

Credit Cost and Choice of Mobile Lending Platforms among Small-Scale Enterprises in Tharaka Nithi County, Kenya

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Abstract: The advent of digital lending through mobile lending platforms has improved access to credit for small-scale enterprises. However, since mobile lending platforms are unregulated in Kenya, predatory lending is rampant, and hence it is vital for small-scale enterprises to make informed choices when they are selecting mobile lending platforms. The purpose of this study was to determine the effect of credit cost on the choice of mobile lending platforms among small and medium enterprises in Tharaka Nithi County, Kenya. A sample of 260 small-scale enterprises was selected, and data was collected using questionnaires. The data were analysed using descriptive statistics and multi-linear regression. The findings showed that credit cost had a significant and positive effect on the choice of mobile lending platforms by small-scale enterprises in Tharaka Nithi County, Kenya. The study recommends that policymakers and regulators design supporting frameworks for mobile lending institutions. Money lending institutions should make their credit assessment easy for small-scale enterprises within favourable terms. Further, the study recommends that the developers of mobile lending apps should make the apps more user-friendly.

Keywords: *Credit cost, small-scale enterprises, choice of credit, mobile lending platforms*

Introduction

Limited access to credit for small-scale enterprises has been considered the biggest challenge to the performance, sustainability, and growth of small-scale enterprises globally. World Bank (2020) notes that access to finance is the second most cited hindrance to small-scale enterprises' performance, sustainability, and growth.

Ngureh et al. (2020) observe that the introduction of digital lending has enhanced access to credit for small-scale enterprises and holds promise for increased performance, sustainability, and growth of small-scale enterprises. However, predatory lending is rampant due to the weak or absence of regulatory mechanisms for mobile-based lending platforms (Owuor, 2019).

In the United States (US), the US Treasury has approved Kabbage, Square, PayPal, and Funding Circle to provide loans to small-scale enterprises through the US Small Business Administration's Paycheck Protection Program (World Bank

Group, 2020). The lending interest rate in the USA is, on average, 3.7%.

In China, digital lending platforms have collaborated with commercial banks with extensive partnerships to provide loans to small-scale enterprises (Punatar, 2018). Tengeh and Talom (2020) consider mobile-based lending in Cameroon as a sustainable alternative enabling small-scale enterprises to access credit in less developed financial markets. The lending interest rate in China is, on average, 4.35%.

In Uganda, Baganzi and Lau (2017) indicated factors that influenced the choice of mobile lending platforms, including security, reliability, cost, and design. In Tanzania, key factors influencing the choice of mobile lending platforms were customization, convenience, cost, and security features (Abdinoor & Mbamba, 2017). The lending interest rate in Uganda is, on average, 16.28%

In Kenya, Nyaga (2013) notes that mobile credit has significantly contributed to the small-scale enterprise sector in urban centres. Whereas

mobile loan services appear to be bridging the gap for Kenyans who do not have formal bank accounts, it has been established that the cost of credit has been extreme among digital lending platforms (Owuor (2019)). The cost of credit in Kenya varies between 2% and 6%. The lending interest rate in Kenya is, on average, 12.150%.

In Tharaka Nithi County, there has been a high mortality rate of 54% in small-scale enterprises within their first trimester (3 years of opening), as well as increased numbers of stagnation among those that survive after their third year due to inadequate access to capital for expansion (Akwalu, 2018). It is unclear why the small-scale enterprises in Tharaka Nithi County have not resorted to mobile lending platforms despite the availability of this option as an existing method of credit access.

A study by Owuor (2019) notes that mobile loans have been highly unregulated. Their unpredictability in terms of loan terms and their unprofessionalism in handling defaulters put the lenders at a disadvantage. Akwalu (2018) further notes that there is limited research on the relationship between credit cost and small-scale enterprises' choice of lending platforms. It is in this grey area of limited research that this study aimed to uncover the effect of credit cost on the choice of mobile lending platforms among the small-scale enterprises in Tharaka Nithi County in Kenya.

Literature Review

Mbugua (2010) conducted a study on the adoption of mobile-based microfinance services amongst small-scale enterprises in Kenya. The study revealed that most small- enterprises borrowed, and they used the money for the purpose for which it was borrowed. However, most businesses did not have other sources of financing and relied on mobile-based microcredit for loans whose cost was high, sometimes up to 30%, which is twice the industry average.

Mutinda (2014) conducted a study on the effect of mobile phone-based loan facilities on small-scale enterprises in Nairobi and the factors that small-scale enterprises considered vital when choosing between the various mobile lending platforms available in the market. The study revealed that mobile-based credit facilities were

considered convenient, affordable and reliable.

Jepkorir et al. (2019) conducted a study on the use of small mobile-based loans by small and medium enterprises in Kapsabet Town. The study findings showed that many small-scale enterprises in the area had at one time accessed mobile-based microcredit. The mobile-based microcredit was provided in the rural areas at lower interest rates.

Punatar (2018) established that firms could get enough funds at a low cost to complete their projects and improve revenues. This also led to an increase in profitability and employment opportunities. As indicated by Nyaga (2018), business owners who had no other sources of capital would be able to get cash flows and capital for their businesses through mobile loans, with little consideration of the credit cost involved.

The current study is justified due to the methodological, contextual, and conceptual gaps that the extant empirical literature leaves. The reviewed studies left some conceptual gaps. For example, Mutinda (2014) focused on mobile lending credit facilities, whereas Punatar (2018) determined that there was no problem with firms accessing credit. Moreover, the study by Nyaga (2018) assessed how the different features of mobile lending platforms affected business performance. However, this study left some methodological gaps, as it did not establish the effect of the features of the different mobile lending platforms on choice. Besides, the study by Akwalu (2018) was conducted amongst small-scale businesses in Tharaka Nithi County but only focused on youth-owned enterprises.

Methodology

This section covers the research design, target population, sampling procedure and data collection, pilot test, instrument reliability and validity, data analysis and presentation, model specification tests, and the ethical considerations made.

Research Design

This study applied a descriptive research design. This study used a descriptive research design which was selected as it enables provision of a description of the population characteristics in relation to the study variables and also enables

the study to determine the relationship amongst the study variables (Sharp et al., 2017).

Target Population

This study's target population was 745 (Table 1) small and medium enterprises in Tharaka Nithi County (Tharaka Nithi County Government, 2021).

Table 1

Target Population

Business Type	Target Population
Clothing	92
Leather goods and accessories	53
Financial services	51
Shops	185
Hospitality	62
Food kiosks	71
Handicrafts	17
Beauty shops and salons	101
Groceries	113
Total	745

Sampling Procedure and Data Collection

Sampling is important in a study when the target population is huge and cannot be feasibly covered by a study. The formula by Taro Yamane was used in computing the study sample. Yamane formula is preferred due to its ability to minimize errors and provide a more accurate sample size, which is significant in obtaining meaningful results. The formula is given as follows:

$$n = N \div 1 + N(e^2)$$

Where N is the population size, n is the required sample size, e is the degree of accuracy expressed as proportion of 0.05. Therefore, in this case, the margin of error is presumed to be

5%. Using the formula, the selected sample size is 260, as shown below:

$$\begin{aligned} N &= N \div 1 + N(e^2) \\ &= 745 \div 1 + 745 (0.05*0.05) \\ &= \underline{\underline{260}} \end{aligned}$$

This study used stratified random sampling to select the small and medium enterprises that participated in the study. Using this sampling technique, the sample was distributed proportionately to various categories, as indicated in Table 3.

Table 2

Target Population

Business Type	Target Population	Percentage	Sample
Clothing	92	12.3	32
Leather goods and accessories	53	7.1	18
Financial services	51	6.8	18
Shops	185	24.8	64
Hospitality	62	8.3	22
Food kiosks	71	9.5	25
Handicrafts	17	2.3	6
Beauty shops and salons	101	13.6	35
Groceries	113	15.2	40
Total	745	100	260

The current study used a questionnaire to collect data. As Easterby-Smith, Thorpe, Jackson, and Lowe (2019) indicated, a questionnaire is widely favored in collecting data because it is efficient, is applied in collecting standardized responses, and is less time-consuming for the researcher and participants.

The study received responses from 164 small-scale enterprises based on a sample of 260 targeted enterprises, which amounted to a response rate of 63.1 percent. This was made possible by the effectiveness of reminders and targeting small-scale enterprises in only the county's major towns.

Pilot Test, Reliability and Validity

Forty-nine respondents were used in the pilot test. Collis and Hussey (2018) argue that 10% of the study sample is appropriate for a pilot test. The questionnaires filled in the pilot test were analyzed to establish any weaknesses and correct them accordingly. The pilot size was determined by $np=10\%(N-n)$, whereby np is the required pilot size, N is the population of the entire study, and n is the chosen sample size (Taherdoost, 2016). The pilot sample size, therefore, was determined as follows:

$$\begin{aligned} np &= 10\%(N-n) \\ &= 10\%(745-260) \\ &\approx 49 \text{ respondents.} \end{aligned}$$

This study utilized expert opinions to assess the construct, face and content validity of the research instrument. Additionally, the study used the responses from the pilot test to make amendments to the research instrument. Reliability was evaluated using the Cronbach's alpha coefficient. A Cronbach's alpha coefficient of 0.7 or above is considered reliable (Zikmund et al., 2013). The results indicate that the reliability of the questionnaire was proven, with Cronbach alpha values of greater than 0.7 for all the research variables. Cost of credit had the Cronbach's alpha of 0.708, which indicates reliability of the instruments.

Data Analysis and Presentation

The information in those questionnaires was coded and entered into statistical package

for social sciences (SPSS) version 24 that was used in analysis. The study used the following multiple regression analysis to establish the effect of the various factors on choice of mobile lending platforms by small-scale enterprises:

$$Y = \beta_0 + \beta_1 X_1 + \varepsilon$$

In the formula,

Y = Choice of mobile lending platform, β_0 = Constant, X_1 = credit cost, β_1 = Regression coefficient and ε = Error term

Model Specification Tests

Several model specification tests were performed before fitting the multiple linear regression model to evaluate the model's fitness and appropriateness. Linearity test, multicollinearity test, test of normality of regression residuals, and heteroscedasticity test were among the diagnostic tests performed.

The first test performed was the linearity test. This test aims to determine whether the dependent and independent variables have a linear relationship. This test was carried out using scatter plots. This necessitated the development of numerous scatter plots for each independent variable against the dependent variable. This determines whether the association was linear.

The second diagnostic test was the multicollinearity test to determine if any of the predictor variables have a strong linear relationship (Lincoln & Guba, 2018). This study used the variance inflation factor (VIF) to assess multicollinearity. The test's critical value is 5. VIF values less than 5 indicate no multicollinearity, whereas VIF values more than 5 indicate multicollinearity.

After fitting the model, the study tested the residuals for heteroscedasticity. The heteroscedasticity test evaluates the variance homogeneity of the regression residuals. The scatter plot of the residuals versus the expected values was used to perform this test. Heteroscedasticity is evident when the funnel shape is present. On the other hand, homoscedasticity is represented as a random dispersion of projected values shown against residuals.

The normality of residuals test was the final test performed. When regression residuals are distributed regularly, there is a danger of

statistical tests being inaccurate, according to Colomb et al. (2016). Furthermore, the regression coefficients may result in inefficient estimations. Shapiro-Wilk was utilized to assess the normality of the regression residuals in this research. The test's null hypothesis is that the residuals are normally distributed, whereas the alternative hypothesis is that they are not. The null hypothesis is accepted when the p value is more than 0.05, and when the p-value is less than 0.05, it is rejected.

Operationalization of Variables

Table 3

Operationalization of the Variables

Variable	Measurement	Level of measurement
Credit cost	<ul style="list-style-type: none"> • Interest rate • Penalties • Facilitation fees 	<ul style="list-style-type: none"> • Ordinal (Likert scale questions)
Choice of mobile lending platform	<ul style="list-style-type: none"> • Rating of a platform • Preference for a platform • Recommendation 	<ul style="list-style-type: none"> • Ordinal scale (Likert scale questions)

Ethical Considerations

The researchers assured the respondents of the confidentiality of the information they gave and anonymity of their personal information to adhere to ethical standards. Further, respondents were assured that the information given was only for research purposes.

Findings and Discussion

The study investigated how respondents considered the various credit cost factors when choosing a mobile-based lending platform, as shown in table 4.

Table 4

Credit Cost Factors

The findings indicate that interest rates, penalties, loan processing fees, and facilitation fees were

Statements	Mean	Std. Deviation
Interest rates charged by a mobile lender are a key factor for me when choosing a mobile lender	4.20	.750
Penalties charged by a mobile lender are a key factor for me when choosing a mobile lender	4.29	.662
Loan processing fees charged by a mobile lender are a key factor for me when choosing a mobile lender	4.39	.622
Insurance charges charged by a mobile lender are a key factor for me when choosing a mobile lender	2.28	.642
Legal fees charged by a mobile lender are a key factor for me when choosing a mobile lender	2.24	.719
Facilitation fees charged by a mobile lender are a key factor for me when choosing a mobile lender	4.26	.734

the major factors considered by the small-scale enterprises when choosing a mobile lender, while legal fees and insurance charges were not key factors. This was determined by the average responses as per the Likert scale questions filled by the respondents on the questionnaires issued.

The study's dependent variable was choice of mobile lending platform, as provided in Table 5:

Table 5

Choice of Mobile Lending Platforms

Statements on choice	Mean	Std. Deviation
I can recommend the mobile lending platform that I use to others	4.34	.712
I highly rate the mobile lending app that I use	4.38	.640
The mobile lending app that I use is preferred by many business owners that I know in this area	4.31	.622
The mobile lending app that I use is rated highly by other small business owners in this area	4.30	.719
I am very satisfied by the mobile lending app that I use	4.22	.718

The results shown in Table 5 indicate that respondents highly preferred the mobile lending platforms they had chosen. Specifically, study participants agreed that they highly rated the mobile lending application they used; they could recommend the mobile lending platform that they used to others and that many business owners that they knew in the area preferred the mobile lending application they used. Additionally, other small business owners in the area rated study participants agreed that the mobile lending application they used highly and were very satisfied with the mobile lending application they

used. These findings clearly reveal that the choice of mobile lending platforms affects the cost of credit accessible to small-scale enterprises in Tharaka Nithi County.

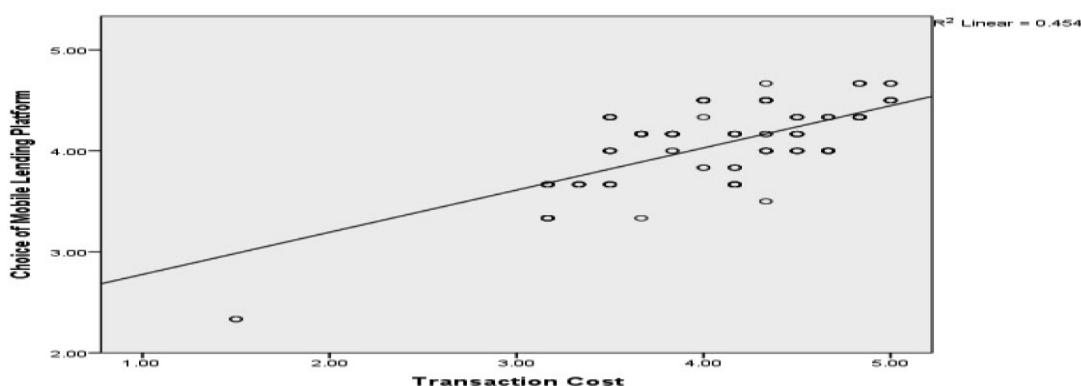
Diagnostic Tests

Test of Linearity

The first test performed was the linearity test. This test was carried out using scatter plots. The results of the research regarding the linear association between the choice of mobile lending platform and credit costs are shown in Figure 1.

Figure 1:

Linear relationship between credit cost and choice of mobile platform



The findings in Figure 1 show a linear relationship between the choice of mobile lending platform and credit cost (R squared = 0.454). This implies fitting a linear regression model between these two variables was appropriate.

Test of Multicollinearity

The second diagnostic test conducted was the multicollinearity test. The test’s critical value was 5. VIF values less than 5 indicate no multicollinearity, whereas VIF values more than 5 indicate multicollinearity (Lincoln & Guba, 2018). The findings from the VIF multicollinearity test are summarized in Table 6.

Table 6

Test of Multicollinearity

Independent variables	Collinearity Statistics	
	Tolerance	VIF
Credit Cost	.514	1.947

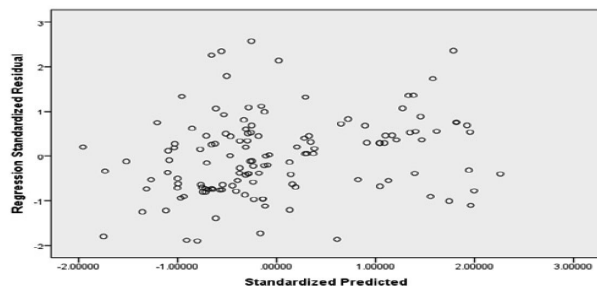
The findings from the study summarized in Table 6 indicated that the VIF was less than two. These findings imply that there is no multicollinearity.

Test of Heteroscedasticity

After fitting the model, the study tested the residuals for heteroscedasticity. This was conducted by having a scatter plot of the regression residuals against the predicted values. The results are shown in Figure 2.

Figure 2:

Tests of Heteroscedasticity



The findings displayed in Figure 2 indicate that the scatter plot of the regression residuals against the predicted values reveals no trend of a cone or funnel shape. According to these findings, this led to the conclusion that there was no substantial heteroscedasticity.

Test of Normality of Residuals

The normality of residuals test was performed. Shapiro-Wilk was utilized to assess the normality of the regression residuals in this research. The test's null hypothesis is that the residuals are normally distributed, whereas the alternative hypothesis is that they are not. The null hypothesis is accepted when the p value is more than 0.05, and when the p-value is less than 0.05, it is rejected. Table 7 summarizes the findings.

Table 7

Tests of Normality of Regression Residuals

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Unstandardized Residual	.091	164	.002	.987	164	.138

The study findings summarized in Table 7 show that the Shapiro-Wilk test of 0.987 was not significant at 5% significance level ($p = 0.138$). As a result, the conclusion was that the residuals were normally distributed, indicating that the fitted model was efficient and reliable. The results of the fitted multiple linear regression model are provided in the following sections.

Model Fitting

The results of the fitted multiple linear regression model are presented in this section. The section provides findings of the model's ANOVA, a summary of the regression model, and the significance of the model coefficients. The regression model's summary findings are summarized in Table 8.

Table 8

Summary of the Regression Model

R	R Square	Adjusted R Square	Std. Error of the Estimate
.782 ^a	.612	.604	23334

a. Predictors: (Constant), Credit Cost
b. Dependent Variable: Choice of Mobile Lending Platform

The findings summarized in Table 8 indicate that the correlation coefficient (r) between the study's response variable and the predictor variables was 0.782, suggesting a positive association between the response variable (choice of mobile lending platform) and the predictor variable credit cost. The r squared of the regression model was 0.612, indicating that the predictor variable incorporated in the model explained 61.2 percent of the variation in the choice of mobile lending platforms by the small-scale enterprises. This means that the error term and variables not included in the model may account for 38.8 percent of the unexplained variation.

The f test was also employed to evaluate the model's relevance and fit in the study (analysis of variance test). This was done to establish whether any of the model's predictor variable might have

an impact on the choice of mobile lending platform by the small-scale enterprises. The ANOVA test results are shown in Table 9.

Table 9

Analysis of Variance of the Model

Source of variance	Sum of Squares	Df	Mean Square	F	Sig.
Regression	13.728	3	4.576	84.042	.000 ^b
Residual	8.712	160	.054		
Total	22.439	163			

a. Dependent Variable: Choice of Mobile Lending Platform

b. Predictors: (Constant), Credit Cost

Study findings summarized in Table 9 show the results of the research, which demonstrate that the model was significant ($f = 84.042, p < 0.05$). This indicates that the predictor variables had a significant effect on the choice of mobile lending platform by the small-scale enterprises in Tharaka Nithi County. The findings also indicate that the model fits the data well.

T-tests were used to assess the significance of the study’s predictor variable. The results are summarized in Table 10.

Table 10

Significance of Independent Variables in the Model

Variables	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t	
(Constant)	1.343	.182		7.385	.000
Credit Cost	.185	.043	.298	4.330	.000

a. Dependent Variable: Choice of Mobile Lending Platform

Table 10 results reveal that credit costs have a significant positive influence on the choice of mobile lending platforms among small and medium enterprises.

Conclusions and Recommendations

Conclusion

Based on the findings, the research comes to the following conclusions. The study concludes that credit costs are vital factors that small-scale enterprises in Tharaka Nithi consider when making a choice of mobile lending platforms. The key credit cost factors considered include loan-processing fees, penalties charged by a lender, facilitation fees, and the interest rate charged.

Recommendations

The study recommends to policymakers and regulators such as the Digital Lenders Association of Kenya (DLAK) and Central Bank of Kenya to design an effective legal and policy framework that will guide the mobile lending institutions to charge fair interest rates and within the CBK legal legislation.

Besides, the mobile lending institutions in Tharaka Nithi County should make their credit assessment of small-scale enterprises and internal operations efficient to push these benefits to their mobile lending customers in terms of reduced credit costs. The study recommends that mobile lenders in Tharaka Nithi County enhance the security of their applications. The study also recommends that developers of the mobile lending apps make the apps easy to use for users with average technology knowledge.

Areas for Further Research

First, this study focused on small-scale enterprises in Tharaka Nithi County, Kenya, making the findings not readily generalizable to other counties with differing technological, economic, social, and business environments. The study recommends a similar study in other counties in Kenya to provide a holistic view of what factors small-scale enterprises consider when choosing between the various mobile lending apps available. This would be critical in bridging the contextual gaps in this study. A study into other factors that affect the choice of mobile lending apps by small-scale enterprises is also recommended.

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