loan disbursement, loan appraisal process, loan repayment terms and convenience associated with mobile-based lending and financial performance of micro-finance banks without manipulation.

#### **3.3 Location of the Study**

The study was carried out in Nairobi. Nairobi is the capital city of Kenya. Nairobi is also the largest city in East-Africa and whose economy is growing day by day. This is evidenced by rise of many shopping malls and financial institutions in the city. Nairobi has all the 43 registered commercial banks in Kenya and 13 microfinance banks. The city is also the headquarters of the microfinance banks in Kenya. The city being a fast growing city in the world, majority of the citizens have embraced modern technology of banking. In respect to this majority of working citizens use mobile-banking and internet banking to acquire fast and small loans. These loans are attractive due to convenience associated to mobile-based lending (CBK, 2018). It is due to these characteristics that the study chose Nairobi to be the study area.

#### **3.4 Population of the Study**

The population of the study was based on the unit of analysis and unit of observation. The unit of analysis is the 13 registered microfinance banks in Kenya. The unit of observation were the 130 employees working within the finance department of the

microfinance bank. These personnel were targeted due to their knowledge on mobile-based lending and financial performance of the microfinance banks. This improved the validity and quality of the data that was collected by the study. Table 3.1 shows the target population.

**Table 3.1: Target Population**

<b>Microfinance Bank</b>	<b>Population size</b>
Caritas Microfinance Bank Limited	9
Century Microfinance Bank Limited	11
Choice Microfinance Bank Limited	8
Daraja Microfinance Bank Limited	7
Faulu Microfinance Bank	16
Kenya Women Microfinance Bank Limited	15
Maisha Microfinance Bank Ltd	7
Rafiki Microfinance Bank Limited	12
Remu Microfinance Bank Limited	7
SMEP Microfinance Bank Limited	15
Sumac Microfinance Bank Limited	8
U & I Microfinance Bank Limited	8
Uwezo Microfinance Bank Limited	9
<b>Total</b>	<b>130</b>

### 3.5 Sampling Techniques and Sample Size

#### 3.5.1 Sample Size

The sample size of this study was calculated using the Taro Yamane Formula (1967) as shown below;

$$n = \frac{N}{1+N(e^2)} = \frac{130}{1+130(0.05^2)} = \frac{130}{1.325} = 98$$

Where;

n = sample size;

N =size of target population;

e = error margin (0.05)

Using a target population of 130 people and error margin of 0.05, a sample size of 98 respondents is achieved.

#### 3.5.2 Sampling Techniques

The sampling techniques illustrate the manner in which the specific sample members are picked from the population. This study used probabilistic sampling method due to its advantage of leading to a representative sample. The respondents were selected

using stratified random sampling; whereby the microfinance at which the respondent works, formed the basis for stratification. In regard to this, there were 13 strata that correspond to the number of microfinance banks. From each microfinance bank, respondents were randomly selected according to the number of employees in the microfinance bank. Stratified random sampling ensures that there is no biasness of inclusion and that respondents are equitable represented in the sample size (Saunders *et al.*, 2009).

The sample size for the study was 98 respondents who comprised of employees working at the department of finance from the thirteen microfinance banks in Nairobi Town. Table 3.2 shows the summary of sample size.

**Table 3.2: Sample Size**

<b>Microfinance Bank</b>	<b>Proportion</b>	<b>Sample</b>
Caritas Microfinance Bank Limited	(9/130)*98	7
Century Microfinance Bank Limited	(11/130)*98	8
Choice Microfinance Bank Limited	(8/130)*98	6
Daraja Microfinance Bank Limited	(7/130)*98	5
Faulu Microfinance Bank	(16/130)*98	12
Kenya Women Microfinance Bank Limited	(15/130)*98	11
Maisha Microfinance Bank Ltd	(7/130)*98	5
Rafiki Microfinance Bank Limited	(12/130)*98	9
Remu Microfinance Bank Limited	(7/130)*98	5
SMEP Microfinance Bank Limited	(15/130)*98	11
Sumac Microfinance Bank Limited	(8/130)*98	6
U & I Microfinance Bank Limited	(8/130)*98	6
Uwezo Microfinance Bank Limited	(9/130)*98	7
<b>Total</b>		<b>98</b>

### **3.6 Instrumentation**

The study used structured questionnaires to collect data. Structured questionnaires are closed ended questionnaires and therefore the respondents are expected to choose one responses to the corresponding answers using the provided alternatives (Saunders *et al.*, 2009). Questionnaires provide a faster way of data collection and therefore the reason for the choice of the structured questionnaire (Cohen, Manion, & Morrison, 2007). The study used quantitative approach of data analysis. The structured questionnaire was divided in six sections. The first section sought to collect background information of the respondents such as age, gender and working experience. The second section involved questions of loan disbursement, third section on loan appraisal process, fourth section on loan repayment terms and fifth section on convenience aspects associated with mobile-based lending. The last section of the

questionnaire focused on financial performance of micro-finance banks. The questions in section two to section six were based on a five point Likert scale. The Likert scale use was; 1= Strongly Disagree, 2= Disagree, 3= Uncertain 4= Agree, and 5= Strongly Agree.

### **3.6.1 Pilot Study**

The pilot study is undertaken with a view of addressing logistical challenges that may impact on the execution of the final study. The pilot study was undertaken at Nakuru at Kenya Women Finance Trust using 10% of the sample size that is 9 members as recommended by Cohen, Manion, and Morrison (2007) in their book. The persons used in pilot study were not used in the final study.

### **3.6.2 Validity of the Instrument**

The study constructed research questionnaires in line with the study objectives. The study additionally used subject matter experts to ascertain whether the items in the questionnaires measure what the study claims to measure. The subject matter experts included the researcher supervisor and four credit officers for microfinance banks. The subject matter experts rated the relevance of the questionnaires in an ordinal Likert scale where 1== Strongly Disagree, 2= Disagree, 3== Uncertain 4= Agree, and 5= Strongly Agree. The study then used content Validity Index (CVI) to calculate the validity of the questionnaire. A CVI of at least 0.78 confirmed the validity of the research instruments as recommended by (Shirish 2012).

### **3.6.3 Reliability of the Instrument**

The study sought to establish whether the research instruments are reliable in providing similar responses each time is used. The study used Cronbach's Alpha Coefficient to test the reliability of the research questionnaires. Cronbach's Alpha Coefficient of 0.7 was used as threshold for confirming reliability of the research questionnaires.

## **3.7 Data Collection Procedure**

The study sought permission for data collection from the Kabarak University through an introduction letter. The introduction letter contained the name of the researcher, the research title and then purpose of the study. The researcher further applied for authorization from the National Commission for Technology and Innovation

(NACOSTI). After receiving the authorization from NACOSTI, the researcher sought further permission from the county commissioner's office, thereafter, sought permission to collect data from the individual micro-finance banks. During the data collection, the researcher visited the respondents and explained to them the purpose of the study and sought cooperation during the data collection period. Two weeks period was allowed for data collection after which the researcher collected back the filled questionnaires for analysis.

### **3.8 Data Analysis and Presentation**

The study analysed data using Statistical Software for Social Sciences. The study performed descriptive statistics and inferential statistics. Descriptive statistics that was used are percentages, and frequencies, while the inferential statistics that was used is a chi square, multiple linear regression and correlation. The entire data analysis was presented using tables and text.

The regression model that was used is as follows;

$$y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where; Y= Financial Performance

$\beta_0$  = constant;

$\beta_1, \dots, \beta_4$  = Coefficients of estimates;

$X_1$  = loan disbursement

$X_2$  = loan appraisal

$X_3$  = loan repayment

$X_4$  = convenience associated with mobile-based lending

$\varepsilon$  is the estimated error of the model

### **3.9 Ethical Considerations**

The study sought to inform the respondents on the purpose of the study and the reason they are selected to be part of the study. The study also assured the study respondents that the information they would provide would be treated as confidential and used for academic purposes of the study. The study kept the identity of the respondent as anonymous throughout the participation period and therefore the respondents were not asked to provide their identifying details. Participation in this study was voluntary and therefore participation in the study was from free-will.

## CHAPTER FOUR

### DATA ANALYSIS, PRESENTATION AND CONCLUSION

#### 4.1 Introduction

This study sought to examine the influence of mobile based lending on the financial performance of microfinance banks in Nairobi County, Kenya. The mobile based lending aspects were examined using four variables that is loan disbursement through mobile-based lending, loan appraisal process, loan repayment terms of mobile-based lending, and convenience associated with mobile-based lending. The data was collected using structured questionnaire and analyzed using frequency distributions, chi squares, correlations and regression analysis. This chapter examines the findings and discussions of the results of the study.

#### 4.2 Response Rate

The target populations of the study were the employees working in the department of finance from the 13 registered microfinance banks in Kenya. The sample size of this study was calculated using the Taro Yamane Formula (1967) leading to 98 respondents being used for the study. The study thus distributed the structured questionnaires to 98 respondents and the response rate results presented in Table 4.1 below.

**Table 4.1; Response Rate**

<b>Distributed Questionnaire</b>	<b>Returned Questionnaire</b>	<b>Response Rate</b>
98	85	86.7%

The study respondents returned 85 questionnaires out of the 98 distributed questionnaires leading to a response rate of 86.7%. The relatively high response rate was attributed to the use of drop off pick up later method in which the questionnaire were distributed and picked up later at a pre agreed time after the respondents had filled the questionnaires. The achieved response rate was found to be adequate for the study as it was above the 80% recommended threshold for a response rate in survey studies.

#### 4.3 Background Characteristics

The background characteristics of the study were examined using the gender distribution and the length worked at the microfinance banks in Nairobi County, Kenya.

### 4.3.1 Gender Distribution

The gender distributions of the respondents were examined and the results presented in Table 4.2 below.

**Table 4.2; Gender Distribution**

<b>Gender</b>	<b>Frequency Distribution</b>	<b>Percentages</b>
Male	50	58.8%
Female	35	41.2%
<b>Total</b>	<b>85</b>	<b>100%</b>

The study found that male members of the respondents constituted 58.8% of the response rate compared to 41.2% of the respondents who were female. The high number of the respondents who were male can be attributed to the finance department being mathematically heavy which have often been associated with the male being inclined to the mathematical based courses.

### 4.3.2 Length Worked at the Microfinance Bank

The length of time worked at the microfinance bank was examined and the results presented in Table 4.3 below.

**Table 4.3; Length Worked at the Microfinance Bank**

	<b>Frequencies</b>	<b>Percentage</b>
1-5 Years	45	52.9%
6-10 Years	29	34.1%
Over 10 Years	11	13%
<b>Total</b>	<b>85</b>	<b>100%</b>

The results of the study revealed that 52.9% of the respondents had worked for five or less years in their departments with 34.1% having worked between 6 to 10 years while 13% had worked for over 10 years.

### 4.4 Loan Disbursement Through Mobile Based Lending

The loan disbursement through mobile lending was examined as the first objective of the study. Loan disbursement refers to the act of releasing money to loan applicant or towards a specified transaction. The study used a five point likert scale of Strongly Disagree (SD), Disagree (D), Neutral (N), Agree (A) and Strongly Agree (SA). The study used a set of five indicators to measure the variables that is adequacy of amount of loan disbursed through mobile based lending, loan amounts being disbursed immediately, frequency of mobile based loans disbursement, ease of loan disbursement through mobile phone, and loan disbursement notification. The results



of the descriptive statistics that is the frequency distribution and chi square were presented in Table 4.4 below.

**Table 4.4; Loan Disbursement Through Mobile Lending**

	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>	<b>Chi-Square</b>	
	<b>Freq</b>	<b>Freq</b>	<b>Freq</b>	<b>Freq</b>	<b>Freq</b>	<b>Value</b>	<b>P</b>
	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>		
Amount of loan disbursed through mobile-based lending is adequate.	1 1.2%	7 8.2%	4 4.7%	63 74.1%	10 11.8%	89.752	0.000
Using mobile-based lending, loans are disbursed immediately after the loan processing is done	3 3.5%	4 4.7%	1 1.2%	68 80.0%	9 10.6%	32.344	0.001
The frequency in which mobile-based loans are disbursed satisfying.	4 4.7%	9 10.6%	2 2.4%	62 72.9%	8 9.4%	52.204	0.000
The loan disbursed is easily accessible via mobile phone.	5 5.9%	14 16.5%	0 0.0%	55 64.7%	11 12.9%	27.839	0.006
Loan disbursement notification is made as soon as the loan is disbursed.	7 8.2%	6 7.1%	3 3.5%	56 65.9%	13 15.3%	27.645	0.006

The amount of the loan disbursed through mobile based lending being adequate had a majority of 74.1% of the respondents in agreement and a further 11.8% in strong agreement. Thus a cumulative percentage of 85.9% of the respondents were in agreement that loan disbursed through mobile based lending was adequate. This is compared to only 1.2% and 8.2% of the respondents who strongly disagreed and disagreed respectively. The study in measuring whether loan disbursed through mobile based lending being adequate had a statistically significant association with financial performance achieved a  $\chi^2 = 89.752$ , and p value =0.000. This led to the conclusion that there was a statistically significant association between loan disbursed through mobile based lending being adequate had a statistically significant association with financial performance.

The role of loan disbursement on the financial performance was consistent with the findings of diverse scholars. A study carried out by Ymenu (2018) sought to examine the effect of loan disbursement on financial performance of commercial of banks in Ethiopia. The study employed an explanatory survey design with a quantitative approach. Secondary data was collected by reviewing audited financial statements for 13 banks for the period 2010 to 2016. Noted that loan was a major source of income and affected performance of commercial banks. In respect to this,

the study concluded that there was a positive and significant relationship between amount of loan disbursed and financial performance of commercial banks. These findings are in line with those by Bhatt (2016) in a study on adoptions rates of mobile banking in India.

The loan disbursed being undertaken immediately after the loan is processed had a cumulative percentage of 90.6% of the respondents being in agreement with the metric. It was only 1.2% of the respondents that were neutral while 3.5% of the respondents strongly disagreed and 4.7% of the respondents disagreed with the metric. The question as to whether the loan disburse being undertaken immediately after the loan is processed had statistically significant association with financial performance achieved  $\chi^2 = 32.344$ , and p value =0.001. This led to the conclusion that there was a statistically significant association between loan disbursement being undertaken immediately after the loan is disbursed and financial performance at 5% level of significance since  $p (\chi^2 > 32.344) < 0.05$ . The timeliness of the loan disbursement influencing financial performance of the microfinance banks is consistent with other studies across the globe. In respect to this, Ajiambo (2013) carried out a study to investigate among other aspects how loan disbursement affects the performance of Sacco's in Nairobi. The study established that the loans were disbursed immediately after the loan processing was done. The study concluded that the time taken to disburse loans negatively affected the financial performance of SACCOS in Nairobi County. The study noted that the longer the loan disbursement, the lower the loan is attractive and therefore negatively affecting the loan uptake and financial performance of the SACCOS. Sungwacha, Wanyama, and Kirathi (2014) in a study on factors affecting repayment of loans agreed these findings by noting that the time taken for applied loans to be disbursed affected the attractiveness of loans and hence financial performance of lending micro-finance institutions in Bungoma County. Sungwacha, Wanyama, and Kirathi (2014) recommended loan officers to speed up the loan disbursement in order to make the loan facilities more attractive.

The frequency in which mobile-based loans are disbursed is satisfying had 4.7%, 10.6%, 2.4%, 72.9%, and 9.4% strongly disagreeing, disagreeing, neutral, agreeing and strongly agreeing respectively. The study also sought to examine on whether the frequency in which mobile-based loans were disbursed being satisfactory had a

statistical significant association with financial performance. In this context, the achieved chi square results for the testing were  $\chi^2 = 52.204$ , and p value =0.000. This led to the conclusion that there was a statistically significant association between frequency in which mobile-based loans are disbursed being satisfactory and financial performance at 5% level of significance.

The loan disbursement being easily accessible via mobile phone had a majority of the respondents at 64.7% being in agreement while 12.9% of the respondents were in strong agreement. This is compared to 0.0% of the respondents who were neutral, 5.9% who strongly disagreed and 16.5% who disagreed. The test on whether there was a statistically significance association between loan disbursement being easily accessible via mobile phone and financial performance achieved a chi square value of 27.839 at a p value of 0.006. This led to the conclusion that there was a statistically significant relationship between loan disbursement being easily accessible via mobile phone and financial performance at 5% level of significance since  $P(\chi^2 > 27.839) < 0.05$ . Finally, in respect to the loan disbursement notification being made as soon as the loan is disbursed had 8.2%, 7.1%, 3.5%, 65.9%, and 15.3% of the respondents being in strong disagreement, disagreement, neutral, agreement and strong agreement respectively. The study further sought to examine on whether there was a statistically significant association between loan disbursement notification being made as soon as the disbursement is made and financial performance. This achieved a chi square value of 27.645 with a probability value of 0.006 leading to the conclusion that there is a statistically significant association at 5% level of significance.

#### **4.5 Loan Appraisal Process Through Mobile Based Lending**

The loan appraisal process through mobile based lending and the manner in which it influences the financial performance was examined as the second objective of the study. Loan appraisal refers to the process of evaluating the capacity of loan applicant to repay the loan facility applied for (Ajiambo, 2013). Focusing on loan appraisal factors such as credit history, credit scoring systems, number of loan approvals, financial capacity to repay and time taken to approve a loan.

The study used a five point Likert scale of Strongly Disagree (SD), Disagree (D), Neutral (N), Agree (A) and Strongly Agree (SA). The study used a set of five indicators to measure the variables that are factual credit history being established,

development of credit scoring system to capture details of mobile based loan applicants, presence of high number of loan approvals, evaluation of the financial capacity for loan repayment for mobile based lending, and shortness of time for loan application approval process. The results of the descriptive statistics that is the frequency distribution and chi square were presented in Table 4.5 below

**Table 4.5; Loan Appraisal Process Through Mobile Based Lending**

	SD Freq %	D Freq %	N Freq %	A Freq %	SA Freq %	Chi-Square $\chi^2$	P Value
Factual credit history of loan applicants through mobile platform is established in loan appraisal process.	1 1.2%	7 8.2%	6 7.1%	58 68.2%	13 15.3%	23.673	0.009
There is development of credit scoring systems to capture more personal and business details of mobile loan applicants.	2 2.4%	6 7.1%	3 3.5%	66 77.6%	8 9.4%	16.561	0.194
There is high number of loan approvals by the mobile-based lending platform.	4 4.7%	8 9.4%	2 2.4%	65 76.5%	6 7.1%	34.971	0.000
Through the mobile-based lending, the financial capacity to repay loans is evaluated.	3 3.5%	9 10.6%	5 5.9%	61 71.8%	7 8.2%	14.307	0.282
It takes a short time taken to approve a loan after an application has been made through mobile-based lending platform.	4 4.7%	15 17.6%	9 10.6%	46 54.1%	11 12.9%	44.798	0.000

The respondents on being asked on whether factual credit history of loan applicants through mobile platform is established in loan had 1.2%, 8.2%, 7.1%, 68.2%, and 15.3% of the respondents in strong disagreement, disagreement, neutral, agreement and strong agreement respectively.

On whether the indicator had a statistically significant association with the financial performance, a chi square value of 23.673 with a p value of 0.009 was achieved. This led to the conclusion that there was a statistically significant association between the indicator and the financial performance at 5% level of significance since P ( $\chi^2$

$>23.673) <0.05$ . A majority of the respondents at 77.6% were in agreement that there was development of credit scoring systems to capture more personal and business details of mobile loan. A further 9.4% of the respondents were in strong agreement thus leading to a cumulative percentage of 87% of the respondents who were in agreement with the measure. On examining on whether the measure had a statistically significant association with the financial performance, the achieved chi square results were 16.561 with a p value of 0.194. This led to the conclusion that there was no statistically significant association between the metric and financial performance at 5% level of significance. These results contrasted with other studies examining the influence of credit scoring on the financial performance. Murunga (2018) sought to find out the relationship between loan appraisal process through mobile banking and financial performance of commercial banks in Nakuru County.

The study recommended commercial banks to use factual credit history of loan applicants through mobile platform in order to establish creditworthiness of the applicants. This resonates well with a study by Wainaina (2017) on a study on mobile loan management practices and performance of commercial banks in Kenya. The study noted that loans credit scoring was positively related with mobile loan performance in commercial banks. The study recommended development of credit scoring system that is able to capture more personal and business details of mobile loan applicants.

The presence of a high number of loan approvals by the mobile-based lending platform had 4.7%, 9.4%, 2.4%, 76.5%, and 7.1% of the respondents strongly disagreeing, disagreeing, being neutral, agreeing, and strongly agreeing respectively. The study in testing on whether there was a statistically significant association between the measure and financial performance achieved a chi square value of 34.971

with a p value of 0.000. This led to the conclusion that there was a statistically significant association between the measure and financial performance since  $P(\chi^2 > 34.971) < 0.05$ . The findings of this study were consistent with those of Jafari (2013) carried out a study to examine the effectiveness of mobile loan approval process on the performance on performance of commercial banks in Tanzania. The study concluded that there was a positive relationship between loan appraisal process and loan recovered and hence performance of commercial banks issuing mobile loans.

The study further examined on whether through the mobile-based lending the financial capacity to repay loans was evaluated. In this context, a cumulative percentage of 80% of the respondents were in agreement with the measure while 5.9% were neutral while a further 14.1% of the respondents were cumulatively in disagreement. The testing on whether there was a statistically significant association between the measure and financial performance had yielded a chi square value of 14.307 with a p value of 0.288. This led to the conclusion that there was no statistically significant association between the measure and financial performance at 5% level of significance. The last measure of the variable sought to check on whether it takes a short time to approve a loan after an application has been made through mobile based lending platform. This measure had 4.7%, 17.6%, 10.6%, 54.1%, and 12.9% of the respondents strongly disagreeing, disagreeing, being neutral, agreeing and strongly agreeing respectively. The study further found that on testing whether the measure had a statistically significant relationship between shortness of time taken to approve a loan after an application has been made through mobile-based lending platform and financial performance had a statistically significant association at 5% due to a chi square value of 44.798 at a p value of 0.000.

The results of this study are consistent with other studies examining the phenomenon. Mostafa and Eneizan (2018) investigated the influence of loan appraisal process on mobile loan uptake in developing countries. The study established that mobile loan appraisal process was quicker as compared to appraisal process in traditional banks halls. In respect to this, the study concluded that there was a positive relationship between mobile loan appraisal period and loan uptake and financial inclusion leading to better financial performance. In line to these findings, Taleghani and Taleghani (2017) carried out a study to examine factors affecting decision making process of customers to use mobile loan facilities in Iran. The study revealed that majority of the respondents preferred the use of mobile loan since the loan took a short time to be approved and therefore could be used in cases of emergencies. The high loan preference through mobile banking led to better financial performance of commercial banks in Iran.

#### **4.6 Loan Repayment Terms of Mobile-Based Lending**

The loan repayment terms of mobile based and the manner in which it influences the financial performance was examined as the third objective of the study. The study used a five point likert scale of Strongly Disagree (SD), Disagree (D), Neutral (N), Agree (A) and Strongly Agree (SA). The study used a set of five indicators to measure the variables that is presence of an elaborate loan repayment policy guiding repayment of loans, low interest rates being charged on mobile money loans, amount of loan repayments being installments being affordable, frequency of loan repayments being evenly spread across loan repayment period, and all loan repayments being undertaken through the mobile phone loans. The results of the descriptive statistics that is the frequency distribution and chi square were presented in Table 4.6 below

**Table 4.6; Loan Repayment Terms of Mobile Based Lending**

	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>	<b>Chi-Square</b>	
	<b>Freq</b>	<b>Freq</b>	<b>Freq</b>	<b>Freq</b>	<b>Freq</b>	$\chi^2$	P
	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>		<b>Value</b>
There is an elaborate loan repayment policy guiding repayment of loans.	2 2.4%	7 8.2%	2 2.4%	67 78.8%	7 8.2%	29.836	0.004
There are low interest rates charged on mobile money loans	4 4.7%	6 7.1%	5 5.9%	60 70.6%	10 11.8%	25.901	0.007
The amount of loan repayment instalments are affordable	3 3.5%	8 9.4%	6 7.1%	59 69.4%	9 10.6%	36.579	0.000
The frequency of loan repayment instalments are evenly distributed throughout the loan repayment period.	1 1.2%	9 10.6%	3 3.5%	57 67.1%	15 17.6%	26.980	0.006
All loan repayments are conveniently done using mobile phone.	2 2.4%	10 11.8%	0 0.0%	61 71.8%	12 14.1%	19.001	0.058

The first measure of the variable sought to examine on whether there was an elaborate loan repayment policy guiding repayment of loans. This measure had 2.4%, 8.2%, 2.4%, 78.8%, and 8.2% of the respondents in strongly disagreeing, disagreeing, neutral, agreeing and strongly agreeing respectively. The test on whether the measure had a statistically significant influence on the financial performance achieved a chi square of 29.836 with a p value of 0.004. This led to the conclusion that there was no statistically significant influence between the measure and financial performance at 5% level of significance. This contrasts with the existing study findings. Ong'era and Onditi (2016) in their study noted that lending policies were positively related to financial performance of commercial banks in Kisii County. In respect to this, it was noted that there was elaborate loan repayment polices availed and explained to loan applicants before loan approval. It was further noted that the loan repayment terms



improved loan recovery and hence financial performance of firms. On the same context, Sungwacha, Wanyama and Kirathi (2014) investigated the factors affecting performance of loan repayment among borrowers in Bungoma County. The study observed that there was a negative relationship between strict loan repayment schedule and loan default. It was also found out that policies on loan repayment had a significant and negative influence on non-performing loans. The study concluded that loan repayment terms predicts the level of financial performance of lending institution.

The presence of the low interest rates being charged on the mobile money loans had a majority of respondents at 70.6% being in agreement with the measure. A further 11.8% of the respondents strongly agreed with the metric while accumulative percentage of 11.8% of the respondents were in disagreement with the metric. In examining on whether the metric had a statistically significance influence on the financial performance, a chi square value of 25.901 with a p value of 0.007 was achieved. This led to the conclusion that there was a statistically significant influence between the measure and financial performance at 5% level of significance since  $P(\chi^2 > 25.901) < 0.05$ . The findings of this study are consistent with other studies in the same field. Ndegwa (2014) revealed that the interest rates charged on mobile money loans affected the repayment of loans. In respect to this, the study revealed that high interest rates on loans reduced loan recovery rate and hence resulting to high volumes non-performing loans. The findings are in line with findings by Maranga and Nyakundi (2017) in a study on the effect of loan interest rates on the financial performance of commercial Banks in Kisii County. In respect to this, the study established that loan that required less security had the highest interest rate and also

were the most likely to be non-performing loans. It was concluded that loan repayment terms was positively related to loan repayment.

The affordability of the amount of loan repayment installments was examined. This led to the 3.5%, 9.4%, 7.1%, 69.4%, and 10.6% of the respondents strongly agreeing, agreeing, being neutral, disagreeing, and strongly disagreeing respectively. The test on whether there was statistically significant association between the measure and financial performance achieved a chi square of 36.579 with p value of 0.000. This led to the conclusion that there was statistically significant influence between the measure and the financial performance aspects. A majority of the respondents at 67.1% were in agreement that the frequency of loan repayment installments being evenly distributed throughout the loan repayment period. It was only a small percentage of 11.8% of the respondents that were cumulatively in disagreement with the metric. The test on whether the measure had statistically significant association with the financial performance achieved a chi square value of 26.980 with a p value of 0.006. This led to the conclusion that there was a statistically significant association since  $P(\chi^2 > 26.980) < 0.05$ .

Finally, the respondents asked on whether all loan repayment are conveniently done using mobile phone with 71.8%, and 14.1% of the respondents in agreeing and strongly agreeing respectively. The measure as to whether the metric had a statistically significant association with the financial performance at 5% level of significance was rejected since  $P(\chi^2 > 19.001) > 0.05$

#### **4.7 Convenience Associated with Mobile-Based Lending**

The convenience associated with the mobile based lending and the manner in which it influences the financial performance was examined as the fourth objective of the

study. The study used a five point likert scale of Strongly Disagree (SD), Disagree (D), Neutral (N), Agree (A) and Strongly Agree (SA). The study used a set of five indicators to measure the variables that speed in service delivery, ease of navigation of the mobile based lending apps, mobile based lending requiring minimum information to access loans, ability to access loans in any place and time, and low cost associated with mobile based lending. The results of the descriptive statistics that is the frequency distribution and chi square were presented in Table 4.7 below

**Table 4.7; Convenience Associated with Mobile-Based Lending**

	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>	<b>Chi-Square</b>	
	<b>Freq</b>	<b>Freq</b>	<b>Freq</b>	<b>Freq</b>	<b>Freq</b>	$\chi^2$	P
	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>		<b>Value</b>
There is speed in service delivery associated with mobile-based lending	5 5.9%	7 8.2%	3 3.5%	60 70.6%	10 11.8%	47.046	0.000
There is ease of navigation and operational simplicity of mobile-based loans.	0 0.0%	6 7.1%	2 2.4%	70 82.4%	7 8.2%	20.655	0.051
Mobile banking requires minimum information to access loans	2 2.4%	9 10.6%	4 4.7%	54 63.5%	16 18.8%	21.000	0.047
Using mobile-based lending, customers are able to access loan in any place and at any time	1 1.2%	10 11.8%	5 5.9%	57 67.1%	12 14.1%	30.763	0.002
There is low cost of operation associated with mobile-based lending	3 3.5%	5 5.9%	7 8.2%	62 72.9%	8 9.4%	27.672	0.006

The question as to whether there was speed in service delivery associated with mobile based lending had 70.6% and 11.8% of the respondents in agreement and strong agreement respectively. This is compared to 5.9% and 8.2% of the respondents who strongly disagreed and disagreed respectively and 3.5% of the respondents who were neutral. In examination on whether the metric had a statistical significant relationship with financial performance, the achieved chi square value was 47.046 with a p value of 0.000. This led to the conclusion that the metric had a statistically significant

association with financial performance at 5% level of significance. The findings of this study were consistent with other studies on the indicator. Atieno (2018) in a study on the effect of mobile banking and organizational performance revealed the flexibility, transaction security, service delivery speed and cost of operation associated with mobile-based lending improved financial performance of banking institutions in Uasin Gishu County. These findings are in agreement to those by Makori (2015) who carried out a study to examine the level of customer satisfaction in use of mobile banking to obtain loan from commercial banks in Kenya. The study noted that mobile banking required minimum of information to access loans and loan disbursement information were simple to understand.

The study further examined the presence of ease of navigation and operational simplicity of mobile-based loans. This metric had the respondents responding that 7.1%, 2.4%, 82.4%, and 8.2% of the respondents disagreeing, being neutral, agreeing and strongly agreeing respectively. The test as to whether the metric had a statistically significant association with financial performance achieved a chi square value of 20.655 with a p value of 0.051. This led to the conclusion that there was no statistically significant association between the metric and financial performance at 5% level of significance. Alsamydai (2014) in a study to examine the influence of mobile banking on uptake of loan in financial institutions established that the ease of use and speed of loan application among other convenience factors affected the uptake of loan and therefore improving financial performance of financial institutions in Jordan. The study concluded that convenience associated with mobile-based lending positively related to financial performance.

A majority of the respondents at 63.5% were in agreement that the mobile banking required minimum information to access loans while a further 18.8% were in strong agreement with the metric. This is compared to 2.4%, 10.6% and 4.7% of the respondents who were in strongly disagreed, disagreed and was neutral in the measurement. The test on whether the metric had a statistically significant association with the financial performance had an achieved chi square value of 21.000 with a p value of 0.047. This led to the conclusion that there was a statistically significant association between the metric and financial performance aspects at 5% level of significance since  $P(\chi^2 > 21.000) < 0.05$ . The question as to whether using mobile based lending the customers were able to access loans in any place and at any time had 1.2%, 11.8%, 5.9%, 67.1%, and 14.1% of the respondents strongly disagreeing, disagreeing, being neutral, agreeing and strongly agreeing with the metric. The test on whether the measure had a statistically significant association with the financial performance achieved a chi square value of 30.763 with a p value of 0.002. This led to the conclusion that there was a statistically significant influence between the measure and financial performance aspects.

Finally, the question as to whether there was a low cost of operation associated with mobile-based lending had 72.9% of the respondents in agreement and a further 9.4% of the respondents in strong agreement. A further 3.5%, 5.9%, and 8.2% of the respondents strongly disagreed, disagreed and were neutral in respect to the metric. The test on whether the measure had a statistically significant association with financial performance achieved a chi square value of 27.672 with a p value of 0.006. This led to the conclusion that there was a statistically significant association between the measure and the financial performance at 5% level of significance since  $P(\chi^2 > 27.672) < 0.05$ .

#### 4.8 Financial Performance

The financial performance variable was measured through five indicators that is improvement of profitability, improvement of customer satisfaction levels, increased number of clients, reduction of loan processing cost and reduction of non-performing loans. The study used a five point likert scale of Strongly Disagree (SD), Disagree (D), Neutral (N), Agree (A) and Strongly Agree (SA) and the results presented below.

**Table 4.8; Descriptive Statistics for Financial Performance**

	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
	<b>Freq</b>	<b>Freq</b>	<b>Freq</b>	<b>Freq</b>	<b>Freq</b>
	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>
Mobile-based lending has improved the profitability of the micro-finance bank	7 8.2%	6 7.1%	1 1.2%	57 67.1%	14 16.5%
Mobile-based lending has improved the satisfaction level of customers of the micro-finance bank	3 3.5%	5 5.9%	6 7.1%	60 70.6%	11 12.9%
Mobile-based lending has resulted to increased number of customers of the micro-finance bank	5 5.9%	12 14.1%	1 1.2%	58 68.2%	9 10.6%
The use of mobile-based lending has resulted to reduced loan processing cost for the micro-finance bank	6 7.1%	7 8.2%	5 5.9%	59 69.4%	8 9.4%
There is reduction of non-performing loans through the use of mobile-based lending.	4 4.7%	3 3.5%	2 2.4%	66 77.6%	10 11.8%

The question as to whether mobile-based lending had improved the profitability of the micro-finance bank had 8.2%, 7.1%, 1.25, 67.1%, and 16.5% of the respondents strongly disagreeing, disagreeing, neutral, agreeing and strongly agreeing respectively. The mobile based lending leading to improved satisfaction level of customers of the microfinance bank had a cumulative percentage of 83.5% of the respondents in agreement compared to a cumulative of 9.4% who were in disagreement. The mobile based lending resulting into increased number of customers of the microfinance bank had 78.8% of the respondents cumulatively being in agreement. This is compared to 5.9%, 14.1% and 1.2% of the respondents that strongly disagreed, disagreed and were neutral respectively.

The use of mobile based lending resulting to reduction of loan processing cost for the microfinance bank had 69.4% of the respondents agreeing with the metric and 9.4% of the respondents strongly agreeing with the metric. The influence of the reduction of non-performing loans through the use of mobile-based lending had a majority of 77.6% of the respondents agreeing with the metric and 11.8% of the respondents being in strong agreement with the metric.

#### 4.9 Correlation Analysis

The correlation analysis was undertaken for the study in order to determine on whether the independent variables (disbursement, appraisal, repayment terms and convenience) had correlation relationship with financial performance. The correlation analysis is a method of statistical evaluation used to study the strength of a relationship between two, numerically measured, continuous variables. The results were presented in Table 4.9 below.

**Table 4.9; Correlation Analysis**

		Disbursement	Appraisal	Repayment Terms	Convenience
Financial Performance	Pearson Correlation	.731**	.739**	.711**	.704**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	85	85	85	85

The study revealed that loan disbursement had a positive relationship with financial performance of the microfinance banks with a Pearson correlation of 0.731. This correlation relationship between loan disbursement and financial performance was deemed statistically significant at 5% level of significance due to a p value of 0.000. The results of this study are similar to other empirical studies on the influence of loan disbursement on financial performance. Loan disbursement has been associated with different financial performance aspects of organizations in diverse contexts (Abdul Rahman, Hameed Memon, & Sheda Mohd Zulkiffli, 2014; Pinto & Alves, 2016).

The study further found that loan appraisal process had a positive correlation relationship with financial performance of the microfinance with a Pearson correlation coefficient of 0.739. This relationship was found to be statistically significant at 5% level of significance since the observed p value of 0.000 was lower than 0.05. Focusing of loan appraisal factors such as credit history, cash flow, capital, income levels, borrowing frequencies and loan amount, Murunga (2018) found a relationship between loan appraisal process through mobile banking and financial performance of commercial banks in Nakuru County. The loan repayment terms was examined in respect to its correlation influence on the financial performance of the microfinance banks. The study achieved a Pearson correlation coefficient of 0.711 indicating a strong correlation between loan repayment terms and financial performance aspects. This relationship was found to be statistically significant at 5% level of significance due to the achieved p value of 0.000 being less than 0.05.

The convenience of using the mobile based lending apps and financial performance had correlation coefficient of 0.704 and a p value of 0.000. This led to the conclusion that there was a statistically significant correlation relationship between convenience and financial performance aspects. The study is contextually similar to other studies in the subject matter. Atieno (2018) carried out a study to examine the effect of mobile banking and organizational performance. The study targeted banking institutions in Uasin Gishu County in Kenya, whereby 100 employees and 130 customers were sampled. The study revealed the flexibility, transaction security, service delivery speed and cost of operation associated with mobile-based lending improved financial performance of banking institutions in Uasin Gishu County.

These findings are in agreement to those by Makori (2015) who carried out a study to examine the level of customer satisfaction in use of mobile banking to obtain loan from commercial banks in Kenya. The study noted that mobile banking required



minimum of information to access loans and loan disbursement information were simple to understand.

#### **4.10 Regression Analysis**

The study undertook a multiple linear regression analysis with a view of examining on the influence of mobile based lending on the financial performance of microfinance banks in Nairobi County, Kenya. The multiple linear regression analysis was presented through the ANOVA (Table 4.10) and Coefficients (Table 4.11) results respectively.

The model summary results indicated that the correlation coefficient (R) between the correlation relationships between mobile based lending variables (convenience, loan appraisal, loan repayment terms and loan disbursement terms) had correlation coefficient of 0.861. This indicated that there was a strong correlation between the independent variables (convenience, loan appraisal, loan repayment terms and loan disbursement terms) and the dependent variable (financial performance). The study further sought to examine the coefficient of determination (R Square) which explains the variability on the financial performance that is attributable to the independent variables. The study achieved a coefficient of determination of 0.741 leading to the conclusion that 74.1% of the variance in the financial performance is due to independent variables (convenience, loan appraisal, loan repayment terms and loan disbursement terms). The study further found that 25.9% of the variance in the financial performance was due to other factors not in the model.

The study also used the one-way ANOVA to examine on whether the regression model was good fit for data and the results presented in Table 4.11. In this context, the f test was used at 5% significance level with the model being considered good fit for data if p value is less than 0.05. The study found that  $F(4, 80) = 57.316$  with a p

value of 0.000. This led to the conclusion that the model was good fit for data since P ( $F_C > 57.316$ ) = 0.000 < 0.05.

**Table 4.10; ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.424	4	1.106	57.316	.000 <sup>b</sup>
	Residual	1.544	80	0.019		
	Total	5.967	84			

R=0.861, R Square =0.741

a. Dependent Variable: Performance2

b. Predictors: (Constant), Convenience, Appraisal, Repayment Terms, Disbursement

The study having found that the regression model was good fit for data progressed towards examination of the regression coefficients of the independent variables and their influence on the financial performance. The results were presented in Table 4.12

**Table 4.11; Regression Results**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
		1	(Constant)	0.740		
	Disbursement	0.202	.046	0.293	4.425	0.000
	Appraisal	0.227	.047	0.327	4.781	0.000
	Repayment Terms	0.205	.044	0.307	4.687	0.000
	Convenience	0.167	.042	0.255	3.970	0.000

a. Dependent Variable: Performance

To examine on whether loan disbursement through the mobile based lending had an influence on the financial performance of microfinance banks in Nairobi County, Kenya the regression coefficient was examined. The results found that loan disbursement had a regression coefficient of 0.202. This indicated that a unit increase in the loan disbursement led to 0.202 increases in financial performance of microfinance banks in Nairobi county Kenya with the other variables kept constant. To examine on whether this relationship was statistically significant the following hypothesis was tested.

**H<sub>01</sub>:** There is no statistically significant influence of loan disbursement through mobile-based lending on the financial performance of microfinance banks in Nairobi County, Kenya

In testing null hypothesis (**H<sub>01</sub>**) the study sought to use the t test as the test statistic at 5% level of significance. The study found that the t value for the loan disbursement was 4.425 with a probability value of 0.000. The study concluded that there was a statistically significant influence of loan disbursement through mobile-based lending on financial performance at 5% level of significance due to a p value of 0.000 which was less than 0.05 thus leading to the rejection of null hypothesis (**H<sub>01</sub>**). The results of this study in respect to the link between loan disbursement through mobile-based lending and financial performance was similar to those of other studies. Loan disbursement has been associated with different financial performance aspects of organizations in diverse contexts (Abdul Rahman, Hameed Memon, & Sheda Mohd Zulkiffli, 2014; Pinto & Alves, 2016). A study carried out by Ymenu (2018) sought to examine the effect of loan disbursement on financial performance of commercial of banks in Ethiopia found that there was a positive and significant relationship between amount of loan disbursed and financial performance of commercial banks. These findings are in line with those by Bhatt (2016) in a study on adoptions rates of mobile banking in India. The study found out that the amount of loan that customers were able to access through mobile banking improved their satisfaction levels leading to better financial performance of banks.

To examine on whether loan appraisal process through the mobile based lending had an influence on the financial performance of microfinance banks in Nairobi County, Kenya the regression coefficient was examined. The results found that loan appraisal process had a regression coefficient of 0.227. This indicated that a unit increase in the

loan appraisal process led to 0.227 increases in financial performance of microfinance banks in Nairobi county Kenya with the other variables kept constant. To examine on whether this relationship was statistically significant the following hypothesis was tested.

**H<sub>02</sub>:** There is no statistically significant influence of loan appraisal process through mobile-based lending on the financial performance of microfinance banks in Nairobi County, Kenya

In testing null hypothesis (H<sub>02</sub>) the study sought to use the t test as the test statistic at 5% level of significance. The study found that the t value for the loan appraisal process was 4.781 with a probability value of 0.000. The study concluded that there was a statistically significant influence of loan appraisal process through mobile-based lending on financial performance at 5% level of significance due to a p value of 0.000 which was less than 0.05 thus leading to the rejection of null hypothesis (H<sub>02</sub>). The results of this study are concurrent with those found in other studies. In this context, Jafari (2013) carried out a study to examine the effectiveness of mobile loan approval process on the performance on performance of commercial banks in Tanzania. The study concluded that there was a positive relationship between loan appraisal process and loan recover and hence performance of commercial banks issuing mobile loans. These findings concur with results established by Munguti (2013) on factors determining the performance of Small and Micro Enterprise Programme (SMEP) DTM at Machakos County. The study specifically focused on how loan appraisal process affects financial performance of the MFI. The study revealed that there was a positive relationship between loan appraisal process and performance of loans. In respect to this, the study recommended evaluation of applicants' education level, and financial capacity to repay loans in order to improve on loan recovery. The study by Jafari (2013) was done in Tanzania while that by

Munguti (2013) was done in Machakos County while the current study was done on Nairobi county and therefore there is difference in business environment. This therefore opens a contextual research gap for the study.

To examine on whether loan repayment terms of mobile based lending had an influence on the financial performance of microfinance banks in Nairobi County, Kenya the regression coefficient was examined. The results found that loan repayment terms of mobile banking had a regression coefficient of 0.205. This indicated that a unit increase in the loan repayment terms led to 0.205 increases in financial performance of microfinance banks in Nairobi county Kenya with the other variables kept constant. To examine on whether this relationship was statistically significant the following hypothesis was tested.

**H<sub>03</sub>:** There is no statistically significant influence of loan repayment terms of mobile-based lending on the financial performance of microfinance banks in Nairobi County, Kenya

In testing null hypothesis (H<sub>03</sub>) the study sought to use the t test as the test statistic at 5% level of significance. The study found that the t value for the loan repayment terms was 4.687 with a probability value of 0.000. The study concluded that there was a statistically significant influence of loan repayment terms of mobile-based lending on financial performance at 5% level of significance due to a p value of 0.000 which was less than 0.05 thus leading to the rejection of null hypothesis (H<sub>03</sub>). The results of this study correlate with other studies that have been undertaken on the variable of the study. Using descriptive research design, Ong'era and Onditi (2016) examined how lending policies influence the repayment of loans in commercial banks in Kenya. The study noted that lending policies were positively related to financial performance of commercial banks in Kisii County. On the same context, Sungwacha, Wanyama and Kirathi (2014) investigated the factors affecting performance of loan repayment

among borrowers in Bungoma County. The study observed that there was a negative relationship between strict loan repayment schedule and loan default. It was also found out that policies on loan repayment had a significant and negative influence on non-performing loans. The study concluded that loan repayment terms predicts the level of financial performance of lending institution. Since the two studies were done outside Nairobi County, there exists a contextual research gap for a study to be carried out in Nairobi County that experiences different business environment issues.

To examine on whether convenience associated with mobile based lending had an influence on the financial performance of microfinance banks in Nairobi County, Kenya the regression coefficient was examined. The results found that convenience associated with mobile-based lending a regression coefficient of 0.167. This indicated that a unit increase in the convenience associated with mobile-based lending led to 0.167 increases in financial performance of microfinance banks in Nairobi county Kenya with the other variables kept constant. To examine on whether this relationship was statistically significant the following hypothesis was tested.

**H<sub>04</sub>:** There is no statistically significant influence of convenience associated with mobile-based lending on the financial performance of microfinance banks in Nairobi County, Kenya

In testing null hypothesis (H<sub>04</sub>) the study sought to use the t test as the test statistic at 5% level of significance. The study found that the t value for the convenience associated with mobile-based lending was 3.970 with a probability value of 0.000. The study concluded that there was a statistically significant influence of convenience associated with mobile-based lending on financial performance at 5% level of significance due to a p value of 0.000 which was less than 0.05 thus leading to the rejection of null hypothesis (H<sub>04</sub>). The current study results are consistent with those

from other studies. Atieno (2018) carried out a study to examine the effect of mobile banking and organizational performance. The study revealed the flexibility, transaction security, service delivery speed and cost of operation associated with mobile-based lending improved financial performance of banking institutions in Uasin Gishu County. These findings are in agreement to those by Makori (2015) who carried out a study to examine the level of customer satisfaction in use of mobile banking to obtain loan from commercial banks in Kenya. The study noted that mobile banking required minimum of information to access loans and loan disbursement information were simple to understand. It was also noted that it was easy for users to enquire about loan balances using mobile banking services.

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## **CHAPTER FIVE**

### **SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1 Introduction**

This study sought to examine the influence of mobile based lending on the financial performance of microfinance banks in Nairobi County, Kenya. The mobile based lending aspects were examined using four variables that is loan disbursement through mobile-based lending, loan appraisal process, loan repayment terms of mobile-based lending, and convenience associated with mobile-based lending. The study had achieved a response rate of 86.7% with a majority of the respondents being male at 58.8%. This chapter examines the summary, conclusions, recommendations and suggestions for further studies.

#### **5.2 Summary of the Findings**

The summary of the finding was examined based on the specific objectives of the study and presented in the ensuing sections.

##### **5.2.1 Loan Disbursement Through Mobile Lending**

The study used a set of five indicators to measure the variables that is adequacy of amount of loan disbursed through mobile based lending, loan amounts being disbursed immediately, frequency of mobile based loans disbursement, ease of loan disbursement through mobile phone, and loan disbursement notification. The study in measuring whether loan disbursed through mobile based lending being adequate had a statistically significant association with financial performance. This led to the conclusion that there was a statistically significant association between loans disbursed through mobile based lending being adequate had a statistically significant association with financial performance. The loan disbursed being undertaken immediately after the loan is processed had a cumulative percentage of 90.6% of the respondents with agreement with the metric.



The study found that there was a statistically significant association between loan disbursement being undertaken immediately after the loan is disbursed and financial performance. The study further found that there was a statistically significant association between frequency in which mobile-based loans are disbursed being satisfactory and financial. The loan disbursement being easily accessible via mobile phone had a majority of the respondents at 64.7% being in agreement while 12.9% of the respondents were in strong agreement. The study further found that there was a statistically significant relationship between loan disbursement being easily accessible via mobile phone and financial performance. Finally, in respect to the loan disbursement notification being made as soon as the loan is disbursed the study found that the indicator had a statistically significant association with financial performance.

### **5.2.2 Loan Appraisal Process Through Mobile Based Lending**

The study used a set of five indicators to measure the loan appraisal process through mobile based lending that is factual credit history being established, development of credit scoring system to capture details of mobile based loan applicants, presence of high number of loan approvals, evaluation of the financial capacity for loan repayment for mobile based lending, and shortness of time for loan application approval process. The study found that there was a statistically significant association between factual credit history of loan applicants through mobile platform with the financial performance. A majority of the respondents at 77.6% were in agreement that there was development of credit scoring systems to capture more personal and business details of mobile loan. The study further found that there was no statistically significant association between the metric and financial performance.

The study further found that there was a statistically significant association between a high number of loan approvals by the mobile-based lending platform and financial

performance. The study further examined on whether through the mobile-based lending the financial capacity to repay loans was evaluated. The study found that there was no statistically significant association between the measure and financial performance. The last measure of the variable sought to check on whether it takes a short time to approve a loan after an application has been made through mobile based lending platform. The study further found that on testing whether the measure had a statistically significant relationship between shortness of time taken to approve a loan after an application has been made through mobile-based lending platform and financial performance

### **5.2.3 Loan Repayment Terms of Mobile-Based Lending**

The study used a set of five indicators to measure the variable that loan repayment terms of mobile based lending. These indicators included presence of an elaborate loan repayment policy guiding repayment of loans, low interest rates being charged on mobile money loans, amount of loan repayments being installments being affordable, frequency of loan repayments being evenly spread across loan repayment period, and all loan repayments being undertaken through the mobile phone loans. The first measure of the variable sought to examine on whether there was an elaborate loan repayment policy guiding repayment of loans. The study there was no statistically significant influence between the measure and financial performance. The presence of the low interest rates being charged on the mobile money loans had a majority of respondents at 70.6% being in agreement with the measure. The study further found that was no statistically significant influence between the measure and financial performance. The affordability of the amount of loan repayment installments was examined.

The study found that there was statistically significant influence between the measure and the financial performance aspects. A majority of the respondents at 67.1% were in

agreement that the frequency of loan repayment installments being evenly distributed throughout the loan repayment period. The study found that there was a statistically significant association between the frequency of loan repayment installments being evenly distributed throughout the loan repayment period and financial performance of microfinance banks in Nairobi County, Kenya. Finally, the respondents asked on whether all loan repayment are conveniently done using mobile phone. The study found that there was statistically significant associations between all loan repayments are conveniently done using mobile phone with the financial performance.

#### **5.2.4 Convenience Associated with Mobile-Based Lending**

The study used a set of five indicators to measure the variable of the convenience associated with mobile-based lending. These metrics included speed in service delivery, ease of navigation of the mobile based lending apps, mobile based lending requiring minimum information to access loans, ability to access loans in any place and time, and low cost associated with mobile based lending. The study found that there was a statistically significant relationship between speeds in service delivery associated with mobile based lending and financial performance aspects. The study further examined the presence of ease of navigation and operational simplicity of mobile-based loans. The metric had a majority of the respondents at 82.4% of the respondents being in agreement with the metric.

The study found that there was no statistically significant association between the metric and financial performance. A majority of the respondents at 63.5% were in agreement that the mobile banking required minimum information to access loans. The study further found that there was a statistically significant association between the metric and financial performance aspects. The question as to whether using mobile based lending the customers were able to access loans in any place and at any time had a statistically significant association with the financial performance. Finally,

the question as to whether there was a low cost of operation associated with mobile-based lending had 72.9% of the respondents in agreement. The measure was found to have a statistically significant association with the financial performance of the microfinance banks.

### **5.3 Conclusion of the Study**

The study revealed that loan disbursement had a statistically significant positive relationship with financial performance of the microfinance banks. The study further found that loan appraisal process had a statistically significant positive correlation relationship with financial performance of the microfinance banks. The loan repayment terms was examined in respect to its correlation influence on the financial performance of the microfinance banks. The study concluded that there was a strong positive correlation relationship between loan repayment terms and financial performance aspects that was statistically significant. The study further concluded that there was a statistically significant correlation relationship between convenience and financial performance aspects. The study further concluded that the independent variables (convenience, loan appraisal, loan repayment terms and loan disbursement terms) accounted for a huge variability in the financial performance of the microfinance banks.

The study further concluded that a unit increase in loan disbursement led to a 0.202 increase in financial performance of the microfinance banks. This result was found to be statistically significant. On the effect of the loan appraisal process through the mobile based lending had an influence on the financial performance of microfinance banks in Nairobi County, Kenya. The study concluded that a unit increase in the loan appraisal process led to 0.227 increases in financial performance of microfinance banks in Nairobi county Kenya with the other variables kept constant, these results were found to be statistically significant. The study further concluded a unit increase

in the loan repayment terms led to 0.205 increases in financial performance of microfinance banks in Nairobi county Kenya. These results were found to be statistically significant. Finally, the study found that a unit increase in the convenience associated with mobile-based lending would lead to a 0.167 increase in financial performance of the microfinance banks. These results were also statistically significant.

#### **5.4 Recommendations of the Study**

The study recommends that the management of the microfinance bank should put an emphasis on the mobile based lending as it was found to have an influence on the financial performance of microfinance banks in Nairobi County, Kenya. Thus the management should place an emphasis on loan appraisal system through mobile based lending, loan repayment terms of mobile based lending, loan disbursement through mobile based lending and convenience associated with mobile based lending as factors influencing financial performance of the microfinance banks.

#### **5.5 Suggestions for Further Studies**

The study recommends that other mobile based lending dynamics influencing financial performance of microfinance banks should be examined.

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## APPENDICES

### Appendix I: Consent Statement

Dear Respondent,

My name is Roselyne Siabei and am undertaking a research study to evaluate **“Influence of mobile-based Lending on The Financial Performance Of Microfinance Banks in Nairobi County, Kenya”** to be presented to the Institute of Postgraduate Studies of Kabarak University. Am requesting you to take part in this study by filling in the attached questionnaire. Kindly do take a few minutes to respond to the questions in the attached questionnaires. Your input was integral in the successful completion of the research project. Your response was treated with utmost confidentiality and will only be used for academic purposes. Your participation in this study is voluntary therefore you are free to withdraw from the study at any time if you so wish. In case of any need for more clarification, kindly don't hesitate to contact me.

Yours' Sincerely,

Roselyne Siabei

0723142749

## Appendix II: Research Questionnaire

### INSTRUCTIONS

Answer all the questions in this questionnaire as honest as possible using the alternatives provided. Please do not provide your name or any identifying details in any part of this questionnaire. The information that you will provide was treated as confidential and was used for the academic research purposes only.

### PART A: BACKGROUND INFORMATION

- 1) What is your gender?

Male	( )
Female	( )
  
- 2) What is your age.....
  
  
  
  
  
  
  
  
  
  
- 3) For how long have you worked with your current microfinance institution

Less than 1 Year	( )
1-5 Years	( )
6-10 Years	( )
Over 10 Years	( )

## **PART B: LOAN DISBURSEMENT THROUGH MOBILE-BASED LENDING**

Please answer the following questions on loan disbursement through mobile-based lending using the following Likert scale; 1= Strongly Disagree, 2= Disagree, 3= Uncertain 4= Agree, and 5= Strongly Agree..

	<b>Statement</b>	<b>SD</b>	<b>D</b>	<b>U</b>	<b>A</b>	<b>SA</b>
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1)	Amount of loan disbursed through mobile-based lending is adequate.					
2)	Using mobile-based lending, loans are disbursed immediately after the loan processing is done					
3)	The frequency in which mobile-based loans are disbursed satisfying.					
4)	The loan disbursed is easily accessible via mobile phone.					
5)	Loan disbursement notification is made as soon as the loan is disbursed.					

## **PART C: LOAN APPRAISAL PROCESS THROUGH MOBILE-BASED**

### **LENDING**

Please answer the following questions on loan appraisal process through mobile-based lending using the following Likert scale; 1= Strongly Disagree, 2= Disagree, 3= Uncertain 4= Agree, and 5= Strongly Agree.

	<b>Statement;</b>	<b>SD</b>	<b>D</b>	<b>U</b>	<b>A</b>	<b>SA</b>
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1)	Factual credit history of loan applicants through mobile platform is established in loan appraisal process.					
2)	There is development of credit scoring systems to capture more personal and business details of mobile loan applicants.					
3)	There is high number of loan approvals by the mobile-based lending platform.					
4)	Through the mobile-based lending, the financial capacity to repay loans is evaluated.					
5)	It takes a short time taken to approve a loan after an application has been made through mobile-based lending platform.					

## **PART D: LOAN REPAYMENT TERMS THROUGH MOBILE-BASED**

### **LENDING**

Please answer the following questions on loan repayment terms through mobile-based lending using the following Likert scale; 1= Strongly Disagree, 2= Disagree, 3= Uncertain 4= Agree, and 5= Strongly Agree..

	<b>Statement;</b>	<b>SD</b>	<b>D</b>	<b>U</b>	<b>A</b>	<b>SA</b>
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1)	There is an elaborate loan repayment policy guiding repayment of loans.					
2)	There are low interest rates charged on mobile money loans					
3)	The amount of loan repayment instalments are affordable					
4)	The frequency of loan repayment instalments are evenly distributed throughout the loan repayment period.					
5)	All loan repayments are conveniently done using mobile phone.					



**PART E: CONVENIENCE ASSOCIATED WITH MOBILE-BASED LENDING**

Please answer the following questions on convenience associated with mobile-based lending using the following Likert scale; 1= Strongly Disagree, 2= Disagree, 3= Uncertain 4= Agree, and 5= Strongly Agree.

	<b>Statement;</b>	<b>SD</b>	<b>D</b>	<b>U</b>	<b>A</b>	<b>SA</b>
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1)	There is speed in service delivery associated with mobile-based lending					
2)	There is ease of navigation and operational simplicity of mobile-based loans.					
3)	Mobile banking requires minimum information to access loans					
4)	Using mobile-based lending, customers are able to access loan in any place and at any time					
5)	There is low cost of operation associated with mobile-based lending					

## **PART E: FINANCIAL PERFORMANCE**

Please answer the following questions on financial performance of microfinance banks using the following Likert scale; 1= Strongly Disagree, 2= Disagree, 3= Uncertain 4= Agree, and 5= Strongly Agree.

	<b>Statement;</b>	<b>SD</b>	<b>D</b>	<b>U</b>	<b>A</b>	<b>SA</b>
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1)	Mobile-based lending has improved the profitability of the micro-finance bank					
2)	Mobile-based lending has improved the satisfaction level of customers of the micro-finance bank					
3)	Mobile-based lending has resulted to increased number of customers of the micro-finance bank					
4)	The use of mobile-based lending has resulted to reduced loan processing cost for the micro-finance bank					
5)	There is reduction of non-performing loans through the use of mobile-based lending.					

## Appendix III: Kabarak University Letter

**KABARAK**

Private Bag - 20157  
KABARAK, KENYA  
<http://kabarak.ac.ke/institute-postgraduate-studies/>



**UNIVERSITY**

Tel: 0773 265 999  
E-mail: [directorpostgraduate@kabarak.ac.ke](mailto:directorpostgraduate@kabarak.ac.ke)

### BOARD OF POSTGRADUATE STUDIES

11<sup>th</sup> July, 2019

The Director General  
National Commission for Science, Technology & Innovation (NACOSTI)  
P.O. Box 30623 – 00100  
NAIROBI

Dear Sir/Madam,

**RE: ROSELYN SIABEL- REG. NO. GMB/NE/0198/01/18**

The above named is a Master of Business Administration (Finance Option) student at Kabarak University in the School of Business & Economics. She is carrying out research entitled "*The Influence of Mobile Based Lending on the Financial Performance of Microfinance Banks in Nairobi County, Kenya*". She has defended her proposal and has been authorized to proceed with field research.

The information obtained in the course of this research will be used for academic purposes only and will be treated with utmost confidentiality.

Please provide her with a research permit to enable her to undertake her research.

Thank you.

Yours faithfully,

**Dr. Betty Jeruto Tikoko**  
**DIRECTOR, POSTGRADUATE STUDIES**

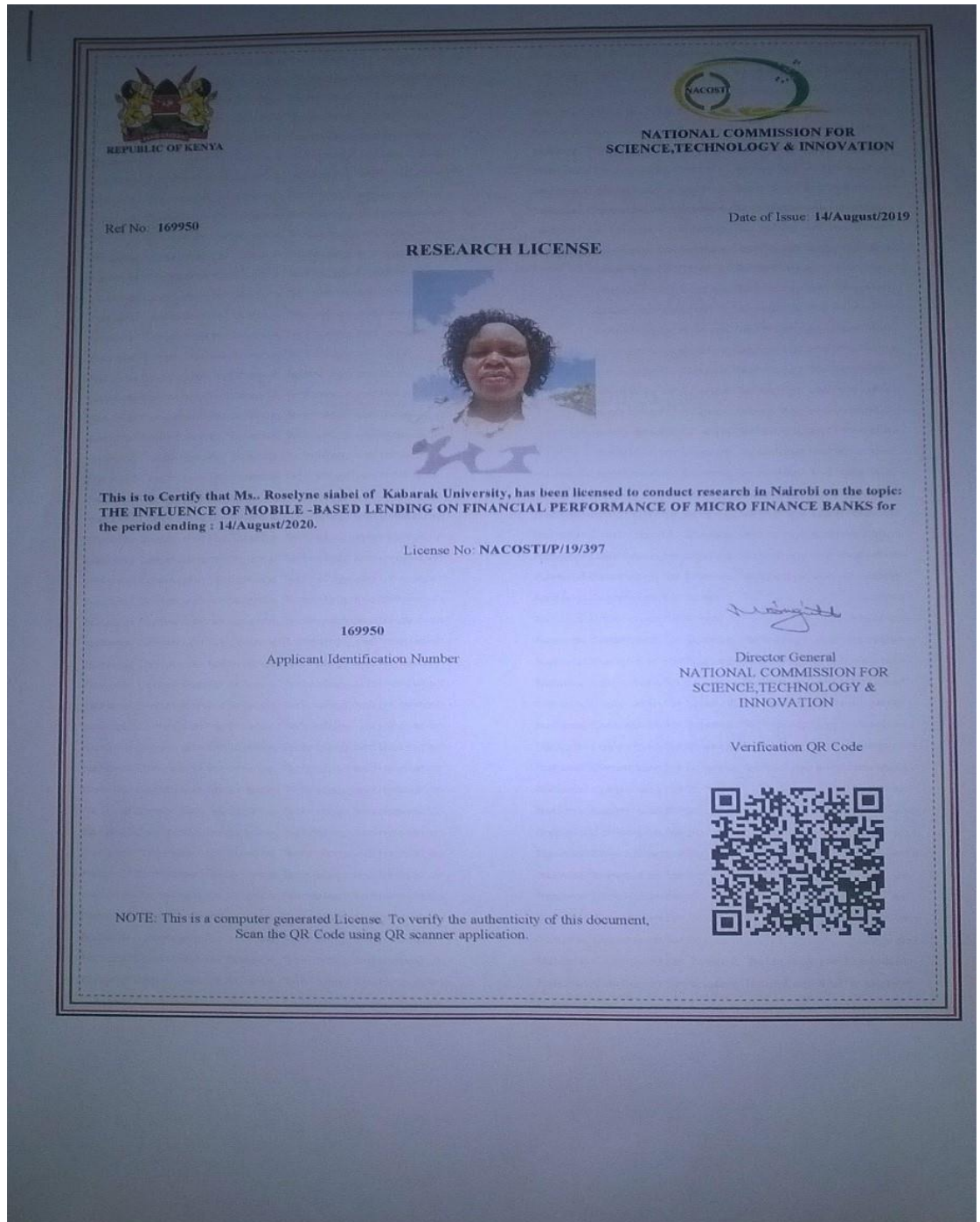


**Kabarak University Moral Code**

*As members of Kabarak University family, we purpose at all times and in all places, to set apart in one's heart, Jesus as Lord. (1 Peter 3:15)*



# Appendix III: Nacosti Letter



#### **Appendix IV: List of Microfinance Banks**

- 1) Caritas Microfinance Bank Limited
- 2) Century Microfinance Bank Limited
- 3) Choice Microfinance Bank Limited
- 4) Daraja Microfinance Bank Limited
- 5) Faulu Microfinance Bank
- 6) Kenya Women Microfinance Bank Limited
- 7) Maisha Microfinance Bank Ltd
- 8) Rafiki Microfinance Bank Limited
- 9) Remu Microfinance Bank Limited
- 10) SMEP Microfinance Bank Limited
- 11) Sumac Microfinance Bank Limited
- 12) U & I Microfinance Bank Limited
- 13) Uwezo Microfinance Bank Limited