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Implication of Credit Risk Management Practices on Financial Sustainability: A Case Study of Digital Lending Firms in Kenya

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Abstract:

Technological revolution such emergence of mobile phone has triggered unprecedented changes in various. Among the sectors that whose operational landscape has greatly altered through such invention is the financial sector. The financial sector for instance has seen introduction of digital lending undertaken by various companies, an activity that was initially a preserve of commercial Banks. However, the lending activity of most digital lending firms operate in unregulated environment with the lending where each firm had its own rules of operation, such as risk assessment. The purpose of this study was to assess the implication of risk assessment on financial sustainability of selected digital lending firms in Kenya. The study adopted a descriptive survey research design. Data was captured through the use of questionnaires and document analysis. The study established that there was no significant difference between risk management practices and financial sustainability of digital lending firms and the organizations employs several financial risk management measures to mitigate against financial. However, most of the organizations charged relatively higher levels of interest and also lacked proper mechanism of evaluating creditworthiness of their customers leading to high default rates. The study recommends for establishment of proper mechanism of evaluating customers' loan ability as well as reducing rates of interest charged as a way of containing default rates among borrowers.

Keywords: Financial risk, financial sustainability, risk management, digital lending firms

1. Introduction

Any profit-making organization such digital lending firms will always aim at maximizing the returns of shareholders wealth. As such, the organization should aim at enhancement of her financial stability which is a four-pronged undertaking; enhancement of level profitability; solvency, promotion of efficiency operation and ensuring achievement of adequate liquidity to ensure the meeting of own obligations as and when they fall due.

According to Woods and Dowd (2008), all establishments encounter financial risks, and their capacity to accomplish their goals and even their existence depends on how well they cope those risks. Kyei and Antwi (2017) observes that risk associated with lending is one the greatest and most obvious source of credit risk associated with financial institutions. Financial risk normally effects volatility of a firm's cash flows, a situation that ends up leading to a lower alteration of firm value (Bartram, 2002). The value of a firm is generated when a firm's asset is able to generate a return on assets that exceeds its cost of capital and in an instance where return on assets drops below the cost of capital, value is ruined (Tseng & Goo, 2005). Financial sustainability of a firm institution is one of the key dimension's sustainability. Kinde (2012) states that there are two types of Financial Sustainability that one could observe in evaluating organization performance. These are; financial self-sustainability (FSS) and Operational self-sustainability (OSS). Operational Self-Sufficiency is used to evaluate whether an organization generates enough income has been earned to cover the organizations' direct costs, eliminating the cost of capital but containing actual funding costs while financial self-sufficiency on the other hand represents the real financial health of a firm (Tehulu, 2013). Financial Institutions face several credit risks spread across different areas of business. Credit risk as 'the potential that a bank borrower or counterparty will fail to meet its obligations in accordance with agreed term' (Furfine, 2000). These include lending, trading and investing. However, this risk can be mitigated through sound credit policies which are used to determine ones' loan ability, a product of sound management.

The digital lending in Kenya has gained popularity as the services appear to be bridging the gap for citizen's majority of whom do not have formal bank accounts, or whose earnings are not support the borrowing from recognized financial institutions. A GeoPoll survey conducted in December 2019 showed that access to financial products and

services had gone up from 27% of Kenya's populace in 2006 to 83 percent, a situation that has mainly been enhanced by digital lending. Digital lending, has provided people with easy entrance to loans of varied amounts, making the sector to be very attractive to both borrowers and investors with digital lenders now standing at over 120 in Kenya since the first launch of digital lending in Kenya by safaricom in 2007, after introduction of M-Pesa services. This growth has been enhanced by the proliferation of mobile-based banking and lending platforms has provided unbanked populations with access to financial services and increased financial inclusion by over 50%. Despite this, until recently the sector had been largely unregulated, and there was little data available on who is taking out loans and how they are being used. This study is further supported by Central Bank of Kenya of 2020 which stated that approximately about 60% of Kenyans are low-income earners who majorly depended on digital lenders to supplement their budgets (CBK, report 2020).

Risk is the likelihood is the harmful consequence might result when exposed to a hazard. Risk is characterized and rated by considering two characteristics:

- Probability or likelihood (L) of occurrence; and
- Consequence (C) of occurrence.
- This is expressed as $R \text{ (risk)} = L \text{ (likelihood)} \times C \text{ (consequence)}$.
- Likelihood is a qualitative description of probability or frequency.
- Consequence is the product of an occasion, existence a loss or hindrance of gain.

There may be a range of possible outcomes associated with an event. Therefore, risk control means enchanting action to first eradicate financial risks so far as is reasonably feasible, and if not possible, lessen the risks so far as is sensibly practicable. Eliminating a hazard will also eradicate any risks associated with that threat. Risk Valuation is the procedure of assessing and equating the level of risk against determined acceptable levels of risk. Risk Management is concerned with is the application of a management system to risk and comprises the identification, scrutiny, handling and monitoring. Risk management is important because it tells businesses about the threats in their operating environment and allows them to preemptively mitigate risks. In the absence of risk management, businesses would face heavy losses because they would be blindsided by risks

According to Thomas (2020), risk management a process entails:

- Identification of risks associated with lending – find out what could cause of risk
- Assess risks – understand the possibility of occurrence of the risk,
- Control risks – implement the most effective control measure that is reasonably feasible in the circumstances, and
- Review control measures to ensure they are working as planned

In Kenya, digital lending firms have recorded mixed performance. Some firms have recorded marked returns while others have collapsed in less than three years upon their inception. Variation in performance could be a pointer in differential levels in credit management policies among these firms in view of operation in unregulated environment lending firms are faced with lots of financial problems in terms of credit risk with many of their credit customers failing to fulfill their financial obligation. According to the report of 2019 of Credit Reference Bureau (CRB), about 3 million of Kenyans have been listed in the CRB because of their inability to pay back loan advanced to them, these are mainly mobile credit consumers (CBK report 2019).

However financial risk of a firm can be reduced through measures such credit rating and aggressive recovery strategies. The Credit Rating issue customers' credit status can help lenders to discover their potential clients' repayment ability on basis of historical credit that may have been advanced to such customer. Such information becomes critical in assessing loan ability and hence capacity to repay for the loan that may be advanced, hence reducing default rate (Elkhoury, 2009).

A study by Bungamani (2018) undertook a study that was aimed at establishing the relationship between credit risk and financial performance in south African banks. The study established that, the higher default rate in loan repayment the lower the financial performance of an underlying entity, a measure of financial sustainability. In Kenya such information is collected by CRB which provides credit ratings that translates to financial status of potential customers to the financial institutions.

On the other hand, collection policy provides guidance on how credit extended to the customer is paid back as and when they fall due. The collection policy must aim at increasing collections from slow payers and reducing bad debt losses exposed to the organization (Muhammad, Khan & Xu). Therefore, the policy outlines framework that guides in the collection of credit extended to the clients. A study done Kagoyire and Shukla (2016) showed that client's appraisal, credit collection policy had a direct impact on the financial performance. The study aimed at establishing the impact credit collection policy on financial performance of commercial banks of Rwanda, further focusing on Equity Bank of Rwanda Ltd. The study emphasized on enforcement stringent credit collection policy as opposed to the lenient one. Similarly, Wafula (2016) investigated the determinants of financial sustainability Kenya's financial sector. The study found that there is closer relationship between level of default and financial sustainability. The study concluded that default level affected debt to equity ratio with high debt to equity ratio which adversely affects the amount of money for investment purposes. It is against this background that this endeavored to ascertain how risk management policies of digital firms were impacting on financial sustainability of digital firms.

2. Objectives of the Study

This study sought to establish implication of credit risk management t on financial sustainability of digital lending firms in Kenya

There the study sought to evaluate the following hypothesis.

- H₀1: There is no significant implication of credit risk management and financial sustainability of digital lending firms in Kenya

3. Methodology

The study used correlation research design. Saunders; Lewis and Thornhill (2007) observe that correlation research design is most appropriate in studies where it is not possible to expose independent variable to random assignment of subjects, treatment and manipulative control. This design enabled the researcher to establish the implication of risk management and financial sustainability of digital firms in Kenya. The study was pegged on descriptive survey research design Survey research design. The target population consisted of 900 employees (Board of Directors, Managers, sales representatives, Debt collectors and shareholders) of 10 selected digital lending firms out which a sample of 269 respondents were selected using proportionate and simple random sampling. Data was collected using Questionnaires. Questionnaire was modeled on Likert scale. Items in the questionnaire were scored using (1) for Strongly Disagree (SD) running up to (5) for Strongly Agree. On basis of responses, descriptive statistics were generated with results presented using frequency, mean and standard deviation before being used to run diagnostic tests of normality, linearity, homoscedasticity employees (and Collinearity prior to running of regression

4. Data Analysis and Discussion

A total of 269 questionnaires were equally distributed proportionately to 269 respondents in 10 digital firms that were purposively selected for the study out of which 189 responded representing a response rate of 70.2 percent. According to Mugenda and Mugenda (2003) response rate of 50 percent is rated as adequate, 60 is good and 70 very good for further statistical analysis.

4.1. Descriptive Statistics

This section presents data analysis of the three variables under study that were investigated to establish implication of risk assessment on financial Sustainability of digital firms in Kenya. The presentation is under study objectives namely; to establish factors considered by various digital firms in determining credit worthiness of borrowers and how they had impacted on financial sustainability of digital firms in Kenya, Strategies used to enforce recovery of advanced loans and how they had impacted on financial sustainability of digital firms in Kenya and find out the level of recovery loans disbursed to various borrowers and how it had impacted on they had impacted on financial sustainability of digital firms in Kenya

Data to address these objectives was mainly captured from respondents from respondents using a Questionnaire that was modeled on Likert scale. Items in the questionnaire were scored using (1) for Strongly Disagree, (2) for Disagree, (3) Undecided, (4) Agree and (5) for strongly agree. On basis of responses, descriptive statistics were generated with results in form of mean and standard deviation presented before undertaking of regression analysis.

4.2. Factors Considered by Various Digital Firms in Determining Credit Worthiness of Borrowers

This was the first objective of the study that sought to establish Factors Considered by Various Digital Firms in Determining Credit Worthiness of Borrowers and their implication on financial Sustainability of digital firms in Kenya. Positive statements relating to selected factors and their perceived implication on financial sustainability were given to respondents and scored. The findings are presented in Table 3. 1

Statement Responded to	N	Mean	S.D
We only lend to clients who are either in formal employment or doing business at lower interest rates	189	1.7937	.84095
The loan is only given when the purpose of the loan is clearly stated	189	1.5397	.49975
We only give loans that which they are fully guaranteed	189	1.6508	.47799
We don't give out loans to applicants who are listed with CRB	189	4.2751	.44777
We start giving out lower value loans with progression for higher amounts for our clients pegged on past repayment record	189	4.4444	.49822
A client who pays the loan outside stipulated time may have previous loan limit scaled down or denied future loan completely	189	4.3069	.46242
We normally have aggressive mechanism for loan recoveries	189	2.0741	1.03390
We normally forward names of our loan defaulters for listing by CRB after some set grace period	189	2.9577	1.24981
After listing with CRB, we have seen most defaulters clear the outstanding loans	189	1.8836	.66620
We normally institute legal charges to defaulters who may be un willing to clear their loans	189	1.7566	.61369
Because of our strict credit guidelines enabled our firm record marked performance as reflected by our high profitability	189	2.7619	1.45917
We are sure of sustaining our operations in unforeseeable future if weren't maintain our current pattern of operation	189	1.8360	1.17581

Table 1: Respondents' Level of Agreement on Factors Considered by Digital Lenders in Deciding Customers Lon Ability

Results in Table 1 reveal that majority of respondents were in agreement that one's level of income was not consideration before lending by digital firms with a mean 2.2963 and SD of 1.17012. Secondly lending was not restricted to those in formal employment or those in business as revealed by response mean of 1.7354 who were in disagreement with the positive statement with SD of 0.59596. Similarly, there was an agreement that thorough background check and purpose of the loan were not a criteria of determining customers' loan ability as reflected by mean of 2.0053 and 1.9894 as well as SD of 1.13220 and 1.07183 respectively being the means and SD of responses on level of disagreement against positive statements. However, majority of the respondents were in agreement that potential clients listed with CRB were not considered for loans (mean 4.3492 and SD 0.63978) same to checking of history of previous repayment determine future amount of loan allocation of an individual (Mean 4.2063 and SD 0.71068).

The findings illustrated that the respondents were in agreement that digital firms had initiated various measures that formed a basis of evaluating their customers' loan ability. However, out of the twelve variables that were under consideration that would have gone a long way in generally reducing digital firms level of risk, the respondents were only in agreement with three(3) with mean of 4.2751, 4.4444 and 4.3069 for not giving loans to applicants not listed with CRB, giving lower value loans with progression for higher amounts for our clients pegged on past repayment record and a client who pays the loan outside stipulated time may have previous loan limit scaled down or denied future loan completely respectively. These views seem to converge towards ill preparedness of digital firms to maintain financial sustainability in their operations.

In an earlier study Elkhoury (2009) established that financial risk of a firm can be reduced through measures such credit rating and aggressive recovery strategies. The Credit Rating issue customers' credit status can help lenders to discover their potential clients' repayment ability on basis of historical credit that may have been advanced to such customer. Such information becomes critical in assessing loan ability and hence capacity to repay for the loan that may be advanced, hence reducing default rate. This position is further affirmed by Bungamani (2018) who asserts that, the higher default rate in loan repayment the lower the financial performance of an underlying entity.

Prior to running diagnostic tests factor reduction was undertaken with aim of identifying the variables that had significant influence on financial sustainability of digital firms. This was on understanding that financial sustainability of any business organization is a function of many variables. The findings are given in Table 2

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.187	1.457		3.560	.000
	We only lend to clients who are either in formal employment or doing business	-.071	.109	-.051	-.650	.516
	The loan is only given when the purpose of the loan is clearly stated	-.765	.112	-.325	-6.835	.000
	We only give loans that which they are fully guaranteed	-.970	.218	-.394	-4.455	.000
	We don't give out loans to applicants who are listed with CRB	-.148	.263	-.056	-.563	.574
	We start giving out lower value loans with progression for higher a mounts for our clients pegged on past repayment record	.247	.222	.105	1.114	.267
	A client who pays the loan outside stipulated time may have previous loan limit scaled down or denied future loan completely	-.610	.224	-.240	-2.725	.007
	We normally have aggressive mechanism for loan recoveries	.388	.058	.341	6.744	.000
	We normally forward names of our loan defaulters for listing by CRB after some set grace period	.191	.051	.203	3.760	.000
	After listing with CRB, we have seen most defaulters clear the outstanding loans	-.298	.071	-.169	-4.188	.000
	We normally institute legal charges to defaulters who may be un willing to clear their loans	.110	.159	.058	.694	.489
	Because of our strict credit guidelines enabled our firm record marked performance as reflected by our high profitability	.258	.060	.321	4.287	.000

Table 2: Regression Analysis for Dimension Reduction

a. Dependent Variable: We Are Sure of Sustaining Our Operations in Unforeseeable Future If Weren't Maintain Our Current Pattern of Operation

Table 2 reveals that variables that had significant influence on financial sustainability. The results reveal that loan given with is clearly defined purposes, fully guaranteed loans, aggressive mechanism for loan recoveries, forwarding of names of loan defaulters for listing by CRB after some set grace period, clearance of outstanding loans by defaulters after listing with CRB and strict credit guide lines had significant influence on financial sustainability of digital firms as they all had significant values that were less than 0.05. On assessment of the level of contribution of variable, the rule is to examine significance column with a significance value of less than 0.05 implying that the variable has significant influence while a value of more than 0.05 implies that a variable had insignificant influence (Selina & Khatete, 2018).

4.3. Normality Tests

4.3.1. Normality Test and Linearity Test

The normality of the regression model was tested so as to create that the supposition of normalcy in distribution was achieved. Linearity suggests that the indicator factors in the regression have a straight-line relationship with the result variable. Normality test, linearity test and homoscedasticity outcomes are shown in Figures 1 and 2

4.4. Diagnostic Tests

Diagnostic tests are undertaken to check for irregularities since linear regression is sensitive to exception impacts. Before carrying linear regression, it was important to establish the assumptions of normality, linearity, homoscedasticity, and absence of Multi-collinearity, Homoscedasticity and Collinearity. The linear regression analysis requires all factors to be multivariate normal. This supposition could be best checked with a histogram or a Q-Q-Plot. Normality test, linearity test and homoscedasticity outcomes are shown in Figures 1 and 2

Figure 1: Normal P-P Plot of Regression Standardized Residual

Figure 2: Histogram Showing Most of the Points Lie within the Normal Curve

These results show that the data follow the normality line as there were not drastic deviations. According to Woods and Dowd (2008), all establishments encounter financial risks, and their capacity to accomplish their goals and even their existence depends on how well they cope those risks. Kagoyire (Kagoyire, 2016) further observed that clients appraisal, credit collection policy had a direct impact on the financial performance with as high default level adversely affecting the amount of money for investment purposes.

4.4.1. Heteroscedasticity/Homoscedasticity Test

Figure 3: Heteroscedasticity/ Homoscedasticity Test

Heteroscedasticity/homoscedasticity test was evaluated through the use of the linear regression as reflected in Figure 3. This was aimed at establishing the regularity of variances for a variable computed for two or more clutches. The study's significance level was $\alpha = 5\%$, with $p \geq 0.05$, representing homogeneity of variances. Homoscedasticity adopts that the difference all over the regression line is equal for all data of the independent variables. When the variability of a variable is unequal, it averages that the data is not consistent otherwise called heteroscedasticity. Occurrences of heteroscedasticity happens where the error term of the variance, which is preferably should be constant, varies. Results illustrated that data for the constructs of this study did not vary significantly, an indication of homogeneity and lack of heteroscedasticity.

4.4.2. Multi-col Linearity

Multi-collinearity occurs when the independent variables are very associated with each other. Such an occurrence can have damaging effects on compound regressions results. The findings are shown in Table 3.

Variables	Tolerance	VIF
The loan is only given when the purpose of the loan is clearly stated	.950	1.052
We only give loans that which they are fully guaranteed	.802	1.247
We normally have aggressive mechanism for loan recoveries	.961	1.040
We normally forward names of our loan defaulters for listing by CRB after some set grace period	.714	1.402
After listing with CRB, we have seen most defaulters clear the outstanding loans	.723	1.382
Because of our strict credit guidelines enabled our firm record marked performance as reflected by our high profitability	.866	1.155

Table 3: Multi-Collinearity Tests

Findings illustrated in Table 3. Show that there was no problem of Multi-collinearity as tolerance values were all above 0.20 (0.459; 0.384; 0.462) and VIF values were all below 5 for all the variables (1.006; 1.41; 1.140). The data had variance inflation factor values of below 2 and tolerance above 0.3 indicating that there was no Multi-collinearity problem. O'Brien (2007) suggested that a VIF of above 5 and tolerance value of less than 0.20 is an indicator a Multi-collinearity problem

4.5. Inferential Statistics

The study sought to establish implication of credit risk management practices of embraced by digital firms on financial sustainability

Model Summary ^b								
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate				
1	.924 ^a	0.855	0.85	1.04851				
a. Predictors: Selected Independent study variables								
b. Dependent Variable: Financial Sustainability								
ANOVA ^a								
Model		Sum of Squares		df	Mean Square	F	Sig.	
1	Regression		222.106	6	20.485	104.838	.000 ^b	
	Residual		37.809	182	0.195			
	Total		259.915	188				
a. Dependent Variable: Financial Sustainability								
b. Predictors: (Constant) Selected independent study variables								
Coefficients ^a								
Model	Unstandardized Coefficients		Standardized Efficients	T	Sig.	95.0% Confidence Interval for β		
	B	Std. Error	Beta			Lower Bound	Upper Bound	
	(Constant)	2.612	1.05		0.213	0	-0.622	0.839
	Selected independent study variables	0.835	0.152	0.33	10.11	0.033	3.5813	5.4187

Table 4: Regression Results of Implication of Credit Risk Management on Financial Sustainability of Digital Firms

Source: Field Data, (2019)

Significance Level, $P \leq 0.05$

Table 4 gives a regression coefficient (β) of 0.330 which implies credit risk management practices had positive implication on financial sustainability of study digital. The value of R is .924, representing Multiple Correlations, a value which shows high Correlation as it is closer to 1. The adjusted R Square is .850. This implies that 85 percent of dependent variable can be attributed to independent variables in a given expression. This implies that credit risk management practices accounted 85 percent of financial sustainability.

The study Hypothesis postulated that;

- H_01 : There is no significant difference between implication of credit risk management and financial sustainability of digital lending firms in Kenya

Table 4.12 provides information concerning Multiple Regression concerning consolidated selected study variables on risk management practices and financial stability in selected digital lending firms. This analysis was critical for it facilitated the making of predictions on whether there was significant relationship between risk management practices and financial sustainability of digital ($\beta = .835$; $R = .924$, $\beta = -.330$, $F = 104.838$, $t = 10.11$, $p = 0.033$). Similarly, conclusion can be drawn by only observing the value in significance column. The interpretation is that any value that is less than 0.05 means that the independent variable had significance influence while any variable whose value is more than 0.05 means the variable had less or insignificant influence on dependent variable. The results indicate that the value in significance column is .033 the value that is below 0.05 (95% confidence level).

Therefore, the null hypothesis that, 'There is no significant difference between implication of credit risk management practices and financial sustainability of digital lending firms in Kenya' was accepted. This meant that risk management practices had significant on financial sustainability of digital lending firms in Kenya. This means that when adequate risk management practices are not embraced by digital lending firms, their financial sustainability will not be achieved, a situation that may lead to their collapse.

In consideration of the unstandardized beta coefficient and the constant, the following model was obtained:

$$Y = 2.612 + .835X_1 + e$$

Where Y = Financial Sustainability and X_1 = risk management practices. The model equation implies if risk management practices altered by one percent, there would be a corresponding change in financial sustainability of digital lending firms in by 0.85 percent.

In an earlier study Scherrer, Freccè and Daub (2013) established that an organization is only capable to continue supplying products or services to the society if it is capable of generating adequate profits to sustain its operations, an undertaking that encompasses embracing adoption of risk management practices with view of containing the losses that would have otherwise cut down on level of profitability.

5. Conclusion

First, the study established that there is no significant difference between implication of credit risk management practices and financial sustainability of digital lending firms in Kenya. Secondly, Digital firms have initiated several risk mitigation measures as part of their practices to mitigate against financial risks, however rate of interest was relatively high leading to higher default rates among borrowers. Lastly, digital lending firms not have effective credit analysis mechanism that could help scrutinize the ability of borrows to repay back their loans leading to advancing loans to customers who may have been unworthy.

6. Recommendation

The study recommends for establishment of proper credit evaluation mechanism by digital firms in order to contain loaning to applicants with negative loan abilities. Similarly, there is need to contain the higher rates of interest charged on loans as it was making significant contribution towards default rates among borrowers

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