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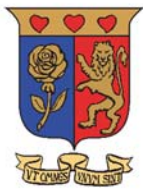
# Influence of digital lending platforms design on loan performance among small business owners in Gikomba open-market, Nairobi County

Zeituna Mustafa  
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**INFLUENCE OF DIGITAL LENDING PLATFORMS DESIGN ON  
LOAN PERFORMANCE AMONG SMALL BUSINESS OWNERS IN  
GIKOMBA OPEN-MARKET, NAIROBI COUNTY**

**ZEITUNA MUSTAFA**

**MDF/102128/2017**

**SUBMITTED IN PARTIAL FULFILLMENT OF THE  
REQUIREMENTS FOR THE DEGREE OF MASTERS OF SCIENCE  
IN DEVELOPMENT FINANCE AT STRATHMORE UNIVERSITY**

**DECEMBER 2020**

### DECLARATION

I declare that this work has not been previously submitted and approved for the award of a degree by this or any other University. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made in the thesis itself.

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## **DEDICATION**

I dedicate this research work to my daughter Bilacha.

### **ACKNOWLEDGEMENT**

I sincerely acknowledge the immense contribution of my supervisor Dr. Muli Maingi whose guidance and resourcefulness made this work a success. I further acknowledge faculty members and my classmates whose moral encouragement guided me through the research project.

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## **LIST OF ABBREVIATIONS**

<b>BOP</b>	Bottom of the Pyramid
<b>CBA</b>	Commercial Bank of Africa
<b>CBK</b>	Central Bank of Kenya
<b>CRB</b>	Credit Reference Bureau
<b>DFS</b>	Digital Financial Services
<b>FSD</b>	Financial Sector Deepening
<b>MNO</b>	Mobile Network Operator
<b>NACOSTI</b>	National Commission for Science, Technology, and Innovation
<b>VIF</b>	Variance Inflation Factor

## **DEFINITION OF TERMS**

<b>Digital loan</b>	This is a loan that permits clients to apply instantly and get credit over mobile phones (Eilin, Joshua, & Jonathan, 2017)
<b>Digital Disruption</b>	The change that occurs when new concurrent and disruptive digital financial technologies affect the value proposition of an existing form of financial service (Nan & Markus, 2019)
<b>Digital Platform</b>	A digital platform is an avenue through which money related organizations can offer monetary types of assistance to clients through the use of electronic channels (CGAP, 2017)
<b>FinTech</b>	This entails the companies which use the technology intending to make the financial system more efficient (Bazarbash, 2019)
<b>Loan performance</b>	This is a measure that concentrates on a loan that is either in default or near being in default (Hwang & Tellez, 2016)
<b>Mobile banking</b>	subset of electronic banking in which customers access a range of banking products, such variety of savings and credit instruments, via electronic channels. (Porteous 2016)
<b>Mobile Loans</b>	These are loans through the Mobile banking platform (Blechman, 2016)

## ABSTRACT

Access to loans is instrumental in deepening financial inclusion and supporting small business growth. With the increasing digitization in the Kenyan economy, many digital lenders' availability has been integral in financial inclusion. The penetration of digital loans in the country is seen as a sign of a healthy market. However, determining the loan's quality to the loanee is yet to be determined since the loans are processed instantly. This study sought to establish the effect of digital lending platforms design on loan performance among small business owners in the Gikomba Open air market. The study specifically examined the effect of instantaneous processing, service automation, and remote processing on loan performance. The study further sought to establish the moderating effect of demographic factors on the relationship between digital lending platforms design and loan performance. The research was grounded on the financial inclusion and financial intermediation theories. The study adopted a positivism research philosophy that relied on descriptive research design to determine the association among the variables. The target population of the study was the registered small-scale business owners operating within Gikomba Open-Air Market. A pretest was carried out on the same population on a smaller sample before embarking. The study relied on primary research data collected using a structured questionnaire, with analysis involving descriptive and inferential statistics. The research further applied a partial correlation to examine the moderating effect of demographic factors. This study presented the findings using various graphical representation tools such as charts and tables. The results indicated a positive correlation between instantaneous processing, service automation, remote processing, and loan performance. This implied that the lending platforms' design had enabled borrowers to access multiple lenders, improve their repayment time, and are less likely to default on their loans than when accessing conventional loans. The study concludes that digital lending platform design had a positive and significant relationship with loan performance. The partial correlation results indicate that age, gender, education, and income level significantly moderated the relationship between digital lending platforms design and loan performance. The study recommends that digital lenders should be regulated to adopt the protection of consumers of their products. Further, lenders need to invest in newer technologies that will foster instantaneous processing, improving the accessibility of funds, and increased automation in customer service as this can enhance their client engagement. To lenders, recommendations were for additional emphasis to be made on payment to reduce the default rate. Lenders were also advised to ensure that the borrower's demographic profile is taken into account in loan screening to ensure different limits for different demographics.

## CHAPTER ONE

### INTRODUCTION

#### 1.1 Background of the Study

Digital financial services have been defined as the access and use of formal financial products and services through digital channels leveraging technology-enabled /oriented processes (Consultative Group to Assist the Poor [CGAP], (2017). There has been a phenomenal growth in the Digital Financial Services (DFS) landscape in the past decade. For instance, globally, we had more than 1 billion registered mobile money accounts (372 million of these being active) in 95 countries with \$1.9 billion transacted every day as of 2019 (Groupe Speciale Mobile [GSMA], 2019). The same report states that there are 290 live services in 95 countries, and 96% of countries have no official accounts with formal financial institutions.

Technological advancements have seen the rise of access and use of digital lending platforms in emerging markets. These platforms allow for access to digital payment products such as mobile money integrated with digital channels accessed through mobile phones and internet portals (Omar, Weerakkody, & Sivarajah, 2017). According to CGAP (2017), Asia and Latin America account for 22 deployments of digital loan lending platforms that serve 24 million subscribers, and six deployments account for 1 million users, respectively. In Africa, Kenyan based M-Shwari serves 13.5 million, while Tanzania's M-Pawa serves 4.8 million subscribers to digital loans (Vidal & Hwang, 2017). Cooper & Schindler (2014) noted that fast technological capabilities are the main reason for rising subscription numbers and improved transaction rates in Kenya.

However, this success is also faced with challenges. A study by Gubbins and Totolo (2018) revealed that digital loan borrowers perceive the product as meeting the immediate liquidity needs. However, it was also reported that out of four respondents, one advocated for more time to be added into the loan repayment period, 14% reported that the lender unexpectedly charged fees or withdrew money from their savings account, while 10% pinioned that the cost of the loan was too high. Additionally, 8% reported that they had been reported to the loan bureau for default of payments, failed to understand the loan terms' impact, or could not contact customer care for further advice. Mustapha (2018) states that 2.7 million Kenyans have defaulted on their payments since 2013 and have negative records in the loan reference bureau. The loan being a

driver of economic growth means 2.7 million people have minimal chance of accessing larger loans to engage in economic activities. With a negative record in the CRB, they have been locked out of access to formal financial services.

### **1.1.1 Digital Lending Platforms**

Digital credits are services that enable clients to access loans over mobile devices instantly. It is a convenient method of accessing loans since it is instantaneous, saves time spent applying for a formal loan, and has no extensive paperwork (Blechman, 2016). Eilin et al. (2017) note that modern credit systems have complemented conventional credit systems by providing quick, short-term solutions. There have been numerous changes to the country's credit system over the last six years. Accessibility of the services through mobile phones, automated credit scoring, agent banking, access to CRB, and digital data availability has set the foundation for the growth of digital credit, thus enabling the quick provision of digital loans at a large scale (Gubbins & Totolo, 2018). Digital credit design in this context refers to the factors that distinguish digital credit from conventional credit; for example, digital credit is instant, automated, and remote (Hwang & Tellez, 2016). According to Owens (2018), the way digital credit is designed and delivered can create various customer risks, including negative listing or over-indebtedness, which leads to accidental default.

Chen and Mazer (2016) assert that there are three measures of design that distinguish digital credit from conventional credit. First, it's instant and leverages digital data on customer profiles to make an assessment, and mostly, this happens within a few minutes of the loan application. In terms of instantaneity, it also refers to the short-term repayment period. Disbursement and repayment happen digitally, making it instant. Second, it's automated whereby the customer's registration, what is called onboarding, loan application, and loan assessment process are all automated, making the customer journey automated end to end. Third, it is remote, whereby there is no face-to-face interaction between the supply and demand sides. All communications, customer management, loan collection, and loan application are managed remotely.

The instant and automatic nature of the product can pose a performance issue when borrowers decide based on biases instead of real needs and take loans without prior needs. This has also been made easier by factors like aggressive marketing, making borrowing an opportunity not to

be missed (Owens, 2018). Mustafa et al. (2017) studied the customer experience of digital credit in Kenya and found out that remote collection influences borrowers' repayment. They summarized the finding as customers quoting reminder messages as computer-generated SMSs that they did not care about. They also found customers prioritized the conventional loan repayment because the loan officer would come after them for recovery. According to a report by MicroSave (2019), the remote collection mechanism with low touch could be linked to higher negative performance. They showed evidence of MFI loans who observe a more diligent repayment mechanism of having a higher level of human touch, thus having better repayment of up to 70% instead of digital lenders having 61% for MNO enabled and 56% for Fintechs.

### **1.1.2 Digital Loan Performance**

According to Mazer and McKee (2017), digital loan refers to loan products—including digital payments products such as mobile money—that are delivered fully via digital channels, such as mobile phones and the internet. GSMA (2016) defines a digital loan as a loan service available on basic mobile devices and allows customers to borrow an unsecured loan and repay within a specific time frame via mobile money. This agrees with Carlson (2017), who defines a digital loan as unsecured loans where loan decisions are made instantaneously based on mobile data, and loans are requested, delivered, and repaid electronically.

The performance of digital loans can be measured using the following indicators—first, the reach and scale of the product. The diversity in the digital loan and product innovation are evidence of efforts to provide access to loans to the unbanked population to deepen financial inclusion (Saldanha, Kathuria, Khuntia, Konsynski, & Andrade Rojas, 2017). Performance relates to being instant and automated loan scoring, which does not require collateral, making it easy to reach the last mile customers. The second measure of performance is related to the increasing eligibility threshold due to the positive history of the customer we have seen the relationship has been made possible by the automated loan assessment. Since the loans are instant and short term, there are chances of customers climbing the higher limit ladder in a short period (Garmaise, 2015).

The fact that the loans are remote has some relationship to increasing the loan limit since their data remotely can tell a story (Field, Pande, Papp, & Park, 2012). Customers use several methods to increase their loan limit; some take on savings options, others frequently borrow while

repaying early, thus boosting their credit scores. Small and medium business owners have greatly benefitted from these types of loans (MicroSave, 2019). The third measure of performance relates to being negatively listed due to default. This measure relates to the design of the loans being instant as it tempts borrowers to make an impulsive decision based on the present bias instead of real needs and take loans without prior needs. This has also been made easier by factors like aggressive marketing, making borrowing an opportunity not to be missed.

The short-term nature of the loan relates to repayment, where empirical evidence shows a negative relationship between successful repayment and the period of repayment (Pasha and Negese, 2014). Wongnaa and Awunyo-Vitor (2013) further explain that the longer the repayment period, the lower the default rate because it prepares the borrower to earn a substantial amount that can service the loan. But when the repayment period is shorter, the borrower may not get as much time to repay the loan. (Mitei, Bosire, & Kirui, 2016). Digital loan performance in this study's context refers to the digital borrower's positive performance while measuring the growth of eligibility threshold and penetration of the product to the underserved areas, and the negative performance as far as default is concerned.

### **1.1.3 Demographic Factors and Loan Performance**

Cyree and Morris (2018) studied the effects of income and population demographics on single-county bank performance and indicated that banks in low population nations outperform countries with a higher population. The study also notes that the high-income level within banks is positively associated with bank success. Ssekiziyivu, Bananuka, Nabeta, and Tumwebaze (2018) examined borrowers' attributes, credit terms, and advance reimbursement execution among customers of microfinance institutions (MFIs) and found out credit terms in terms of the formulated policies and recovery mechanisms were significant predictors and the borrowers' characteristics such as age, marital status and income did not significantly influence loan repayment.

Mwaka (2017) studied factors influencing repayment of microfinance loans in Kenya and found out that borrowers' literacy level, off-farm income levels, number of loans, and loan officers' visits were critical determinants of loan repayments. Osendo (2019) reveals that client appraisal, credit control, the loan terms offered, and collateral availability are significant predictors of loan performance among the Youth in Kenya. Sigei (2017) analyzed factors affecting loan repayment and indicates the business's age, business experience, size of the business, group dynamics, and

loan factors positively predicted the loan repayment performance. From the foregoing studies, it is evident that demographic factors such as age, gender, income, and education are vital to improving loan performance among individuals and business owners. Based on the above, the study sought to establish if demographic factors have a moderating influence on the link between digital lending platforms and digital loan performance.

#### **1.1.4 Digital Lending Services in Kenya**

DFS systems have been noted to be among customers' methods to manage economic shocks (Jack & Suri, 2014). The success of mobile money in Kenya is a function of the efficiency of Mpesa, which has achieved financial inclusion. With 27 million Mpesa users as of 2018, the service has been used as a channel to drive access to digital financial systems. Digital lending companies have leveraged the platform to find innovative ways to reach their customers and deliver the instant loan. M-shwari is the first digital loan, and it launched in Kenya in 2012, a partnership between Safaricom and Commercial Bank of Africa (CBA). The model works through users qualifying for loans backed by CBA, and later, an additional feature for saving was added, and users can earn interest on their savings.

The country has a generous legal system, allowing for minimal intervention through policies and regulations. As such, it has accelerated the rate at which digital financial and loan services have grown since the inception of M-shwari. This has also encouraged the participation of multiple players in the sector, thus increasing competition, resulting in favorable lending terms to clients. Marketing strategies such as segmentation and geographical dispersion have increased diversification in the industry, thus increasing penetration into regions where formal financial services had failed to do previously. Kenya has made great strides in the digital loan, with 34.8% of Kenyans have used the service as of 2017 (Gubbins & Totolo, 2018). This has increased accessing instant loans privately and formally for the first time. The most typical digital model in Kenya is where telco partners with a bank to provide small short-term loans to the customer over an already existing mobile money wallet. An example being Mshwari. The second model is where a financial technology/bank delivers digital loans using alternative loan scoring to remotely lend to customers. An example being Tala or Branch (MicroSave, 2019).

Over 50 digital loan startups operate in Kenya, including Mshwari, Timiza, Fuliza, Tala, Branch, Equitel, and KCB-Mpesa. The providers differ in their model of scoring and how it is delivered

The study used the following ordinary least squares regression model to estimate the relationship between digital lending design and loan performance

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

Where:

Y = loan performance in small businesses

{ $\beta_i$ ;  $i=1, 2, 3,4$ } = The coefficients for the various independent variables

$X_1$  = instantaneous processing

$X_2$  = service automation

$X_3$  = remote processing

e = error term

The study further undertook the moderator variable analysis using the below partial correlation analysis. The moderating effect of demographic factors was conducted using the below framework to test the moderator effect on Kenya's digital lending platform and loan performance.

**Table 3.2 Moderation Tests**

Hypothesis Statement	Hypothesis Test	Model
H <sub>04</sub> : Demographic factors do not significantly moderate the relationship between digital loan design and loan performance among small Business Owners in Gikomba Open-Market, Nairobi County	H <sub>04</sub> : $r_{xy.z} = 0$ H <sub>0A</sub> : $r_{xy.z} \neq 0$ Reject H <sub>04</sub> , if $\beta \neq 0$ and $r_{xy} \neq r_{xy.z}$ or P-value $\leq \alpha$ Otherwise, fail to reject H <sub>04</sub> if $\beta = 0$ and $r_{xy} = r_{xy.z}$ or P-value $> \alpha$ $\alpha = 0.05$	$R_{xy.z} = \frac{[r_{xy} - (r_{xz})(r_{yz})]}{[\sqrt{1-r_{xz}} \cdot \sqrt{1-r_{yz}}]}$ $R_{xy.z}$ = Partial correlation controlling for variable z. Y= Aggregate score for the three independent variables X = Aggregate score of loan performance Z = The moderating variable

### 3.5.1 Tests for Linear Regression Assumptions

Inferential testing hypotheses such as correlation and regression analysis require that the data meets the normality requirement. This is the assumption that the residuals from which the samples are drawn are normally distributed.

#### 3.5.1.1 Collinearity Test

Multicollinearity refers to the linear correlation among variables. In regression models, multicollinearity causes the standard error of co-efficient to increase, making them unreliable. Variance Inflation Factor (VIF) is used to test whether variables are correlated. A Variance Inflation Factor greater than 10 implies that multicollinearity is a problem in the model (Sinan & Alkan, 2015).

**Table 3.3 Collinearity Results**

Model	Collinearity Statistics		
	Tolerance	VIF	
1	(Constant)		
	Instantaneous processing	.674	1.484
	Service automation	.574	1.741
	Remote processing	.662	1.511

a. Dependent Variable: Loan performance

Variance Inflation Factor (VIF) was used to test for multicollinearity among study variables. Cooper and Schindler (2014) view that as a rule of the thumb is if VIF of independent variables exceeds 10, that variable is collinear. The VIF study results confirmed the absence of Multicollinearity among the study's independent variables since all the VIF values were below 10.

#### 3.5.1.2 Normality Test

Normality can be assessed using a graphical or analytical test (Das & Imon, 2016). The Shapiro-Wilk test is preferred for testing normality due to its powerful properties for sample sizes of less than 2,000. The Shapiro-Wilk test statistic lies between zero and one. Values close to zero imply that the data is not normally distributed, while values close to one confirm the data (Razali & Wah, 2011).

**Table 3.4 Normality Results**

	Shapiro-Wilk		
	Statistic	df	Sig.
Instantaneous processing	.924	136	.276
Service automation	.934	136	.275
Remote processing	.960	136	.346
Loan performance	.940	136	.445

a. Lilliefors Significance Correction

The normality test is a prerequisite for statistical tests because normal data is an underlying assumption in parametric testing. The test states that for normally distributed data, the sig. value should be 0.05 or greater. All the study variables had a Sig-value of above 0.05, indicating that the study data were normally distributed.

### 3.5.1.3 Heteroscedasticity Test

Heteroscedasticity occurs when the variance of the error terms differs across observations. The standard errors of estimates are biased if we have heteroscedasticity (Das & Imon, 2016).

**Table 3.5 Heteroscedasticity**

Heteroskedasticity occurs when the error terms' variance differs across observations (Crowther & Lancaster, 2008).

Model		t	Sig.
1	(Constant)	19.877	.000
	Instant Processing	-.232	.817
	Service Automation	.863	.390
	Remote Processing	1.410	.161

a. Dependent Variable: AbsUt

The study applied the Gletjser Test to test for heteroskedasticity in the stochastic terms. This study used the Glejser Test, which was conducted by regressing absolute residual values of the independent variable with the regression equation. For the Test Glesjer, the significance value of above 0.05 indicates there is no problem of heteroscedasticity. The above results indicate

regression for the absolute residuals yielded a significance value of above 0.05, thus showing no heteroscedasticity problems.

### **3.6 Ethical Considerations**

This study ensured that research guidelines are observed in the conduct of this study. The research ensured that ethical review committee approval is sought from the Strathmore Business School before undertaking the study. The research obtained a research permit from the National Commission for Science, Technology, and Innovation before the data collection. The study also ensured that all the responses obtained are treated with the utmost confidentiality, and the review of the same was conducted for academic purposes only. The study also ensured that the respondent's participation was voluntary.

## CHAPTER FOUR

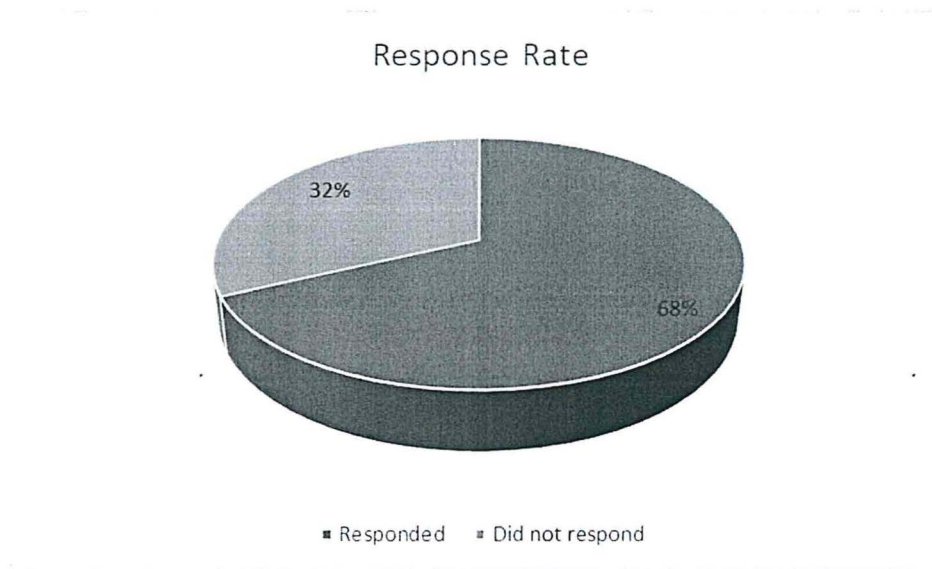
### PRESENTATION OF RESEARCH FINDINGS

#### 4.1 Introduction

The findings of the research are presented in this chapter. The chapter focused on the demographic information, the exploratory factor analysis, the descriptive analysis, correlation analysis, and regression analysis.

#### 4.2 Response Rate

The study was conducted across small-business owners in the Gikomba open-air market in Nairobi County. The study sampled 200 businesses, obtaining a 68% response rate (n=136). This response was satisfactorily for quantitative analysis, as suggested by Cooper and Schindler (2014), who posits that above 60% of a sampled respondent's response rate is deemed adequate for statistical analysis.



**Figure 4.1 Study Response Rate**

### 4.3 Demographic Information of the Respondents

#### 4.3.1 Gender of Respondents

The research sought to explore the respondent's gender, with the results presented in the table below.

**Table 4.1 Gender of Respondents**

	Frequency	Percent
Male	98	72.1
Female	38	27.9
Total	136	100.0

The findings show that the majority of the respondents, 72% were male business owners, while 28% of the participants were female business owners. The above results indicated that most of the small businesses are largely owned by men within the Gikomba open-air market.

#### 4.3.2 Age of Respondents

The research further examined the respondents' age profile, and the results are presented in the table below.

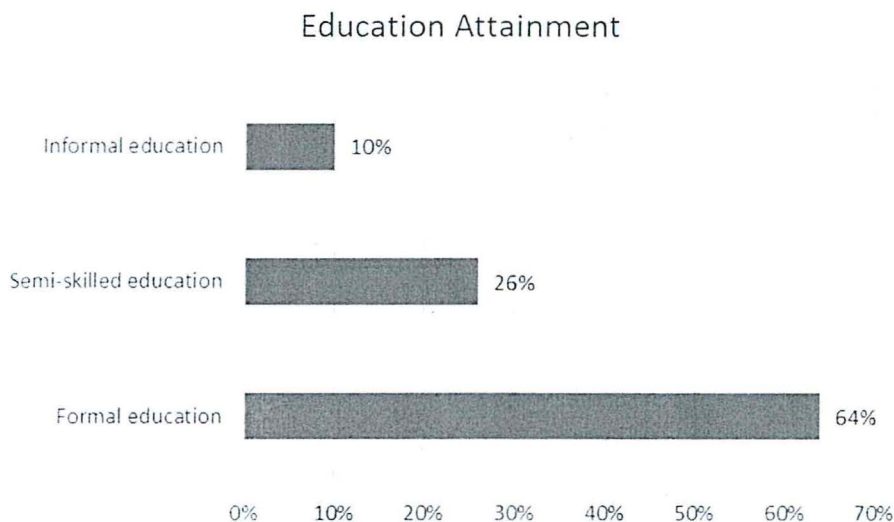
**Table 4.2 Age of Respondents**

	Frequency	Percent
18-26 years	51	37.5
27-35 years	57	41.9
36-45 years	22	16.2
46 and above	6	4.4
Total	136	100.0

The results indicate that most of the participants, 42% (n=57), were between the age of 27-35 years, 38% were aged 18-26 years while only 4% were above 46 years of age. The findings demonstrate that most of the digital lending platforms are being utilized by youthful business owners (between age 18-35 years), as shown in the above data.

### 4.3.3 Education Level of Respondents

The analysis results show that the majority of the participants, 64%, had attained formal education, 26% had some form of semi-skilled education. In contrast, only 10% of the participants had attained an informal education. The results indicated that with an increase in formal education, there was generally an improvement in the acceptability and usage of digital lending platforms within the market.



**Figure 4.2 Education Attainment**

### 4.3.4 Period in Business

The research further explored the length of time that the participants had been traders at the Gikomba air market, and the results are shown in the table below.

**Table 4.3 Length of Trading**

	Frequency	Percent
0-2 Years	58	42.6
3-6 Years	46	33.8
7-9 years	24	17.6
Over 10 Years	8	5.9
Total	136	100.0

The study results showed that most of the participants, 43%, had been in operation within the market for 0-2 years, 34% had been in service for 3-6 years, while only 6% of the participants had been in the market for over ten years. The results show that with an increase in business experience, there is an increased reliance on business financing channels such as usage of digital lending platforms.

#### 4.3.5 Monthly Level of Income

The study further examined the monthly income level among small-business owners in the market, and the study results are shown below.

**Table 4.4 Level of Monthly Income**

	Frequency	Percent
0-50,000 shs	65	47.8
50,0001-100,000 shs	33	24.3
100,0001-250, 000 shs	27	19.9
Over 250, 000 shs	11	8.1
Total	136	100.0

The results indicate that most of the business 48% (n=65) generated monthly revenue of fewer than 50,000 shs, 24% (n=33) of the small businesses generated 50,001-100,000 shs while only 8% (n=11) of the businesses generated over 250,000 shs.

#### 4.4 Descriptive Analysis

The study further conducted a descriptive analysis to tabulate the responses of the research obtained from the participants. The results were presented using means, standard deviation, and sums. The aim of the descriptive analysis was to provide a summary of the responses obtained from the research participants.

##### 4.4.1 Instantaneous Processing

The first independent variable was the instantaneous processing of the digital lending platforms, and the results are indicated below.

**Table 4.5 Descriptive Results for Instantaneous Processing**

	Sum Statistic	Mean Statistic	Std. Deviation Statistic
I can access digital loan from any location at any time	453.00	3.330	1.187
The loan approved is disbursed to my mobile wallet instantaneously	479.00	3.522	1.033
There is the ease in access to the digital loans	504.00	3.706	1.005
I can access digital loan during emergency times	459.00	3.375	1.128
I receive the exact amount of money offered by the lender without any hidden processing charges	293.00	2.154	.860

The results indicate agreement among respondents that there is ease in access to digital loans as indicated by a mean of 3.706 and a deviation of 1.005. The results also showed agreement that loan approval is disbursed to mobile wallet instantaneously, as shown by a mean of 3.522. The findings also indicate strong disagreement among respondents that they receive the exact amount of money offered by the lender without any hidden processing charges (Mean = 2.154, SD = .860).

#### 4.4.2 Service Automation

The second independent variable was the level of service automation of the digital lending platforms, and the results are indicated below.

**Table 4.6 Descriptive Results for Service Automation**

	Sum Statistic	Mean Statistic	Std. Deviation Statistic
I am satisfied with the efficiency offered by digital lending platforms	467.00	3.434	1.100
I am well engaged with digital lenders through online platforms	387.00	2.846	1.459
I can access digital saving wallets offered by the lending firms	348.00	2.559	1.459
The automation of the digital loan platform ensures there is convenience in making payments	383.00	2.816	1.421
The automation of the digital loan platforms ensures I access loans without any collateral	435.00	3.199	1.293

The findings showed disagreement among respondents that they are satisfied with digital lending platforms (Mean = 3.434) with high variation in the responses (SD= 1.100). The results showed disagreement that the digital loan platforms' automation ensures access to loans without any collateral as denoted by a mean of 3.199. The study showed disagreement among respondents that they can access digital saving wallets offered by the lending firms as indicated by a mean of 2.559 and deviation of 1.459.

#### 4.4.3 Remote Processing

The third independent variable was the remote processing of the digital lending platforms, and the results are indicated below.

**Table 4.7 Descriptive Results for Remote Processing**

	Sum	Mean	Std. Deviation
	Statistic	Statistic	Statistic
I have not faced any difficulties in accessing the digital lending platforms remotely	464.00	3.412	1.208
I access regular digitalized reminders on the repayment process	424.00	3.118	1.440
I understand the terms and conditions offered by the digital lenders	380.00	2.794	1.555
I can service my digital loans from any location with minimal hitches	430.00	3.162	1.405
I am satisfied with the loan limit offered by the digital lender remotely	419.00	3.081	1.356

The results show disagreement among respondents; they have not faced any difficulties accessing the digital lending platforms remotely, as shown by a mean of 3.412. The study further indicated disagreement that they can service digital loans from any location with minimal hitches, as indicated by a mean of 3.162. Findings also indicate disagreement among respondents that they understand the terms and conditions offered by the digital lenders (Mean = 2.794, SD = 1.555), denoting high variations in responses.

#### 4.4.4 Loan Performance

The dependent variable was the loan performance among small business owners in the Gikomba market, and the results are as presented below.

**Table 4.8 Descriptive Results for Loan Performance**

	Sum Statistic	Mean Statistic	Std. Deviation Statistic
I can service all my loans within the prescribed period	484.00	3.559	1.147
I am currently able to access loan from multiple lenders	476.00	3.500	1.167
I am less likely to default on the digital loans than the convention loans offered	374.00	2.750	1.469
I have been previously listed with a CRB (credit reference bureau) as a result of assessing digital loans	341.00	2.507	1.466
I have been penalized previously by a digital lender due to a failure to pay on time	357.00	2.625	1.435

The study indicates that respondents are currently able to access loans from multiple lenders, as noted by a mean of 3.500. The results show disagreement among participants that they are less likely to default on the digital loans than the convention loans offered, as indicated by the mean of 2.750 and a deviation of 1.469. The research showed disagreement among respondents that they have been previously listed with a CRB (credit reference bureau) due to assessing digital loans as noted by a mean of 2.507.

#### 4.5 Exploratory Factor Analysis

Exploratory factor analysis was performed to measure filtration and refine the factors into the best number of variables. Principal component analysis (PCA) was used to refine each of the study constructs. For each construct, factor loadings above 0.5 were retained for each principal component extracted (Hair et al., 2010). Kaiser-Meyer-Olkin - KMO expresses a measure of sample adequacy (MSA) between 0 and 1. KMO values close to 0 implies that the aggregate of incomplete relationship is enormous comparative with the entirety of connections showing dispersions in the examples of relationships. Subsequently, the factor isn't probably going to be

appropriate (Cooper & Schindler, 2014). KMO values of above 0.5 will be considered in the study. Bartlett's Test of Sphericity examines the assumption that the correlation matrix is an identity matrix that should specify whether the variables are unrelated and thus would be deemed not suitable for structure detection. In other words, small values such as  $p < 0.05$ , of the significance level, indicate that factor analysis may be useful with one's data.

#### 4.5.1 Diagnostics Checks for Factor Analysis

The study utilized Bartlett's Test of Sphericity and the Kaiser-Meyer-Olkin to determine the suitability of the variables for factor analysis. The findings are presented below.

**Table 4.9 Bartlett's Test of Sphericity and Kaiser-Meyer-Olkin Tests**

Variable	Diagnostics	Value
Instantaneous Processing	KMO Measure of Sampling Adequacy	0.660
	Bartlett's Test of Sphericity	<i>Chi. Sq= 221.459, df = 10, Sig. = .000</i>
Service Automation	KMO Measure of Sampling Adequacy	0.621
	Bartlett's Test of Sphericity	<i>Chi. Sq= 194.916, df = 10, Sig. = .000</i>
Remote Processing	KMO Measure of Sampling Adequacy	0.633
	Bartlett's Test of Sphericity	<i>Chi. Sq= 193.613, df = 10, Sig. = .000</i>
Loan Performance	KMO Measure of Sampling Adequacy	0.615
	Bartlett's Test of Sphericity	<i>Chi. Sq= 336.662, df = 28, Sig. = .000</i>

The results above indicate a KMO value of  $.660 > .05$ , thus indicating there is sampling adequacy for factor loading to be considered. Bartlett's sphericity test yielded a significance value =  $.000 < .05$ , thus indicating a correlation between the variables. This indicates that factor analysis may be useful with one's data. The findings above indicate a KMO value of  $.621 > .05$ , thus indicating there is sampling adequacy for factor loading to be considered. Bartlett's sphericity test yielded a significance value =  $.000 < .05$ , thus indicating a correlation between the variables. This indicates that factor analysis may be useful with one's data.

The findings above indicate a KMO value of  $.633 > .05$ , thus indicating there is sampling adequacy for factor loading to be considered. Bartlett's sphericity test yielded a significance value =  $.000 < .05$ , thus indicating a correlation between the variables. This indicates that factor analysis may be useful with one's data. The findings above indicate a KMO value of  $.615 > .05$ , thus indicating there is sampling adequacy for factor loading to be considered. Bartlett's sphericity test yielded a significance value =  $.000 < .05$ , thus indicating a correlation between the variables. This indicates that factor analysis may be useful with one's data.

#### 4.5.2 Factor Analysis for Instantaneous Processing

The first variable for the study was the instantaneous processing of digital lending platforms, and the results of the exploratory factor analysis are shown below.

**Table 4.10 Exploratory Factor Analysis for Instantaneous Processing**

Component	Initial Eigenvalues			Extraction Sums of Squared			Rotation Sums of Squared		
	Total	% of Variance		Total	% of Variance		Total	% of Variance	
			Cumulative			Cumulative			Cumulative
1	2.52	50.480	50.480	2.52	50.480	50.480	2.46	49.343	49.343
	4			4			7		
2	1.13	22.658	73.138	1.13	22.658	73.138	1.19	23.795	73.138
	3			3			0		
3	.748	14.967	88.105						
4	.322	6.430	94.535						
5	.273	5.465	100.000						

Extraction Method: Principal Component Analysis.

The findings in the table above show that two of the factors had eigenvalues, which were higher than 1. The first factor was responsible for 49.343% of the variability, while factor 2 was responsible for 23.795% variability. The two factors resulted in 73.138% of the total variability. The factors that exhibited the standard characteristics that were accepted. The minimum criteria require that the factors have a value of 0.5 or higher. Therefore, all the items that met the minimum requirements under instantaneous processing were considered for the analysis.

**Table 4.11 Factor Rotation for Instantaneous Processing**

	Component	
	Instantaneous Processing1	Instantaneous Processing2
I can access digital loan from any location at any time	<b>.797</b>	-.339
The loan approved is disbursed to my mobile wallet instantaneously	<b>.864</b>	-.044
There is the ease in access to the digital loans	<b>.783</b>	.358
I can access digital loan during emergency times	<b>.687</b>	.462
I receive the exact amount of money offered by the lender without any hidden processing charges	-.016	<b>.855</b>

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

Consequently, upon extraction of the factors, the study conducted a varimax rotation of the variables. The factor loadings of the rotated component matrix present the correlations between the variables. The factor column shows the extracted rotated factors, namely Instantaneous Processing1 and Instantaneous Processing, and the components are as shown above.

### 4.5.3 Factor Analysis for Service Automation

The second variable for the study was the service automation of digital lending platforms, and the results of the factor analysis are shown below.

**Table 4.12 Exploratory Factor Analysis for Service Automation**

Component	Initial Eigenvalues			Extraction Sums of Squared			Rotation Sums of Squared		
	Total	Loadings		Total	Loadings		Total	Loadings	
		% of Variance	Cumulative %		% of Variance	Cumulative %		% of Variance	Cumulative %
1	2.442	48.847	48.847	2.442	48.847	48.847	2.106	42.111	42.111
2	1.043	20.851	69.698	1.043	20.851	69.698	1.379	27.586	69.698
3	.866	17.322	87.019						
4	.359	7.171	94.191						
5	.290	5.809	100.000						

Extraction Method: Principal Component Analysis.

The findings in the table above show that two of the factors had eigenvalues, which were higher than 1. The first factor was responsible for 42.111% of the variability, while factor 2 was responsible for 27.586% variability. The two factors resulted in 69.698% of the total variability. This indicates that all the constructs or items were found to belong to these two factors. The factors that exhibited the standard characteristics were accepted. The minimum criteria require that the factors have a value of 0.5 or higher. Therefore, all the items that met the minimum requirements under service automation were considered for the analysis.

**Table 4.13 Factor Rotation for Service Automation**

	<b>Rotated Component Matrix<sup>a</sup></b>	
	Component	
	Service automation1	Service automation2
I am satisfied with the efficiency offered by digital lending platforms	.001	<b>.878</b>
I am well engaged with digital lenders through online platforms	.353	<b>.733</b>
I can access digital saving wallets offered by the lending firms	<b>.792</b>	.232
The automation of the digital loan platform ensures there is convenience in making payments	<b>.902</b>	.087
The automation of the digital loan platforms ensures I access loans without any collateral	<b>.735</b>	.103

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

Consequently, upon extraction of the factors, the study conducted a varimax rotation of the variables. The factor loadings of the rotated component matrix present the correlations between the variables. The factor column shows the extracted rotated factors, namely service automation1 and service automation2, and the components are as shown above.

#### 4.5.4 Factor Analysis for Remote Processing

The third variable for the study was the remote processing of digital lending platforms, and the results of the factor analysis are shown below.

**Table 4.14 Exploratory Factor Analysis for Remote Processing**

Component	Initial Eigenvalues			Extraction Sums of Squared			Rotation Sums of Squared		
	Total	Loadings		Total	Loadings		Total	Loadings	
		% of Variance	Cumulative %		% of Variance	Cumulative %		% of Variance	Cumulative %
1	2.432	48.644	48.644	2.432	48.644	48.644	2.157	43.143	43.143
2	1.054	21.088	69.731	1.054	21.088	69.731	1.329	26.589	69.731
3	.862	17.244	86.976						
4	.359	7.180	94.156						
5	.292	5.844	100.000						

Extraction Method: Principal Component Analysis.

The table above shows that two of the factors had eigenvalues, which were higher than 1. The first factor was responsible for 43.143% of the variability, while factor 2 was responsible for 26.589% variability. The two factors resulted in 69.731% of the total variability. This indicates that all the constructs or items were found to belong to these two factors. The factors that exhibited the standard characteristics were accepted. The minimum criteria require that the factors have a value of 0.5 or higher. Therefore, all the items that met the minimum requirements under remote processing were considered for the analysis.

**Table 4.15 Factor Rotation for Remote Processing**

	Rotated Component Matrix <sup>a</sup>	
	Component	
	Remote processing1	Remote processing2
I have not faced any difficulties in accessing the digital lending platforms remotely	.025	<b>.848</b>
I access regular digitalized reminders on the repayment process	.259	<b>.744</b>
I understand the terms and conditions offered by the digital lenders	<b>.806</b>	.167
I can service my digital loans from any location with minimal hitches	<b>.888</b>	.134
I am satisfied with the loan limit offered by the digital lender remotely	<b>.807</b>	.104

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

After extraction of the factors, the study conducted a varimax rotation of the variables. The factor loadings of the rotated component matrix present the correlations between the variables. The factor column shows the extracted rotated factors, namely remote processing1 and remote processing 2, and the components are as shown above.

#### **4.5.5 Factor Analysis for Loan Performance**

The dependent variable for the study was the loan performance of small businesses, and the results of the factor analysis tests are shown below

**Table 4.16 Exploratory Factor Analysis for Loan Performance**

Component	Initial Eigenvalues			Extraction Sums of Squared			Rotation Sums of Squared		
	Total	Loadings		Total	Loadings		Total	Loadings	
		Variance	% of Cumulative %		Variance	% of Cumulative %		Variance	% of Cumulative %
1	2.501	50.014	50.014	2.501	50.014	50.014	2.329	46.571	46.571
2	1.485	29.707	79.721	1.485	29.707	79.721	1.658	33.150	79.721
3	.539	10.786	90.507						
4	.368	7.353	97.860						
5	.107	2.140	100.000						

Extraction Method: Principal Component Analysis.

The principal component analysis findings above show that two of the factors had eigenvalues, which were higher than 1. The first factor was responsible for 46.571% of the variability, while factor 2 was responsible for 33.150% variability. The two factors resulted in 79.721% of the total variability. This indicates that all the constructs or items were found to belong to these two factors. The factors that exhibited the standard characteristics were accepted. The minimum criteria require that the factors have a value of 0.5 or higher. Therefore, all the items that met the minimum requirements under loan performance were considered for the analysis.

**Table 4.17 Factor Rotation for Loan Performance**

	Rotated Component Matrix <sup>a</sup>	
	Loan performance1	Loan performance2
I can service all my loans within the prescribed period	.013	<b>.906</b>
I am currently able to access loan from multiple lenders	.169	<b>.876</b>
I am less likely to default on the digital loans than the convention loans offered	<b>.725</b>	.264
I have been previously listed with a CRB (loan reference bureau) as a result of assessing digital loans	<b>.954</b>	.005
I have been penalized previously by a digital lender due to a failure to pay on time	<b>.930</b>	.027

Extraction Method: Principal Component Analysis.  
 Rotation Method: Varimax with Kaiser Normalization.  
 a. Rotation converged in 3 iterations.

After extraction of the factors, the study conducted a varimax rotation of the variables. The factor loadings of the rotated component matrix present the correlations between the variables. The factor column shows the extracted rotated factors, namely Loan performance1 and Loan performance2, and the components are as shown above.

#### 4.6 Correlation Analysis

The study adopted the Pearson correlation to determine the relationship between the study's independent and dependent variables.

##### 4.6.1 Effect of Instantaneous Processing on Loan Performance

The study adopted a correlation analysis to assess how independent variables instantaneous processing1 and instantaneous processing2 (two factors generated using PCA) and the dependent variable (Business Performance) are related.

**Table 4.18 Correlation between Instantaneous Processing and Loan Performance**

		Loan performance	Instantaneous processing factor score 1 for analysis 1	Instantaneous processing factor score 2 for analysis 1
Loan performance	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	136		
Instantaneous processing factor score 1 for analysis 1	Pearson Correlation	.222**	1	
	Sig. (2-tailed)	.009		
	N	136	136	
Instantaneous processing factor score 2 for analysis 1	Pearson Correlation	.300**	.000	1
	Sig. (2-tailed)	.000	1.000	
	N	136	136	136

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

The results of the study indicated that instantaneous processing1 had a positive and significant association with loan performance ( $P = .222$ ,  $Sig = .009 < .05$ ). The results further show that instantaneous processing also had a moderate positive and significant effect on the loan performance, as indicated by  $P = .300$ ,  $Sig = .000 < .05$ .

#### 4.6.2 Effect of Service Automation on Loan Performance

The study adopted a correlation analysis to assess how independent variables service automation1 and service automation2 (two factors generated using PCA) and the dependent variable (Business Performance) are related.

**Table 4.19 Correlation between Service Automation and Loan Performance**

		Correlations		
		Loan performance	Service automation factor score 1 for analysis 1	Service automation factor score 2 for analysis 1
Loan performance	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	136		
Service automation factor score 1 for analysis 1	Pearson Correlation	.318**	1	
	Sig. (2-tailed)	.000		
	N	136	136	
Service automation factor score 2 for analysis 1	Pearson Correlation	.202*	.000	1
	Sig. (2-tailed)	.018	1.000	
	N	136	136	136

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

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

The findings show that that service automation1 had a moderate positive and significant association with loan performance ( $P = .318$ ,  $Sig = .000 < .05$ ). The findings also indicated that

service automation2 also had a positive and significant effect on loan performance, as indicated by  $P = .202$ ,  $Sig = .018 < .05$ .

#### 4.6.3 Effect of Remote Processing on Loan Performance

The study adopted a correlation analysis to assess how independent variables remote processing1 and remote processing2 (two factors generated using PCA) and the dependent variable (Business Performance) are related.

**Table 4.20 Correlation between Remote Processing and Loan Performance**

		Loan performance	Remote processing factor score 1 for analysis 1	Remote processing factor score 2 for analysis 1
Loan performance	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	136		
Remote processing factor score 1 for analysis 1	Pearson Correlation	.264**	1	
	Sig. (2-tailed)	.002		
	N	136	136	
Remote processing factor score 2 for analysis 1	Pearson Correlation	.148	.000	1
	Sig. (2-tailed)	.086	1.000	
	N	136	136	136

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

The findings of the research show that remote processing1 had a positive and significant association with loan performance ( $P = .264$ ,  $Sig = .002 < .05$ ). The results further show that remote processing2 also had a positive and insignificant effect on the loan performance, as indicated by  $P = .148$ ,  $Sig = .086 > .05$ .

#### 4.6.4 Overall Correlation Analysis

The overall correlation analysis results between the three independent variables and the loan performance are shown below.

**Table 4.21 Correlation Analysis Summary**

		Instantaneous Processing	Service Automation	Remote Processing	Loan Performance
Instantaneous Processing	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	136			
Service Automation	Pearson Correlation	.548**	1		
	Sig. (2-tailed)	.000			
	N	136	136		
Remote Processing	Pearson Correlation	.440**	.559**	1	
	Sig. (2-tailed)	.000	.000		
	N	136	136	136	
Loan Performance	Pearson Correlation	.295**	.377**	.301**	1
	Sig. (2-tailed)	.001	.000	.000	
	N	136	136	136	136

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

The results above show that there was a positive and significant effect of instantaneous processing on the loan performance of small business owners (P= .295, Sig = .001<.05). The findings also indicate there was a positive and significant effect of service automation on the loan performance of small business owners (P= .377, Sig = .000<.05). The research also showed a positive and significant effect of remote processing on the loan performance of small business owners (P= .301, Sig = .000<.05).

#### 4.7 Regression Analysis

A linear regression analysis was carried out to determine the influence of digital lending platforms design on loan performance among small business owners in the Gikomba open-market.

**Table 4.22 Regression Results**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.436 <sup>a</sup>	.190	.152	4.34884	2.119

a. Predictors: (Constant), RemoteProcessing2, RemoteProcessing1, InstantaneousProcessing2, ServiceAutomation2, InstantaneousProcessing1, ServiceAutomation1

b. Dependent Variable: Loan performance

The findings of the regression analysis above indicate a coefficient of determination of  $R^2 = .190$ . Results thus show the proposed research model predicts 19% of the variations in loan performance. That is remote processing, instantaneous processing, and service automation influence 19% of loan performance changes.

**Table 4.23 ANOVA Results**

Model		df	Mean Square	F	Sig.
1	Regression	6	95.305	5.039	.000 <sup>b</sup>
	Residual	129	18.912		
	Total	135			

a. Dependent Variable: Loan performance

b. Predictors: (Constant), RemoteProcessing2, RemoteProcessing1, InstantaneousProcessing2, ServiceAutomation2, InstantaneousProcessing1, ServiceAutomation1

In determining the statistical significance of the regression model adopted, and the results show; calculated F-value of 5.039, which is higher than the critical value of 2.76, showing a statistically significant model in predicting the relationship between the design of digital lending platforms on loan performance of small business owners in Gikomba open-air market. The study concludes

that remote processing, instantaneous process, and service automation have a significant joint effect on loan performance among small business owners

**Table 4.24 Regression Coefficients**

Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients Beta		
1	(Constant)	14.941	.371		40.272	.000
	Instantaneous Processing	.717	.151	.215	4.748	.023
	Service Automation	.642	.143	.192	4.490	.034
	Remote Processing	.322	.098	.096	3.286	.041

a. Dependent Variable: Loan performance

The resulting regression equation for the study is as indicated;

$$Y = 14.941 + .717X_1 + .642X_2 + .322X_3$$

The study's first objective was to examine the effect of instantaneous processing on loan performance among small business owners in Gikomba Open-Market, Nairobi County. The results obtained indicate a  $\beta_1 = .717$ ,  $t = 4.748$ ,  $\text{Sig} = .023 < .05$ , instantaneous processing, and loan performance of small business owners have a positive and statistically significant relationship.

The second objective sought to establish the effect of service automation on the loan performance among small business owners in Gikomba Open-Market, Nairobi County. The findings obtained indicate a  $\beta_2 = .642$ ,  $t = 4.490$ ,  $\text{Sig} = .034 < .05$ ; the study found out that service automation significantly affects loan performance among small business owners.

The third objective examined the effect of remote processing on loan performance among small business owners in Gikomba Open-Market, Nairobi County. The results obtained indicate a  $\beta_3 = .322$ ,  $t = 3.286$ ,  $\text{Sig} = .041 < .05$ , which revealed that remote processing has a significant influence on loan performance among small business owners.

#### 4.8 Moderation Effect

The research examined the moderating effect of demographic factors on how digital lending platforms' design relates to loan performance among small business owners in the Gikomba open-market. The research adopted a partial correlation to examine the moderating effect of the control variables.

**Table 4.25 Partial Correlation Results**

Control Variables		Loan performance	
-none <sup>a</sup>	Loan performance	Correlation	1.000
		Significance (2-tailed)	.
		Df	0
Lending Platform Design	Lending Platform Design	Correlation	.417
		Significance (2-tailed)	.000
		Df	134
Age	Age	Correlation	.005
		Significance (2-tailed)	.955
		Df	134
Gender	Gender	Correlation	-.058
		Significance (2-tailed)	.500
		Df	134
Education Level	Education Level	Correlation	.124
		Significance (2-tailed)	.149
		Df	134
Income Level	Income Level	Correlation	.076
		Significance (2-tailed)	.382
		Df	134
Age & Gender & Education Level & Income Level	Loan performance	Correlation	1.000
		Significance (2-tailed)	.
		Df	0
Lending Platform Design	Lending Platform Design	Correlation	.437
		Significance (2-tailed)	.000
		Df	130

a. Cells contain zero-order (Pearson) correlations.

The study conducted a partial correlation analysis to determine the moderating effect of demographic factors on the interaction between lending platform design and loan performance. The results showed a strong positive correlation between lending platform design and loan

performance while controlling for age, gender, education, and income level, which was statistically significant  $P = .437$ ,  $Sig = .000$ ,  $df = 130$ . The zero-order correlations showed that lending platform design significantly influences loan performance  $p = .417$ ,  $Sig = .000$ ,  $df = 134$ , indicating a significant moderating effect of the demographic factors on the interaction between digital lending platform design and loan performance. The results also indicate that age, education, and income level did not significantly influence loan performance, while the gender of borrowers also had an insignificant effect on loan performance.

#### **4.9 Chapter Summary**

The study unit of observation was owners of 200 small business owners in the Gikomba open-air market. The study relied on structured research questionnaires in collecting research data with the drop and pick method employed in the data collection process. The research relied on exploratory factors analysis, descriptive and correlation, and statistical regression measures in the analysis. The study obtained a 68% response rate, with the majority of the business owners being male respondents. The study participants indicated that most of the small businesses were able to record monthly incomes of above kes 50,001. The correlation tests indicated a positive and significant effect between instantaneous processing, service automation, remote processing, and loan performance among small business owners. The regression findings indicate that 19% of loan performance variations can be determined by the digital lending platforms design.

## CHAPTER FIVE

### DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

#### 5.1 Introduction

The fifth chapter of the study presents the discussion, conclusions, and recommendations in the study. The chapter is arranged in line with the study's objectives, as presented in the data analysis section previously.

#### 5.2 Discussion

The increase in tightening of regulations and internal controls within formal financial institutions resulted in locking out many Kenyan populations from the mainstream financial industry. However, with the technological advancements locally, several digitally-driven financial firms have spewed in the local market. These digital platforms have been essential in bridging the financial inclusion gaps through their primary service of digital lending services. This has resulted in the most unbanked population getting a channel to access emergency loans with almost zero-collateral requirements. However, with the lack of a comprehensive framework to guide the digital lending platforms, there has been an unprecedented increase in default rates in at least 2.7 million customers. Despite this, minimal research has been conducted focusing on this growing critical part of the Kenyan financial industry.

This study sought to determine the influence of the digital lending platforms on loan performance among small business owners who comprise the large customer base of the unbanked. The study specifically examined how instantaneous processing, service automation, and remote processing influenced loan performance. The study further sought to explore if the borrowers' demographic factors affect the relationship between digital lending platforms' design and loan performance. The study was grounded on both the financial inclusion theory and the financial intermediation theory, demonstrating the need for better financial inclusion and how loan markets operate, respectively. The study was grounded on a positivist philosophical paradigm with a descriptive correlational research design guiding the study.

##### 5.2.1 Instantaneous Processing

The study participants agreed that the loan approved is disbursed to the mobile wallet instantaneously. The research results also showed agreement is the ease in access to digital loans. Mustapha (2018) noted that most of the borrowers on Fin-techs could review their loan repayment schedules and engage with the banks on their loan terms. The participants disagreed

that they can access digital loans during emergency times and digital access loans from any location at any time. The participants also indicated strong disagreement that they receive the lender's exact amount of money without any hidden processing charges. Blechman (2016) similarly found that despite increased digital lending penetration, most customers were not aware of the terms and conditions, rates, and other key aspects of digital loans.

### **5.2.2 Service Automation**

The research sought to examine the service automation of digital lending platforms. The respondents disagreed that they are satisfied with the efficiency offered by digital lending platforms. The study results also indicated disagreement that the digital loan platforms' automation ensures access to loans without any collateral. In their study, Abbasi and Weigand (2017) acknowledged that automation of financial services had improved access to loans and expansion of the small business. The participants also disagreed that they are well engaged with digital lenders through online platforms and can access digital saving wallets offered by the lending firms. The results also posit disagreement among respondents that the digital loan platform's automation ensures there is convenience in making payments. Costa (2016) also revealed that a lack of customer awareness on the terms and conditions greatly inconvenienced digital borrowers and led to paying extra fees and being charged high-interest rates. The researcher further indicated that digital lenders' hassles were a barrier to customers' awareness of various components of the service they get.

### **5.2.3 Remote Processing**

Regarding the remote processing of digital lending platforms, the results indicate that participants disagree that they have not faced any difficulties accessing the digital lending platforms remotely. The research shows disagreement among respondents that they access regular reminders on the repayment process and understand the digital lenders' terms and conditions. Mohamed's (2019) study also acknowledged a need for lenders to enhance the accessibility of the products in remote areas and reduce transaction times for quicker loan processing. The findings further show disagreement that respondents can service digital loans from any location with minimal hitches. Eilin, Joshua, and Jonathan (2017) contend that the remote disbursement of digital loans has been key to creating a large demand and uptake of mobile loans. Findings indicate disagreement among borrowers that they are satisfied with the digital lender's loan limit remotely. Kiplagat, Gesimba, and Gichuhi (2019) further asserted that

the utilization of digital technologies is vital to convenience, simplicity, and flexibility in loan services uptake.

### **5.3 Conclusions**

The study concludes that digital lending design has a significant effect on small business owners' loan performance. The study concluded that instantaneous processing (remote access and instantaneous disbursement) could enable the borrowers to access multiple lenders and service their loans effectively. The research further noted that service automation through online customer engagement and efficient access to the services significantly influences the loan performance aspects such as loan default, the listing of defaulters, and access to multiple lenders. The study also concluded that remote processing of loans without any difficulties and receiving regular digitalized reminders of the repayment schedules could positively enhance loan performance. The research also concludes that demographic factors such as age, gender, education, and income level significantly moderated the relationship between digital lending platforms design and loan performance.

### **5.4 Recommendations**

With the increased usage of digital lending platforms in the country, there was a need for a comprehensive review of the link between the design of the platforms and loan performance. The study was vital to enhancing the debate as well as providing empirical evidence that can be utilized for managerial and policy implications. Based on the findings of the research, the following recommendations are advanced for both policy and practical implications.

In a recent regulatory bulletin, the Central Bank of Kenya reported that the lack of licensing and supervision of the non-bank digital lenders has resulted in an externality to the public. As a result, incognizant of the current regulatory undertaking, this study recommends that the regulator come up with a regulatory framework that will help protect the rights of consumers and support the development of the digital lending market as this has been a pivotal part of the economy. The study also recommends that mainstream banking be less stringent in requesting a credit reference bureau clearance certificate for small ticket size loans. Once a customer has cleared the loan arrears, mainstream banking should access other credit services, waiving the \$22 clearance certificate.

Regarding the instantaneous processing of the platforms, the study recommends the enforcement of current requirements to display core terms and conditions on screens prior to loan approval and extend this to all digital loan providers. The research also recommends that the platforms ensure they meet their service objectives of offering instant loans by integrating their platforms with all telecommunication firms. This will result in ease of access to the service and their capacity to be of emergency support to a wider market of digital borrowers.

Regarding service automation, the study recommends that digital lending platforms should foster their customer engagement through better handling of complaints and other customer queries. This can be achieved through better social media and online engagement of the customers. The study further recommends that digital lenders invest in better systems to offer customers efficiency services such as loan repayment and disbursements. Further investment in better infrastructure can be key to the digital platforms offering more services such as savings and e-commerce rather than predominantly focusing on lending only.

Regarding remote processing, the study recommends that digital lending platforms ensure their applications are easy to use to the general population who may not have technical knowledge. The study also recommends that digital lenders create awareness of the various terms and conditions to their loan offers, which will help reduce the default rates. Further, the study recommends that digital lenders be cognizant of their borrowers' challenges, thus offering reminders to their customers should be encouraged to avoid unnecessary default charges, which may result in poor loan performance.

### **5.6 Suggestions for Further Research**

The study results have shown that the participants were not aware of all the integral parts of the digital lending market on average. Hence, the study suggests that further research work should be conducted to explore and evaluate the digital lending service providers' public perception in Kenya.

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## APPENDICES

### Appendix I: Questionnaire

This questionnaire is an attempt to assess the “influence of digital lending platforms design on loan performance among small business owners in Gikomba Open-Market, Nairobi County.” Please respond by ticking (√) in the appropriate box in the blank spaces provided that closely matches your view or write your answers in the space provided. Please answer the questions honestly and diligently following the instructions given. The answers you give was used for the research purpose only, and your identity was treated with uttermost confidentiality.

#### Section A: Bio-data

##### 1. Gender

Male  Female

##### 2. Age of Respondents

18-26 years  36-45 years

27-35 years  46 years and above

##### 3. Education Level

Formal education

Semi-skilled education

Informal Education

##### 4. How long have you been a trade in Gikomba Open-Air market?

0-2 Years  7-9 Years

3-6 Years  Over 10 Years

##### 5. How many digital lending platforms do you currently access?

M-shwari  Tala

KCB-Mpesa  O-kash loan app

Barclays Timiza  Opesa loan app

Branch  Zenka loan app

Berry loan app  Other

---

##### 6. What is your monthly level of income from your business?

0- 50, 000 shs

[ ] 50,0001-100,000 shs

[ ]

100,0001-250, 000 shs

[ ] Over 250, 0001 shs

[ ]

**PART B: INFLUENCE OF DIGITAL LENDING PLATFORMS DESIGN ON LOAN PERFORMANCE AMONG SMALL BUSINESS OWNERS IN GIKOMBA OPEN-MARKET, NAIROBI COUNTY**

Please tick the level of agreement of the following statements

*1=Not at all, 2= Strongly disagree, 3= Disagree, 4=Agree, 5=Strongly agree*

No	Instantaneous Processing	1	2	3	4	5
	I am able to access digital loan from any location at any time					
	The loan approved is disbursed to my mobile wallet instantaneously					
	There is the ease in access to the digital loans					
	I am able to access digital loan during emergency times					
	I receive the exact amount of money offered by the lender without any hidden processing charges					

Please tick the level of agreement of the following statements

*1=Not at all, 2= Strongly disagree, 3= Disagree, 4=Agree, 5=Strongly agree*

No	Service automation	1	2	3	4	5
	I am satisfied with the efficiency offered by digital lending platforms					
	I am well engaged with digital lenders through online platforms					
	I am able to access digital saving wallets offered by the lending firms					

	The automation of digital loan platform ensures there is convenience in making payments					
	The automation of the digital loan platforms ensures I access loans without any collateral					

Please tick the level of agreement of the following statements

*1=Not at all, 2= Strongly disagree, 3= Disagree, 4=Agree, 5=Strongly agree*

No	Remote processing	1	2	3	4	5
	I have not faced any difficulties in accessing the digital lending platforms remotely					
	I access regular digitalized reminders on the repayment process					
	I understand the terms and conditions offered by the digital lenders					
	I am able to service my digital loans from any location with minimal hitches					
	I am satisfied with the loan limit offered by the digital lender remotely					

Please tick the level of agreement of the following statements


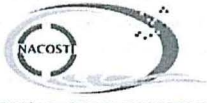



*1=Not at all, 2= Strongly disagree, 3= Disagree, 4=Agree, 5=Strongly agree*

No	Loan performance	1	2	3	4	5
	I am able to service all my loans within the prescribed period					
	I am currently able to access loan from multiple lenders					

	I am less likely to default on the digital loans than the convention loans offered					
	I have been previously listed with a CRB (loan reference bureau) as a result of assessing digital loans					
	I have been penalized previously by a digital lender due to a failure to pay on time					

**Thank you for your Time**

Appendix II: NACOSTI Research License

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<p>This is to Certify that Ms. Zeituna Mustafa of Strathmore University, has been licensed to conduct research in Nairobi on the topic: INFLUENCE OF DIGITAL LENDING PLATFORMS DESIGN ON LOAN PERFORMANCE AMONG SMALL BUSINESS OWNERS IN GIKOMBA OPEN-MARKET, NAIROBI COUNTY for the period ending : 29/April/2021.</p>	
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### Appendix III: Ethical Review Permit



28<sup>th</sup> May 2020

Ms Abdi, Zeituna  
zeitunamstf5@gmail.com

Dear Ms Abdi,

**RE: Influence of Digital Lending Platforms Design on Loan Performance Among Small Business Owners in Gikomba Open-Market, Nairobi County**

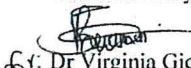
This is to inform you that SU-IERC has reviewed and **approved** your above research proposal. Your application approval number is SU-IERC0825/20. The approval period is 28<sup>th</sup> May 2020 to 27<sup>th</sup> May 2021.

This approval is subject to compliance with the following requirements:

- i. Only approved documents including (informed consents, study instruments, MTA) will be used
- ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by SU-IERC.
- iii. Death and life threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to SU-IERC within 72 hours of notification
- iv. Any changes, anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to SU-IERC within 72 hours
- v. Clearance for export of biological specimens must be obtained from relevant institutions.
- vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.
- vii. Submission of an executive summary report within 90 days upon completion of the study to SU-IERC.

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) <https://oris.nacosti.go.ke> and also obtain other clearances needed.

Yours sincerely,

  
f. Dr Virginia Gichuru,  
Secretary; SU-IERC

Cc: Prof Fred Were,  
Chairperson; SU-IERC



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