CREDIT MANAGEMENT STRATEGIES AND SUSTAINABILITY OF DIGITAL LENDING APPLICATIONS IN KENYA

BY

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D53/CTY/PT/37305/2016

A RESEARCH PROJECT SUBMITTED TO THE SCHOOL OF BUSINESS IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION IN STRATEGIC MANAGEMENT OF KENYATTA UNIVERSITY

AUGUST, 2020
DECLARATION

This research project is my original work and has not been presented for a degree in any other university.

Signature: … Date:..09/04/2021

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This research project has been submitted for examination with my approval as the Supervisor.

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AKNOWLEDGEMENT

I take this opportunity to thank all the people who assisted in putting a foundation for this research project. First of all, much gratitude goes to my supervisor who patiently guided me through this research process. I also extend my sincere gratitude to my fellow students for their cooperation, sharing and assistance. Many thanks go to my family, friends and colleagues for their understanding during my busy engagement in the study.
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**OPERATIONAL DEFINITION OF TERMS**

<table>
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<tr>
<th>Term</th>
<th>Definition</th>
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<tr>
<td>Credit</td>
<td>The credit appraisal strategy refers to the strategy of assessing whether a loan should be given or not and the limit if given</td>
</tr>
<tr>
<td>Appraisal strategy:</td>
<td></td>
</tr>
<tr>
<td>Credit Management Strategy:</td>
<td>Credit management strategy is the strategy used by an organization to ensure that the level of credit in the firm is acceptable and it is managed effectively, it is an integral part of financial management that comprises of the analysis of credit, rating of credit, classification and reporting of credit</td>
</tr>
<tr>
<td>Debt Collection Strategy:</td>
<td>Debt collection strategy is an organized plan of action on the various collection methods and tools to be used to pursue and recover debt</td>
</tr>
<tr>
<td>Digital Lending Applications</td>
<td>This refers to Google play store listed Digital Lending Applications in Kenya that lend money with no collateral and do not require the borrowers to save with them first, they are non-deposit taking. Digital lenders take a variety of forms. The most commonly used involve partnerships between mobile network operators (MNOs), which manage mobile money wallets and agent networks, and banks, which provide loans and assess creditworthiness using data from the MNOs. A second configuration involves an MNO partnering with a nonbank financial institution. And the third configuration, lenders operate and</td>
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lend through smartphone-based Applications. This study has examined the digital lenders that use the smartphone-based lending Applications.

**Pricing**

This refers to cost of capital. It is the amount paid over and above the loaned amount.

**Sustainability:**

It means meeting the present needs without compromising the ability to meet future needs.
## ABBREVIATIONS AND ACRONYMS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tr>
<td>ATM</td>
<td>Automated Teller Machine</td>
</tr>
<tr>
<td>CGAP</td>
<td>Consultative Group to Assist the Poor (The World Bank)</td>
</tr>
<tr>
<td>CRB</td>
<td>Credit Reference Bureau</td>
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<tr>
<td>CBK</td>
<td>Central Bank of Kenya</td>
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<tr>
<td>KYC</td>
<td>Know Your Customer</td>
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<td>MFI</td>
<td>Micro Finance Institution</td>
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<tr>
<td>MNOs</td>
<td>Mobile Network Operators</td>
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<tr>
<td>NPL</td>
<td>Non-Performing Loans</td>
</tr>
<tr>
<td>SPSS</td>
<td>Statistical Package for the Social Sciences</td>
</tr>
<tr>
<td>M-PESA</td>
<td>Mobile phone-based money transfer service, payments and micro-financing service</td>
</tr>
<tr>
<td>Mshwari</td>
<td>Mobile lending and savings services offered through M-PESA</td>
</tr>
<tr>
<td>KCB</td>
<td>Kenya Commercial Bank</td>
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<tr>
<td>US$</td>
<td>United States Dollar</td>
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ABSTRACT

The sustainability of the rapid emergence and uptake of Digital Lending Applications in Kenya is worrying; Majority of Digital Lending Applications in Kenya deal with personal loans which are unsecured and therefore lenders charge a higher interest rate because of the higher risk nature of their customers and thereafter use aggressive debt collection techniques, this have led to calls from the general public, policy-makers and the CBK for the regulation of Digital Lending Applications. If the current status continues where millions of Kenyans are listed with CRB it will be to the detriment of Digital Lending Applications investors who will lose their investments and it will eventually lead to closing down of Digital Lending Applications which will be a backward trend to the innovative and inclusive idea Digital Lending Applications bring to Kenyans in comparison to the traditional financial institutions. The main objective of this study was to look at the credit management strategies of Digital Lending Applications in Kenya and how they affect the sustainability of Digital Lending Applications in Kenya. This study employed descriptive research design techniques in collecting, analysing, interpreting and presenting the information. Descriptive research design showed the relationship between credit management strategies and sustainability of Digital Lending Applications in Kenya. The study’s population was the Digital Lending Applications listed in the android software that are operating in Kenya. The study collected both primary and secondary data based on the objectives of the study. Data collection started by obtaining a letter from the Kenyatta University introducing the researcher to the lending firms. The letter was used to accompany the questionnaires and interview guides for data collection, the respondents were the loan appraisal officers, credit staff and accounting staff employed by the Digital Lending Applications in Kenya. The collected data was analysed using Statistical Package for Social Sciences (SPSS) and Microsoft excel programs, inferential statistics were applied, and multiple regressions employed to test the relationship between credit management strategies and sustainability of Digital Lending Applications in Kenya. Figures and tables were used to present the data. The study found that credit appraisal strategies positively and significantly influence sustainability of Digital Lending Applications in Kenya; pricing strategies positively and significantly influence sustainability and that debt collection strategies positively and significantly influence sustainability. The recommendation of the study is that Digital Lending Applications in Kenya should improve their client appraisal techniques to lower their non-performing loans. Having a well-performing loan portfolio will improvement their financial performance and hence their sustainability. Digital Lending Applications in Kenya have incurred loan losses through lenient standards of lending. The study thus recommends Digital Lending Applications in Kenya to improve the way they deal with risk accruing from credit by improving their credit risk controls; this can be done by having an updated assessment database with a profile of prospective and current borrowers and guarantors, it should show a of history repayment patterns and cash flow records of the borrower. The database can be shared among financial institutions and other lending companies to be used during the credit appraisal process; this can improve the quality of their loan books.
CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Recently there have been emphasis on the management’s approach in sustainable thinking; Corporations are now focusing on adopting sustainability as an organizational strategy and making it an integral part of the firm’s strategies for the purpose of maintaining profitability (Enquist et.al. 2007; Epstein 2008). When a company is sustainable it means that the business has put appropriate systems and processes to enable the business to continuously offer services to its customers. Various factors determine sustainability including; pricing, costs of funds, administrative overheads, loan losses or portfolio quality, and inflation. Controlling of these determinants varies and also is their significance (Khabeer, 2006).

The sustainability of the rapid emergence and uptake of Digital Lending Applications is worrying, consumer protection on these digital loans are still wanting and protection on borrowers are very few, evidence show that majority of the borrowers lack understanding on loan terms (McKee et al. 2015). Although evidence has shown that there is high consumer interest in loans, it is a challenge to get a precise measure on rates of demand globally. An example is that of M-Pewa operating in Tanzania which reported that in the first two years of its operations they advanced loans to a total of 4.9 million individuals (Aglionby, 2016). Based on 2015 statistics in Kenya, 1 out of 5 individuals used M-shwari which is a product that offers credit (Cook and McKay, 2015). The loan amounts a relatively low with the average loan sizes been US$30–50 in both countries, despite the loan amounts varying and increasing with history of good repayment, repayment periods is always approximately 4 weeks (Hwang and Tellez-Merchan 2016).
Globally, management of credit is one of the crucial practices used by any company and any economic enterprise that deals with credit, irrespective of its business nature, will not overlook it. According to Myers and Brealey (2003) credit management refers to strategies and techniques embraced by companies in ensuring that they maintain maximum credit levels and also ensure its management is effective. The strategy used in credit management affect the process of identifying credit default which is responsible for high rates of defaulting, decreased cash flow, low levels of liquidity, decline in loan provision and financial distress. According to Scheufler (2002), a company is able to earn financial returns by having credit policies, standards and procedures for conducting appraisals. In Kenya, a study conducted by Mureithi (2010) in his research established that there are a number of reasons why an institution conducts credit appraisal and one of the reasons is that appraisal is used as a selection tool, is used in quantifying risk, aids in decision making, and also makes sure that the quality of business is good and that credit worthiness is excellent. Documentation process is important as it helps the lending firm in making a choice on whether or not to give credit and it is also important in cases of defaulting because the lender uses it in legal follow-up. In Kenya, the mandatory documentations required by the financial institutions under Know Your Customer (KYC) are; proof of physical address, valid passport, voter's card, electricity or water bill, a letter from employer, personal identification number or driving licenses, and in some cases introduction or verification of details by an existing customer.

Majority of Digital Lending Applications deal with personal loans that are unsecured and therefore lenders charge a higher interest rate because of the higher risk nature of their customers. In Kenya the interest rates charged by Digital Lending Applications are relatively higher in comparison to the interest rate charged by other financial institution. The bank’s interest rate charged has been capped to 4 points above the rate by Central Bank and was
therefore maintained at 9-10% (for a total of about 13–14% interest rate per annum) since the cap was instated (Central Bank of Kenya, 2016). On the other side of digital lending, Equity’s Eazzy Loan charges an interest rate of 14.5 % with an addition of 1% as insurance fee; Safaricom’s M-Shwari charges 7.5% interest per month; and KCB M-Pesa lends at an interest of 3.91% per month. Despite these type of loans charging high interest rates and helping customers who are experiencing liquidity constraints in their time of need (Karlan & Zinman 2010; Morse 2011), they also have negative effects which in the long run causes bankruptcy and over-indebtedness (Skiba and Tobacman 2009), causing challenges in loan payments (Melzer 2011). According to a study by Microsave 2017, approximately 2.7 million individuals in Kenya had been listed in CRB in the three years prior to the study.

However in order to ensure efficiency in management of credit there are several policies that are put in place by institutions. Collection policy is one of them and is necessary since not all borrowers are punctual in repayment of their loans. There are borrowers who are non-payers and others are slow in payers. Therefore, collection efforts are meant to accelerate collection from those payers who are slow and reduce losses from non-payers (Kariuki, 2010). Collection policies are meant to ensure collection is done regularly and is prompt. It is required to ensure that turnover for working capital is earned fast and also maintains bad debts and collection costs at its minimum. These policies need to clearly put across the procedures to be followed for collection. The procedures for fast dues need to be unambiguously established. Handling of slow payers should be tactful. However having clearly established collection policies, dealing of individual cases should be done based on their terms. There are those customers who are willing to pay their loan but their current situation cannot allow them. The only time these customers can be applied the policies is when they are out of their financial dilemma or it has been established that they do not intend to pay promptly (Pandey, 2010).
1.1.1 Sustainability

Sustainability focuses not just on the firm but also considers the performance of the suppliers and customers that exist in the value chain (Fiksel et.al, 1999). When a company is sustainable it means that the business has put appropriate systems and processes to enable the business to continuously offer services to its customers. Recently there have been emphasis on the management’s approach in sustainable thinking; Corporations are now focusing on adopting sustainability as an organizational strategy and making it an integral part of the firm’s strategies for the purpose of maintaining profitability (Enquist et.al., 2007; Epstein 2008).

The sustainability of the rapid emergence and uptake of Digital Lending Applications is worrying. Particularly when it comes to how they price their loans and the credit management strategies that they use, Digital Lending Applications charge high interest rates as compared to the interest rate charged by other financial institutions. In Kenya, Central Bank has capped the interest rates charged by banks to 4 points above the Central Bank rate hence interest rates are maintained at 13–14% interest rate per annum since the cap was instated (Central Bank of Kenya, 2016). On the other side of digital lending, Equity’s Eazzy Loan charges an interest rate of 14.5 % with an addition of 1% as insurance fee; Safaricom’s M-Shwari charges 7.5% interest per month; and KCB M-Pesa lends at an interest of 3.91% per month. The Digital Lending Applications e.g., Branch and Tala charges even more (Microsave, 2017). Despite these types of loans charging high interest rates and helping customers who are experiencing liquidity constraints in their time of need (Karlan & Zinman 2010; Morse 2011), they also have negative effects which in the long run causes bankruptcy and over-indebtness (Skiba and Tobacman 2009), causing challenges in loan payments (Melzer 2011). At the same time, consumer protection on these Digital Lending Applications are still wanting – protection on borrowers are very few and evidence show that majority of the borrowers lack understanding on loan terms.
(McKee et al. 2015). According to a study by Microsave 2017, approximately 2.7 individuals in Kenya had been listed in CRB in the three years prior to the study.

Sustainability is the business ability to generate sufficient income to cater for its operational costs on a continuous basis. Various factors determine sustainability including; pricing, costs of funds, administrative overheads, loan losses or portfolio quality, and inflation. Controlling of these determinants varies and also is their significance (Khabeer, 2006). Therefore, based on the definition the sustainability of a lending institution is influenced by loan repayments, business cost of operation, interest rates in the market, quality of portfolio and cost of capital. Banker’s opinion on MFIs performance is that it involves performance of the institution and its financial viability (Sharma and Nepal, 1997). The key to financial performance of Digital Lending Applications is adequate interest rates to cater for the operating cost, loan losses, as well as provide a return on investment for the investors. At the same time, Digital Lending Applications must operate efficiently enough to offer affordable and competitive interest rates to survive among other more financially superior financial institutions like banks, Microfinance Institutions and Saccos etc. maintain a competitive edge.

1.1.2 Credit Management Strategy

Globally, management of credit is one of the crucial practices used by any company and any economic enterprise that deals with credit, irrespective of its business nature, will not overlook it. This is the process of ensuring that clients will pay for the service offered or product delivered to them. According to Myers and Brealey (2003) credit management refers to strategies and techniques embraced by companies in ensuring that they maintain maximum credit levels and also ensure its management is effective.
In Sweden, a study by Ara, Bakaeva and Sun (2009) established that credit management strategies and Digital Lending Applications performance are positively related. In another study by Saeed and Zahid (2016) credit management strategies positively related with performance of digital lending Applications. Ogboi and Unuafe (2013) established that sound credit risk management and capital adequacy had a positive effect on performance of Digital Lending Applications; further the lending applications were found to be negatively affected by advances and loan expectations.

Halling and Hayden, (2006) states that the strength of the financial sector is an important prerequisite to ensure the stability and growth of economy, In Nigeria for example; financial inclusion has been put in place by availing finances through banks and the Digital Lending Applications. There has also been effective performance of the digital lending Applications as a result of the initiatives developed by the country to ensure its success. Development of regulations has been evolutionalized; according to all three Basel Accords, have placed banks onus and lending applications to explicitly embrace the practice of managing credit internally for the purpose of assessing requirements for adequacy of capital.

Ruziqa (2013) researched on liquidity and credit risk on financial performance among South Africa’s conventional banks and established that they was a negative relationship between performance and credit risk among the institutions although there was a positive relationship between performance and liquidity risk. An empirical analysis on the effects of credit risk on performance of Nigeria’s lending Applications was conducted by Olalere and Ahmad (2015). From the findings, it was established that performance and NPLs ratios were negatively and significantly related; also, the ratio of debt to equity was negatively and significantly related to performance. From the research conducted, there were no conclusive findings and therefore this area of research is worth investigating further.
1.1.3 Digital Lending Applications in Kenya

In Kenya, the start of digital lending was back in 2012 with the introduction of *M-Shwari* which was five years after *M-Pesa* mobile money service was launched. The initial arrangement involved banks partnering with mobile network operators in order to provide digital loans and at first they were fixed on savings. Since then, there has been an increase in digital lending applications that offer loans. For example, *Tala* and *Branch*, apply the use of various features such as GPS, data on social networks, call logs, and contacts list which is accessed with the authorization of the user; information obtained is used in assessing credit risk of the borrower and tailoring loan offers (for instance, reducing the rate of interest once the user has built credit history) (Paul and Edoardo, 2018).

In Kenya, there is no data on performance of Digital Lending Applications mainly because providers of non-deposit taking service are unlicensed and not regulated by Central Bank of Kenya. This suggests that these lenders are not subjected to abiding by the 2016 law on interest rate caps which limited the rate of interest on credit to 4% above the reference rate by the central bank. However, there have been calls from the policy-makers and the CBK in the past few months lobbying for the regulation of Digital Lending Applications mostly because of the high interest rates they charge and the aggressive debt collection techniques they have been using.

Digital lending applications have a unique business model compared to traditional credit. Kaffenberger, Michelle, and Edoardo (2018) highlight three distinctive features; first, application process to approval of loan application is done almost instantly. The second difference is that loan application is automated; this is mainly because digital credit makes use of data history of the user (such as airtime top-ups, mobile phone call records, and app-based
data (on smartphones) to generate credit scores, instead of depending on traditional techniques for calculating credit scores. Third, processing of loans is done remotely and therefore the applicant is not required to avail themselves physically in any store or agent.

In a study done by Cook and McKay (2015), it was noted within the first 3 years of *M-Shwari* launch in Kenya one fifth of the subscribers (approximately 4.5 million people) were using the digital credit product. Hwang and Tellez-Merchan (2016) noted that the average loan sizes is US$30–50, but at times they fluctuate and increases if repayment history is positive, repayment periods are usually within 4 weeks. The Kenya Financial Diaries further showed that low-income Kenyans are often active money managers who use an average of 17 different financial devices from both formal and informal institutions (FSD Kenya, 2015).

### 1.2 Statement of the Problem

The sustainability of the rapid emergence and uptake of Digital Lending Applications in Kenya is worrying, consumer protection on these digital loans are still wanting and protection on borrowers are very few, evidence show that majority of the borrowers lack understanding on loan terms (McKee et al. 2015). In Kenya, there is no data on performance of Digital Lending Applications mainly because providers of non-deposit taking service are unlicensed and not regulated by Central Bank of Kenya. This suggests that these lenders are not subjected to abiding by the 2016 law on interest rate caps which limited the rate of interest on credit to 4% above the reference rate by the CBK. However, there have been calls from the policy-makers and the CBK in the past few months lobbying for the regulation of Digital Lending Applications mostly because of the high interest rates they charge and the aggressive debt collection techniques they have been using.
Majority of digital lending applications deal with personal loans which are unsecured and therefore lenders charge a higher interest rate because of the higher risk nature of their customers. In Kenya the interest rates charged by Digital Lending Applications are relatively higher in comparison to the interest rate charged by other financial institution. The bank’s interest rate charged has been capped to 4 points above the rate by Central Bank and was therefore maintained at 9-10% (for a total of about 13–14% interest rate per annum) since the cap was instated (Central Bank of Kenya, 2016). On the other side of digital lending, Equity’s Eazzy Loan charges an interest rate of 14.5 % with an addition of 1% as insurance fee; Safaricom’s M-Shwari charges 7.5% interest per month; and KCB M-Pesa lends at an interest of 3.91% per month. Despite these type of loans charging high interest rates and helping customers who are experiencing liquidity constraints in their time of need (Karlan & Zinman 2010; Morse 2011), they also have negative effects which in the long run causes bankruptcy and over-indebtedness (Skiba and Tobacman 2009), causing challenges in loan payments (Melzer 2011). According to a study by Microsave 2017, approximately 2.7 million individuals in Kenya had been listed in CRB in the three years prior to the study.

It’s worth noting that there is inadequate research on the link between credit management strategies and sustainability of Digital Lending Applications in Kenya. This research was aimed at establishing this relationship and bridging the knowledge gap by studying credit management strategies and sustainability of Digital Lending Applications in Kenya. If the current status continues where millions of Kenyans are listed with CRB it will be to the detriment of Digital Lending Applications investors who will lose their investments and it will eventually lead to closing down of Digital Lending Applications which will be a backward trend to the innovative and inclusive idea Digital Lending Applications bring to Kenyans in comparison to the traditional financial institutions.
1.3 Research Objectives

1.3.1 General Objective

To investigate credit management strategies and sustainability of Digital Lending Applications in Kenya

1.3.2 Specific Objectives

1. To investigate the effects of credit appraisal strategy on sustainability of Digital Lending Applications in Kenya.

2. To investigate the effects of the pricing strategy on the sustainability of Digital Lending Applications in Kenya.

3. To investigate the effects of debt collection strategy on sustainability of Digital Lending Applications in Kenya

1.4 Research Questions

1. To what extent does credit appraisal strategy affect the sustainability of Digital Lending Applications in Kenya?

2. Does the pricing strategy affect the sustainability of Digital Lending Applications in Kenya?

3. Does debt collection strategy affect the sustainability of Digital Lending Applications in Kenya?

1.5 Significance of the Study

This research helps entrepreneurs and investors who own Digital Lending Applications to understand more on the effectiveness of mobile based loan facilities, which is a relatively new method of lending. The investors will be in a position to make informed decision on the
viability and performance of this lending model. The lenders can also gain insight of how to avoid having a high number of future non-performing and unsecured loans, which can pose a risk to the shareholder’s capital.

This research will also help the employees of digital lending companies to make informed decisions when coming up with credit management strategies.

The study is important to regulators, policy-makers and other agencies such as Central Bank of Kenya, the study is helpful in policy formulation more so on areas of regulating the many Digital Lending Applications that are coming up in Kenya. Academicians and other researchers benefit from this study as it helps to build the knowledge base in the discipline by adding new literature on credit management strategies and their growth sustainability of Digital Lending Applications in Kenya. The study is helpful as a source of reference material besides suggesting areas where future research may be conducted in future.

1.6 Scope of the Study

The purpose of the study was to investigate the effect of credit management strategies on growth sustainability of Digital Lending Applications in Kenya. The study involved Digital Lending Applications in Kenya. The study specifically focused on credit appraisal strategy, pricing strategy, debt collection strategy as the independent variables and sustainability as the dependent variable.

This research was conducted in the August 2020, and the target population were the employees of Digital Lending Applications in Kenya.
1.7 Limitations of the Study

There are a number of challenges that were anticipated in the course of this study. Data collection posed a challenge because not all Digital Lending Applications have an office. This challenge was addressed through administration of questionnaires through email and follow ups were done using phones calls.

1.8 Organization of the Study

The first chapter starts with the overview of the background of the study, it looks at the emergence of digital credit, defines what is growth sustainability and also looks at the current status of Digital Lending Applications in Kenya, the chapter summaries by outlining the statement of the problem and the objectives that the study sought to achieve, justification, significance, scope and limitations of the study are also outlined in the first chapter.

The second chapter has reviewed literature in the area of study; it starts by reviewing the theories and finally empirical studies that explain the relationship between credit management strategies and growth sustainability. The theories that are reviewed include the dynamic capabilities theory and information asymmetry theory.

The third chapter explains the design techniques that were used to interpret the data that was collected. It also defines the study population and the method that was used to collect data.

Chapter four covered presentation and discussion of the research findings and the final chapter, chapter five, covered the conclusions drawn from the findings and recommendations made there-to.
CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction
This chapter reviews existing literature on theories and empirical studies done on credit management strategies and the sustainability of Digital Lending Applications. The chapter also presents a conceptual framework which shows the relationship between the independent and dependent variables being investigated. Lastly, the chapter presents a summary of the literature reviewed.

2.2 Theoretical Review
Theories that are relevant to Digital Lending Applications are reviewed and discussed in this part of the research. The dynamic capabilities and the asymmetric information theories are reviewed and discussed in the context of credit management strategies and sustainability of Digital Lending Applications.

2.2.1 Dynamic Capabilities Theory
This theory was proposed by David Teece, Gary Pisano & Amy Shuen in 1997; they defined the theory and explained that a dynamic capability in a company is the company’s ability in building, integrating, and reconfiguring both internal and external competencies with the aim of dealing with the rapid changes in the environment. Scott (2004) explained that the formal structures of a company can be significantly influenced by the environment more than pressure from the market it’s operating in. The environment legitimizes those innovative structures that enhance technical efficiency of organizations considered to be early adopters. This therefore influences organizations, both new and existing to adopt these structures even if it won’t result
in enhanced efficiency. According to (Zollo, 2002), a collection of learnt and stable activity patterns are defined as dynamic capabilities and are what enables the company to generate and modify operating routines for the purpose of improving effectiveness.

Dynamic capabilities theory was proposed as an approach of solving some of the weaknesses of resource based theory (Galvin, Rice & Liao, 2014), it was to resolve resource based view theory’s weaknesses by elaborating superior performance and sustainable competitive advantage in dynamic environment. This theory provides path-dependent process allowing companies to adapt to rapid changes in the business environment through building, integration, and reconfiguration of portfolios for the resources and their capabilities (Teece, Pisano & Shuen, 1997).

Winter (2003) categorised capabilities into three groups. In the first group were “zero-level” capabilities which are the normal routines of in a company. In this level the company has capabilities that allow them to compete and attain parity with their rivals. The second level was referred as “first-level” capabilities and at this level the “zero-level” capabilities is modified, changed and reconfigured. Ambrosini et al. (2009) noted that in this level, the capabilities are responsible for augmenting resources for the purpose of refreshing, renewing and adapting capabilities. Winter (2003) further named the third group as “higher-level” which suggest that capabilities are responsible for changing the way the company changes its capabilities. He noted also that effective dynamic capabilities patterns are dependent on dynamic nature of the market. Therefore, dynamic markets require dynamic capabilities to be effective and to depend heavily of the existing knowledge (Eisenhardt and Martin, 2000).

This theory is of importance to this study since it emphasizes on company’s ability in reengineering its activities as well as resources and redirecting its efforts in shaping the market
in a manner that allows value creation and ensuring the company’s sustainability. Corporations are now focusing on adopting sustainability as an organizational strategy and making it an integral part of the firm’s strategies for the purpose of maintaining profitability (Enquist et.al. 2007; Epstein 2008).

When a company is sustainable it means that the business has put appropriate systems and processes to enable the business to continuously offer services to its customers. Most of the time this requires modification, transformation or reconfiguration of systems as well as activities when need be for the purpose of completely revamping the activities of the company in order to ensure that a good fit is maintained (and in other cases transforming) the systems and the environment that the firm operates in. In this regard Digital Lending Applications are early adapting organizations which should take the opportunity to build, integrate and reconfigure their internal competencies or strengths (technology, systems and their unique lending procedures) to purposefully address the volatile lending market environment in Kenya, this will ensure that their companies achieve and sustain a competitive advantage over the existing financial institutions like Banks, MFIs and Savings and Credit Co-operatives as well as enable them to take advantage of the borderless expansion that technology offers.

2.2.2 Asymmetric Information Theory

The first proposition of this theory was in 1970 by Akerlof (1970). According to this theory, most of the time, there is no balance in information between buyers and sellers who in the case of this study is between lenders and borrowers. This simply means that one of the parties has better or more information than the other and therefore causing lack of balance in transaction power. Asymmetry in information causes moral hazard, monopoly of information and adverse
selection; two economists were influential in developing and discussing solutions to the problems caused by information asymmetry.

During credit allocation, the failure of lenders to differentiate customers’ level of credit risk causes adverse selection. When two projects are expected to give the same amount of returns, then the lender will select the one that is considered to be safer. During decision making is when the issue of adverse selection occurs and this is before loan disbursement. It has been established that customers who engage in risky ventures tend to hide the true nature of their projects and therefore takes advantage on the fact that the lender lacks compete information. During credit allocation, there is risk of moral hazard which occurs whenever creditor applies for funds for different reasons other than the ones they agreed with the lender who is therefore lacks information and control of borrowers. After conceding capital is when the risk of moral hazard occurs. Lastly, there is relationship between cost of monitoring and other costs that are hidden by borrowers, taking advantage of the information they have to declare a low income earning than the actual.

Two economists were influential in developing and discussing solutions to the problems caused by information asymmetry. Spence (1973) proposed signalling and Stiglitz (1973) proposed screening. Spence proposed that there is a possibility that individuals can identify their type and therefore share information with the other party and this resolve the issue on asymmetry of information. On the other hand, Stiglitz's proposed screening, a technique used by one economic agent to extract otherwise private information from another, and hence the party with less information can make the other party to share their information with them. According to recommendation by Derban, Binner and Mullineux (2005), screening as a means of credit assessment of borrowers should be done especially by banks. As explained by the theory of
asymmetric information, availability of reliable information on borrowers is important in order to facilitate effective screening.

Asymmetric Information Theory is of relevance to this study since in the context of Digital Lending Applications, the borrowers have greater and better information regarding Digital Lending Applications as the information is easily accessible on the internet and also from the experiences of other people who have borrowed before, on the other hand lenders have little or no information regarding the borrower.

Screening is one of the solutions proposed to overcome the problems that are brought about by information asymmetry, however Digital Lending Applications may find it hard to screen borrowers as it is not economical to devote resources to appraising and monitoring loans of small amounts considering also that the turn-around time for Digital Lending Applications is expected to be instant, the other challenge is that the loans applied for are for a shorter repayment period which means that the incomes earned from such loans are minimal to warranty a rigorous screening process and time commitment. This brings a tricky balance as information asymmetry is potentially detrimental to any business; it is of great importance that businesses know their customer, when a lender does not understand the borrower there is a high chance that the credit appraisal of prospective borrower won’t be done accurately and it is therefore possible for Digital Lending Applications to advance loans to individuals with high risk of defaulting. Considering the fact that borrowers have more information on their financial position than the lender and therefore making it challenging for the lender to determine the probability for the borrower to default. In most instances, the lender will deal with this by focusing on borrowers past history and proof that their income is reliable. Nonetheless, the information obtained is limited. The resulting effect is that lenders will charge high interest
rates to cover this risk. If reliable information existed, then banks would not be forced to charge for this risk.

2.3 Empirical Review

This section presents reviews of empirical studies done on the lending process. Particularly, the study presents reviews on credit and client appraisal strategy, pricing strategy and the debt collection strategy.

2.3.1 Credit Management Strategy and Sustainability

Myers and Berkley (2013) explained that strategies for credit management are applied by organizations in making sure that company’s credit levels are acceptable and its management is effective; they also explained that management of credit is part of financial management and comprises, analysis of credit, its classification and reporting. According to Basu and Rolfes (1995) proper and quality management of credit is important in ensuring any financial institution succeeds.

A study done by Mills and McCarthy (2014) focused on establishing credit accessibility and recovery and how technology influences the process. It was evident that small financial institutions and community lenders were more successful when they relied on underwritings that are more conservative such as employing experiences bankers, reviewing sales documents extensively, and considering borrowers collateral and cash flow. According to a research done by Vein, Niaz and Azimun (2015) on grading model for credit risk and performance of loans among commercial banks in Bangladesh, it was evident that the focus of most financial institutions has been on assessment of credit risk which is the first step in the process of loan appraisal; this was mainly because of increased levels of NPLs and stiff competition in the industry. In a study done on practices of managing credit and its effects on credit performance by Sufi and Qaisar (2015) it
was evident that credit terms and appraisal of clients had significant effect on credit performance. It therefore suggests that financial institutions should embrace client appraisal if it intends to enhance its credit performance.

Mureithi (2010) in his research established that there are a number of reasons why an institution conducts credit appraisal and one of the reasons is that appraisal is used as a selection tool, is used in quantifying risk, aids in decision making, and also makes sure that the quality of business is good and that credit worthiness is excellent. In Kenya, a study conducted by Moti, Masinde, Sindani and Mugenda (2012) among MFIs sought to determine the effect of effectiveness of credit management systems on credit performance. It was evident that effective management of credit could only be achieved if the organization could manage effectively and intelligently credit lines of its clients. Any institution providing loans should be in a position to deal with the challenges brought about by NPLs and this is possible by having a deep insight on customers’ history relating with credit scores, their financial strengths and change in patterns of payments (Moti et al., 2012).

In 2006, a study was conducted by Central Bank of Iraq (CBI, 2006) and sought to understand the process of credit. It was evident from the study that the credit process begins with extensively analysing borrowers’ credit worthiness and their will and ability to repay back their loan. Furthermore, disbursement of loans needs to be done once the borrower has presented the required documents to the bank and has signed the agreement. The documents presented act as banks key protection after they have disbursed the loan. Before disbursing the loan, a loan agreement is signed by the financial institution and the borrower and is a legal document that binds the borrower and the lender.
Documentation process is important as it helps the lending firm in making a choice on whether or not to give credit and it is also important in cases of defaulting because the lender uses it in legal follow-up. In Kenya, the mandatory documentations required by the financial institutions under Know Your Customer (KYC) are; proof of physical address, valid passport, voter’s card, electricity or water bill, a letter from employer, personal identification number or driving licenses, and in some cases introduction or verification of details by an existing customer.

Majority of digital lenders deal with personal loans that are unsecured and therefore lenders charge a higher interest rate because of the higher risk nature of their customers. However, Nakayiza (2013) indicated that there is lack of effectiveness in looking at the impact of interest rates increase and its effect to the loan repayment history and trends. Henrietta (2011) in his study on causes of non-repayment of loan in Ghana, concluded that the reason most customers are not ready to repay in time, is because of macroeconomic and bank related factors, for example, high inflation, trade and loan fee, time taken to do payment after application, time of repayment being too short and the credit being deficient to produce enough business.

Similar to traditional lending, digital credit provisions also apply incentives and punishment for the purpose of reducing moral hazard incentivizing repayments (Francis, Blumenstock & Robinson, 2017). For example, timely repayment of loans in these Applications raises once chance of getting access to a larger loan and most Applications discourage default by e.g. interfering with future loan access, automatically deducting outstanding amounts of loans from savings in other mobile accounts linked to it, blacklisting of defaulters with bureaus responsible for credit and some even send messages to the borrowers phone contacts informing them that the borrower has defaulted on a loan and risks been listed with the CRB.
Murunga (2017) suggests that loans that are mobile based should only be disbursed once the details of the borrower have been authenticated. Also, there is need to set limits on the maximum amount of money that can be borrowed and disbursed via mobile phone; by doing so, financial institutions will reduce the amount of NPLs they incur. Furthermore, there is need to closely monitor and evaluate digital lending for the purpose of ensuring that repayment is in agreement with the signed agreement. In addition, training of credit officers is crucial in ensuring that errors in handling orders are reduced.

2.3.2 Pricing Strategy and Sustainability

In the event that a monetary organization offers credit to a client, at that point the credit terms will determine the credit repayment period and the cost of credit. Credit repayment period is the time frame in which the credit is agreed. Cost of credit is the charges of offering loans to clients (Ross, Westerfield and Jordan, 2008). The length of the credit is impacted by various variables like the loan insurance approval. In the event that the insurance approved is low, the credit time frame is likely to be shorter. Credit terms influence the presentation in business banks. At the point when the terms are positive, at that point it implies that the credit will perform. Expecting that business bank has a strategy that is adaptable as far as advance reimbursement. This infers customers will have the option to reimburse the advance dissimilar to when they are given severe cut off times.

Along these lines, business banks ought to receive credit terms which will empower their clients to reimburse their advances oftentimes as concurred consequently causing the advance to perform. If commercial banks charge high interest rates, borrowers may take loans because of pressing needs at the moment but later may tend to default due to the high interest rate (Saunders
and Cornett, 2007). Commercial banks thus should adopt interest rates which are favorable to the customers and to the institution itself.

Most of the time, loans by digital lenders is characterised by high interest rates and the borrower is required to provide their personal information including social media information before they are given the loan (Kaffenberger & Chege, 2016). According to Hoque et al. (2011) leverage lowers the level to which poor individuals can access loans this is mainly because it causes an increase in cost of capital and therefore the cost of borrowing goes up. The higher the cost of loans, the higher the default rates which in turn affect the growth of a lending institution.

In Kenya the interest rates charged by Digital Lending Applications are relatively higher in comparison to the interest rate charged by other financial institution. The bank’s interest rate charged has been capped to 4 points above the rate by Central Bank and was therefore maintained at 9-10% (for a total of about 13–14% interest rate per annum) since the cap was instated in 2016 (Central Bank of Kenya). On the other side of digital lending, Equity’s Eazzy Loan charges an interest rate of 14.5 % with an addition of 1% as insurance fee; Safaricom’s M-Shwari charges 7.5% interest per month; and KCB M-Pesa lends at an interest of 3.91% per month. The Digital Lending Applications e.g. Branch and Tala charges even more (Microsave, 2017). Despite these type of loans charging high interest rates and helping customers who are experiencing liquidity constraints in their time of need (Karlan & Zinman 2010; Morse 2011), they also have negative effects which in the long run causes bankruptcy and over-indebtedness (Skiba and Tobacman 2009), causing challenges in loan payments (Melzer 2011). At the same time, consumer protection on these Digital Lending Applications are still wanting – protection on borrowers are very few and evidence show that majority of the borrowers lack understanding on loan terms (McKee et al 2015). According to a study by Microsave 2017, approximately 2.7 individuals in Kenya had been listed in CRB in the three years prior to the study.
According to Shankar’s (2007) study conducted in India, the key factors driving transaction cost were workers remuneration, group size each worker was dealing with and the practice of collection. Manyumbu (2014) established that because of high gearing, the cost incurred by MFIs has been high and is approximated to be 36% to loan servicing which limits growth and also bad debt expense is high standing at 15% of overall cost ad therefore, conclusion drawn was that MFIs are susceptible and geared towards risks relating with interest rates. After assessment of feasible debt relations, debt cost and collaterals demanded, an increase in new debts case asking affects debt financing negatively (Oluyol, OLebe & Akbas, 2014). The microfinance institutions performance and growth is increased when the interest charged is low (Ahlin, Lin & Maio, 2011). Morduch (1999) revealed that MFI's usually charge high rates of interest in comparison to commercial banks and therefore affecting alleviation of poverty. Interest rates that are high often increases the risk of non-performing loans as mentioned by Hulme & Mosley (1996). However, Wangechi (2008) argued that the composition of interest rate should be optimal for borrower as well for the lending institution to cover its operations cost to survive and able to supply the funds in future.

2.3.3 Debt Collection Strategy and Sustainability

In order to ensure efficiency in management of credit there are several policies that are put in place by institutions. Collection policy is one of them and is necessary since not all borrowers are punctual in repayment of their loans. There are borrowers who are non-payers and others are slow in payers. Therefore, collection efforts are meant to accelerate collection from those payers who are slow and reduce losses from non-payers (Kariuki, 2010).

According to (Bwonya-Wakuloba, 2007) the most dangerous problem a micro credit program faces is repayment default and therefore digital lending firms should put in place a collection
policy to ensure prompt and regular collection. Collection policies are meant to ensure collection is done regularly and is prompt. It is required to ensure that turnover for working capital is earned fast and also maintains bad debts and collection costs at its minimum. These policies need to clearly put across the procedures to be followed for collection. The procedures for fast dues need to be unambiguously established. Handling of slow payers should be tactful.

Another policy is that of business and managements analysis. Aside from client appraisal, it is important to consider clients businesses’ nature and quality of its management. Financial institutions should have an internal audit conducted on borrower’s business to determine weakness in its management. Business structures that are over centralized and lack proper systems of management can fail in the long run. If the businesses nature is in constant fluctuation or its buyers are financially weak or are dependent on a few buyers, then it can be considered risky in advancing loan (Weston, 2006).

The credit limit should also be a serious policy which should be observed as per the customer’s strength. The maximum amount of credit that a financial institution can offer at a particular time is termed as credit limit. It shows the level of risk the company is willing to take to extend the credit to the customer. At times, the customer may ask for the amount of credit in excess of his credit limit and credit period must be received periodically and only extended if returns are high as compared to costs involved in monitoring (Weston 2006). Scheufler (2002) emphasized that credits policies, standards and appraisal procedures enable firms to earn financial returns. Horne and Wachowicz (1998) went further to state that the only time credit is beneficial to a company is if the profit they get from increased sales is more than the added cost.

Despite having clearly established collection policies, dealing of individual cases should be done based on their terms. There are those customers who are willing to pay their loan but their
current situation cannot allow them. The only time these customers can be applied the policies is when they are out of their financial dilemma or it has been established that they do not intend to pay promptly (Pandey, 2010).

2.4 Summary of Literature Review and Research Gaps

The chapter discussed theoretical framework which has covered two theories: Dynamic capabilities theory and asymmetric information theory. It further provided literature on both the independent and dependent variables.

According the dynamic capabilities theory Digital Lending Applications should be capable of building, integrating and reconfiguring their internal competencies or strengths (technology, systems and their unique lending procedures) to purposefully address the volatile lending market environment in Kenya for their companies to sustain a competitive edge in comparison with the existing financial institutions like Banks, Micro Finance Institutions and Savings and Credit Co-operatives, not forgetting the border less expansion that technology offers.

On the other hand Information asymmetry theory states that when the lender has little or no information about the lender it can lend to moral hazard, this may occur if a borrower engages in an activity that has high probability of resulting in them defaulting. Hence, client screening process is proposed as one of the solution to the challenges posed by information asymmetry, it is critical to screen the clients as it shows the borrower’s capability to pay and also acts as a security and provides the necessary documentation for a legal process in case of default. To summarize, credit management involves the whole process that starts from the time a loan application is made to the time the loan is paid back, it entails ensuring that the client is appraised sufficiently, the appropriate size of credit is given, the credit is recovered when it falls due and there is adequate flow of information within the organization to monitor the credit
process. The long term performance of Digital Lending Applications requires them to keep innovating to ensure that the credit management process is running efficiently and effectively if they were to maintain a competitive edge over other lending institutions, all this while offering affordable interest rates that do not cripple their clients.

Table 1.1: Summary of the Literature Gaps

<table>
<thead>
<tr>
<th>Author</th>
<th>Study</th>
<th>Findings</th>
<th>Research gaps</th>
<th>Focus of Current Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nzayisenga (2017)</td>
<td>Effect of mobile lending on the financial performance of commercial banks in Kenya</td>
<td>The financial performance of the commercial banks posted mixed results over the years that were analyzed. There was no common trend on the effect of mobile lending to financial performance.</td>
<td>The study only used secondary data, Withdraws Transfers as the key factors thus knowledge gap has to be filled by looking at primary data. Also financial performance is a narrow aspect to be looked on its own.</td>
<td>The current research will collect primary data which on mobile/digital lending Applications. Also my current study will concentrate on mobile/digital lending Applications as opposed to commercial banks and also look at growth sustainability as the dependent variable compared to financial performance which is only one aspect of growth sustainability.</td>
</tr>
<tr>
<td>Murunga (2017)</td>
<td>Effect of mobile based lending process on non-performing loans in commercial banks in Nakuru town,</td>
<td>The findings were that there are a number of factors that affect nonperformance of loans which include authenticating the applicants documents and the loan limits; The</td>
<td>The study used cross-sectional survey only on Non-Performing Loans such as Bad debts in the commercial banks this</td>
<td>The research was narrow and could not be generalized; it concentrated on mobile lending by banks and its effects on non-performing loans, failing to look at</td>
</tr>
<tr>
<td>Country</td>
<td>Study Title</td>
<td>Findings</td>
<td>Gap Addressed</td>
<td></td>
</tr>
<tr>
<td>-------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Kenya</td>
<td>Wainaina (2017) Mobile based loan management practices and financial performance of commercial banks in Kenya</td>
<td>- The study concluded that credit scoring and repayment period had a significantly positive influence on financial performance of commercial banks. &lt;br&gt; - The study concluded that default patterns and risk profile had a significantly negative influence on financial performance of commercial banks. &lt;br&gt; - The study concluded that credit scoring had a greater influence on the financial performance of commercial banks, followed by default patterns, repayment period and then risk profile.</td>
<td>The study used descriptive study concentrates on the credit scoring and default patterns therefore there is need to bridge the knowledge gap by studying other factors.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>The current study will look at digital lending Applications, this study only looked at commercial banks in Kenya hence the findings cannot be generalized.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ruth (2017) Factors influencing Government policies related to</td>
<td>The study unit of analysis was</td>
<td>The research only looked at external</td>
<td></td>
</tr>
<tr>
<td>Authors (Year)</td>
<td>Topic</td>
<td>Findings and Methodology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------</td>
<td>-------</td>
<td>--------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Githinji (2009)</td>
<td>Factors influencing performance of microfinance institutions in Kenya.</td>
<td>The study found that the average size of savings had a positive influence on return on assets and that this relationship was positive. The rest of the variables did not have a significant influence on either ROA or ROE. Thus, the study concludes that the most significant factor that influenced performance of microfinance were ROE and ROA. This brings in the contextual gap to be filled by looking at non-financial of performance. There is also the need to look at non deposit taking lending institutions hence there is a gap, the findings cannot be generalized.</td>
<td>The research was on savings/deposit taking micro finance, there is need to research on performance of non-deposit taking lending institutions like digital lending Applications.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>The variables used were and in Muranga county and the study focused on government policies and credit offered thus bring in the gap, it did not look at internal factors that affect the performance of lending institutions.</td>
<td>Factors that affect performance of lending institutions hence. The current study will look at the internal factors i.e credit management strategies and growth sustainability.</td>
<td></td>
</tr>
</tbody>
</table>
On the challenges, the study found that the major challenges facing microfinance institutions in Kenya are funding, repayment default and government regulations. Low profits and number of clients were not found to be major challenges facing the sector. Thus, it is concluded that the major challenges facing microfinance institutions in Kenya are funding, repayment default and government regulations.

Source: Author (2020)

### 2.5 Conceptual Framework

An illustration of the relationship existing between variables being investigated is defined as a conceptual framework as shown in Figure 2.1. It shows that the independent variables which include the credit appraisal strategy, the pricing strategy, and the debt collection strategy influence the sustainability of Digital Lending Applications in Kenya.
The conceptual framework indicates that if Digital Lending Applications in Kenya capitalize on the independent variables, i.e. by ensuring that they have put in place proper credit appraisal strategy and that the pricing strategy has taken into consideration the cost of capital, operational expenses as well as taking care of the risk premium for loans that are likely to be written off and thereafter they apply effective debt collection strategies to recover credit then the dependent variable which is the sustainability of Digital Lending Applications in Kenya is assured.

Source: Author (2020)
CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter looked at the research methodology and the approaches that were used in the study. It will describe the research design, study population, sampling frame, sample size determination and sampling technique, data collection instruments, data collection procedure and pilot testing. It also describes the data collection process and the method of analysis.

3.2 Research Design

This study used a descriptive, cross-sectional research design. This research design was chosen because it enabled the researcher collect large amount of information efficiently and economically using questionnaires. Lavrakas (2008) also explains research design as the overall plan for obtaining answers to the questions being studied for the handling some of the difficult encountered during the research process. This study adopted a descriptive research design; it is a scientific method that involves observation and description of behaviour of subject without influencing it in any way.

3.3 Target Population

The target population in this study was the 22 Digital Lending Applications in Kenya as listed in Google Applications store. According to Creswell (2014) a population is a group of people or elements with similar characteristics that a research can collect data from. This study focused on 12 Digital Lending Applications that were willing to participate as shown in Table 3.1. The target respondents were the managers, directors, loan appraisal officers, credit officers and accounting officers in these companies.
Table 3.1: Distribution of the target population

<table>
<thead>
<tr>
<th>Digital Lending Applications Name</th>
<th>Registration Date</th>
<th>No. of Loan Appraisal Officers</th>
<th>No. of Credit Officers</th>
<th>No. of Accountants</th>
<th>Management team</th>
<th>Total population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuliza</td>
<td>2018</td>
<td>176</td>
<td>103</td>
<td>67</td>
<td>7</td>
<td>353</td>
</tr>
<tr>
<td>Tala</td>
<td>2014</td>
<td>63</td>
<td>59</td>
<td>35</td>
<td>10</td>
<td>167</td>
</tr>
<tr>
<td>Branch</td>
<td>2015</td>
<td>79</td>
<td>66</td>
<td>38</td>
<td>11</td>
<td>194</td>
</tr>
<tr>
<td>Okash</td>
<td>2018</td>
<td>5</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>13</td>
</tr>
<tr>
<td>Opesa</td>
<td>2018</td>
<td>15</td>
<td>11</td>
<td>3</td>
<td>2</td>
<td>31</td>
</tr>
<tr>
<td>Stawika</td>
<td>2018</td>
<td>3</td>
<td>6</td>
<td>1</td>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td>UbaPesa</td>
<td>2018</td>
<td>15</td>
<td>17</td>
<td>6</td>
<td>2</td>
<td>40</td>
</tr>
<tr>
<td>PesaZone Loans</td>
<td>2017</td>
<td>7</td>
<td>5</td>
<td>3</td>
<td>2</td>
<td>17</td>
</tr>
<tr>
<td>GetBucks</td>
<td>2015</td>
<td>28</td>
<td>23</td>
<td>17</td>
<td>6</td>
<td>74</td>
</tr>
<tr>
<td>Fadhili</td>
<td>2019</td>
<td>5</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>13</td>
</tr>
<tr>
<td>Umba</td>
<td>2019</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Usawa</td>
<td>2019</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>402</strong></td>
<td><strong>300</strong></td>
<td><strong>177</strong></td>
<td><strong>51</strong></td>
<td><strong>930</strong></td>
</tr>
</tbody>
</table>

3.4 Sampling and Sample Size

This research used simple random sampling method to select respondents from each of the Digital Lending Applications in Kenya. Sampling is the process of selecting a smaller of individuals, objects or events in order to find out a feature of the represented population Woods, (2006). A sample is a smaller subset of a population that adequately represents the entire group Saunders et al. (2009). Mugenda and Mugenda (2003) recommended that 10%-30% of the target population is representative enough. For this study the sample size of 16% was taken from the employees of who are involved in the day to day core activities like loan appraisal & credit collection as well as the management team since they are involved in loan pricing decisions as well as strategic decisions with regards to company's model sustainability.
According to Woods, (2002) stratified random sampling is a technique of probability sampling that divides the entire population into strata based on the elements characteristics. Mugenda and Mugenda, (2003) noted that the target population is divided into homogeneous strata that enable the researcher to choose the most relevant strata geared toward the research objectives. Therefore, stratified random sampling was the most suitable method to be used in the selection of the respondents in each subgroup while simple random sampling was used to select respondents in the strata with the help of stratified sampling formula ( \( n_1=n/N*N_1 \))

Where;

\( n= \) Total Sample Size

\( N=\)Total Target Population

\( N_1= \) Target sample size per level

**Table 3.2: Distribution of sample size**

<table>
<thead>
<tr>
<th>Digital Lending Applications Name</th>
<th>No. of Appraisal Officers</th>
<th>No. of Loan Appraisal Officers</th>
<th>No. of Credit Officers</th>
<th>No. of Accountants</th>
<th>Management Team</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuliza</td>
<td>21</td>
<td>17</td>
<td>11</td>
<td>3</td>
<td>2</td>
<td>53</td>
</tr>
<tr>
<td>Tala</td>
<td>10</td>
<td>10</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>27</td>
</tr>
<tr>
<td>Branch</td>
<td>12</td>
<td>11</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>30</td>
</tr>
<tr>
<td>Okash</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Opesa</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Stawika</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>UbaPesa</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>PesaZone Loans</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>GetBucks</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>Fadhili</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Umba</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Usawa</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>56</strong></td>
<td><strong>48</strong></td>
<td><strong>29</strong></td>
<td><strong>16</strong></td>
<td></td>
<td><strong>149</strong></td>
</tr>
</tbody>
</table>

**Source:** Author (2020)
The sample is determined using the stratified random sampling method. The population is divided into the different strata according to their job groups i.e. (the loan officers, accountants, credit officers and the management team) thereafter a total of each strata as a percentage of the total population is taken and used to determine the sample size in each job group.

### 3.5 Data Collection Instrument

This study used a questionnaire as the only data collection instrument, the questionnaire contained close ended questions as shown in appendix II. A questionnaire is preferred because it is an effective data collection instrument that allows respondents to give much of their opinions pertaining to the research problem (Dempsey, 2013). According to Kothari (2014), the information obtained from a questionnaire is free from bias and researchers’ influence and thus accurate and valid data is gathered.

This study used primary data; data was collected using a structured questionnaire. The questionnaires had two sections. The first section sought the demographic information while the second section sought information on the digital lending firm’s credit appraisal process, pricing strategy, debt collection strategy, and sustainability. The questionnaires were administered by multiple approaches that include drop and pick later method and use of email to contact the respondents. To increase the response rate, a follow up was done by use of telephone calls.

### 3.6 Pilot Study

A pilot test was conducted to assess the questions’ validity and the likely reliability of the data that was collected. According to Copper and Schindler (2011), a pilot test is conducted to detect weaknesses in the design and instrumentation and provide a proxy data for selection of probability sample. The advantages of conducting the pilot test include enhancing the training of field staff, review of instrument and prevention of wasteful expenditure on full-blown survey
whose results may not be applicable (Isaac & Michael, 2015). According to Leedy and Ormrod (2009), a pilot study is an excellent way to determine the feasibility of the study.

In this study, pilot testing was done by administering nine (9) questionnaires to respondents who were not part of the study sample. Pilot testing helped in improve the questionnaire and to eliminate ambiguous questions.

3.6.1 Reliability of the Research Instrument

Reliability measures the degree to which the research instrument gave consistent results (Mugenda & Mugenda, 2012). The research ensured accurate wording of each question to avoid leading respondents to answer in particular way. The measure was considered reliable if a person’s score was similar if given the same test. The filled questionnaires were coded and the responses were inputted into SPSS to generate the reliability coefficient. The study used the most common internal consistency measure known as Cronbach’s Alpha which was generated by SPSS. The acceptance value of 0.7 was used to cut off reliability of the study.

3.6.2 Validity of Research Instruments

According to Robison (2015), validity is the degree to which the results obtained represents the phenomena under study. The validity of this study was achieved by pre testing the instrument to identify and change any ambiguous, ineffective questions. The unclear questions were made clear and irrelevant questions were replaced or deleted, validity testing also helped to measure whether the questionnaire provides adequate coverage of the topic under study.

3.7 Data Collection Procedure

The study collected primary data based on the objectives of the study. According to Morris (2011), data collection is the process of gathering information that is crucial for research. The
researcher started by obtaining an introductory letter from the Kenyatta University introducing the researcher to the Digital Lending Applications companies. The letter was used to accompany the questionnaires and interview guides for data collection.

The research assistants were trained on both the content of the questionnaire and general presentation required of them. The research assistants also accompanied the researcher during the pilot study to obtain a practical induction on the administration of the research instrument. The questionnaires were printed or emailed with the help of research assistants. A covering letter accompanied each questionnaire explaining the objectives of the study and assuring respondents of the confidentiality in order to get the data and information required.

3.8 Data Analysis and Presentation

Data analysis is the act of transforming data with the aim of extracting useful information and facilitating conclusions or in other words mechanism for reducing and organizing data to producing findings that require interpretation by the study (Burns & Glove, 2010).

For this research, the questionnaire was use to gather data. After collecting the questionnaires from the respondents, data was examined and checked for completeness and thereafter responses were classified, coded and tabulated to analyse quantitative data. Data was analysed using SPSS and Ms excel. The data analysis mainly involved the use of descriptive analysis by using multi linear regression to determine the relationship between the dependent and independent variables. Multiple regression model was used to test the relationship between the dependent and independent variable.

After analysis, data was presented using pie chart and tables. The purpose of the presentation was to highlight the results to make the data more illustrative.
The model was presented as follows:

\[ Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon \]

Where:

- \( Y \): growth sustainability
- \( \beta_0 \): Constant Coefficient
- \( X_1 \): Credit appraisal strategies
- \( X_2 \): Interest rate on loans
- \( X_3 \): Debt collection strategies
- \( \varepsilon \): Random Error Term

### 3.9 Ethical Considerations

Several ethical considerations were taken into account to ensure that the study was conducted in an appropriate and acceptable manner. To comply with ethical considerations, the researcher started by obtaining an introductory letter from Kenyatta University introducing the researcher to the Digital Lending Applications firms and giving permission to the researcher to collect data. Finally, a cover letter explaining the research objectives accompanied each questionnaire, the cover letter also assured the respondents that their information was to be kept confidential. Lastly, the letter stated that their responses were to be used for the purpose of this study only. In the final report the identity of the participants was not included.
CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSION

4.1 Introduction

This chapter will present and discuss the research findings with focus on addressing the objectives of the study. The main objective of the study was to investigate credit management strategies and sustainability of Digital Lending Applications in Kenya. Discussion of the study’s findings was possible using both descriptive and inferential statistics.

4.2 Reliability Analysis

Reliability measures the degree to which the research instrument gave consistent results. The study used the most common internal consistency measure known as Cronbach’s Alpha which was generated by SPSS. The acceptance value of 0.7 was used to cut off reliability of the study. Table 4.1 presents the findings obtained.

Table 4.1: Reliability Results

<table>
<thead>
<tr>
<th>Scale</th>
<th>Number of Items</th>
<th>Cronbach's Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit Appraisal strategy</td>
<td>5</td>
<td>0.761</td>
</tr>
<tr>
<td>Pricing strategy</td>
<td>4</td>
<td>0.794</td>
</tr>
<tr>
<td>Debt Collection Strategy</td>
<td>9</td>
<td>0.803</td>
</tr>
<tr>
<td>Sustainability</td>
<td>8</td>
<td>0.785</td>
</tr>
<tr>
<td>Overall reliability of the instrument</td>
<td>0.786</td>
<td></td>
</tr>
</tbody>
</table>

Source: Pilot test data (2020)
The findings in Table 4.2 show that credit appraisal strategy has an alpha of 0.761, pricing strategy has an alpha of 0.794, debt collection strategy has an alpha of 0.803, and sustainability an alpha of 0.785. And the overall reliability of data collection instrument is 0.786. From the findings above, the variables were considered reliable because all of them had alpha values greater than 0.70 and were used for data collection as they are.

### 4.3 Response rate

Out of the 149 questionnaires issued to managers, directors, loan appraisal officers, credit officers and accounting officers of Digital Lending Applications in Kenya, the study was able to receive 123 questionnaires having been dully filled.

<table>
<thead>
<tr>
<th>Questionnaires</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response</td>
<td>123</td>
<td>82.6</td>
</tr>
<tr>
<td>Non-Response</td>
<td>26</td>
<td>17.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>149</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

**Source: Survey Data (2020)**

As shown in Table 4.2, the returned questionnaires formed a response rate of 82.6%. As explained by Mugenda and Mugenda (2013), a response rate of 50% and above is adequate for analysis and reporting. He added that a response rate of 60% and above is good while that of 70% and above is excellent. Based on these assertions, our response rate was excellent and was used for further analysis and reporting.
4.4 Demographic Information

In this section, the study sought to establish the general information of study participants. The study sought to determine their age, level of education, job description, and length of time working with the company.

4.4.1 Age of Respondents

The study sought to determine the age distribution of selected respondents. This informed the researcher on whether there was age diversity. Figure 4.1 presents the findings.

Figure 4.1: Age Bracket of Respondents

![Age Bracket of Respondents](image)

Source: Survey Data (2020)

From the findings in Figure 4.1, most (43.2%) of the respondents were aged between 30-34 years, 29.5% were aged 25-29 years, 14.4% were 35 years and above, and 12.9% were below 25 years. These findings show that the selected respondents were of different ages. However, most of them were young and aged 30-34 years. Therefore, most managers, directors, loan appraisal officers, credit officers and accounting officers in di Digital Lending Applications in Kenya are young, i.e. below the age of 35 years.
4.4.2 Respondents Level of Education

The study sought to determine how educated the selected respondents were. Figure 4.2 presents the findings obtained.

**Figure 4.2: Respondents Level of Education**

![Bar chart showing the distribution of respondents' level of education.]

Source: Survey Data (2020)

In Figure 4.2, majority (50.6%) had first degree, 27.3% had post-graduate degree, 13% had diploma and 9.1% had certificate. Based on these findings, it is evident that the selected respondents had acquired some level of education that probably placed them in the position they held in the company. This shows that the respondents had the information necessary to answer the research questionnaire as required.

4.4.3 Respondents Job Description

The study sought to determine the job description of the selected respondents. This informed the researcher whether the selected sample was representative. Figure 4.3 presents the findings obtained.
The findings presented in Figure 4.3 show that 37.6% of the respondents’ job description was loan appraisal, 32.2% were credit staff, 19.5% were accounting staff, and 10.7% were managers/directors. These findings show that the study selected a representative sample since respondents from different job descriptions were selected. This representative sample was best to provide information on the relationship between credit management strategies and sustainability of Digital Lending Applications in Kenya.

4.4.4 Respondents Length of Service in the Company

The study sought to determine the length of time the selected respondents had served at their company. This helped the researcher to determine how well-informed they were to provide information needed in this study. Figure 4.4 presents the findings obtained.
As shown in Figure 4.4, majority (50%) of respondents had served in their organization for more than three years, 46.5% for 1-3 years, and 3.5% for less than 1 year. These findings show that the selected respondents had served at their company for varied number of years. However, most had served for quite some time and were in a position to provide useful information on the influence of credit management strategies and sustainability of the companies.

4.4.5 Respondents Level of Involvement with Digital Loan Management

Respondents were asked to indicate level they have been involved with the digital loans management. Table 4.3 presented the findings obtained.

Table 4.3: Level of Involvement with Digital Loan Management

<table>
<thead>
<tr>
<th>Level of Involvement</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit appraisal and loan issuance</td>
<td>46</td>
<td>37.4</td>
</tr>
<tr>
<td>Setting of interest rates</td>
<td>36</td>
<td>29.0</td>
</tr>
<tr>
<td>Performance monitoring and debt follow-up</td>
<td>24</td>
<td>19.6</td>
</tr>
<tr>
<td>All the above</td>
<td>15</td>
<td>12.1</td>
</tr>
<tr>
<td>None of the above</td>
<td>2</td>
<td>1.9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>123</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Source: Survey Data (2020)
From the findings in Table 4.3, 46 (37.4%) of the respondents were involved in credit appraisal and loan issuance, 36 (29%) were involved in setting of interest rates, 24 (19.6%) were responsible for performance monitoring and debt follow-up, 15 (12.1%) were involved in all the digital loan’s management practices at their company while 2 (1.9%) were not involved in any of the practice. These findings therefore suggest that the selected respondents were best for the study because they were involved in digital loan management practice and could provide the information needed on credit management strategies and sustainability of Digital Lending Applications in Kenya.

4.5 Descriptive Analysis

In this section, the respondents were requested to indicate their level of agreement with various statements on Credit appraisal strategy, pricing strategy, debt collection strategy and sustainability. Using a 5-point Likert scale: 1= strongly disagree  2=Disagree  3 = moderate 4= Agree  5=Strongly Agree. The study used mean (M) and standard deviation values (SD) to interpret the findings. A mean value of 0-1 implied that the respondents strongly disagreed, a mean of 1.1-2 implied they disagreed, 2.1-3 suggest that they were Moderate, a mean of 3.1-4 suggest they agreed, and a mean of 4.1-5 implies the respondents strongly agreed. If the standard deviation is greater than two it is a high standard deviation which means that respondent had differing opinion, if the standard deviation is less than 2 it is a low standard deviation an indication that respondent had similar opinion. The findings were as presented in the following subsections.

4.5.1 Credit Appraisal Strategy

Respondents gave their level of agreement with various the statements on credit appraisal strategy. Table 4.4 presents the findings obtained.
Table 4.4: Descriptive Analysis for Credit Appraisal Strategy

<table>
<thead>
<tr>
<th>Description</th>
<th>Mean</th>
<th>Std. dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital Lending Applications ensure that they have the necessary Know Your Customer(KYC) documents and they have the necessary records to track the borrower if they defaulted on the loan repayment</td>
<td>3.982</td>
<td>1.370</td>
</tr>
<tr>
<td>Digital Lending Applications examine the income or cash flows of borrowers to determine the capability to pay</td>
<td>3.889</td>
<td>1.381</td>
</tr>
<tr>
<td>Digital Lending Applications verify the credit history of prospective borrowers before advancing credit</td>
<td>3.777</td>
<td>1.275</td>
</tr>
<tr>
<td>Digital Lending Applications determine the appropriate loan limit to advance to each borrower</td>
<td>3.738</td>
<td>1.320</td>
</tr>
<tr>
<td>Digital Lending Applications ensure that borrowers understand the loan terms before advancing the loan</td>
<td>3.698</td>
<td>1.331</td>
</tr>
<tr>
<td><strong>Aggregate</strong></td>
<td><strong>3.817</strong></td>
<td><strong>1.335</strong></td>
</tr>
</tbody>
</table>

Source: Survey Data (2020)

The findings in Table 4.4 show that the aggregate mean value was 3.817 an indication that on average, the respondents agreed with the statements on credit appraisal strategy. The aggregate standard deviation value was 1.335 which is less than two, an indication that the responses did not deviate much from the mean.

Specifically, the respondents agreed that Digital Lending Applications ensure that they have the necessary Know Your Customer (KYC) documents, and that Digital Lending Applications companies have the necessary records or requirements to track the borrower if they defaulted on the loan repayment (M=3.982, SD=1.370); Digital Lending Applications also examine the income or cash flows of borrowers to determine the capability of the borrower to pay the loan requested (M=3.889, SD=1.381); Digital Lending Applications also verify the credit history of prospective borrowers before advancing loans (M=3.777, SD=1.275); Digital Lending Applications determine the appropriate loan limit to advance to each borrower based on the income and cash flow records (M=3.738, SD=1.320); and that Digital Lending Applications
ensure that borrowers understand the loan terms before advancing the loan \((M=3.698, SD=1.331)\).

The study findings concurs with Mills and McCarthy (2014) that small financial institutions were more successful when they relied on underwritings that are more conservative such as employing experiences bankers, reviewing sales documents extensively, and considering borrowers collateral and cash flow. The focus of most financial institutions was on assessment of credit risk which is the first step in the process of loan appraisal; this was mainly because of increased levels of Non-Performing Loans and stiff competition in the industry. Therefore, credit appraisal strategy is used by Digital Lending Applications to improve their performance by mainly avoiding losses from non-performing loans and consequently ensuring their sustainability.

4.5.2 Pricing Strategy

Respondents gave their level of agreement with various the statements relating with pricing strategy. Table 4.5 presents the findings obtained.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Mean</th>
<th>Std. dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Your organization consider the cost of capital before making a decision on the interest rate to charge borrowers before advancing the loans</td>
<td>3.948</td>
<td>1.263</td>
</tr>
<tr>
<td>Are the interest rates higher than necessary</td>
<td>3.915</td>
<td>1.343</td>
</tr>
<tr>
<td>The profit from loan interest income generate enough revenue to cover operating costs of the company</td>
<td>3.863</td>
<td>1.326</td>
</tr>
<tr>
<td>Interest rates charged on loans is enough to cover any collection costs in case of default by the borrower</td>
<td>3.836</td>
<td>1.220</td>
</tr>
<tr>
<td><strong>Aggregate</strong></td>
<td><strong>3.891</strong></td>
<td><strong>1.288</strong></td>
</tr>
</tbody>
</table>

Source: Survey Data (2020)

The findings in Table 4.5 show that the aggregate mean value is 3.891 an indication that on average the respondents agreed with the statements on pricing strategy. Also, the standard
deviation value was 1.288 which is a small (<2) suggesting that the responses did not deviate greatly from the man value.

Specifically, the respondents agreed that Digital Lending Applications considers the cost of capital before making a decision on the interest rate to charge borrowers before advancing the loans (M=3.948, SD=1.263); Digital Lending Applications considers whether the interest rates are higher than necessary (M=3.915, SD=1.343); and that profit from loan interest income generate enough revenue to cover operating costs of the Digital Lending Applications (M=3.863, SD=1.326); and also interest rates charged on loans is also enough to cover any collection costs in case of default by the borrower (M=3.836, SD=1.220).

The study findings agree with Wangechi (2008) who argued that the composition of interest rate should be optimal for the borrower as well for the lending institution to cover its operations cost to survive and able to supply the funds in the future. As explained by Kaffenberger and Chege (2016), loans by digital lenders are characterized by high interest rates. These studies agree with study findings because Digital Lending Applications are more risky than the traditional financial institutions’ and therefore they are keener when pricing their loans to ensure that all the potential risks and costs that may arise due to those risks are covered.

4.5.3 Debt Collection Strategy

Respondents gave their level of agreement with various the statements relating with debt collection strategy. Table 4.6 presents the findings obtained.
Table 4.6: Descriptive Analysis for Debt Collection Strategy

<table>
<thead>
<tr>
<th>Statement</th>
<th>Mean</th>
<th>Std. dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Borrowers repay within the agreed time</td>
<td>3.994</td>
<td>1.476</td>
</tr>
<tr>
<td>There is accurate and timely reporting</td>
<td>3.994</td>
<td>1.343</td>
</tr>
<tr>
<td>The non-performing loans are escalated to debt collectors or to CRB in</td>
<td>3.988</td>
<td>1.475</td>
</tr>
<tr>
<td>good time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The company has a system that helps to track payments, due loans, and</td>
<td>3.961</td>
<td>1.476</td>
</tr>
<tr>
<td>overdue loans</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The value of non-performing loans as a % of loan book has been reducing</td>
<td>3.961</td>
<td>1.674</td>
</tr>
<tr>
<td>The company has put in place strategies to predict payment patterns of</td>
<td>3.955</td>
<td>1.546</td>
</tr>
<tr>
<td>repeat borrowers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant reminders are sent to the borrower with both the amount payable</td>
<td>3.856</td>
<td>1.525</td>
</tr>
<tr>
<td>and the loan due dates</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The company has put in place incentives to motivate timely loan repayments</td>
<td>3.836</td>
<td>1.426</td>
</tr>
<tr>
<td>Loan reports are able to flag over-due loans in good time and enable</td>
<td>3.830</td>
<td>1.441</td>
</tr>
<tr>
<td>sending of timely reminders to borrowers</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Aggregate</strong></td>
<td><strong>3.931</strong></td>
<td><strong>1.487</strong></td>
</tr>
</tbody>
</table>

Source: Survey Data (2020)

On average, the findings in Table 4.6 show that the aggregate mean is 3.931 an indication that on average, the respondents agreed with various statements on debt collection strategy. The standard deviation was 1.487 which is small, indicating that the responses provided did not deviate significantly from the mean.

Specifically, the study established that some Digital Lending Applications borrowers do not repay within the agreed time (M=3.994, SD=1.476); Digital Lending Applications maintain accurate and timely reporting (M=3.994, SD=1.343); that non-performing loans are escalated to debt collectors or to CRB in good time (M=3.988, SD=1.475); Digital Lending Applications has a system that helps track payments, due loans, and overdue loans (M=3.961, SD=1.476); Digital Lending Applications value of non-performing loans as a % of loan book has been reducing over the years (M=3.961, SD=1.674). Respondents also agreed that Digital Lending Applications has put in place strategies to predict repayment patterns of repeat borrowers (M=3.955, SD=1.546); constant reminders are sent to the borrower with both the amount payable and the loan due dates.
Digital Lending Applications has put in place incentives to motivate timely loan repayments (M=3.836, SD=1.426); and that loans reports are able to flag over-due loans in good time and enable sending of timely reminders to borrowers (M=3.830, SD=1.441).

The findings agree with Scheufler (2002) who emphasized that credits policies, standards and appraisal procedures enable firms to earn financial returns. This is why financial institutions including Digital Lending Applications have collection policies are meant to ensure collection is done regularly and is prompt. This has allowed the amount of non-performing loans to reduce and therefore the company is able to grow.

4.5.4 Sustainability

Respondents gave the level to which they agreed with the statements on sustainability. Table 4.7 presents the findings obtained.

Table 4.7: Descriptive Analysis for Sustainability

<table>
<thead>
<tr>
<th>Description</th>
<th>Mean</th>
<th>Std. dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>The clients have been growing at a stable rate</td>
<td>3.975</td>
<td>1.169</td>
</tr>
<tr>
<td>The company is able to repay its loans or the investors and pay its operating expenses on time without struggling</td>
<td>3.902</td>
<td>1.235</td>
</tr>
<tr>
<td>The number of employees have been increasing</td>
<td>3.902</td>
<td>1.235</td>
</tr>
<tr>
<td>The loan book has been growing</td>
<td>3.902</td>
<td>1.345</td>
</tr>
<tr>
<td>The recovery efforts are working and the borrowers who default are making an effort to pay</td>
<td>3.836</td>
<td>1.207</td>
</tr>
<tr>
<td>The default rate as a % of loan book has been reducing over time</td>
<td>3.830</td>
<td>1.300</td>
</tr>
<tr>
<td>The company’s profit has been increasing</td>
<td>3.817</td>
<td>1.142</td>
</tr>
<tr>
<td>There is a good quality of repeat borrowers who have shown a record of timely repayment</td>
<td>3.764</td>
<td>1.168</td>
</tr>
<tr>
<td><strong>Aggregate</strong></td>
<td><strong>3.866</strong></td>
<td><strong>1.225</strong></td>
</tr>
</tbody>
</table>

Source: Survey Data (2020)
The aggregate mean values as shown in Table 4.7 is 3.866 which suggests that on average, the respondents agreed with the statements on sustainability. The average value for standard deviation was 1.225, an indication that the responses did not deviate very much from the mean value.

Specifically, the respondents agreed that Digital Lending Applications clients have been growing at a stable rate (M=3.975, SD=1.169); Digital Lending Applications are able to repay their loans, investor capital and pay their operating expenses on time without struggling (M=3.902, SD=1.235); Digital Lending Applications employees numbers have been increasing (M=3.902, SD=1.235); Digital Lending Applications loan book has been growing (M=3.902, SD=1.345). The respondents also agreed that the recovery efforts are working and the borrowers who default are making an effort to pay (M=3.836, SD=1.207); Digital Lending Applications default rate as a % of loan book has been reducing over time (M=3.830, SD=1.300); Digital Lending Applications profit has been increasing (M=3.817, SD=1.142); and that there is a good quality of repeat borrowers who have shown a record of timely repayment (M=3.764, SD=1.168).

These findings suggest that the Digital Lending Applications are implementing effective credit management strategies which have enabled them to reduce non-performing loans and grow their companies over time. The study findings therefore agree with Ogboi and Unuafe (2013) who established that sound credit risk management and capital adequacy has a positive effect on sustainability of Digital Lending Applications.

4.6 Multiple Regression Analysis

The study computed multiple regression analysis to investigate the influence of credit management strategies on sustainability of Digital Lending Applications in Kenya. The findings were presented in three tables presented and discussed in the subsections below.
4.6.1 Model Summary

The model summary is used to show the amount of variation in dependent variable that can be explained by changes in the independent variables. In this study, the amount of variation in sustainability of Digital Lending Applications in Kenya as a result of changes in debt collection strategy, pricing strategy, and credit appraisal strategy was sought.

<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>.769*</td>
<td>.592</td>
<td>.582</td>
<td>.25327</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Debt Collection Strategy, Pricing strategy, Credit Appraisal strategy

Source: Survey Data (2020)

From the findings presented in Table 4.8, the value of adjusted R square is 0.582. This suggests that 58.2% variation in sustainability of Digital Lending Applications in Kenya can be explained by changes in debt collection strategy, pricing strategy, and credit appraisal strategy. The remaining 41.8% suggests that there are other factors that can be used to explain variation in sustainability of Digital Lending Applications in Kenya that were not discussed in this study.

The findings also show that the independent variables (debt collection strategy, pricing strategy, and credit appraisal strategy) and the dependent variable (sustainability) are strongly and positively related as indicated by correlation coefficient value (R) of 0.769.

4.6.2 Analysis of Variance

Analysis of variance is used to show the significance of the model developed. In this study, the significance of the model was tested at 5% level of significance.
From the findings in Table 4.9, the significance of the model was 0.000 which is less than the selected level of significance 0.05. This therefore suggests that the model was significant. The findings further show that the F-calculated value ($F = 57.535$) was greater than the F-critical value ($F_{3,119} = 2.681$); this suggests that the variables, debt collection strategy, pricing strategy, and credit appraisal strategy can be used to predict sustainability of Digital Lending Applications in Kenya.

### 4.6.3 Beta Coefficients of the Study Variables

The beta coefficients were fitted to the following modelled regression equation:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Where: $Y =$ growth sustainability; $\beta_0 =$ Constant Coefficient; $X_1 =$ Credit appraisal strategies; $X_2 =$ Interest rate on loans; $X_3 =$ Debt collection strategies; $\varepsilon =$ Random Error Term
From the findings presented in Table 4.10, the following regression equation was fitted; 

\[ Y = 0.833 + 0.474 X_1 + 0.323 X_2 + 0.218 X_3 + \varepsilon \]

From the equation above, it can be seen that when all the other variables (debt collection strategy, pricing strategy, and credit appraisal strategy) are held to a constant zero, sustainability will be at a constant value of 0.833.

The finding also show that credit appraisal strategy has significant influence on sustainability (\( \beta=0.474, \ p=0.000 \)). The findings further showed that credit appraisal strategy has positive influence on sustainability. These findings suggest that credit appraisal strategy positively and significantly influence sustainability. Therefore, a unit increase in credit appraisal strategy will result in an increase in sustainability of Digital Lending Applications in Kenya by 0.474 units.

Pricing strategy is seen to have significant influence on sustainability (\( \beta=0.323, \ p=0.000 \)). The findings further showed that pricing strategy has positive influence on sustainability. These findings suggest that pricing strategy positively and significantly influence sustainability.
Therefore, a unit increase in pricing strategy will result in an increase in sustainability of Digital Lending Applications in Kenya by 0.323 units.

The findings finally showed that debt collection strategy has significant influence on sustainability (β=0.218, p=0.001). The findings further showed that debt collection strategy has positive influence on sustainability. These findings suggest that debt collection strategy positively and significantly influence sustainability. Therefore, a unit increase in debt collection strategy will result in an increase in sustainability of Digital Lending Applications in Kenya by 0.218 units.
CHAPTER FIVE
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of findings, conclusion drawn from the findings highlighted and recommendations made there-to. The objective of the study was to investigate credit management strategies and sustainability of Digital Lending Applications in Kenya.

5.2 Summary

The sustainability of the rapid emergence and uptake of Digital Lending Applications in Kenya is worrying; there is no data on performance of Digital Lending Applications mainly because providers of non-deposit taking service are unlicensed and not regulated by Central Bank of Kenya. This suggests that these lenders are not subjected to abiding by the 2016 law on interest rate caps which limited the rate of interest on credit to 4% above the reference rate by the CBK.

Majority of Digital Lending Applications in Kenya deal with personal loans which are unsecured and therefore lenders charge a higher interest rate because of the higher risk nature of their customers and thereafter use aggressive debt collection techniques, this have led to calls from the general public, policy-makers and the CBK for the regulation of Digital Lending Applications.

It’s worth noting that there is inadequate research on the link between credit management strategies and sustainability of Digital Lending Applications in Kenya. However, if the current status continues where millions of Kenyans are listed with CRB it will be to the detriment of Digital Lending Applications investors who will lose their investments and it will eventually lead to closing down of Digital Lending Applications which will be a backward trend to the
innovative and inclusive idea Digital Lending Applications bring to Kenyans in comparison to the traditional financial institutions.

This research was aimed at establishing this relationship and bridging the knowledge gap by studying credit management strategies and sustainability of Digital Lending Applications in Kenya. With the specific objectives been to investigate the effects of credit appraisal strategy on sustainability of Digital Lending Applications in Kenya; to investigate the effects of the pricing strategy on the sustainability of Digital Lending Applications in Kenya; and to investigate the effects of debt collection strategy on sustainability of Digital Lending Applications in Kenya

The study used a descriptive research design to establishing a relationship between credit management strategies and sustainability of Digital Lending Applications in Kenya. This study used both primary data. Primary data was collected using questionnaires.

The study found that Digital Lending Applications in Kenya ensure that they have the necessary Know Your Customer (KYC) documents as well as the necessary records to track the borrower if they defaulted on the loan repayment; Digital Lending Applications in Kenya examine the income or cash flows of borrowers to determine the loan repayment capability; Digital Lending Applications in Kenya verify the credit history of prospective borrowers before advancing credit to assess previous behaviour as a prediction for future behaviour on loan repayment ; Digital Lending Applications in Kenya determine the appropriate loan limit to advance to each borrower by examining the cash flow records; and that Digital Lending Applications in Kenya ensure that borrowers understand the loan terms before advancing the loan.

The study established that Digital Lending Applications in Kenya consider the cost of capital before making a decision on the interest rate to charge borrowers before advancing the loans; Digital Lending Applications in Kenya considers whether the interest rates are higher than
necessary; and whether the profits generated from the loan interest income generate enough revenue to cover operating costs of the company; and also that interest rates charged on loans is enough to cover any collection costs in case of default by the borrower.

The study established that some borrowers do not repay within the agreed time; Digital Lending Applications in Kenya maintain accurate and timely reporting; and non-performing loans are escalated to debt collectors or to CRB in good time; the company has a system that helps to track payments, due loans, and overdue loans; and the value of non-performing loans as a % of loan book has been reducing. The study also found that the Digital Lending Applications in Kenya has put in place strategies to predict payment patterns of repeat borrowers; constant reminders are sent to the borrower with both the amount payable and the loan due dates; Digital Lending Applications in Kenya has also put in place incentives to motivate timely loan repayments; and that loans reports are able to flag over-due loans in good time and enable sending of timely reminders to borrowers.

**5.3 Conclusions**

The study found that credit appraisal strategy has significant influence on sustainability. The findings further showed that credit appraisal strategy has positive influence on sustainability. These findings suggest that credit appraisal strategy positively and significantly influence sustainability. Therefore, from the findings, the study concluded that a unit increase in credit appraisal strategy will result in an increase in sustainability of Digital Lending Applications in Kenya.

Pricing strategy was found to have significant influence on sustainability. The study further found that pricing strategy has positive influence on sustainability. These findings suggest that pricing strategy positively and significantly influence sustainability. From the study findings, the
study concluded that a unit increase in pricing strategy will result in an increase in sustainability of Digital Lending Applications in Kenya.

The study finally found that debt collection strategy has significant influence on sustainability. The findings further found that debt collection strategy has positive influence on sustainability. These findings suggest that debt collection strategy positively and significantly influence sustainability. From these study findings, the study concluded that a unit increase in debt collection strategy will result in an increase in sustainability of Digital Lending Applications in Kenya.

5.4 Recommendations

The study recommends that Digital Lending Applications in Kenya should improve their client appraisal techniques to lower their non-performing loans. Having a well-performing loan portfolio will improvement their financial performance and hence their sustainability. Digital Lending Applications in Kenya have incurred loan losses through lenient standards of lending. Digital Lending Applications in Kenya should improve the way they deal with risk accruing from credit by improving their credit risk controls; this can be done by having an updated assessment database with a profile of prospective and current borrowers and guarantors, it should show a of history repayment patterns and cash flow records of the borrower. The database can be shared among financial institutions and other lending companies to be used during the credit appraisal process; this can improve the quality of their loan books.

This study recommendations agree with studies done, the composition of interest rate should be optimal for the borrower as well for the lending institution to cover its operations cost to survive and able to supply the funds in the future. This study recommends that because of the risk nature digital lending the management of Digital Lending Applications should be keener when pricing
their loans to ensure that all the potential risks are covered when pricing the loans. There is also need to keeping reviewing a borrowers repayment patterns, good borrowers who repay their loans on time should be given incentives by offering them lower interest rates in future to encourage good behaviour.

Digital Lending Applications should consider formulating a universal credit policy document in Kenya. Also, stringent policies should always be useful in regulating the whole process of loan application, loan appraisal issue and loan repayment. This will be adopted by Digital Lending Applications from which rating of their financial performance through credit risk management can be measured and regulated. The management of Digital Lending Applications in Kenya should also have collection policies that ensure clearly written procedures to be followed for debt collection. Digital Lending Applications in Kenya should also have an internal audit conducted on the borrower’s business if that was the basis for the loan approval, to determine management weakness, this will also allow the lender to determine the businesses that are risky and how to deal with them when advancing credit in the future.

5.4.1 Suggestions for Further Studies

The focus of this study was to investigate credit management strategies and sustainability of Digital Lending Applications in Kenya. This study was limited to Digital Lending Applications in Kenya; the study thus recommends a study to be conducted among other credit lending institutions like MFIs and SACCOs in Kenya to find out if the findings are only limited to Digital Lending Applications. The study explained 58.2% variation in sustainability; the study thus recommends a study to be conducted on other factors that affect sustainability like credit risk control. Further study can also be done on the effectiveness of collection policies imposed by Digital Lending Applications in Kenya.
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APPENDICES

Appendix I: Research Authorization Letter

KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dges-graduate@ku.ac.ke
Website: www.ku.ac.ke

P.O. Box 48444, 00100
NAIROBI, KENYA
Tel. 8710901 Ext. 57530

Our Ref: D53/CTT/PT/37305/2016

DATE: 11th June, 2020

Director General,
National Commission for Science, Technology
and Innovation
F.O. Box 32625-00100
NAIROBI

Dear Sir/Madam,

RE: RESEARCH AUTHORIZATION FOR MARGARET WANGECHI NJENGA — REG. NO.
DSS/AVT/PT/37305/2019

I write to introduce Margaret Wangechi Njenga who is a Postgraduate Student of this University. She is registered for M.B.A degree programme in the Department of Business Administration.

Margaret intends to conduct research for a M.B.A Project Proposal entitled, “Credit Management strategies and growth sustainability of digital lending apps in Kenya”.

Any assistance given will be highly appreciated.

Yours faithfully,

PROF. ELISEHIBA KIMANI
AG. DEAN, GRADUATE SCHOOL

[Signature]

[Stamp]
Appendix II: Questionnaire

RESEARCH QUESTIONNAIRE FOR DIGITAL LENDING APPLICATIONS EMPLOYEES

This questionnaire is essential to a study titled: credit management strategies and growth sustainability of Digital Lending Applications in Kenya. You are kindly requested to fill in the questionnaire according to the instructions provided. Kindly put a tick against the correct choice.

Section I

Background details of the respondent

Instructions: Please tick (√)

1. Kindly indicate your age category
   a. Below 25 years [ ]
   b. 25 -29 years [ ]
   c. 30 -34 years [ ]
   d. 35 years and above [ ]

2. What is your highest academic qualification?
   a. Certificate [ ]
   b. Diploma [ ]
   c. First Degree [ ]
   d. Post-Graduate Degree [ ]
3. Name of your employer (optional).................................................................................................

4. Kindly indicate the job description category under which you fall.
   
   a) Loan Appraisal [ ]
   
   b) Credit Staff [ ]
   
   c) Accounting Staff [ ]
   
   d) Manager/Director [ ]
   
   e) Other Role (Indicate the role) ...........................................................

5. How long have you worked for the present company?
   
   a. Less than 1 year [ ]
   
   b. 1 to 3 years [ ]
   
   c. More than 3 years [ ]

6. At what level have you been involved with the digital loans management?
   
   a) Credit appraisal and loan issuance [ ]
   
   b) Setting of interest rates [ ]
   
   c) Performance monitoring and debt follow-up [ ]
   
   d) All the above [ ]

   e) None of the above [ ]
**Section II**

For this section, select the most appropriate response under each of following sub sections: Credit appraisal strategy, pricing strategy, debt collection strategy and sustainability. Kindly use the following Likert scale: Strongly Disagree, Disagree, Not Sure, Agree, and Strongly Agree.

**a) Credit Appraisal Strategy**

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Not Sure</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital Lending Applications ensure that they have the necessary Know Your Customer (KYC) documents and they have the necessary records to track the borrower if they defaulted on the loan repayment</td>
<td></td>
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<tr>
<td>Digital Lending Applications verify the credit history of prospective borrowers before advancing credit</td>
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<tr>
<td>Digital Lending Applications examine the income or cash flows of borrowers to determine the capability to pay</td>
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<tr>
<td>Digital Lending Applications determine the appropriate loan limit to advance to each borrower</td>
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</tr>
<tr>
<td>Digital Lending Applications ensure that borrowers understand the loan terms before advancing the loan</td>
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<td></td>
</tr>
</tbody>
</table>
### b) Pricing Strategy

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Not Sure</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Your organization consider the cost of capital before making a decision on the interest rate to charge borrowers before advancing the loans</td>
<td></td>
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<tr>
<td>The profit from loan interest income generate enough revenue to cover operating costs of the company</td>
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<tr>
<td>Interest rates charged on loans is enough to cover any collection costs in case of default by the borrower</td>
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<tr>
<td>Are the interest rates higher than necessary</td>
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</tbody>
</table>

### c) Debt collection strategy

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Not Sure</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The company has a system that help to track payments, due loans, and overdue loans</td>
<td></td>
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<tr>
<td>Constant reminders are sent to the borrower with both the amount payable and the loan due dates</td>
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<tr>
<td>Borrowers repay within the agreed time</td>
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<tr>
<td>The company has put in place strategies to predict payment patterns of repeat borrowers</td>
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<tr>
<td>The company has put in place incentives to motivate timely loan repayments</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>There is accurate and timely reporting</td>
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<td>Loan reports are able to flag over-due loans in good time and enable sending of timely reminders to borrowers</td>
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<tr>
<td>The non-performing loans are escalated to debt collectors or to CRB in good time</td>
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<tr>
<td>The value of non-performing loans as a % of loan book has been reducing</td>
<td></td>
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</tr>
</tbody>
</table>
### d). Sustainability

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Not Sure</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The company’s profit has been increasing</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>The company is able to repay its loans or the investors and pay its operating expenses on time without struggling</td>
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<tr>
<td>There is a good quality of repeat borrowers who have shown a record of timely repayment</td>
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<tr>
<td>The clients have been growing at a stable rate</td>
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<tr>
<td>The number of employees have been increasing</td>
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<tr>
<td>The default rate as a % of loan book has been reducing over time</td>
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</tr>
<tr>
<td>The recovery efforts are working and the borrowers who default are making an effort to pay</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The loan book has been growing</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**THANK YOU FOR YOUR COOPERATION**