FACTORS AFFECTING THE GROWTH OF MOBILE PHONE LOAN UPTAKE AMONG SMALL AND MEDIUM TRADERS IN NAIROBI CENTRAL BUSINESS DISTRICT

BY

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UNITED STATES INTERNATIONAL UNIVERSITY - AFRICA

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BY

MINUDI OKEMBA LORE

A Research Project Submitted to the School of Business in Partial Fulfillment of the Requirement for the Degree of Masters in Business Administration (MBA)

UNITED STATES INTERNATIONAL UNIVERSITY - AFRICA

SUMMER 2019
STUDENT’S DECLARATION

I, the undersigned, declare that this is my original work and has not been submitted to any other college, institution or university other than the United States International University in Nairobi for academic credit.

Signed: ______________________  Date: ______________

Minudi Lore (ID 619286)

This project has been presented for examination with my approval as the appointed supervisor.

Signed: ______________________  Date: ______________

Dr. Gabriel Okello, Ph.D

Signed: ______________________  Date: ______________

Dean, Chandaria School of Business
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ABSTRACT

The purpose of this study was to investigate factors affecting the growth of mobile phone loan uptake in the small and medium enterprises in Nairobi Central Business District (CBD). The study was guided by the following research questions: What is the effect of business operation cost on the growth of mobile phone loan uptake among small and medium traders in Nairobi Central Business District? How does loan accessibility affect the growth of mobile phone loan uptake among small and medium traders in Nairobi Central Business District? What is the effect of cost of credit on the growth of mobile loan uptake among small and medium traders in Nairobi central business district?

The study applied a descriptive survey research design. The target population for this study was 10,158 respondents from 10,158 registered SMEs operating in the CBD giving a chance to only one business manager from every SME to participate in the study. There was a sample of 385 respondent’s selected using stratified random sampling technique. Data was collected using questionnaires. Descriptive statistics was used to describe various demographic variables. Correlation and linear regression analyses techniques were used to determine the relationship and effect of independent variable on the dependent variable. The study used the Statistical Package for Social Studies (SPSS) as a data analysis tool. The results and findings were then presented in the form of tables and graphs and figures for ease of interpretation and understanding.

In terms of business operating costs effect on uptake of mobile phone loans, descriptive statistics results indicated that most of the respondents who participated in this study agreed that they usually borrow money from mobile phone applications to meet their labor cost (58%). Correlation analysis revealed that there was a positive strong and statistically significant relationship between business operation cost and uptake of mobile phone loans, $r (385) = 0.72, p < .05$. Linear regression analysis revealed that 63% of the variability in uptake of mobile phone loans was explained by business operation cost, which can statistically and significantly affected the uptake of mobile phone loans among the SMEs ($R^2 = .633, \beta = 0.867, t(122) = 14.454, p < .05$).

In terms of effect of loans accessibility on the uptake of mobile phone loans, descriptive statistics results indicated that most of the respondents who participated in this study agreed that the high collateral required by the financial institutions often kept them away
from accessing loan for their business (55%). Correlation analysis revealed that there was a positive, strong and statistically significant relationship between loan accessibility and uptake of mobile phone loans, \( r (331) = 0.718, p < .05 \). Linear regression analysis showed that 63% of the variability in uptake of mobile phone loans was explained by loan accessibility, which can statistically and significantly affect the uptake of mobile phone loans among the SMES \( (R^2 = .633, \beta = 0.867, t(122) = 14.454, p < .05) \).

In terms of effect of cost of credit on the uptake of mobile phone loans, descriptive statistics results indicated that most of the respondents who participated in this study agreed that the bureaucracy involved in the accessing of loans from the financial institutions have made the cost of credit to go up (56%). Correlation analysis showed that there was a negative, strong and statistically significant relationship between cost of credit and the uptake of mobile phone loans, \( r (121) = 0.679, p < .05 \). Linear regression analysis revealed that about 67% of the variability in the uptake of mobile loan was explained by cost of credit, which can statistically and significantly affect the uptake of mobile phone loans among the SMES \( (R^2 = .669, \beta = -0.755, t(122) = 11.336, p < .05) \).

The study concludes that the uptake of mobile phone loans is driven by the ease and speed of access to credit by small and medium sized enterprises as opposed to formal lenders who demand collateral and paperwork before granting credit. The demand for credit is also driven by the need to meet operating costs. The small and medium sized enterprises do not seem to be deterred by the cost of credit as long as they have access to credit. Given the ease of access to mobile phone loans by SME, it is expected that this sector will continued to grow in the foreseeable future.

The study recommends that banks and other lending institutions should work on their products to make them accessible to SMEs that consider them less accessible. The lending institutions need to reduce the bureaucracy involved in obtaining their loans, they need to reduce the value and types of collateral requirements and they also need to reduce the amount of time taken in obtaining the loan from the application date.
ACKNOWLEDGEMENT

My sincere thanks go to my supervisor, Dr. Gabriel Okello for his advice and patience which ensured that I completed this work. My gratitude also goes to my lecturers for their dedication in the course of the program. I wish to acknowledge and thank all the SMEs owners and residents of Nairobi CBD who participated and made this study a success. Thank you all and may God bless you abundantly.
DEDICATION

I wish to dedicate this work to God for granting me the ability to complete the course. I also dedicate this work to my wife, Maureen Nalunga Lore, who has contributed immensely to my career and family life. She has always encouraged and persuaded me to constantly pursue my dreams and to seek self-improvement and fulfilment. I also dedicate this work to our children Ramogi, Amor and Hawi, who are a daily reminder of the great potential that the future holds.
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<td>Commercial Bank of Africa</td>
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<td>Central Business District</td>
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<td>CBK</td>
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<td>NACOSTI</td>
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<td>SPSS</td>
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CHAPTER ONE

1.0 INTRODUCTION

1.1 Background of the Study

Mobile financial services (MFS) comprises of myriads of financial services, these include payments and current accounts, savings, loans, investments and insurance. Mobile phone loans is one of the financial services offered by mobile financial services (MFS) (Chironga, De Grandis, & Zouaoui, 2017). It is regarded as one of the most recent developments in the financial services industry which provide credit access for small and micro enterprises. (McCarthy, 2014) observes that borrowers of mobile phone loans usually do not have considerable physical assets against which they can secure their loans. As such, they are severely limited on the sources they can borrow from. However, innovative online platforms are causing ripples in the traditional financial markets for small business loans. New lenders riding on the wave of novel technology are providing convenient online applications and faster processes for awarding loans to applicants. Many of these applications employ data driven algorithms to more accurately determine creditworthiness of potential borrowers.

According to Bansal, R. (2019), the invention of mobile phone has brought about revolution not only in the mode of communications, but it has also opened the path for many inclusion. India is one of the two Asian giants with huge population. However, a significant part of its population lives in rural areas deprived of access to the formal banking facilities. The use of mobile phones for mobile financial services has turned out to be a means for of these segments of the population also. The growth of the usage of smart phones is expected to push up mobile financial services (MFS) in the coming years significantly.

The benefits associated with mobile financing include, the ability to transfer funds at a distance, particularly small amounts of money, at a lesser cost compared to other alternatives available to the poor. Additionally, it is believed that providing financial services to the unbanked via mobile-phone networks, will enable the poor to improve savings rates, increase income and empower them to become resilience to financial shocks, among other benefits. This intervention was ultimately expected to broaden access to, and reduce the cost of offering formal financial services, while also increasing
the efficiency of payment systems, and reducing reliance on cash as a transactional medium (Chitungo et al., 2014).

Globally, mobile financing services have spread across various countries with more than 60% of its services available in the world’s developing countries. Due to the few of the world’s poor interact with institutions that can offer the conventional credit scoring an example is observed in a Latin American country which only has 34 percent of it adults owning bank accounts verses 89 percent of households owning mobile phones (Björkegren & Grissen, 2018). Within the last five years, mobile financing services have spread across much of Africa, Asia, Latin America, Europe and the Middle East. Africa has a the largest number of mobile finance services globally (53%). Currently, Europe & Central Asia is the only region with more planned than live mobile financing services. Due to the maturing phase of mobile financial services that is characterized amongst various developing countries, the number of new launches is gradually falling. For instance, in 2014, only six new markets were rolled out for the mobile financing services which were, the Dominican Republic, Myanmar, Romania, Sudan and Timor-Leste, this is lower than the 11 markets that were reached in 2013 and the 14 that were reached in 2012. Additionally, the launches that have taken place have significantly reduced over the years, in the year 2014, 22 new services were launched, compared to the 59 launches in 2013 and 58 launches in 2012 (GMSA, 2014).

In Africa, there are 100 million active mobile money accounts which translates to one in every ten African adults which exceeds customer adoption in South Asia, which happens to be the second-biggest region for mobile money in terms of market share, with 40 million active mobile money accounts (Chironga et al., 2017). Despite the promising betterment foreseen in mobile financial services, interest rates of Mobile phone loans tend to have significantly higher borrowing costs than the interest rates offered by commercial banks. The interest rates for alternative lending in India and Indonesia charged from 20% to 55%. Estimates ranges of 20% to 40% and notes that the rates are much higher in Africa. Mobile lenders seem to charge higher interest rates than banks. The rates charged by some mobile phone lenders range from 30% to 38%. This study is premised on the financial intermediaries which is a result of the need to reduce transaction costs in lending. Access to capital tops the needs of small and micro enterprises in Kenya. In spite of much higher borrowing costs in terms of both interest and fees, the uptake of mobile
phone loans is still on a tremendous rise among small and micro enterprises in Kenya. The relationship between these borrowing costs and the rate of uptake is the subject of this study. Traditional models in the formal lending sector have showed that borrowers are rational and that borrowing costs have a significant negative relationship with credit uptake. However, the rise in the uptake of mobile phone loans in spite of significantly higher borrowing costs compared to commercial banks is a curious phenomenon worthy of an academic research and is the interest of this study.

The key essential feature of mobile phone loans is that they are processed entirely, from application to disbursement, through the applicant’s mobile phone. They also share the characteristics of micro-loans identified by (Onyango, Ongus, Awuor & Nyamboga, 2014). First, they are short-term in nature, do not require any physical collateral and are comparatively small amounts. Secondly, such loans usually have terms for weekly or monthly instalment payments, or some other regular frequency. They also carry high administrative expenses on the part of the lender (Onyango, Ongus, Awuor & Nyamboga, 2014). According to Google.com/trends results on mobile loan applications from year 2015 to August 2018, 3 of the top 5 most downloaded applications from Google Play Store were mobile loan applications, in the top 20, and in the top 50, (Google.com/trends). The mobile lending applications currently in operation in Kenya are: MShwari (by CBA, in partnership with Safaricom), Fuliza (by Safaricom), KCB Mpesa (by KCB Bank), Timiza (by Barclays Bank of Kenya), Stawika, Inuka, Pesa Pap (by Family Bank), Equitel (by Equity Bank), Tala, Branch, Okash, EazzyLoan among others. In addition to these, there is Ubapesa which is a peer to peer lending application that brings together lenders and borrowers on one platform. It is noteworthy that many of these platforms are owned by traditional commercial banks while others are owned by technology companies who use innovation driven mobile phone apps.

In 2014, Google searches of “term loan” surpassed the 2006 levels by approximately 45 percent, and has been steadily rising each subsequent year thereafter (McCarthy, 2014). These non-traditional lenders have, indeed, bloomed in the aftermath of the interest rates capping law, suggesting either that borrowers have been compelled to resort to these non-traditional lenders since banks have become reluctant to lend small and microenterprises, or that non-traditional lenders have found new ways of granting funding to small and micro enterprises with greater efficiency and convenience. Despite their small scale, these
alternative players are employing technology that is radically changing the landscape in the ways that small businesses access capital. The bedrock of such novel technology is greater efficiencies, more competitiveness, price transparency, and higher profitability. Increasingly, small and micro enterprises are turning online when in need of funding.

The Micro and Small Enterprises Act of 2002, defines micro enterprises as those whose annual turnover is Ksh 500,000 or less. An alternative definition is by staffing, where a micro enterprise is considered to be that which has less than 10 employees. Small enterprises, on the other hand, have between KShs. 500,000 to Kshs. 5,000,000 annual turnover and employ 10-49 people. (Totolo, 2018) notes that these small and micro enterprises mostly operate in city estates and along major highways. Small businesses are essential to the growth of a country as they greatly enhance job creation in the economy. In the United States, two-thirds of new jobs are created by small businesses (McCarthy 2014). McCarthy further notes that SMEs provide jobs to half of the America’s private sector workforce.

Approximately thirty percent of jobs created annually are attributable to small and micro enterprises. Additionally, they contribute 3 percent of the GDP, according to a recent government report from the banking regulator. This study, which was conducted in 2014, observed that 800,000 jobs were created in the year, out of which a majority was from the SMEs. Closer home in Kenya, among the highly ranked (by FSD Kenya) mobile phone lending platforms, Tala and Branch, the rates vary depending on the term of the loan. Reuters report that for a 30-day loan, each of these platforms charged 15 percent, which translates to 180 percent over a year. It is observed that the rates drop gradually as the borrower pays back subsequent loans, but an annual interest rate of 180% is still a staggering figure. According to Totolo (2018), Timiza, which is Barclays Kenya’s mobile phone lending application launched in March, charges a 7% interest on a month’s loan, translating to an 84 percent annual equivalent rate.

Deloitte Kenya Economic Outlook 2016 noted that the issues that hamper the growth of SMEs include insufficient capital and constrained market access among others. Several studies reach the conclusion that the greatest hindrance to the growth of small and micro enterprises is still credit access. The large commercial lenders seem ever less concerned about lending to micro enterprises. McCarthy (2014) states that small business loans, are deemed inherently riskier, costlier and less profitable than consumer and large business
lending. Totolo (2018) observed that marginalization by commercial banks, in response to the interest rates capping, has left SMEs to borrow from shylocks at rates that are in the upwards of 30 per cent per month, telecoms at five per cent per week or from microfinance institutions that charge them up to 48 per cent per annum. Evaluating creditworthiness of small businesses is problematic to lenders due to information asymmetry. Many of them do not maintain detailed balance sheets, file scanty tax returns and keep incomplete financial records (Totolo, 2018). As such, little, if any, public information is available about their financial health. The banks in Kenya are gradually adopting new mobile phone lending technology in order to keep up with competition from mobile phone-based lenders such as Safaricom’s Fuliza. Commercial banks and mobile service providers are becoming more and more confident about mobile phone loans since they suffer low default rates, according to a Reuters report in May 2018. The Treasury Department’s move to cap interest rates in September 2016 has led to credit freeze to the small and micro enterprises by commercial banks, and this has resulted in these borrowers resorting to mobile phone channels.

1.2 Statement of the Problem

A study on the relationship between borrowing costs and the uptake of mobile phone loans among small and micro enterprises in Kenya is an area of significant interest to investors, regulators, borrowers and other stakeholders. Kenya’s Central Bank Governor has called for the regulation of financial technology firms in the country due to suspicion of predatory lending practices. There is increased pressure for regulation given perceived risks to micro-borrowers in the booming sector. It has become clearer that digital lenders are not subject to the interest rates caps enacted in 2016. According to a study by Totolo (2018), many borrowers still do not have a good understanding of the products they are buying and most of them report problems of transparency with regards to product design (repayment period, cost), transparency (fees, understanding of terms) and difficulty to repay.

While digital credit represents a tremendous step forward for formal fundingthe, a lot more is needed to understand the real economic and social impact of digital credit on low income Kenyans (Totolo, 2018). In spite of much higher borrowing costs in terms of interest and fees, journalistic articles in Business Daily, Daily Nation, Bloomberg and New York Times show that the uptake of Mobile phone loans is still on a tremendous rise.
in terms of uptake among small and micro enterprises in Kenya. The relationship between these borrowing costs and the rate of uptake is the subject of this study.

The study seeks to determine the role that SMEs play in the growth and development of mobile loan uptake in Nairobi CBD, Kenya. So far there has been no clear insight into the role that mobile payments play in the development of SMEs and vice versa. As such this study will help technology providers, government agencies and development partners to understand the contribution of SMEs on the mobile phone money service technology. This will help them provide better technical support and advice to their clients as well as providing new innovations. The government will further provide the required regulations and other interventions that are necessary to ensure smooth operations for all concerned parties. Further the study will assist the SME operators to fully understand the entrepreneurial impact of this technology on their business so as to cope with the increasing developments in the mobile phone services on one hand, and the challenges of the micro business operating environment, on the other hand. The study will also be useful to future scholars who may use the findings of this study as the basis for their studies. Mayer (2017) argues that mobile lending and digital transactions need to be regulated as they are part of financial intermediation process and given the significant growth, this sector needs to be protected from failure and risks associated with financial intermediation.

Traditional models in the formal lending sector have showed that borrowers are rational and that there are different factors that have a significant negative relationship with credit uptake. The rise in the uptake of mobile phone loans in spite of significantly higher borrowing costs compared to commercial banks is a curious phenomenon worthy of an academic study. There still lacks a documented model that can be used to enable conceptualization of how borrowing costs in micro loans in Kenya are determined. (Weining B, Jian N, & Singh, S. 2018) studied the informal credit for micro enterprises in emerging markets focusing on Asia where the modalities and administration of the loans notably vary from those of the mobile lenders. Usually, more liquid borrowers who repay the loans on a timely basis are awarded higher amounts in their subsequent borrowing, along with lower interest rates. In addition, Weining et al (2018) studied lenders in India and Indonesia markets and, to the best of our knowledge, no similar study has been carried out in Kenya. There has not been a study focused on uptake of mobile phone loans
specifically. The studies cited in this paper have tended to focus on the mainstream lenders, namely, commercial banks. In addition, most studies have focused on the lenders' perspective, e.g. impact of mobile phone lending on financial performance of commercial banks (Ndagijimana, 2017), effects of mobile lending on the performance of banks (Mugane, 2016). This study therefore will seek to determine the factors contributing to the growth of mobile loan uptake among small and medium traders in Nairobi central business district (CBD).

1.3 Purpose of the Study

The purpose of this study was to investigate the factors affecting the growth of mobile phone loan uptake among small and medium traders in Nairobi Central Business District.

1.4 Research Questions

1.4.1 What is the effect of business operation cost on the growth of mobile phone loan uptake among small and medium traders in Nairobi Central Business District?
1.4.2 How does loan accessibility affect the growth of mobile phone loan uptake among small and medium traders in Nairobi Central Business District?
1.4.3 What is the effect of cost of credit on the growth of mobile loan uptake among small and medium traders in Nairobi Central Business District?

1.5 Significance of the Study

1.5.1 Policy Makers and Regulators

This study should be of great interest to policy makers including CBK in their mandate to make credit accessible and spur economic activity. The policy makers would be able to assess the significant role placed by mobile phone loan providers and how to contain the negative effects of exorbitant charges on one hand and the effects brought about by interest rate capping law on the other hand. They should be in a better position to recalibrate their decisions in the future.
1.5.2 Researchers and Academics
Researchers would be better placed to carry out further studies in this area including, but not limited to, the correlation between interest rate capping law, the increase in mobile phone loan uptake on the performance of the economy and banks, the macro economic effects, exchange rates, credit growth and other informal lending.

1.5.3 Banks
Banks will understand the effect this has had on their industry and how their competitors have responded to the changes.

1.5.4 Investors
Investors would understand the effects the innovations around digital lending have on their investment portfolio and to help them navigate the complexities in making investment decisions.

1.5.5 Business People
This study will help business people understand the impact of the digital lending applications on their access to credit, review their cost of credit vis a vis the ease of access to credit as well as review the alternatives and opportunities available in the market.

1.6 Scope of the Study
The research targeted a population of 10,158 respondents from 10,158 registered SMEs giving a chance to only one business manager from every SME to participate in the study. The SMEs were sampled from the Central Business District form which a sample of 385 business managers were selected using stratified random sampling technique. The allocated time for collecting the data was two months from 15 May 2019 to 15 July 2019.

The research is limited to the research questions cited as follows: What is the effect of business operation cost on the growth of mobile phone loan uptake among small and medium traders in Nairobi Central Business District? How does loan accessibility affect the growth of mobile phone loan uptake among small and medium traders in Nairobi Central Business District? What is the effect of cost of credit on the growth of mobile loan uptake among small and medium traders in Nairobi central business district?
1.7 Definition of Terms

1.7.1 Mobile phone loan uptake

This refers to the growth of lending and borrowing solely through the use of mobile phone applications. It excludes the traditional approach of formal lending through financial institutions or other formal and informal lending practices.

1.7.2 Mobile financial services

This refers to financial services that are accessed and executed through the use of a mobile phone. It includes both transactional and non-transactional services and is categorized under three aspects which are, mobile money, mobile insurance and mobile credit and savings (Sultana, 2014).

1.7.3 Small and Medium Enterprise

SME stands for Small and Medium-sized Enterprises. The OECD estimates that small and medium enterprises account for 90% of firms and employ 63% of the workforce in the world (Berisha and Pula 2015). SMEs are businesses which are classified as such based on number of employees and / or the financial size in terms of turnover and balance sheet. These numbers varies across countries.

According to Matamanda and Chidoko (2017), SMEs are businesses that are basically privately owned and operated, with a small number of personnel, and a relatively low volume of sales. Accordingly SMEs are those companies that fulfill at least two out of three maximum requirements for employees, assets, or annual sales as defined by the Reserve Bank of Zimbabwe in the 2013 Monetary Policy Statement, their main characteristics being an asset base between $10 000 to $2 million US dollars, employing 5 to 75 people and having an annual turnover of $30 000 to $5 million US dollars. According to Manyani (2014) has defined a small and medium enterprise as a firm that has not more than hundred employees and maximum annual sales turnover of US$830, 000
1.7.4 Business Operating Costs

Operating costs are expenses incurred by a business for maintenance and administration of a business on a daily basis. The total operating cost for a company includes the cost of goods sold, operating expenses as well as overhead expenses such as rent, salaries and utilities. The operating cost is deducted from revenue to arrive at operating income and is reflected on a company’s income statement. Expenses mean the cost value of all assets and purchases that have been utilized to obtain revenues for the business. The matching principle recommends that the costs associated with the generation of revenues should be recognized as expenses in the same period that the revenues are recognized. Consequently, better matching should result in more accurate measures of profitability and thereby improve earnings quality (Basu, Cready and Paek 2016).

1.7.5 Loan access

Access to loans refers to the ease, proximity, decision making process and speed with which borrowers can get credit. This relates to physical proximity of the lender in terms of branch network and therefore the ability of the borrowers to reach the lender as well as the speed with which the potential lender responds to the needs of the borrowers. According to Maimbo and Gallegos (2014), caps on interest rates tend to reduce loan accessibility to the poor. They state that caps on interest rates have been declining over the past several decades as most industrialized countries and a rising number of developing countries continue liberalizing their financial policies. However, in several countries the last financial crisis reopened the debate on interest rate controls as a tool for consumer protection

1.7.6 Cost of credit

The cost of credit refers to the total expense incurred by the borrower in relation to the loan obtained. This includes the interest rate, the loan arrangement fees, valuation costs, insurance costs, legal fees, property charge fees and commissions and fees related to the loan. Lenders obtain information about borrowers’ risk-level during relationship lending and use this information. Loans granted after a successful one pledge significantly lower collateral and interest rate than loans granted after a defaulted one (Comeig, Fernández-Blanco, Ramírez 2015).
1.7.7 Collateral Attached

Collateral refers to an asset that a borrower uses to secure a loan from the lender. This implies that in case of default on the part of the borrower, the lender can dispose the asset to recover their money. Most SMEs’ do not have tangible assets that they can use to secure their loans hence their borrowing is limited. (Duarte, et al 2016). Small business traders are usually faced with high collateral requirements from financial institutions who use the high collateral as a substitute for their lack of financial information of the SME traders and their ability to repay the loans. Banks view lending loans to SMEs as a risky endeavor, and therefore have low trust in SMEs which consequently leads to high collateral and lending requirements which SMEs cannot meet.

1.8 Chapter Summary

This chapter has covered the background of the study, the statement of the problem, the purpose of the study, the research questions, and importance of the study, the scope of the study and finally the definition of terminologies. Chapter two of the study presents the literature review according to various authors in the field of mobile phone loan uptake. Chapter three represents the research methodology of the study. Chapter four deals with results and findings and chapter five covers discussions conclusion and recommendations.
CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

This chapter presents a review of the literature related to factors affecting the growth of mobile phone loan uptake among the SMES as per the research questions. This chapter has three sections: section one presents literature review on business operation cost and its effect on the growth of mobile phone loan uptake; section two presents literature review on loan accessibility and its effect on the growth of mobile phone loan uptake; section three presents literature review on effect of cost of credit and interest rate on the growth of mobile phone loan uptake.

2.2 Business Operation Cost and Its Effect on the Growth of Mobile Loan Uptake

Costs are among the dynamic conditions of a business operation and are valuable to the business as it can be used to reflect the inefficiency of the business. Additionally, cost are linked to all efforts to improve the quality and innovations of a product, the delivery, the development of sales channels amongst other factors (Savić, Vasiljević, & Đorđević, 2014). This section therefore reviews literature on rent cost, labor cost, and product cost.

2.2.1 Rent Cost

In recent times, communities around the world have seen an acute rise in the cost of rent with the major impact of it being felt by the small business traders who are located in the developing countries. Moreover, small business traders are faced with the challenge of short term lease of rental space which usually results in a tough negotiations with the landlord for renewal once the term is over (Kengatharan & Suganya, 2017).

Doherty (2016) states that, once expenses are regularly tracked, they can be divided into three broad categories; those that are set in stone, those that have some wiggle room, and those that can be easily adjusted. Expenses such as taxes, rent, insurance, and interest payments typically fall into the first group, as there are few options for changing these. A number of expenses do provide some limited opportunity for savings, such as utilities, repair and maintenance, and office supplies. However, they tend to be less easily adjusted than the final category of expenses.
A study conducted by Addo (2017) reveals that the rental cost that were provided in urban areas that accommodates the small business traders is rising and the once lucrative environment that enabled the entrepreneurs to flourish is becoming more hostile to the traders. The business were therefore, slowly being moved out to cater for the national chains who are able to negotiate better rents than those being offered by the small and medium traders. To ensure the business runs well, traders are forced to seek immediate finances through mobile loan that ensures quick access to finance to cater for operational cost and therefore be able to survive an increasingly competitive environment. Small business traders are faced with the risk of shutting down their business and being forced out of urban areas if they are unable to meet the rent charges. When the small businesses gets displaced, consumers are faced with the challenge of getting the products and services that were offered by the small business traders. Additionally, displaced businesses, leads to a paucity of start-up in cities once known for business dynamism.

### 2.2.2 Labor Cost

According to Mun and Jang (2018) who studied restaurant costs and financial performance, firms need efficient cost management strategies due to highly competitive market conditions and the weak financial structure of the restaurant industry. In this regard, the objectives of this study were to examine the operating expenses of restaurant firms and their impact on profitability enhancement by business segment and firm size. This study found that high prime costs (food costs and salary expenses) could be a major concern for full-service restaurant businesses and cause lower profitability compared with their limited-service counterparts. Improving the operational performance of full-service restaurants depends on sophisticated cost retrenchment skills, such as balancing productivity and revenues while minimizing quality detrimental. Further, firm size had an impact due to economies of scale decreasing food costs. Nevertheless, managers of limited-service restaurants, especially large firms, need to consider improving food quality instead of relying on advertising effects to maximize profits. The business traders play the pivotal role of ensuring that they provide the productive factors and engages the labor to work on them. In its operation, the small business traders incurs labor cost which range from, recruiting process, hiring, training costs and replacement of an employee. Until the vacancy is filled, the business owners are faced with overtime costs, reduced
productivity, increased delays in provision of services, additional work load for coworkers, lost sales and business opportunities.

According to a study done by Gichuki, et al. (2014) states that SMEs always find it difficult to provide wages and salaries for their employees at the start of the business therefore they tend to borrow cash from faster financial lenders with little interest. It is necessary for SMEs to have access to finance in order to be able to sustain their business. The finances will enable the SME traders to retain their work force which will consequently lead to traders incurring less labor cost and therefore gain better profit.

Running a successful organization requires finding, retaining and motivating the right employees, to retain workers, the small business traders needs to make sure the employees are paid at least the minimum wage and on time. This forces traders to access quick loans when the business has low returns. Current changes in the economic and demographic structure of societies, such as the increased role of knowledge, the ageing of the workforce, further increase the importance of the management of both the internally and externally available human resources. This holds for all organizations, irrespective of their size (Michie & Sheehan, 2015).

In another study carried out by Bennett and Levinthal (2017) argues that to retain the employees, the traders will have to give bonuses for productions if steps have been made towards keeping the business productive. Respondents of the study outlines that an increased labor cost will affect their business as they would have to pass the cost to consumers who were not ready to pay more for their products and services, this consequently affects their competitiveness in the market. The traders will therefore have to increase their productivity so as to avoid charging the consumers more. They further stated that while being innovative can lead to a firm growing quickly, the opposite may also be true.

2.2.3 Product Cost

Product costs are as result of the direct expenses such as cost of materials and freight which are incurred by the SMEs. If the cost of the direct expenses increase, it will result to increase in the product cost, however the SME can mitigate the extra cost through accessing loans that enable them to research on cheaper sources of materials to help prevent them from increasing the sale cost, Steve, et al. (2014).
In a study conducted by Doe & Asamoah, (2014), which focused on the establishing the effect of electricity power fluctuations on profitability and competitiveness of SMEs discovered that the fluctuations lead to high production deficiency, limitation in sales and high product cost and damage to their properties. The fall in the production consequently leads to a significant fall in the profit levels of some of the categories of SMEs. Respondents who were sampled for the study revealed that they would want to acquire an alternative source of power in order to keep their business running smoothly but would be limited since the move would be too expensive for them considering the cumbersome process of acquiring loans from banks. A more probable way cited by the respondents was through the use of mobile financing.

According to Mararo (2018), mobile finance assist SMEs owners to get access to credit savings. This has the effect of improving their communication, productivity, operation cost consequently reducing the product cost. Additionally, the respondents sampled for the research revealed that 82.3% of the respondents acknowledged that through the use of mobile finance, they have been able to obtain credit from financial institutions. Moreover, the mobile finance empowered them to grow their business.

2.3 Loan Accessibility and Its Effect on the Growth of Mobile Phone Uptake

According to Maimbo and Gallegos (2014), caps on interest rates tend to reduce loan accessibility to the poor. They state that caps on interest rates have been declining over the past several decades as most industrialized countries and a rising number of developing countries continue liberalizing their financial policies. However, in several countries the last financial crisis reopened the debate on interest rate controls as a tool for consumer protection. This paper undertakes a stock-taking exercise to determine the number of countries currently capping interest rates on loans. The paper looks at the main characteristics of the regimes countries have used, including the source of rate-setting authority, the methodology, and the criteria for establishing the cap. The paper finds at least 76 countries around the world currently use some form of interest rate caps on loans — all with varying degrees of effects, including the withdrawal of financial institutions from the poor or from specific segments of the market, an increase in the total cost of the loan through additional fees and commissions, among others. The paper concludes that there are more effective ways of reducing interest rates on loans over the long run and of improving access to finance: measures that enhance competition and product innovation,
improve financial consumer protection frameworks, increase financial literacy, promote credit bureaus, enforce disclosure of interest rates, and promote microcredit products. Such measures should be implemented in an integrated manner. However, if caps are still considered a useful policy tool for reducing interest rates on loans and increasing access to finance, they should be implemented in accord with the caveats described in the paper.

According to Nyarku and Oduro (2018), there is and academic debate on the association between credible financial information and small firms’ access to diversified sources of finance. This study investigates the role of credible financial information and its interaction with a country’s legal and regulatory environment on the access of small- and medium-sized enterprises (SMEs) to diversified sources of finance in 129 developing countries. The findings indicate positive impacts of financial information quality and a country’s legal and regulatory environment on small firms’ access to diversified sources of finance. SMEs operating in a weak legal and regulatory environment benefit more from providing credible financial information. The findings are robust after controlling for the endogeneity of firms audit decision using a two-stage instrumental variable method. They further state that there is evidence to suggest that firms’ credible signaling of the quality of their financial information helps reduce the adverse selection problem for finance suppliers, increasing small firms’ access to diversified sources of finance.

2.3.1 Collateral Attached

Collateral refers to an asset that a borrower uses to secure a loan from the lender. This implies that in case of default on the part of the borrower, the lender can dispose the asset to recover their money. Most SMEs’ do not have tangible assets that they can use to secure their loans hence their borrowing is limited. (Duarte, et al 2016). Small business traders are usually faced with high collateral requirements from financial institutions who use the high collateral as a substitute for their lack of financial information of the SME traders and their ability to repay the loans. Banks view lending loans to SMEs as a risky endeavor, and therefore have low trust in SMEs which consequently leads to high collateral and lending requirements which SMEs cannot meet. Banks will only be willing to provide the collateralized loans only when there exist appropriate institutions to enforce contracts. These institutions are required to clearly establish which assets can be collateralized so as to protect creditors’ rights and guarantee swift judicial process among
other. As a result of this stringent requirement, SME traders are forced to look for alternative finances such as mobile loan that have fewer restrictions.

Cowling, Matthews and Liu. (2017) found that in the normal course of lending, loan contracts will include other parameters such as collateral requirements and restrictive covenants. The role of collateral in the case of the SMEs is crucial in the sense that one of the schemes’ key objectives is to support smaller firms with viable lending proposals who are debt constrained by a lack of assets. They observed that in a substantial number of cases the borrower will have a collateralized loan running alongside an SME loan. Thus loan commitment contracts involve negotiation on a number of parameters between the lender and borrower. Whilst the firm specific risk premium, the bank margin over base, is a key component of the loan contract, it is by no means the only parameter. A further key feature of this type of contract is that the individual parameters of the loan contract cannot be split and traded. As such the individual parameters can only be considered with reference to the other parameters as changing one will have compensating effects on the others.

In a study done in Czech Republic, Slovak Republic, Hungary and Poland, Brumm, et all (2015) found that risky borrowers need to pledge collateral and the reduction of asymmetric information can lower the incidence of collateral for SMEs. Moreover, we find that female borrowers are more likely to pledge collateral than male borrowers are. The results also suggest that loans with a longer maturity are more likely to be collateralized than short-term loans. We find evidence that bank-borrower proximity can alleviate the incidence of collateral whereas bank concentration may increase collateral requirements. Policy makers may consider these results to implement policies that can promote bank competition and can lower collateral requirements for female borrowers. The paper contributes to the ongoing debate on the determinants of collateral.

In Kenya, Mwongera (2014) found out that in Athi-River, collateral plays a big role in the decision by banks and microfinance whether to give a credit or not. Mwongera further noted that interest charged was not reasonable which made it hard for small business traders to get loans to improve their businesses. Small business traders are turned down from accessing finances from financial institutions since they do not meet the set of lending requirements set by the lending institution, a notable one being the provision of collateral security.
Abdulsaleh and Worthington (2016) concluded that the ability to provide collateral and good business plans alongside the profitability of the business are very important. Other criteria such as the applicants’ credit history, their business experience and the type of business activity are also important. Further, the results indicate that SMEs loan applications are generally rejected on the ground that they are not robust enough from the bankers’ viewpoint. While lack of collateral is the most frequent reason, other reasons include weaknesses in business plan, concerns about the loan repayment, and doubts about the viability of business ventures. These results have the ability to increase awareness and broaden understanding of the factors that may affect SMEs access to bank loans from a supply side perspective.

2.3.2 Duration Taken To Access the Loan

The study by Karanja et al, (2014) which was carried out in the Niger Delta Region of Nigeria pointed out a number of determinants. The study showed that the probability of accessing formal credit increased with the level of education of the borrower and the duration of time given to pay up the loan. It further discovered that the longer the enterprise had existed, the greater the chances of it accessing formal credit. It also reported that the bigger the enterprise in terms of asset values the higher probability of an enterprise accessing formal credit. The study further revealed that the probability of an enterprise accessing a loan increases with the availability of collateral view that agrees with findings of Kiplimo, Ngenoh, Koech & Bett (2015). It further states that the duration of the time to pay up for the loan had a positive relationship with accessibility to debt financing. This meant that the larger the duration for payment by the enterprise the greater the chances of it accessing bank credit. The age of the enterprise as an important variable in determining duration taken to access loans. Age is considered as one of the important factors related to accessing credit in both developed and developing countries. The longer an enterprise has been in operation the higher the chances of getting access to credit with a short duration. Also the size of the enterprise as another variable which influences the duration taken to access loan. It reveals the unequal opportunities present between large and small firms. Large firm are able to access loan within a short duration whereas small firms are faced with a longer duration of accessing funds. Small firms are faced with higher transaction cost, higher risk premiums and more opaque internal information in comparison to their larger counterparts.
2.3.3 Requirements for the Loan

A study carried out by Kimaiyo (2016) regarding credit accessibility, found out that besides high interest rates and insufficient collateral or guarantee, there are other limiting factors that inhibit access to loans, these include a difficult application process and difficult application procedure. From the respondents sampled in the study, they believe that the reason why their application for loan was rejected due to lack of sufficient guarantees. Other significant reasons noted in the study were poor account performance history and insufficient historic information about the SME.

Auma (2017) in her study concludes that that majority of the SMEs are uncomfortable with the credit terms offered by commercial banks in terms of; cost of credit, interest rates, repayment period and collateral requirements since they make the loan expensive for the business hence less effective in bringing about the desired growth. Aspects of credit terms such as high interest rates and administrative costs, short repayment period and small loans were rated as very significant challenges hindering their effectiveness. The loan terms were the most significant predictor of SME performance since they accounted for 31.1% of the variance in average performance of SMEs. The limited growth in SMEs could be attributed to unfavorable credit terms because for a majority growth was either below target or remained constant (Auma, 2017). Generally, developing countries have majority of its SMEs being unable to acquire financing required to reach their potential. This is because, the lenders deem lending to SMEs as a risky venture and therefore expensive. The requirements laid down for SMEs to meet leave majority of them relying on other source of funding such as borrowing from family and friends. This has ultimately led to an estimated financial gap of one trillion USD.

2.4 Effect of Cost of Credit on the Growth of Mobile Phone Uptake

In a 2007 UK Survey of SME Finance Rostamkalaei and Freel (2016) found that growth firms are discriminated on price in loan markets, or, more simply, the extent to which growth firms pay more for credit. They found that higher credit prices may be a more substantial growth constraint than the access to finance issues that have dominated the academic literature to date. Rostamkalaei and Freel (2016) observed that SME firms are more likely to pay higher interest rates than their peers.
2.4.1 Interest Rates

According to Cowling et al (2017), for credit that is drawn down, the borrower pays the lender an interest rate which can be either variable or fixed. For variable lending the interest rate is linked to the base rate (prime rate in the US). For fixed rate lending the interest rate is fixed at the point of contract and remains at this level for the contract’s specified duration. In the UK, the use of fixed rate loans in the commercial loan market is still in its infancy, despite a long history in the UK mortgage market. On loan term, the maximum term available is 10 years, although the typical loan is considerably shorter than this.

In a research conducted by Kisseih (2017) on the impact of interest rate on the growth of small and medium enterprises in Accra, discovered that there exist an interdependence relationship between the SMEs profitability and interest rate. The challenges faced by SMEs in accessing funds are high interest rates on loans, bureaucracy, lack of knowledge about lending criteria and difficulty about finding out about the available finance lending institutions.

In another study conducted by Msangula (2015) which reveals that SMEs hold cash reserves as a way of trying to safeguard against the interest rate risk that may increase. It observed that cash reserves do offset interest rate risk. The higher interest rate therefore results to the cost of loans going up which will have a knock on effect on the people’s disposable income. With a high interest rate, SMEs traders are not able to effectively operate their business as they would not have sufficient amount to capital. Other than discouraging traders from taking loans, another ripple effect of high interest rate is that it discourages savings.

Zachary (2015) affirmed that traders who already have loans have less disposable income since they have to spend more on interest payments, thus others areas of consumption tend to fall. This consequently affects the productivity if the SMEs who do not have adequate finances to plough back to the business. The study further reveals that high interest rate affects consumers who will then have lower consumption capacity that results to low sales for SME traders. Eton et al, (2017) further reveal that rising interest rates affect both consumers and firms, as the economy is likely to experience falls in consumption and investment as it tends to discourage investment as it makes firms and consumers less willing to take out risky investments and purchases. It reduces however,
confidence in the sense that, interest rates have an effect on consumer and business confidence. In this ground it increases incentive to save rather than spend and for the SMEs traders it forces them to look for alternatives of getting access to credit at a cheaper rate.

In order to promote growth and development of SMEs, the financial sector needs to ensure availability of loan services is inevitable, where charged interest on loan given is not too high. The respondents confirmed that loan interest rate affects the performance and growth of their business. When the interest rates are high most of the SMEs traders were forced to go for small loans for small payment of interest instead of taking high loans for higher payment (Msangula, 2015).

Comeig, Fernández-Blanco and Ramírez (2015) Analyzed the effect of the reputation SMEs get in a relationship lending on the cost of next loans. A unique dataset of 734 SMEs in Spain 'relationship lending provides information on a loan-by-loan basis about the ex post previous loan performance, which measures reputation. Results show that lenders obtain information about borrowers' risk-level during relationship lending and use this information. Loans granted after a successful one pledge significantly lower collateral and interest rate than loans granted after a defaulted one. However, the pledged collateral is stronger in the second loan not only following a defaulted loan but also following a successfully repaid one. This result is consistent with the credit screening mechanism, in which good borrowers differentiate themselves from bad ones by pledging high collateral to reduce interest rates.

Maimbo and Gallegos (2014) did a stock take on the countries engaged in putting ceilings or floors on the interest rates and found that it is a widespread phenomenon. 40 developing countries including transitional countries were found to practice interest rate capping. The European Union was seen to have 14 of its member states had used interest rates caps. The study indicated that the key reason countries impose caps is the protection of its consumers from high-interest rates as was seen in Spain. Countries such as Greece and the United Kingdom imposed interest rate caps with the aim of limiting the freedom enjoyed by the banking sector that was leading to the exploitation of consumers. Countries such as Zambia imposed a cap on the interest rate to mitigate the risk that was perceived due to high levels of debt in the country and high levels of credit. The cap meant that the underserved clients can access credit. Interest rate capping in South Africa
was seen to be evaded by most of the financial institutions by the creation of other services such as insurance. They, therefore, reduced the levels of transparency on the cost of credit from the regulators. The caps saw microfinance institutions withdrawing from giving loans to remote areas and thus limiting the amounts available for consumption and investment.

According to Nyakio (2017), interest rates are seen to influence commercial banks and specifically on the stock prices. There is a relationship between the lending rates and prices of stocks in the market. Capping of interest rates in Kenya led to a fall in prices in the securities market. The study showed that the unexpected change in regulation through capping of interest rates influenced cash flows available for investment.

Nganga and Wanyoike (2017) argue that the results are due to reduced availability of funds through loans and thus little money for investment. Lagat and Okendo (2016) in their research on the impact of fluctuation of interest rates on financial performance indicated that there is a positive relationship between interest rates and banks financial performance. The study was done with a focus on Return on Equity, Earnings per Share and Return on Capital Earnings. The study highlighted that banks should be able to maintain a margin that allows them to make a profit to remain attractive to potential investors.

### 2.4.2 Arrangement Fees

Small and Medium Enterprises face various financial challenges which range from high cost of credit to high bank charges and fees. Among the bank charges imposed on borrowers include; arrangement fees which is also referred to as completion fees or booking fee (Nakhaima, 2016). Furthermore, financial constraints are higher in developing countries in general, but SMEs are particularly constrained by gaps in the financial system such as high administrative costs (Mukuria, 2014).

SMEs that conduct similar level of activities and operation in either the export market, import market or both are inclined to favor different banks. The bank offers similar services in terms of currency cover, trade finance, letters of credit the fees charged by the variety of banks vary significantly. The varying levels of activity therefore results into differences in the choice of banks chosen by the SME traders who have different activity levels. The findings established by, Locke, Boulanouar, & Qi (2014) ascertains that volatility in the monthly activity levels, results in regular account changing. The cost
differences are greatest for SMEs with higher levels of transactions. The likelihood that a small business trader, no matter how rational they are, will go through an extensive search and analysis to make a comparison of charges appears would be very unlikely; this necessitates the need for a more convenient source of financing. Historically, the majority of commercial loans in the UK and US were issued under commitment, although this has diminished over time. As is the case in the US, a typical commitment contract will specify a maximum amount of funds that are available to a borrower for a given period of time. For this facility the borrower is charged a loan arrangement fee, which is either a fixed percentage of the amount borrowed (as is the case in the SFLGS) or alternatively a fixed fee, typically in the region of £100 to £200. In the latter case there are clearly economies of scale in borrowing larger amounts. There is considerable cross-country variation in arrangement fees too. The French (SOFARIS) scheme charges no fee but the German (Burgschaftsbanken) scheme charges 0.75% commission on the amount guaranteed with a minimum fee of £175 (Cowling, Matthews and Liu (2017).

2.4.3 Commission and other fees

According to Berg and Steffen (2016), fees are an important part of corporate loan contracting. A major portion of the U.S. syndicated loans contain at least one fee type, and contracts typically specify a menu of spreads and fee types. They further state that despite this importance, the substantial empirical literature that studies private loan contracts largely ignores their complex pricing mechanisms, focusing on a single statistic such as interest rates. The population used included 299 firms working in Latin American and Caribbean countries. Regulation had the effect that it enabled MFIs to increase their outreach. Macro-political factors also play a role. There were found to be fewer borrowers per MFI in countries that are more developed. Likewise, citizens of countries with larger service and industry sectors are less likely to use microfinance services. Those economies with greater service and industry sectors will have fewer borrowers.

While it would seem that pricing and costing are closely related, in practical terms in a financial institution that offer mobile phone loans these may be considered separately. Product pricing, particularly loan pricing, is typically a mixture of risk assessment, establishing funding and operational costs, combined with a good eye to how the competition is pricing the same services. Institutions that offer mobile phone loans rarely look to compete head to head on pricing, instead they try to be “in the middle” of the
competitive offers, and look to compete on other points, particularly quality of service, turnaround time, and location. Competing SMEs will typically have similar cost structures, but pricing strategies may vary. Costing, on the other hand, is a technical area that assigns costs to a product or activity (Mwongera, 2014).

The more accurately it can be done the more expenses can be managed, and decisions about allocation of resources can be more informed. This Technical Note looks at the factors that determine the pricing and costing of financial products and services for SMEs and the particular issues and challenges faced in doing so for this client group, including the fact that SME relationship profitability often derives from delivery of a bundle of products and services which are difficult to extract from each other. The Central Bank of Kenya (CBK) also plays a role in price setting as changes may require its approval (Mwongera, 2014).

2.5 Chapter Summary

The chapter on literature review has provided a comprehensive study of existing literature on the factors that influence the uptake of mobile phone loans among SMEs including business operating cost, and loan accessibility. The literature further reviewed international studies on the factors that affect the uptake of informal lending practices for SME. Chapter Three will cover research methodology.
CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction

This chapter covers the methods and techniques that were used to carry out the research. It covers the research design, population and sampling design, data collection methods, research procedures and data analysis methods.

3.2 Research Design

A research design has been described as a plan, outline, scheme, structure or roadmap that is used to generate answers to research problems. It is the conceptual structure within which research is conducted. A research design also shows how all of the major parts of the research study work together in an attempt to address the research questions. A research design constitutes the blueprint for the collection, measurement, and analysis of data. Cooper and Schindler (2014) define research design as the plan and structure of investigation conceived so as to obtain answers to research questions. Research design is a master plan that specifies methods and procedures for collecting and analyzing the needed information. According to Creswell, J. W. (2014), there are three approaches to research design: these are qualitative, quantitative or mixed approach.

According to Hair (2015), a survey attempts to collect data from members of a population in order to determine the current status of that population with respect to one or more variables. Wibowo (2015) argues that qualitative and quantitative are the two main approaches that define any research. Other scholars, (Ndonga, 2016 and; Kibua and Mwabu, 2016) have utilized cross-sectional survey and viewed it suitable and dependable to examine same studies.

Studies may be exploratory, descriptive or causal in nature. Exploratory study is taken when not much is known about the situation at hand, or no information is available on how similar problems or research issues have been solved in the past. Extensive preliminary work needs to be done to understand what is occurring, assess the magnitude of the problem, and or gain familiarity with the phenomena in the situation. Exploratory studies are also necessary when some facts are known, but more information is needed for developing a viable theoretical framework. Exploratory research often relies on
secondary research and or qualitative approaches to data gathering such as informal discussions are formal approaches such as interviews, focus groups or case studies. As a rule exploratory research is flexible in nature. Descriptive studies are often designed to collect data that describe the characteristics of persons, events, or situations. Descriptive research is either quantitative or qualitative in nature. It may involve the collection of quantitative data such as satisfaction ratings, production figures etc.; but it may entail the collection of qualitative information. Sometimes, the researcher is interested in associations among variables to describe populations, events or situations (Cooper et al., 2014). The research design employed by the study was a descriptive survey study where the researcher used quantitative tool in data collection exercise. The survey descriptive design was appropriate for the study since the respondents in this study were expected to answer questions administered through questionnaires after which the researcher describes the responses given.

3.3 Population and Sampling Design

3.3.1 Population

Cooper and Schindler (2014) consider a population as the group of components a researcher would wish to make inferences over. The target population is the complete rudiments of the specific population components relevant to the research study. The population is a group of people events or things of interest that the researcher wishes to investigate and make inferences based on the sample statistics.

According to Alvi (2016), target population refers to all the members who meet the particular criterion specified for a research investigation. A single entity of any given population which is not decomposable further is called as an element. An element may be an individual, a household, a factory, a market place, a school, etc. What an element is going to be depends on the nature of population while what a population is going to be depends on the nature of investigation. A population may be homogenous or heterogeneous. A population is said to be homogenous when its every element is similar to each other in all aspects. In other words, every element has all the characteristics that meet the described criteria of target population. A population is said to be heterogeneous when its elements are not similar to each other in all aspects.
The target population for this study comprised of all the business managers of the Small and Medium Enterprises based in Nairobi Central Business District. According to Nairobi Central Business District Association (NCBDA) (2018), there are 10,158 registered SMEs operating in the CBD. The study therefore targeted the business managers in all of the SMEs operating in Nairobi CBD as given in Table 3.1.

Table 3.1: Population Distribution

<table>
<thead>
<tr>
<th>Sectors/Industry</th>
<th>Population</th>
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</thead>
<tbody>
<tr>
<td>1 Agriculture</td>
<td>584</td>
</tr>
<tr>
<td>2 Automobile and Accessories</td>
<td>1,254</td>
</tr>
<tr>
<td>3 Banking and Mobile Money Agents</td>
<td>1,654</td>
</tr>
<tr>
<td>4 Commercial and Service Industry</td>
<td>5,079</td>
</tr>
<tr>
<td>5 Construction and Allied</td>
<td>863</td>
</tr>
<tr>
<td>6 Energy and Petroleum</td>
<td>428</td>
</tr>
<tr>
<td>7 Insurance</td>
<td>296</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>10,158</strong></td>
</tr>
</tbody>
</table>

NCBDA (2018)

3.3.2 Sampling Design

3.3.2.1 Sampling Frame

The sampling frame for the study was the business managers from the 10158 SMEs operating in Nairobi CBD as given by the NCBDA (2018). The sample frame was adequate representative of all the SMEs in the country due to the fact that Nairobi CBD is cosmopolitan and has a varied businesses operating in it to the extent that all sectors/industries are represented. A sampling frame is an index of items from which a sample can be selected or a physical representation of items in the population from which the sample is drawn. A sample frame reliably represents the target population about which it wants to make guesses (Robertson and Sibley 2018).
3.3.2.2 Sampling Technique

Sampling involves drawing of a target population for observation. It is appropriate when it is not feasible to involve the entire population under study. The sample of the study was identified using stratified sampling technique. Stratified sampling was justified because of the following reasons: to provide adequate data for analyzing the various sub-populations: and to enable different research methods and procedures to be used in the different strata (Coopers and Schindler, 2014).

According to Alvi (2016), sampling techniques are broadly categorized into two major types: Probability sampling methods and non-probability sampling methods. Probability sampling is also called as random sampling or representative sampling. In probability sampling every member of the population has a known (non-zero) probability of being included in the sample. Some form of random selection is used. The probabilities can be assigned to each unit of the population objectively. This sampling technique reduces the chance of systematic errors and sampling biases, better representative sample is produced and Inferences drawn from sample are generalizable to the population. The Disadvantages are that it needs a lot of efforts, time and expense. Examples of probability sampling are Simple Random Sampling, Systematic Random Sampling, Stratified Random Sampling, Cluster Sampling and Multistage Sampling.

The non-Probability Sampling Methods. Probability sampling is also called as judgment or non-random sampling. Every unit of population does not get an equal chance of participation in the investigation with no random selection. The selection of the sample is made on the basis of subjective judgment of the investigator. These techniques need not population to be very precisely defined. These techniques can be used for both types of population: the population that is too general a category, and the population that is a specific category (precisely defined). Non-probability sampling is well suited for exploratory research intended to generate new ideas that will be systematically tested later. Probability sampling is well suited for research that is intended to develop the understanding of a population. The Advantages are reduced time, effort and cost. Disadvantages of non-probability sampling are that the sampling techniques are prone to encounter with systematic errors and sampling biases, the sample cannot be claimed to be a good representative of the population and Inferences drawn from sample are not generalizable to the population. Examples of non-probability sampling are volunteer
sampling, convenient sampling, purposive sampling, quota sampling (proportional and non-proportional), snowball sampling, matched Sampling and genealogy based sampling (Alvi 2016)

3.3.2.3 Sample Size

A sample size is as a collection of units chosen from the universe to represent it and it should not be too large or too small. This is needed because a study that is insufficiently precise is a waste of time and money. Saunders, Lewis and Thornhill (2016) describe a sample as a subgroup or part of a larger population. Further, the sample size and the technique used were influenced by the availability of resources in particular the financial support and the time available to select the sample and to collect, enter into a computer and analyze the data. The study assumed a confidence level of 95% meaning the response achieved was within either plus or minus 27.5% of the true state of affairs. The different ways of estimating sample include formula, tables and charts.

The most adequate sample size was established using the statistical formula below that was developed by Yamane. The sample size for the study was determined using Yamane formula, which is a central scientific method for calculating sample populations from a larger population. The sample size was then calculated as below:

\[
n = \frac{N}{1 + Ne^2}
\]

- Where \( n \) = the desired sample size
- \( N \) = the total population (target population)
- \( e \) = the degree of accuracy given at 0.05 testing at 5% Confidence Level
- Therefore the desire sample size \( n = \)

\[
n = \frac{10,158}{1 + 10,158(0.05)(0.05)} = 385
\]

The sample size was therefore 385 managers from the 385 SMEs operating in Nairobi CBD. Only one person was given chance to respond to the questionnaires from the business where the priority went to the business managers and the business owner as given in table 3.2 below:
Table 3. 2: Sample Population

<table>
<thead>
<tr>
<th>Sectors/Industry</th>
<th>Population</th>
<th>Sample Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Agriculture</td>
<td>584</td>
<td>584/10158*385=22</td>
</tr>
<tr>
<td>2 Automobile and Accessories</td>
<td>1254</td>
<td>1254/10158*385=47</td>
</tr>
<tr>
<td>3 Banking and Mobile Money Agents</td>
<td>1654</td>
<td>1654/10158*385=62</td>
</tr>
<tr>
<td>4 Commercial and Service Industry</td>
<td>5079</td>
<td>5079/10158*385=192</td>
</tr>
<tr>
<td>5 Construction and Allied</td>
<td>863</td>
<td>863/10158*385=33</td>
</tr>
<tr>
<td>6 Energy and Petroleum</td>
<td>428</td>
<td>428/10158*385=17</td>
</tr>
<tr>
<td>7 Insurance</td>
<td>296</td>
<td>296/10158*385=12</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>10158</td>
<td>385</td>
</tr>
</tbody>
</table>

3.4 Data Collection Methods

Although several tools exist for gathering data, the choice of a particular tool depends on the type of research. Since this study sought to determine the factors influencing the implementation of strategy among commercial banks in Kenya, questionnaire was adopted as the most appropriate data collection instrument tool. A questionnaire is perceived as the most accurate tool for measuring self-sufficiency existing relationship, objects or events as well as self-reported beliefs and behavior (Saunders et al., 2016). The use of questionnaire also makes it possible for descriptive, correlation and inferential statistical analysis (Saunders et al., 2016). The researcher developed the questionnaire used in this study on the basis of research questions.

The questionnaire was designed to collect both qualitative and quantitative data. It contained both open-ended and closed-ended questions. This design technique ensured ease of administration and still gave the respondent the freedom to express themselves. A five-point likert scale was used for most questions in the survey except for the section dealing with firm background information and a few open-ended questions. Likert type scale is an ordinal scale comprising of a set of qualitative variations of a particular attribute or entity ordered sequentially from least to most (Nunnaly and Bernstein, 2014). The choices of the statements in the questionnaire ranged from strongly agree, agree, neutral, disagree and strongly disagree. The Likert type of questions enabled the respondents to answer the questions easily. Also, this enabled the researcher to carry out the quantitative approach effectively with the use of statistics for data interpretation.
Primary data was obtained from the original sources using self-administered questionnaire. This study used a structured questionnaire. Cooper and Schindler (2014) argued that the questionnaire is definite, concrete and already determined questions, which are presented with exactly the same phrasing or language and also in the same order to all the respondents.

There are 4 sections in the questionnaire used in the study are: Section 1 which collects general demographic information about the interviewee. The demographic questions are age, gender, education level, business experience, income. Section 2 focuses on business operating cost and its effect on the growth of mobile phone loan uptake. Section 3 deals with loan accessibility and its effect on the growth of mobile phone loan uptake. Section 4 deals with cost of credit and its effect on the growth of mobile phone loan uptake

3.5 Research Procedures

The first stage of the research procedure was to train the research assistants to be able to collect both qualitative and quantitative data from the respondents. This was then followed by a pilot study to ascertain the reliability and validity of the research data. The pilot results are appended to the section of the report. Other factors considered in the research process are permission from the university and from National Commission for Science, Technology and Innovation (NACOSTI), confidentiality considerations and ethical considerations. A research permit to carry out the study was sought from the school and from the management of the SMEs.

The researcher informed the respondents that the questionnaire were for research purposes only and the responses from the respondents would be kept confidential. The researcher then obtained an introductory letter from the University (USIU) in order to collect data from the field. The Researcher also obtained relevant letters of approval from relevant bodies such as NACOSTI in order to conduct the study.

Pilot studies are important in detecting ambiguity, evaluating the type of answers given to determine whether they help the researcher to achieve the laid down objectives. After being developed, the draft questionnaires were pre-tested. The main purpose of conducting a pilot study was to detect and remedy any possible errors in questionnaire design prior to administering the main survey and typically, to refine and revise the questionnaire to help ensure the validity and reliability of the measures, as well as making
it more user-friendly. The pilot test of the study was conducted using a percentage of 10 percent of the sample size that is 40 respondents on other urban centers such as Ngong town, before starting the data collection exercise. This was to ensure the reliability and instrument validity. The pilot study data was then analyzed using SPSS where the results indicated that all the variables had a Cronbach’s alpha of 0.7 and above. The results from the pilot study were then used to improve and strengthen the data collection exercise.

The results of the pilot test below indicated the reliability of this instrument and was evaluated using Cronbach Alpha which measures the internal consistency. Cronbach Alpha value is widely used to verify the reliability of the construct. The study findings in Table 4.1 on the pilot test showed that ‘Business Operation Cost’ scale had a Cronbach’s reliability alpha of 0.855, ‘Loan Accessibility’ scale had an Alpha value of 0.792, and ‘Cost of Credit’ scale had an Alpha value of 0.814. The pilot test showed that the scales measuring the objectives had a very high reliability and therefore no amendment on the objectives was necessary. This implied that the research instruments were adequate, objective and had reasonable internal consistency to give very reliable results. When an alpha coefficient of 0.70 or higher indicates that the gathered data are reliable as they have a relatively high internal consistency and can be generalized to reflect opinions of all respondents in the target population about the study problem. The Cronbach's alpha is the most widely used method for estimating internal consistency reliability. This procedure has proved very resistant to the passage of time, even if its limitations are well documented (Trizano-Hermosilla, & Alvarado 2016)

| Table 3.3: Cronbach's Alpha results of the pilot test |
|----------------|----------------|-----------|
| Cronbach's Alpha | No. of Items |
| Business Operation Cost | .855 | 5 |
| Loan Accessibility | .792 | 5 |
| Cost of Credit | .814 | 5 |

Research participants must be protected from harm, give informed consent, have rights to privacy, and honesty with professional colleagues. Participants are not to be exposed to undue physical or psychological harm. The risk involved by participating in the study was minimized and not any greater than daily life risks. Steps were taken to ensure participants are not subjected to unusual stress, embarrassment, or loss of self-esteem.
Informed consent is critical in the research study. Participants were informed of the nature of the study and given the option to participate or not (Roberts 2015). The informed consent form contained details about the study that was involved in such type of activity and duration of participation, nature of participation and the option to withdraw without penalty, guarantee of anonymity and confidentiality. Ethical issues associated with conducting qualitative research include tensions over public/private space, authorship versus human research participants, informed consent, anonymity and pseudonymity, covert research, deceptive research identities, reactions to being researched, and the quality of data obtained. Prior to conducting qualitative research in online communities, researchers have an ethical obligation to identify and weigh possible risks and benefits to both the community and community members. Sensitivity to the specific community and continued ethical consideration throughout the conduct and reporting of the research are required (Roberts 2015).

3.6 Data Analysis Methods

Data analysis is the application of reasoning to understand the data that has been collected with the aim of determining consistent behavior and summarizing the relevant details that comes out of the investigation. According to Cooper and Schindler (2014), data processing involves translating the answers on a questionnaire into a form that can be manipulated to produce statistics. This involves coding, editing, data entry, and monitoring the whole data processing procedure. Data analysis was guided by the objectives of the research and the measurement of the data collected. The researcher used both descriptive statistics and inferential statistics in the study. Descriptive analysis was conducted with the aim of describing various patterns of the key variables. Descriptive analysis is regarded as a preliminary for any quantitative analysis. The descriptive statistics used in this study included; mean average, standard deviation frequency distribution and percentages Orodho (2014). The inferential analysis used in this study comprised of correlation analysis and multiple linear regression model. The correlational analysis was used in describing the strength and direction of association/relationships among the dependent variables and independent variables for the study. Prior to conducting linear regression, pre-requisite test such as tests for normality, heteroscedasticity, multicollinearity and linearity was done where the regression equation used for the study is as indicated below:
\[ Y = \beta_1 X_1 + \epsilon \]

Where:

\[ Y = \text{Uptake of Mobile Loan by the SMEs} \]

i. \( \{\beta_i; i=1,2,3\} = \text{The coefficients for the various independent variables.} \)

ii. \( X_i \text{ for;} \)

If \( =X_i = 1 \text{ then we have Business Operation Cost} \)
If \( =X_i = 2 \text{ then we have Loan Accessibility} \)
If \( =X_i = 3 \text{ then we have Cost of Credit} \)

The coefficient \( \beta_i \) measures sensitivity of the dependent variable \( (Y) \) to unit change in the independent variable \( (X_1, X_2 \text{ and } X_3). \)

\( \epsilon \) is the error term which captures the unexplained variations in the model.

3.7 Chapter Summary

This chapter covers the methods and techniques that were used to carry out the research. It covers the research design, population and research design, data collection methods, research procedures and data analysis methods. The research adopted a cross descriptive design. The target population of the study was small and medium sized enterprises operating in Nairobi CBD. The sample size of the study was 385 respondents. In chapter four, results of the study and findings was discussed as per the research objectives.
CHAPTER FOUR

4.0 DATA ANALYSIS AND RESULTS

4.1 Introduction

This chapter gives an analysis of collected data, interpretation and discussion of the study findings. Data was analyzed at two levels using both descriptive and inferential analysis techniques. The results are presented according to the research objectives and questions. The background of the analysis part comprises of the response rate and the demographic characteristics of the study respondents.

4.2 General Information

This section gives demographic characteristics of the respondents. The demographic features presented in the study include the age of the respondent, gender of the respondents, level of education of the respondents, length of service of business of the respondents, level of income of the respondents and primary source of capital of the respondents. Data was presented in a chart (Figures) to give a clear picture of the features being reviewed.

4.2.1 Response Rate

The response rate results are presented in this section. The response rate shows the level of achievement the researcher obtained in collecting data for the study. This is an illustration of how the researcher managed to collect data from the respondents who were sampled as a representative of the target population.

The research aimed to collect data from a sample of 385 business managers in all of the SMEs operating in Nairobi CBD. However, the study did not achieve a response of 100% as there were non-response incidences. Therefore, out of the 385 business managers targeted, 331 gave adequate information by responding to the questionnaires. However, 54 respondents did not give any response to the study, making a non-response of 14%. Thus, the study realized a response rate of 86% as indicated in Figure 4.1.
4.2.2 Reliability Analysis

Reliability of this instrument was evaluated through Cronbach Alpha which measures the internal consistency. Cronbach Alpha value is widely used to verify the reliability of the construct. The study findings in Table 4.1 on the pilot test showed that ‘Business Operation Cost’ scale had a Cronbach’s reliability alpha of 0.855, ‘Loan Accessibility’ scale had an Alpha value of 0.792, and ‘Cost of Credit’ scale had an Alpha value of 0.814. The pilot test showed that the scales measuring the objectives had a very high reliability and therefore no amendment on the objectives was necessary. This implied that the research instruments were adequate, objective and had reasonable internal consistency to give very reliable results. When an alpha coefficient of 0.70 or higher indicates that the gathered data are reliable as they have a relatively high internal consistency and can be generalized to reflect opinions of all respondents in the target population about the study problem. The Cronbach's alpha is the most widely used method for estimating internal consistency reliability. This procedure has proved very resistant to the passage of time, even if its limitations are well documented (Trizano-Hermosilla, & Alvarado 2016)

**Table 4.1: Cronbach's Alpha**

<table>
<thead>
<tr>
<th>Scale</th>
<th>Cronbach's Alpha</th>
<th>No. of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Operation Cost</td>
<td>.855</td>
<td>40</td>
</tr>
<tr>
<td>Loan Accessibility</td>
<td>.792</td>
<td>40</td>
</tr>
<tr>
<td>Cost of Credit</td>
<td>.814</td>
<td>40</td>
</tr>
</tbody>
</table>
4.2.3 Classification of the Respondents by Age

Respondent were asked to indicate their age and the findings are presented in Figure 4.2 below. The results show that about 26% of the respondents were aged between 46-55 years of age followed by 24% were aged above 56 years, 22% were aged between 36-45 years, 17% were aged between 26-35 years whereas the least were the respondents aged below 25 years representing 15%. From the findings, majority of the individuals operating business in the Nairobi CBD were aged between 46-55 years. See Figure 4.2

![Figure 4.2 Age of the Respondents](image)

4.2.4 Classification of Respondents by Gender

Respondent were asked to indicate their gender and the findings are presented in Figure 4.3 below. The results show that about 57% of the respondents were female while 43% were male. The management of most businesses in Nairobi CBD mainly comprised of female individuals with the male taking fewer positions. This may suggest that most businesses in Nairobi CBD are owned by women. See figure 4.3
4.2.5 Classification of Respondents by Level of Education

Respondent were asked to indicate their level of education and the findings are presented in Figure 4.3 below. The results show that about 26% of the respondents were of secondary level of education followed by primary level of education at 23%, degree level of education were at 17% while respondents with masters level of education at 13%.

4.2.6 Classification of Respondents by Years of Operation

Respondent were asked to indicate the number of years that they had operated the business and the findings are presented in Figure 4.5 below. The results show that about 25% of the respondents had been operating businesses in Nairobi CBD for a period of 1-5
years followed by 22% representing respondents who had been in business for a period of 10-15 years. The study indicated that about 21% represented respondents who been operating business in Nairobi CBD for a period of less than 1 year whereas 18% represented the respondents who had been in business for more than 15 years.

![Figure 4.5 Year of business Operation](image)

**4.2.7 Classification of Respondents by Monthly Income from the Business**

Respondent were asked to indicate their income levels from the business and the findings are presented in Figure 4.6 below. The results show that the respondents who earned an income of between 51,000 to 99,000 from the business were about 28%, those who had an income of 50,000 and below represented were about 24%, while about 19% represented respondents who earned an income of between 100,000 to 300,000 and 16% of the respondents were earning an income of 500,000 and above form the business and 13% represented the respondents who earned income between 300,000 and 499,000 from their business.
4.2.8 Classification of Respondents by Their Primary Source of Capital

Respondent were asked to indicate their primary source of capital and the findings are presented in Figure 4.7 below. The results show that the respondents who borrowed their capital from micro finance institutions represented about 20% while 17% represented respondents got their capital from government institutions/ agencies. The study indicated that 15% represented respondents who used their own savings as their capital, about 14% got their capital from their employers, 10% source their capital banks and 9% represented respondents who got their capital from relatives and friends, 8% of the respondents got their capital from cooperatives. About 7% of the respondents did not obtained their capital from any of the listed sources.
4.3 Effect of Business Operation Cost on the Growth of Mobile Phone Loan Uptake

The study sought to determine the effect of business operation cost on the growth of mobile phone loan uptake. This study carried out descriptive, correlation and linear regression analysis.

4.3.1 Descriptive Analysis

4.3.1.1 Ratings for Business Operation Cost

The study sought to determine the strongest variable for business operation cost. This was achieved through the comparison of the proportion of the respondents who agreed with the statements of the business operation cost factors. To accomplish this, respondents were requested to rate their views on business operation cost variables, based on their knowledge level using a scale of 1 to 5. Where, 1=Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly Agree. Data was examined by use of descriptive statistics (using percentages). The study results were as presented in Table 4.2. The findings in Table 4.2 indicated that most of the respondents who participated in this study agreed that they usually borrow money from mobile phone applications to meet my labor cost. This variable for the business operating cost that stood out across all the surveyed the owners of SMES with the highest percentage(58%).

Figure 4.7 Primary Source of Capital
Table 4.2: Ratings for Business Operation Cost

<table>
<thead>
<tr>
<th>Scale</th>
<th>Frequency (f)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Total</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The high cost of rent often make me borrow money from mobile phones to pay for my rent</td>
<td>Frequency (f)</td>
<td>24</td>
<td>34</td>
<td>86</td>
<td>97</td>
<td>90</td>
<td>331</td>
<td>Percentage (%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7%</td>
<td>10%</td>
<td>26%</td>
<td>29%</td>
<td>28%</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>I usually borrow money from mobile phone applications to meet my labor cost</td>
<td>Frequency (f)</td>
<td>14</td>
<td>44</td>
<td>80</td>
<td>97</td>
<td>96</td>
<td>331</td>
<td>Percentage (%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5%</td>
<td>13%</td>
<td>24%</td>
<td>29%</td>
<td>29%</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>The high cost of purchasing goods and services for sale often leads me into borrowing from mobile phone loan applications.</td>
<td>Frequency (f)</td>
<td>15</td>
<td>51</td>
<td>76</td>
<td>92</td>
<td>97</td>
<td>331</td>
<td>Percentage (%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5%</td>
<td>15%</td>
<td>23%</td>
<td>28%</td>
<td>29%</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>We usually borrow from the mobile phone loan applications to meet the high cost of marketing our products</td>
<td>Frequency (f)</td>
<td>54</td>
<td>67</td>
<td>44</td>
<td>79</td>
<td>87</td>
<td>331</td>
<td>Percentage (%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>17%</td>
<td>20%</td>
<td>13%</td>
<td>24%</td>
<td>26%</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>High cost incurred by our sales team often push us into serious borrowing from mobile phone loan applications</td>
<td>Frequency (f)</td>
<td>43</td>
<td>54</td>
<td>67</td>
<td>78</td>
<td>89</td>
<td>331</td>
<td>Percentage (%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>13%</td>
<td>16%</td>
<td>20%</td>
<td>24%</td>
<td>27%</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

4.3.1.2 Ratings for Effect of Business Cost on Growth of Mobile Phone Loan Uptake

The study sought to determine the strongest variable for the effect of business operation cost on the growth of mobile phone loan uptake. This was achieved through the comparison of the proportion of the respondents who agreed with the statements of effect of business operation cost on the growth of mobile phone loan uptake factors. To accomplish this, respondents were requested to rate their views on business operation cost variables, based on their knowledge level using a scale of 1 to 5. Where, 1=Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly Agree. Data was examined by use of descriptive statistics (using percentages). The study results were as presented in Table 4.3. The findings in Table 4.3 indicated that most of the respondents who
participated in this study agreed that their businesses have grown since they often borrow from mobile phone loan to meet the high rent rates at the periods when the business is not doing fine financially. This variable for the business operating cost that stood out across all the surveyed the owners of SMES with the highest percentages (66%).

Table 4.3: Ratings on the Effect of Business Cost on Growth of Mobile Phone Loan Uptake

<table>
<thead>
<tr>
<th>Effect on Growth of Mobile Phone Loan Uptake</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>My business has grown since I often borrow from mobile phone loan to meet the high rent rates at the periods when the business is not doing fine financially</td>
<td>Frequency (f)</td>
<td>18</td>
<td>49</td>
<td>46</td>
<td>89</td>
<td>129</td>
</tr>
<tr>
<td></td>
<td>Percentage (%)</td>
<td>5%</td>
<td>15%</td>
<td>14%</td>
<td>27%</td>
<td>39%</td>
</tr>
<tr>
<td>My business growth is pegged on the accessibility of mobile phone loan to meet high labor cost at the time when businesses are not doing OK.</td>
<td>Frequency (f)</td>
<td>54</td>
<td>45</td>
<td>55</td>
<td>91</td>
<td>86</td>
</tr>
<tr>
<td></td>
<td>Percentage (%)</td>
<td>16%</td>
<td>14%</td>
<td>17%</td>
<td>27%</td>
<td>26%</td>
</tr>
<tr>
<td>I have managed to grow the business by borrowing from the mobile loan applications to meet the high product cost that are often repaid using the proceeds of the business</td>
<td>Frequency (f)</td>
<td>40</td>
<td>36</td>
<td>69</td>
<td>90</td>
<td>96</td>
</tr>
<tr>
<td></td>
<td>Percentage (%)</td>
<td>12%</td>
<td>11%</td>
<td>21%</td>
<td>27%</td>
<td>29%</td>
</tr>
<tr>
<td>My business has grown since I am able to borrow from the bank to meet the high cost of marketing</td>
<td>Frequency (f)</td>
<td>32</td>
<td>43</td>
<td>66</td>
<td>93</td>
<td>97</td>
</tr>
<tr>
<td></td>
<td>Percentage (%)</td>
<td>10%</td>
<td>13%</td>
<td>20%</td>
<td>28%</td>
<td>29%</td>
</tr>
<tr>
<td>My business has grown since I am able to borrow money from mobile loans to meet the high cost of paying my sales people</td>
<td>Frequency (f)</td>
<td>65</td>
<td>54</td>
<td>33</td>
<td>85</td>
<td>94</td>
</tr>
<tr>
<td></td>
<td>Percentage (%)</td>
<td>20%</td>
<td>16%</td>
<td>10%</td>
<td>26%</td>
<td>28%</td>
</tr>
</tbody>
</table>

4.3.1.3 Frequency Response on Borrowing from Mobile Loan Application

Respondent were asked to indicate their frequency of borrowing from mobile loan applications and the findings are presented in Figure 4.8 below. The results show that about 29% of the respondents borrowed yearly from mobile loan applications to meet
their businesses operation cost followed by 26% of the respondents who borrowed monthly from mobile applications to meet their businesses operation cost. 20% of the respondents borrowed weekly and 15% were not regular borrowers while 10% of the respondents never borrowed from mobile loan applications to meet their businesses operation cost.

![Figure 4.8 Frequency of Borrowing from Mobile Loan Applications](image1)

**4.3.1.4 Rating of the Credit Services Offered By Mobile Loan Application**

Respondent were asked to rate the services offered by mobile loan applications and the findings are presented in Figure 4.9 below. The results show that about 29% rated the credit services offered by mobile loan application in meeting business operation as very effective followed by 27% of the respondents who rated the credit services as effective, 21% of the respondents rated the credit services offered by mobile loan applications as average, 14% of the respondents were neutral while 9% of the respondents rated the credit services offered by mobile loan applications in meeting business operations to be poor.

![Figure 4.9 Services Offered By Mobile Loan Applications](image2)
4.3.1.5 Business Operation Costs that often leads to Uptake of Mobile Phone Loans

Respondent were asked to indicate the effect that business operating costs had on the uptake of mobile phone loans and the findings are presented in Figure 4.10 below. The results show that about 26% of the respondents said that rent cost often leads them to take loan from mobile application, 25% of the respondents take loans from mobile application to cater for their product cost, 20% of the respondents take loans from mobile application for labor costs and 18% of the respondents take loans from mobile application for legal cost while 11% of the respondents take loans from mobile applications for their market cost.

![Figure 4.10 Business Operation Costs Effect on Uptake of Mobile Phone Loans](image)

4.3.2 Correlation Analysis

The study conducted a correlation analysis to examine the strength and course of the relationship between business operation cost and growth of mobile phone loan uptake. The results were as shown in Table 4.4. The study findings show that there was a negative, strong and statistically significant relationship between business operation cost and uptake of mobile phone loans, \( r (385) = -0.72, p < .05 \).
Table 4.4: Correlation between Business Operation Cost and Uptake of Mobile Phone Loans

<table>
<thead>
<tr>
<th></th>
<th>Business Operation Cost</th>
<th>Uptake of Mobile Loan Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Operation Cost</td>
<td>Pearson Correlation</td>
<td>.72</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>385</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.05 level (2-tailed).

4.3.3 Assumptions for Linear Regression Analysis

To establish the effect of business operation cost on uptake of mobile phone loans, this study carried out a simple linear regression analysis. Before the linear regression analysis was conducted, tests for the assumptions of the linear regression analysis were conducted. Tests for normality, linearity and heteroskedasticity were conducted to verify the assumptions of linear regression analysis.

4.3.3.1 Test for Normality

The study checked the normality of the data set by looking at descriptive values such as skewness and kurtosis. The skewness values obtained in the study indicate that the scores are skewed as all are negatively skewed hence no case of excessive skewness in the data. The kurtosis values also fall within the range of 0 to +5, and therefore do not display excessive kurtosis as well. These results suggest that the normality assumption is not strictly violated in the study as the kurtosis values fall between 0 to +5.

Table 4.5: Normality Test for Business Operation Cost and Uptake of Mobile Loan Application

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Skewness Statistic</th>
<th>Kurtosis Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Std. Error</td>
<td>Std. Error</td>
</tr>
<tr>
<td>Business Operation Cost</td>
<td>124</td>
<td>-1.518</td>
<td>.217</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.364</td>
<td>.431</td>
</tr>
</tbody>
</table>
### 4.3.3.2 Test for Linearity

The study conducted linearity test to determine whether the relationship between business operation cost and uptake of mobile loan application was linear or not. The findings in Table 4.6 shows that there is a linear relationship between business operation cost and uptake of mobile loan application ($F(31,90) = 0.777, p > .05$).

**Table 4.6 Linearity Test for Business Operation Cost and Uptake of Mobile Loan Application**

<table>
<thead>
<tr>
<th>Sum of Squares (Combined)</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business operation cost * * uptake of mobile loan application Between Groups</td>
<td>47.225</td>
<td>32</td>
<td>1.476</td>
<td>6.909</td>
</tr>
<tr>
<td>Linearity Deviation from Linearity Within Groups</td>
<td>42.080</td>
<td>1</td>
<td>42.080</td>
<td>196.991</td>
</tr>
<tr>
<td>Total</td>
<td>5.145</td>
<td>31</td>
<td>.166</td>
<td>.777</td>
</tr>
<tr>
<td>Total</td>
<td>19.225</td>
<td>90</td>
<td>.214</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>66.450</td>
<td>122</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 4.3.7.3 Homoscedascity Test for Business Operation Cost and Uptake of Mobile Loan Application

The study had the homoscedasticity test evaluated for pairs of variables using the Levene statistic for the test of homogeneity of variances. The results are then given as shown in Table 4.7. From the study findings of test for homogeneity, the probability associated with the Levene Statistic ($<0.065$) is more than the level of significance (0.05) testing at 1-tail test 5% significance level, the researcher concludes that the variance is homogeneous.

**Table 4.7 Homoscedasticity Test for Business Operation Cost and Uptake of Mobile Loan Application**

<table>
<thead>
<tr>
<th>Levene Statistic</th>
<th>df1</th>
<th>df2</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.989</td>
<td>20</td>
<td>90</td>
<td>.065</td>
</tr>
</tbody>
</table>
4.3.4 Regression Tests
This section provides the R square value for regression model summary, F statistics for regression ANOVA and t statistics for regression coefficient for the linear relationship between business operation cost and uptake of mobile phone loan.

4.3.4.1 Model Summary
Table 4.8 presents the model summary for the regression analysis of business operation cost and uptake of mobile phone loan. The findings of the model summary specify that business operation cost variable explained about 63% of the variability in the in uptake of mobile loan application ($R^2 = .633$).

Table 4.8 Model Summary for Linear Relationship between Business Operation Cost and Uptake of Mobile Loan Application

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.796a</td>
<td>.633</td>
<td>.630</td>
<td>.44879</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), business operation cost

4.3.4.2 Regression ANOVA
The linear regression F statistics shown in Table 4.9 indicates that there was a statistical and significant linear relationship between business operating cost and mobile phone loan uptake ($F (1,121) = 208.929, p < .05$).

Table 4.9 Regression ANOVA for Linear Relationship between Business Operation Cost and Uptake of Mobile Loan Application

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>of df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>42.080</td>
<td>1</td>
<td>42.080</td>
<td>208.929</td>
<td>.000b</td>
</tr>
<tr>
<td>1</td>
<td>Residual</td>
<td>24.370</td>
<td>121</td>
<td>.201</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>66.450</td>
<td>122</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: uptake of mobile loan application
b. Predictors: (Constant), business operation cost
4.3.4.3 Regression Coefficients

The regression coefficients presented in Table 4.10 indicates that business operation cost can statistically and significantly affect the uptake of mobile phone loans among the SMES ($\beta = 0.867, t(122) = 14.454, p < .05$).

**Table 4.10 Regression Coefficients for Linear Relationship between Business Operation Cost and Uptake of Mobile Loan Application**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td>1.403</td>
</tr>
<tr>
<td>(Constant)</td>
<td>.344</td>
<td>.245</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Business operating cost</td>
<td>.867</td>
<td>.060</td>
<td>.796</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Uptake of Mobile Loan Application

The estimated regression equation from Table 4.10 is specified by:

$$Uptake \ of \ Mobile \ Loan = 0.344 + 0.867 \times \ Business \ Operation \ Cost$$

The model shows that business operation costs positively affect the uptake of mobile phone loans, i.e. a unit mean index increase in business operation cost applied increases the uptake of mobile phone loan by a positive mean index value of 0.867.

4.4 Effect of Loan Accessibility on the Growth of Mobile Phone Loan Uptake

The study sought to determine the effect of loan accessibility on the growth of mobile phone loan uptake. This study carried out descriptive, correlation and linear regression analysis.

4.4.1 Descriptive Statistics

4.4.1.1 Ratings for Loan Accessibility

The study sought to determine the strongest variable for loan accessibility. This was achieved through the comparison of the proportion of the respondents who agreed with the statements of the loan accessibility factors. To accomplish this, respondents were requested to rate their views on loan accessibility variables, based on their knowledge level using a scale of 1 to 5. Where, 1=Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly Agree. Data was examined by use of descriptive statistics (using
percentages). The study results were as presented in Table 4.11. This variable for the loan accessibility that stood out across all the surveyed the owners of SMES with the highest percentages (55%).

Table 4.11 Ratings for Loan Accessibility

<table>
<thead>
<tr>
<th>Scale</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>The high collateral required by the financial institutions often keeps me away from accessing loan for my business</td>
<td>Frequency (f): 43</td>
<td>34</td>
<td>74</td>
<td>87</td>
<td>93</td>
<td>331</td>
</tr>
<tr>
<td></td>
<td>Percentage (%): 13%</td>
<td>10%</td>
<td>22%</td>
<td>26%</td>
<td>29%</td>
<td>100%</td>
</tr>
<tr>
<td>The duration taken to process a loan from the financial institutions has always made me discontinue loan application process</td>
<td>Frequency (f): 32</td>
<td>51</td>
<td>67</td>
<td>88</td>
<td>93</td>
<td>331</td>
</tr>
<tr>
<td></td>
<td>Percentage (%): 10%</td>
<td>15%</td>
<td>20%</td>
<td>27%</td>
<td>28%</td>
<td>100%</td>
</tr>
<tr>
<td>The loan requirements have always made me discontinue the loan application process</td>
<td>Frequency (f): 56</td>
<td>45</td>
<td>66</td>
<td>74</td>
<td>90</td>
<td>331</td>
</tr>
<tr>
<td></td>
<td>Percentage (%): 17%</td>
<td>14%</td>
<td>20%</td>
<td>22%</td>
<td>27%</td>
<td>100%</td>
</tr>
<tr>
<td>Longer period of time taken by the banks in processing loans have made me keep off loans whenever am in need of it</td>
<td>Frequency (f): 47</td>
<td>67</td>
<td>33</td>
<td>87</td>
<td>97</td>
<td>331</td>
</tr>
<tr>
<td></td>
<td>Percentage (%): 14%</td>
<td>20%</td>
<td>11%</td>
<td>26%</td>
<td>29%</td>
<td>100%</td>
</tr>
<tr>
<td>The distance I have to travel to access banks have discouraged me from commercial bank loans</td>
<td>Frequency (f): 54</td>
<td>74</td>
<td>29</td>
<td>71</td>
<td>103</td>
<td>331</td>
</tr>
<tr>
<td></td>
<td>Percentage (%): 16%</td>
<td>22%</td>
<td>9%</td>
<td>21%</td>
<td>31%</td>
<td>100%</td>
</tr>
</tbody>
</table>

4.4.1.2 Ratings on the Effect Loan Accessibility on Growth of Mobile Phone Loan Uptake

The study sought to determine the strongest variable for the effect of loan accessibility on the growth of mobile phone loan uptake. This was achieved through the comparison of the proportion of the respondents who agreed with the statements of effect of loan accessibility on the growth of mobile phone loan uptake factors. To accomplish this, respondents were requested to rate their views on business operation cost variables, based on their knowledge level using a scale of 1 to 5. Where, 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree. Data was examined by use of descriptive statistics (using percentages). The study results were as presented in Table
4.12. The findings in Table 4.12 indicated that most of the respondents who participated in this study agreed that their businesses have grown by the accessibility of the mobile loans with no requirements for access at the times of need. This variable for the effect of loan accessibility on uptake of mobile phone loan that stood out across all the surveyed the owners of SMES with the highest percentages (57%).

Table 4.12 Ratings on the Effect of Loan Accessibility on Growth of Mobile Phone Loan Uptake

<table>
<thead>
<tr>
<th>Effect on Growth of Mobile Phone Loan Uptake</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>The lack of collateral required for the mobile loan applications has made my business to grow by taking up mobile loans at the times of need</td>
<td>Frequency (f)</td>
<td>55</td>
<td>68</td>
<td>30</td>
<td>82</td>
<td>96</td>
</tr>
<tr>
<td></td>
<td>Percentage (%)</td>
<td>17%</td>
<td>21%</td>
<td>8%</td>
<td>25%</td>
<td>29%</td>
</tr>
<tr>
<td>The growth of business has been propelled by the short duration I am able to access mobile loans at the times of need for the business operations</td>
<td>Frequency (f)</td>
<td>54</td>
<td>65</td>
<td>35</td>
<td>84</td>
<td>93</td>
</tr>
<tr>
<td></td>
<td>Percentage (%)</td>
<td>16%</td>
<td>20%</td>
<td>11%</td>
<td>25%</td>
<td>28%</td>
</tr>
<tr>
<td>My business has grown by the accessibility of the mobile loans with no requirements for access at the times of need</td>
<td>Frequency (f)</td>
<td>56</td>
<td>47</td>
<td>38</td>
<td>93</td>
<td>97</td>
</tr>
<tr>
<td></td>
<td>Percentage (%)</td>
<td>17%</td>
<td>14%</td>
<td>10%</td>
<td>28%</td>
<td>29%</td>
</tr>
<tr>
<td>My business has grown by the fact that I no longer have to travel longer distances to access bank credit</td>
<td>Frequency (f)</td>
<td>35</td>
<td>55</td>
<td>50</td>
<td>94</td>
<td>97</td>
</tr>
<tr>
<td></td>
<td>Percentage (%)</td>
<td>11%</td>
<td>17%</td>
<td>15%</td>
<td>28%</td>
<td>29%</td>
</tr>
<tr>
<td>My business has grown due to lack of collaterals in accessing mobile phone loans</td>
<td>Frequency (f)</td>
<td>45</td>
<td>60</td>
<td>42</td>
<td>87</td>
<td>97</td>
</tr>
<tr>
<td></td>
<td>Percentage (%)</td>
<td>14%</td>
<td>18%</td>
<td>13%</td>
<td>26%</td>
<td>29%</td>
</tr>
</tbody>
</table>

4.4.1.3 Applications that Most Businesses People in Nairobi CBD Use in Borrowing

From the findings, majority of the respondents used M-Shwari in borrowing to finance their businesses representing 28%, followed by KCB MPESA with 26%, 19% represented others applications, 16% on the other hand represented Equitel while 10% represented Safaricom Fuliza.
4.4.1.4 Time taken for the Loan to be approved

Majority of the respondent 29% indicated that their loans were approved instantly, 27% indicated that their loans takes less than a day to be approved and 25% of the respondents states that their loans takes 2-5 days to be approved while 19% of the respondents states that their loan takes more than a week to be approved.

Figure 4.12 Time taken for the loan to be approved
4.4.1.5 Requirements for Mobile Loan Uptake

A majority of the respondents’ states that there are requirements on mobile loan uptake representing 53% while 47% said that there are no requirements for mobile loan uptake.

![Figure 4.13 Requirements for mobile loan uptake](image)

4.4.2 Correlation Analysis

The study conducted a correlation analysis to examine the strength and course of the relationship between loan accessibility and mobile phone loan uptake. The results were as shown in Table 4.13. The study findings show that there was a positive, strong and statistically significant relationship between loan accessibility and uptake of mobile phone loans, \( r (331) = 0.718, p < .05 \).

<table>
<thead>
<tr>
<th>Loan Accessibility</th>
<th>Mobile phone loan uptake</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>.718**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>331</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).
4.4.3 Assumptions for Linear Regression Analysis

To establish the effect of loan accessibility on uptake of mobile phone loans, this study carried out a simple linear regression analysis. Before the linear regression analysis was conducted, tests for the assumptions of the linear regression analysis were conducted. Tests for normality, linearity and heteroskedasticity were conducted to verify the assumptions of linear regression analysis.

4.4.3.1 Test for Normality

The study checked the normality of the data set by looking at descriptive values of skewness and kurtosis. The skewness values obtained in the study indicate that the scores are skewed as all are negatively skewed and not that much closer to zero. The kurtosis values also fall within the range of -1 to +1, and therefore do not display excessive kurtosis as well. These results suggest that the normality assumption is not violated in the study. Table 4.13 gives the results from the study.

Table 4.14 Normality Test for Loan Accessibility

<table>
<thead>
<tr>
<th>Loan Accessibility</th>
<th>N</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Statistic</td>
<td>Std. Error</td>
</tr>
<tr>
<td></td>
<td>124</td>
<td>-.766</td>
<td>.217</td>
</tr>
</tbody>
</table>

4.4.3.2 Test for Linearity for Loan Accessibility

The study conducted linearity test to determine whether the relationship between loan accessibility and uptake of mobile loan application was linear or not. The findings in Table 4.15 shows that there is a linear relationship between loan accessibility and uptake of mobile loan application\(F(31,90) = 1.576, p > .05\).
Table 4.15 Linearity Test for Loan Accessibility and Growth of Mobile Phone Loan Uptake

<table>
<thead>
<tr>
<th>Loan accessibility * growth of mobile phone loan uptake.</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Combined)</td>
<td>48.030</td>
<td>40</td>
<td>1.201</td>
<td>5.345</td>
<td>.000</td>
</tr>
<tr>
<td>Between Groups</td>
<td>34.225</td>
<td>1</td>
<td>34.225</td>
<td>152.356</td>
<td>.000</td>
</tr>
<tr>
<td>Linearity Deviation from Linearity</td>
<td>13.805</td>
<td>39</td>
<td>.354</td>
<td>1.576</td>
<td>.143</td>
</tr>
<tr>
<td>Within Groups</td>
<td>18.420</td>
<td>82</td>
<td>.225</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>66.450</td>
<td>122</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.4.3.3 Test for Heteroscedasticity for Loan Accessibility

The study findings had the heteroscedasticity test evaluated for pairs of variables using the Levene statistic for the test of homogeneity of variances. The results are then given as shown in Table 4.15. From the study findings of test for heteroscedasticity, the probability associated with the Levene Statistic (<0.099) is more than the level of significance (0.05) testing at 1-tail test 5% significance level, the researcher concludes that the variance is homogeneous for loan accessibility.

Table 4.16 Homoscedasticity Test for Loan Accessibility

<table>
<thead>
<tr>
<th>Levene Statistic</th>
<th>df1</th>
<th>df2</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.342</td>
<td>22</td>
<td>82</td>
<td>.099</td>
</tr>
</tbody>
</table>

4.4.4 Regression Tests

This section provides the R square value for regression model summary, F statistics for regression ANOVA and t statistics for regression coefficient for the linear relationship between loan accessibility and uptake of mobile phone loan.

4.4.4.1 Model Summary

Table 4.17 presents the model summary for the regression analysis of loan accessibility and uptake of mobile phone loan. The findings of the model summary specify that loan accessibility variable explained about 63% of the variability in the in uptake of mobile loan application ($R^2 = .633$).
Table 4.1 Model Summary for Linear Relationship between Loan Accessibility and Uptake of Mobile Phone Loan

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.796a</td>
<td>.633</td>
<td>.630</td>
<td>.44879</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), loan accessibility

4.4.4.2 Regression ANOVA

The linear regression F statistics shown in Table 4.18 indicates that there was a statistical and significant linear relationship between loan accessibility and mobile phone loan uptake ($F(1,121) = 208.929, p < .05$).

Table 4.18 Regression ANOVA for Linear Relationship between Loan Accessibility and Mobile Phone Loan Uptake

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>42.080</td>
<td>1</td>
<td>42.080</td>
<td>208.929</td>
<td>.000b</td>
</tr>
<tr>
<td>1 Residual</td>
<td>24.370</td>
<td>121</td>
<td>.201</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>66.450</td>
<td>122</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: uptake of mobile loan by the SMEs
b. Predictors: (Constant), loan accessibility

4.4.4.3 Regression Coefficients

The regression coefficients presented in Table 4.19 indicates that loan accessibility can statistically and significantly affect the uptake of mobile phone loans among the SMES ($\beta = 0.867, t(122) = 14.454, p < .05$).
Table 4.19 Regression Coefficients for Linear Relationship between Loan Accessibility and Uptake of Mobile Phone Loans

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant) .344</td>
<td>.245</td>
<td>1.403</td>
<td>.163</td>
</tr>
<tr>
<td></td>
<td>Mission or/and Vision .867</td>
<td>.060</td>
<td>.796</td>
<td>14.454</td>
</tr>
</tbody>
</table>

a. Dependent Variable: uptake of mobile loan by the SMEs

The estimated regression equation from Table 4.19 is specified by:

\[
Uptake \text{ of Mobile Loan} = 0.344 + 0.867 \times \text{Loan Accessibility}
\]

The model shows that loan accessibility positively affect the uptake of mobile phone loans, i.e. a unit mean index increase in loan accessibility applied increases the uptake of mobile phone loan by a positive mean index value of 0.867.

4.5 Effect of Cost of Credit on the Growth of Mobile Phone Loan Uptake

The study sought to determine the effect of cost of credit on the growth of mobile phone loan uptake. This study carried out descriptive, correlation and linear regression analysis.

4.5.1 Descriptive Analysis

4.5.1.1 Ratings for Cost of Credit

The study sought to determine the strongest variable for cost of credit. This was achieved through the comparison of the proportion of the respondents who agreed with the statements of the cost of credit factors. To accomplish this, respondents were requested to rate their views on cost of credit variables, based on their knowledge level using a scale of 1 to 5. Where, 1=Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly Agree. Data was examined by use of descriptive statistics (using percentages). The study results were as presented in Table 4.20. The findings in Table 4.20 indicated that most of the respondents who participated in this study agreed that the bureaucracy involved in the accessing of loans from the financial institutions have made the cost of credit to go up.
This variable for the cost of credit that stood out across all the surveyed the owners of SMES with the highest percentages (56%).

**Table 4.20 Ratings for Cost of Credit**

<table>
<thead>
<tr>
<th>Scale</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>The loan arrangement fees have increased the cost of accessing loans from the financial institutions</td>
<td>45</td>
<td>40</td>
<td>63</td>
<td>89</td>
<td>94</td>
<td>331</td>
</tr>
<tr>
<td>Frequency (f)</td>
<td>14%</td>
<td>12%</td>
<td>19%</td>
<td>27%</td>
<td>28%</td>
<td>100%</td>
</tr>
<tr>
<td>Percentage (%)</td>
<td>26</td>
<td>56</td>
<td>66</td>
<td>87</td>
<td>96</td>
<td>331</td>
</tr>
<tr>
<td>The commissions charged on loans from financial institutions have made my accessibility of loans difficult</td>
<td>8%</td>
<td>17%</td>
<td>20%</td>
<td>26%</td>
<td>29%</td>
<td>100%</td>
</tr>
<tr>
<td>Frequency (f)</td>
<td>33</td>
<td>65</td>
<td>56</td>
<td>84</td>
<td>93</td>
<td>331</td>
</tr>
<tr>
<td>Percentage (%)</td>
<td>10%</td>
<td>20%</td>
<td>17%</td>
<td>25%</td>
<td>28%</td>
<td>100%</td>
</tr>
<tr>
<td>The high interest rates given by the financial institutions have made cost of credit to go up thus difficulty in accessing loans</td>
<td>35</td>
<td>52</td>
<td>59</td>
<td>96</td>
<td>89</td>
<td>331</td>
</tr>
<tr>
<td>Frequency (f)</td>
<td>11%</td>
<td>16%</td>
<td>17%</td>
<td>29%</td>
<td>27%</td>
<td>100%</td>
</tr>
<tr>
<td>Percentage (%)</td>
<td>44</td>
<td>67</td>
<td>50</td>
<td>88</td>
<td>82</td>
<td>331</td>
</tr>
<tr>
<td>The bureaucracy involved in the accessing of loans from the financial institutions have made the cost of credit to go up</td>
<td>13%</td>
<td>20%</td>
<td>15%</td>
<td>27%</td>
<td>25%</td>
<td>100%</td>
</tr>
</tbody>
</table>

4.5.1.2 Ratings for the Effect of Cost of Credit on the Uptake of Mobile Phone Loan

The study sought to determine the strongest variable for the effect of cost of credit on the growth of mobile phone loan uptake. This was achieved through the comparison of the proportion of the respondents who agreed with the statements of effect of cost of credit on the growth of mobile phone loan uptake factors. To accomplish this, respondents were requested to rate their views on business operation cost variables, based on their knowledge level using a scale of 1 to 5. Where, 1=Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly Agree. Data was examined by use of descriptive statistics (using percentages). The study results were as presented in Table 4.3. The findings in
Table 4.3 indicated that most of the respondents who participated in this study agreed that the lack of bureaucracy by the mobile phone loans have made them access the loan at any time at a low cost thus promoting the growth of their businesses. This variable for the effect of cost of credit on uptake of mobile phone loans that stood out across all the surveyed the owners of SMES with the highest percentages (55%).

**Table 4.21 Ratings for the Effect of Cost of Credit on Uptake Mobile Phone Loans**

<table>
<thead>
<tr>
<th>Scale</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>The lack of loan arrangement fees from the mobile loans have improved the performance and growth of my business as I have been able to finance my business operations effectively</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency (f)</td>
<td>43</td>
<td>57</td>
<td>66</td>
<td>89</td>
<td>76</td>
<td>331</td>
</tr>
<tr>
<td>Percentage (%)</td>
<td>13%</td>
<td>17%</td>
<td>20%</td>
<td>27%</td>
<td>23%</td>
<td>100%</td>
</tr>
<tr>
<td>The growth of my business is attributed by the cheap loans I get from the mobile phone loans due to lack of commission charged on the loans</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency (f)</td>
<td>42</td>
<td>46</td>
<td>66</td>
<td>90</td>
<td>87</td>
<td>331</td>
</tr>
<tr>
<td>Percentage (%)</td>
<td>13%</td>
<td>14%</td>
<td>20%</td>
<td>27%</td>
<td>26%</td>
<td>100%</td>
</tr>
<tr>
<td>The low interest rates given by the mobile phone loans have made my business grow</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency (f)</td>
<td>33</td>
<td>65</td>
<td>57</td>
<td>86</td>
<td>90</td>
<td>331</td>
</tr>
<tr>
<td>Percentage (%)</td>
<td>10%</td>
<td>20%</td>
<td>17%</td>
<td>26%</td>
<td>27%</td>
<td>100%</td>
</tr>
<tr>
<td>The lack of bureaucracy by the mobile phone loans have made me access the loan at any time at a low cost thus promoting the growth of my business</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency (f)</td>
<td>32</td>
<td>54</td>
<td>62</td>
<td>87</td>
<td>96</td>
<td>331</td>
</tr>
<tr>
<td>Percentage (%)</td>
<td>10%</td>
<td>16%</td>
<td>19%</td>
<td>26%</td>
<td>29%</td>
<td>100%</td>
</tr>
<tr>
<td>The growth of my business is attached to the fact that I no longer have to travel longer distances to access loan credits as I easily access loan credit from the phone</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency (f)</td>
<td>31</td>
<td>48</td>
<td>74</td>
<td>95</td>
<td>83</td>
<td>331</td>
</tr>
<tr>
<td>Percentage (%)</td>
<td>9%</td>
<td>15%</td>
<td>22%</td>
<td>29%</td>
<td>25%</td>
<td>100%</td>
</tr>
</tbody>
</table>
4.5.1.3 The Nature of the Mobile Phone Loans

The study findings in figure 4.14 indicate that majority of the respondents agreed that the despite the cost nature of mobile phone loans the SME owners will continue to take up mobile phone loans forming 52% while 48% of the respondents did not agree with the statement.

4.5.1.4 The Cost Involved in Application Process

The study findings in figure 4.15 indicate that majority of the respondents agree that they have ever opted out of a loan process due to high cost involved in its application process forming 54% while 46% of the respondents do not agree with the statement.
4.5.1.5 The Performance of the Business due to Interest Loan Taken by Business People

The study findings in figure 4.16 indicate that majority of the respondents do not agree that they have had a poor business performance due to high interest on loan they took for their business forming 56% while 44% of the respondents agree that they have had a poor business performance due to high interest loan they took for their business.
4.5.2 Correlation Analysis

The study conducted a correlation analysis to examine the strength and direction of the relationship between business cost of credit and growth of mobile phone loan uptake. The results were as shown in Table 4.22. The study findings show that there was a positive, strong and statistically significant relationship between business operation cost and uptake of mobile phone loans, \( r (121) = 0.679, p < .05 \).

Table 4.22 Correlation Analysis on Cost of Credit and Its Effect on the Growth of Mobile Phone Loan Uptake

<table>
<thead>
<tr>
<th></th>
<th>Growth of Mobile Phone Loan Uptake</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of credit</td>
<td>Pearson Correlation: (-0.679^{**})</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed): (0.000)</td>
</tr>
<tr>
<td></td>
<td>N: 121</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).

4.3.3 Assumptions for Linear Regression Analysis

To establish the effect of cost of credit on uptake of mobile phone loans, this study carried out a simple linear regression analysis. Before the linear regression analysis was conducted, tests for the assumptions of the linear regression analysis were conducted. Tests for normality, linearity and heteroskedasticity were conducted to verify the assumptions of linear regression analysis.

4.3.3.1 Normality Test for Cost of Credit

The study checked the normality of the data set by looking at descriptive values of skewness and kurtosis. The skewness values obtained in the study indicate that the scores are skewed as many are negatively skewed and not that much closer to zero. The values range from -2 to +1 hence no skewness problems in the study. The kurtosis values also fall within the range of -2 to +3, and therefore do not display excessive kurtosis as well. These results suggest that the normality assumption is not violated in the study. Table 4.22 gives the results from the study.
Table 4.23 Normality Test for Cost of Credit

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Statistic</td>
<td>Statistic</td>
</tr>
<tr>
<td>Cost of Credit</td>
<td>120</td>
<td>-.303</td>
<td>.221</td>
</tr>
</tbody>
</table>

4.3.3.2 Linearity Test for Cost of Credit

The study conducted linearity test to determine whether the relationship between cost of credit and uptake of mobile loan was linear or not. The findings in Table 4.24 shows that there is a linear relationship between cost of credit and uptake of mobile loan ($F(26,93) = 1.025, p > .05$).

Table 4.24 Linearity Test for Cost of Credit and Uptake of Mobile Phone Loan

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cost of Credit</td>
<td></td>
<td>(Combined)</td>
<td>38.165</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>and Its Effect</td>
<td></td>
<td>Between</td>
<td>30.282</td>
<td>1</td>
</tr>
<tr>
<td>Growth of Groups</td>
<td></td>
<td></td>
<td>Linearity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobile Phone</td>
<td></td>
<td></td>
<td>Deviation</td>
<td>7.883</td>
<td>26</td>
</tr>
<tr>
<td>Loan Uptake</td>
<td></td>
<td></td>
<td>from Linearity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Within Groups</td>
<td></td>
<td></td>
<td>Total</td>
<td>27.511</td>
<td>93</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Total</td>
<td>65.676</td>
<td>120</td>
</tr>
</tbody>
</table>

4.3.3.3 Heteroskedasticity Test for Cost of Credit

The study findings had the homoscedasticity test evaluated for pairs of variables using the Levene statistic for the test of homogeneity of variances. The results are then given as shown in Table 4.25. From the study findings of test for homogeneity, the probability associated with the Levene Statistic ($<0.071$) is more than the level of significance ($0.05$) testing at 1-tail test 5% significance level, the researcher concludes that the variance is homogeneous for organizational culture.
Table 4.25 Homoscedasticity Test for Organizational Culture

<table>
<thead>
<tr>
<th>Levene Statistic</th>
<th>df1</th>
<th>df2</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.031</td>
<td>21</td>
<td>93</td>
<td>.071</td>
</tr>
</tbody>
</table>

4.5.4 Regression Tests

This section provides the R square value for regression model summary, F statistics for regression ANOVA and t statistics for regression coefficient for the linear relationship between cost of credit and uptake of mobile phone loan.

4.5.4.1 Model Summary

Table 4.26 presents the model summary for the regression analysis of cost of credit and uptake of mobile phone loan. The findings of the model summary specify that cost of credit variable explained about 67% of the variability in the uptake of mobile loan application ($R^2 = .669$).

Table 4.26 Model Summary for Linear Relationship between Cost of Credit and Uptake of Mobile Phone Loan

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.818a</td>
<td>.669</td>
<td>.511</td>
<td>.51607</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), cost of credit

4.5.4.2 Regression ANOVA

The linear regression F statistics shown in Table 4.27 indicates that there was a statistical and significant linear relationship between cost of credit and mobile phone loan uptake ($F (1,121) = 128.509, p < .05$).
Table 4.27 ANOVA for Linear Relationship between Cost of Credit and Uptake of Mobile Phone Loan

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>34.225</td>
<td>1</td>
<td>34.225</td>
<td>128.509</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>32.225</td>
<td>121</td>
<td>.266</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>66.450</td>
<td>122</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Uptake of Mobile Loan by the SMEs
b. Predictors: (Constant), Cost of Credit

4.5.4.3 Regression Coefficients

The regression coefficients presented in Table 4.28 indicates that cost of credit can statistically and significantly affect the uptake of mobile phone loans among the SMES ($\beta = -.755, t(122) = 11.336, p < .05$).

Table 4.28 Regression Coefficients for Linear Relationship between Cost of Credit and Uptake of Mobile Phone Loan

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>1.124</td>
<td>.244</td>
<td>4.611</td>
<td>.000</td>
</tr>
<tr>
<td>Cost of credit</td>
<td>-.755</td>
<td>.067</td>
<td>.718</td>
<td>11.336</td>
</tr>
</tbody>
</table>

a. Dependent Variable: uptake of mobile loan by the SMEs

The estimated regression equation from Table 4.28 is specified by:

$$Uptake\ of\ Mobile\ Loan = 1.124 + -0.755 \times \text{Cost of Credit}$$

The model shows that cost of credit can negatively affect the uptake of mobile phone loans, i.e. a unit mean index increase in cost of credit applied decreases the uptake of mobile phone loan by a negative mean index value of 0.755.
4.6 Chapter Summary

In this Chapter we have analyzed data for 385 respondents on factors affecting the growth in uptake of mobile phone loans. This chapter has concentrated at examining the findings indicating various relationships tested. The three research questions have been analyzed in three broad ways that is through descriptive analysis, correlation and linear regression. In determining the effect of business operation cost on the growth in uptake of mobile phone loans among small and medium sized enterprises trading in Nairobi CBD, a positive and significant effect has been revealed to that effect. Secondly, in evaluating the effect of loan accessibility on the growth in uptake of mobile phone loans among small and medium sized enterprises trading in Nairobi CBD, the study established a positive and significant effect. Lastly, in examining whether cost of credit has effect on growth in uptake of mobile phone loans among small and medium sized enterprises trading in Nairobi CBD, the findings revealed a positive and significant effect.
CHAPTER FIVE

5.0 SUMMARY, DISCUSSION, CONCLUSION AND RECOMMENDATION

5.1 Introduction

The study that aimed to investigate the factors affecting the growth of mobile phone loan uptake among small and medium traders in Nairobi Central Business District in Kenya has been summarized, concluded and recommendations made in this chapter.

5.2 Summary

The study set to investigate the factors affecting the growth of mobile phone loan uptake among small and medium traders in Nairobi Central Business District in Kenya. The study was conducted based on the following objectives; to establish the effect of business operation cost on the growth of mobile phone loan uptake among small and medium traders in Nairobi Central Business District; to investigate loan accessibility and its effect on the growth of mobile phone loan uptake; and to determine the cost of credit and its effect on the growth of mobile phone loan uptake.

The study used a descriptive survey research design. The target population for the study was 10,158 respondents from registered SMEs operating in the CBD where the study targeted 385 respondents from the SMEs operating in Nairobi CBD and gave a chance to only one business manager/owner from every SME to participate in the study. The sample population was selected using stratified random sampling technique. Data was collected using questionnaires and descriptive statistics used to describe the various demographic variables. Correlation and linear regression analyses techniques were used to determine the relationship and effect of business operation cost, loan accessibility, and cost of credit on the growth of mobile phone loan uptake in the small and medium enterprises. The study used the Statistical Package for Social Studies (SPSS) as a data analysis tool and the results were presented in the form of tables and graphs.

In terms of business operating costs effect on uptake of mobile phone loans, descriptive statistics results indicated that most of the respondents who participated in this study agreed that they usually borrow money from mobile phone applications to meet my labor costs (58%). Correlation analysis revealed that there was a negative, strong and statistically significant relationship between business operation cost and uptake of mobile
phone loans, $r (385) = 0.72, p < .05$. Linear regression analysis revealed that 63% of the variability in uptake of mobile phone loans was explained by business operation cost, which can statistically and significantly affected the uptake of mobile phone loans among the SMEs ($R^2 = .633, \beta = 0.867, t(122) = 14.454, p < .05$).

In terms of effect of loans accessibility on the uptake of mobile phone loans, descriptive statistics results indicated that most of the respondents who participated in this study agreed that the high collateral required by the financial institutions often kept them away from accessing loan for their business (55%). Correlation analysis revealed that there was a positive, strong and statistically significant relationship between loan accessibility and uptake of mobile phone loans, $r (331) = 0.718, p < .05$. Linear regression analysis showed that 63% of the variability in uptake of mobile phone loans was explained by loan accessibility, which can statistically and significantly affect the uptake of mobile phone loans among the SMEs ($R^2 = .633, \beta = 0.867, t(122) = 14.454, p < .05$).

In terms of effect of cost of credit on the uptake of mobile phone loans, descriptive statistics results indicated that most of the respondents who participated in this study agreed that the bureaucracy involved in the accessing of loans from the financial institutions have made the cost of credit to go up (56%). Correlation analysis showed that there was a positive, strong and statistically significant relationship between business cost of credit and uptake of mobile phone loans, $r (121) = 0.679, p < .05$. Linear regression analysis revealed that about 67% of the variability in the in uptake of mobile loan was explained by cost of credit, which can statistically and significantly affect the uptake of mobile phone loans among the SMEs ($R^2 = .669, \beta = -.755, t(122) = 11.336, p < .05$).
5.3 Discussion of Results

5.3.1 Business Operation Cost and Growth of Mobile Phone Loan Uptake

The study revealed that in terms of business operating costs effect on uptake of mobile phone loans, descriptive statistics results indicated that most of the respondents who participated in this study agreed that they usually borrow money from mobile phone applications to meet my labor cost. This is in agreement with Turner & Endres (2017) who also found out that business owner resources can include obtaining credit using innovating ways to meet the expenses associated with their business. The findings were also in agreement with the findings of Savić, Vasiljević, & Đorđević, (2014) whose study showed that costs are among the dynamic conditions of a business operation and are valuable to the business as it can be used to reflect the inefficiency of the business. Additionally, costs are linked to all efforts to improve the quality and innovations of a product, the delivery, the development of sales channels amongst other factors. The study established that the high business operation cost often make business owners to make borrowings aimed at meeting operation costs. The business faced various cost such as property, rent, electricity, telecommunications and logistics.

The study findings indicate that business owners often borrow money to meet their wages and salaries. This is supported by a study done by Gichuki, et al (2014) states that SMEs always find it difficult to provide wages and salaries for their employees at the start of the business therefore they tend to borrow cash from faster financial lenders with little interest. It is necessary for SMEs to have access to finance in order to be able to sustain their business. The finances will enable the SME traders to retain their work force which will consequently lead to traders incurring less labor cost and therefore gain better profit.

The study revealed that there was a strong, positive relationship between business operation cost and uptake of mobile phone loans. These findings are similar to the findings of Southern (2016) who also found that small businesses and startups need credit for to allow them to grow. This is because of the high costs of running small business within a high cost area as also supported by Gichuki, et al (2014) states that SMEs always find it difficult to provide wages and salaries for their employees at the start of the business therefore they tend to borrow cash from faster financial lenders with little interest. It is necessary for SMEs to have access to finance in order to be able to sustain
their business. The finances will enable the SME traders to retain their work force which will consequently lead to traders incurring less labor cost and therefore gain better profit.

The study revealed that business operation cost statistically and significantly affected the uptake of mobile phone loans. These findings are similar to the findings of Savić, Vasiljević, & Đorđević, (2014) who also found that the high business operation cost often make business owners to make borrowings aimed at meeting operation costs. This is because businesses face high operating costs such as cost such as property, rent, electricity, telecommunications and logistics. This finding is also supported by Gichuki, et al (2014) who stated that SMEs always find it difficult to provide wages and salaries for their employees at the start of the business therefore they tend to borrow cash from faster financial lenders with little interest. It is necessary for SMEs to have access to finance in order to be able to sustain their business.

5.2.2 Loan Accessibility and the Growth of Mobile Phone Loan Uptake

The findings revealed that there is significant effect of loans accessibility on the uptake of mobile phone loans. The descriptive statistics results indicated that most of the respondents who participated in this study agreed that the high collateral required by the financial institutions often kept them away from accessing loan for their business. This is in agreement with the findings of Duarte, et al (2016) who established that most business often go for loans due to their accessibility. He found that small business traders are usually faced with high collateral requirements from financial institutions that use the high collateral as a substitute for their lack of information of the SME traders and their ability to repay the loans. He defines collateral as an asset that a borrower uses to secure a loan from the lender implying that in case of default on the part of the borrower, the lender can dispose the asset to recover their money. He also noted that most SMEs’ do not have tangible assets that they can use to secure their loans hence their borrowing is limited. Lending loans to SMEs is viewed as a risky endeavor, and therefore have low trust in SMEs which consequently leads to high collateral and lending requirements which SMEs cannot meet. The findings indicated that the high interest rates given by the financial institutions have made cost of credit to go up thus difficulty in accessing loans. This study is also in agreement with Gichuki, et al (2014) who stated that SMEs always find it difficult to provide wages and salaries for their employees at the start of the business therefore they tend to borrow cash from faster financial lenders with little
interest. It is necessary for SMEs to have access to finance in order to be able to sustain their business. The finances will enable the SME traders to retain their workforce which will consequently lead to traders incurring less labor cost and therefore gain better profit.

The study revealed that the loan accessibility statistically and significantly affected the uptake of mobile phone loans. This is in agreement with the findings of Duarte, et al (2016) who established that most business often go for loans due to their accessibility. He found that small business traders are usually faced with high collateral requirements from financial institutions that use the high collateral as a substitute for their lack of information of the SME traders and their ability to repay the loans.

The study revealed that there was a strong, positive relationship between loan accessibility and uptake of mobile phone loans. These findings are similar to the findings of Duarte, et al (2016) who also found that most business often go for loans due to their accessibility. This is because small business traders are usually faced with high collateral requirements from financial institutions that use the high collateral as a substitute for their lack of information of the SME traders and their ability to repay the loans. This finding is also supported by Cowling, Matthews and Liu (2017) who found that in the normal course of lending, loan contracts will include other parameters such as collateral requirements and restrictive covenants. The role of collateral in the case of the SMEs is crucial in the sense that one of the schemes’ key objectives is to support smaller firms with viable lending proposals who are debt constrained by a lack of assets. They observed that in a substantial number of cases the borrower will have a collateralized loan running alongside an SME loan.

The study revealed that loan accessibility statistically and significantly affected the uptake of mobile phone loans. These findings are similar to the findings of Duarte, et al (2016) who also found that loan accessibility statistically and significantly affected business owners borrowing decisions. This is because most business often go for loans due to their accessibility as also supported by Nyarku and Oduro (2018), who conducted a study to investigate the role of credible financial information and its interaction with a country’s legal and regulatory environment on the access of small- and medium-sized enterprises (SMEs) to diversified sources of finance in 129 developing countries.
5.2.3 Cost of Credit and Growth of Mobile Phone Loan Uptake

The findings revealed that there is significant effect of loans accessibility on the uptake of mobile phone loans, descriptive statistics results indicated that most of the respondents who participated in this study agreed that the bureaucracy involved in the accessing of loans from the financial institutions have made the cost of credit to go up. The study findings established that despite the high cost of credit many small businesses go for the mobile phone loans that are easier to obtain and pay back. It is believed that SMEs traders are not too sensitive to the level of rates at which they borrow. It is further assumed that their main interest is on accessing the loan. Access to funding is regarded more important because it enables SMEs to accrue very high profitability levels. This is in agreement with Rostamkalaei and Freel (2016) who conducted a UK Survey of SME finance and found that growth firms are discriminated on price in loan markets, or, more simply, the extent to which growth firms pay more for credit. They found that higher credit prices may be a more substantial growth constraint than the access to finance issues that have dominated the academic literature to date. The finding is also in agreement with Nakhaima (2016) who found that Small and Medium Enterprises face various financial challenges which range from high cost of credit to high bank charges and fees. Among the bank charges imposed on borrowers include; arrangement fees which is also referred to as completion fees or booking fee. Mukuria (2014) also supports this finding when he stated that financial constraints are higher in developing countries in general, but SMEs are particularly constrained by gaps in the financial system such as high administrative costs.

The study revealed that there was a strong, negative relationship between cost of credit and uptake of mobile phone loans. These findings are similar to the findings of Nakhaima (2016) who also found that Small and Medium Enterprises face various financial challenges. This is because the SME’s cost of credit was high due to a range charges from high loan interest rates to high bank charges and fees area as also supported by Rostamkalaei and Freel (2016) who conducted a UK Survey of SME finance and found that growth firms are discriminated on price in loan markets.

The study revealed that cost of credit statistically and significantly affected the growth in the uptake of mobile phone loans. These findings are similar to the findings of Kisseih (2017) who also found that there is a challenges faced by SMEs in accessing funds. This
is because high interest rates on loans, bureaucracy, lack of knowledge about lending criteria and difficulty about finding out about the available finance lending institutions. This finding is also supported by Msangula (2015) who revealed that SMEs hold cash reserves as a way of trying to safeguard against the interest rate risk that may increase. It observed that cash reserves do offset interest rate risk. The higher interest rate results to the cost of loans going up which will have a knock on effect on the people’s disposable income. With a high interest rate, SMEs traders are not able to effectively operate their business as they would not have sufficient amount to capital. Other than discouraging traders from taking loans, another ripple effect of high interest rate is that it discourages savings.

5.4 Conclusion

5.4.1 Business Operation Cost and Growth of Mobile Phone Loan Uptake.
The conclusion drawn in this study is that business operating cost has an effect on the growth in uptake of mobile phone loans. This is mainly due to the high business operating costs of the SMEs in Nairobi CBD. The SME need funding to meet their operating cost obligations such as property, rent, electricity, telecommunications and logistics in order to be able to sustain their business.

5.4.2 Loan Accessibility and Growth of Mobile Phone Loan Uptake
Loan accessibility has a significant effect on the growth of mobile phone loan uptake. This is driven by the ease and speed of access to credit by small and medium sized enterprises as opposed to formal lenders who demand collateral and paperwork before granting credit. The demand for credit is also driven by the need to meet operating costs. The small and medium sized enterprises do not seem to be deterred by the cost of credit as long as they have access to the loans.

5.4.3 Cost of Credit and Growth of Mobile Phone Loan Uptake
Conclusion drawn by this study is that the cost of credit is considered to be high by most SME owners. In spite of the high cost of credit, many small businesses go for the mobile phone loans that are easier to obtain and pay back. The SME traders are not too sensitive to the level of rates at which they borrow as their main concern is access to credit. SMEs are discriminated on price in loan markets and are charged higher fees and interest rates by banks to compensate for the risk associated with lending to the small and medium sized businesses.
5.5 Recommendation

5.5.1 Recommendations for Improvement

5.5.1.1 Business Operation Cost and Growth of Mobile Phone Loan Uptake
Due to the effect that business operating costs has on the growth in uptake of mobile phone loans. We recommend that incentives be granted to SMEs to enable them reduce their operating costs. The incentives can be in form of reduction of taxes, duties and cost of licenses and permits. This would have the impact of reducing their overall costs and thereby reducing the pressure to get expensive financing.

5.5.1.2 Loan Accessibility and Growth of Mobile Phone Loan Uptake
Loan accessibility has a significant impact on the growth of mobile phone loan uptake due to the bureaucracy, documentation requirements and high collateral values. The project recommends that banks and other lending institutions should work on their products to make them more accessible to SMEs that consider them less accessible. The lending institutions need to reduce the bureaucracy involved in obtaining their loans, they need to reduce the value and types of collateral requirements and they also need to reduce the amount of time taken in obtaining the loan from the application date.

5.5.1.3 Cost of Credit and Growth of Mobile Phone Loan Uptake
The cost of credit by mobile lenders is considered to be very high, however the loans are accessible from the mobile lenders as opposed to formal banking institutions. The study recommends that the government should control the cost of credit offered by the mobile phone lending institutions. This is a major source of funding for the SMEs as they have difficulty in meeting the many documentation and collateral requirements from the main stream financial institutions.

5.5.2 Recommendations for Further Research
The mobile phone loans phenomenon in the Kenyan market, just like the introduction of mobile money transfers, has had a great impact in the economy and the Kenyan society at large. The study recommends that further research should be conducted in the following areas; the impact of interest capping law on the growth of mobile phone loans; the impact of digital gambling on the growth of mobile phone loans; the impact of mobile phone loans on economic growth; and the impact of mobile phone loans on the financial performance of banks.
REFERENCE


Kimaiyo, D. (2016). *Factors limiting small and medium enterprises access to credit in uasin gishu county , kenya a research project submitted in partial fulfillment of the requirements for the award of a master of business administration , university of nairobi .*


Zachary, L. N. (2015). *The Effect of Interest Rates on Demand for Credit By Small Medium Enterprises in Nairobi County a Research Project Submitted in Partial Fulfillment of the Requirements of the Degree of Master of Business Administration in the University of Nairobi.*


APPENDIX I: LETTER OF INTRODUCTION TO RESPONDENTS

July 2019

Dear Respondent,

**RE: REQUEST TO PARTICIPATE IN AN DATA COLLECTION**

I am a student at the United States International University Africa pursuing Degree of Masters in Business Administration (MBA). I am required to conduct a study in order to complete this academic program. I have to study **FACTORS AFFECTING THE GROWTH OF MOBILE PHONE LOAN UPTAKE AMONG SMALL AND MEDIUM TRADERS IN NAIROBI CENTRAL BUSINESS DISTRICT.** The result of this study is envisioned to provide information that will be beneficial to foster the growth and development of small and medium business in Nairobi County. Your contribution to this research is valuable and shall be used purposively for research purposes. With regards to this study you have been identified as a potential respondent.

Kindly spare a few minutes of your time to fill to the questionnaire with utmost honesty. The information provided will be treated with confidentiality and will only be used for the purpose of this study.

Thank you for your kind consideration and participation.

Regards,

MINUDI O. LORE


Student.
APPENDIX II: QUESTIONNAIRE

Kindly put a tick (/) where appropriate.

SECTION 1: GENERAL INFORMATION

1. How old are you?
   - Below 25yrs [ ]
   - 26-35yrs [ ]
   - 36-45yrs [ ]
   - 46-55yrs [ ]
   - Above 56yrs [ ]

2. What is your gender?
   - Male [ ]
   - Female [ ]

3. What is your level of education?
   - Primary [ ]
   - Secondary [ ]
   - Tertiary [ ]
   - Degree [ ]
   - Masters [ ]

4. How long have you been in this business?
   - Less than 1yr [ ]
   - 1-5yrs [ ]
   - 5-10yrs [ ]
   - 10-15yrs [ ]
   - Above 15yrs [ ]

5.0 Monthly Income

What is your estimated monthly income from the business?
   - 50,000 and below [ ]
   - 51,000 to 99,000 [ ]
   - 100,000 to 300,000 [ ]
   - 301,000 to 499,000 [ ]
   - 500,000 and above [ ]
5. What is your primary source of Capital? (Tick whichever applicable).

<table>
<thead>
<tr>
<th>Sources</th>
<th>(Tick)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banks</td>
<td></td>
</tr>
<tr>
<td>Cooperatives</td>
<td></td>
</tr>
<tr>
<td>Relatives and Friends</td>
<td></td>
</tr>
<tr>
<td>Government Institutions/Aencies</td>
<td></td>
</tr>
<tr>
<td>Employer</td>
<td></td>
</tr>
<tr>
<td>Micro finance institutions</td>
<td></td>
</tr>
<tr>
<td>Own savings</td>
<td></td>
</tr>
<tr>
<td>None of the above</td>
<td></td>
</tr>
</tbody>
</table>

SECTION 2: BUSINESS OPERATION COST AND ITS EFFECT ON THE GROWTH OF MOBILE PHONE LOAN UPTAKE

Please indicate on a scale of 1 to 5, by ticking the appropriate box, the level to which you agree or disagree with the statements below Where 1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree and 5= Strongly Agree

<table>
<thead>
<tr>
<th>Business Operations Cost</th>
<th>Level of Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>The high cost of rent often make me borrow money from mobile phones to pay for my rent</td>
<td></td>
</tr>
<tr>
<td>I usually borrow money from mobile phone applications to meet my labor cost</td>
<td></td>
</tr>
<tr>
<td>The high cost of purchasing goods and services for sale often leads me into borrowing from mobile phone loan applications.</td>
<td></td>
</tr>
<tr>
<td>We usually borrow from the mobile phone loan applications to meet the high cost of marketing our products</td>
<td></td>
</tr>
<tr>
<td>High cost incurred by our sales team often push us into serious</td>
<td></td>
</tr>
</tbody>
</table>
6. How often do you borrow from mobile loan applications to meet your business operation cost?

- Weekly [  ]
- Monthly [  ]
- Yearly [  ]
- Not regular [  ]
- Never [  ]

7. Rate the credit services offered by the mobile loan applications in meeting your business operation cost?

- Poor [  ]
- Average [  ]
- Neutral [  ]
Effective [ ]
Very effective [ ]

9. Which one of the following business operation costs often leads you to uptake of mobile phone loans?
Rent cost [ ]
Labor cost [ ]
Product cost [ ]
Market cost [ ]
Legal cost [ ]

SECTION 3: LOAN ACCESSIBILITY AND ITS EFFECT ON THE GROWTH OF MOBILE PHONE LOAN UPTAKE
Please indicate on a scale of 1 to 5, by ticking the appropriate box, the level to which you agree or disagree with the statements below Where 1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree and 5= Strongly Agree

<table>
<thead>
<tr>
<th>Loan Accessibility</th>
<th>Level of Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>The high collateral required by the financial institutions often keeps me away from accessing loan for my business</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>The duration taken to process a loan from the financial institutions has always made me discontinue loan application process</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>The loan requirements have always made me discontinue the loan application process</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Longer period of time taken by the banks in processing loans have made me keep off loans whenever am in need of it</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>The distance I have to travel to access banks have discouraged</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>
10. Which of the following applications have you used the most in your borrowing?

M-Shwari [ ]
Equitel [ ]
KCB-Mpesa [ ]
Safaricom Fuliz [ ]
Others [ ]

11. How long does your loan take to mature?

Less than 1 day [ ]
2-5 days [ ]
More than a week [ ]
Instant [ ]

12. Are there any requirements for mobile phone loan uptake?
Yes [ ]
No [ ]

Please Explain………………………………………………………………………………
………………………………………………………………………………………………
………………………………………………………………………………………………

SECTION 4: COST OF CREDIT AND ITS EFFECT ON THE GROWTH OF MOBILE PHONE LOAN UPTAKE

13. Please indicate on a scale of 1 to 5, by ticking the appropriate box, the level to which you agree or disagree with the statements below Where 1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree and 5= Strongly Agree

<table>
<thead>
<tr>
<th>Cost of Credit</th>
<th>Level of Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>The loan arrangement fees have increased the cost of accessing loans from the financial institutions</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>The commissions charged on loans from financial institutions have made my accessibility of loans difficult</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>The high interest rates given by the financial institutions have made the cost of credit to go up thus difficulty in accessing loans</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>The bureaucracy involved in the accessing of loans from the financial institutions have made the cost of credit to go up</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>The cost involved in travelling longer distances to access banks have made the cost of credit to go up</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Effect on Growth of Mobile Phone Loan Uptake</th>
<th>Level of Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>The lack of loan arrangement fees from the mobile loans have improved the performance and growth of my business as I</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>
14. Do you think the low cost nature of mobile phone loans contributes to high mobile phone loan uptake among SMEs?

Yes ☐  
No ☐

Explain ………………………………………………………………………………………………………..

15. Have you ever opted out of a loan process due to the high cost involved in its application process?

Yes ☐  
No ☐

16. Have you ever had a poor business performance due to the high interest loan you took for your business?

Yes ☐  
No ☐

Explain your response above……………………………………………………………………

have been able to finance my business operations effectively

The growth of my business is attributed by the cheap loans I get from the mobile phone loans due to lack of commission charged on the loans

The low interest rates given by the mobile phone loans have made my business grow

The lack of bureaucracy by the mobile phone loans have made me access the loan at any time at a low cost thus promoting the growth of my business

The growth of my business is attached to the fact that I no longer have to travel longer distances to access loan credits as I easily access loan credit from the phone
APPENDIX III: LETTER OF AUTHORITY FROM USIU

TO WHOM IT MAY CONCERN.

31ST JULY, 2019

Dear Sir/Madam,

REF: PERMISSION TO CONDUCT RESEARCH – MINU/IDI LORE

STUDENT ID. NO. 619286

The bearer of this letter is a student of United States International University (USIU)-Africa pursuing a Global Executive Master of Business Administration.

As part of the program, the student is required to undertake a dissertation on the “Factors Affecting the Growth of Mobile Phone Loan Uptake Among Small and Medium Traders in Nairobi Central Business District,” which requires him to collect data.

Please note that information provided will be treated with utmost confidentiality and will only be used for academic purposes.

Kindly assist the student get the appropriate data and should you have any queries contact the undersigned.

Yours Sincerely,

[Signature]

Prof. Amos Njuguna,
Dean – School of Graduate Studies, Research and Extension
Tel: 730 116 442
Email: arnjuguna@usiu.ac.ke

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APPENDIX IV: LETTER OF AUTHORITY FROM NACOSTI

This is to certify that Mr. Minudi Lore of United States International University Africa, has been licensed to conduct research in Nairobi on the topic: FACTORS AFFECTING THE GROWTH OF MOBILE PHONE LOAN UPTAKE AMONG SMALL AND MEDIUM TRADERS IN NAIROBI CENTRAL BUSINESS DISTRICT for the period ending: 20/August/2020.

License No: NACOSTI/P/15/819

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR
SCIENCE, TECHNOLOGY & INNOVATION

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