IMPACT OF CREDIT MANAGEMENT STRATEGIES ON LOAN PERFORMANCE AMONG MICROFINANCE BANKS IN NIGERIA

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ABSTRACT

Developing economies like Nigeria need a vibrant microfinance industry to fast-track and sustain their economic growth. However, lending activities in this sub-sector require effective strategies to reduce the risk of loan default. This study examined the nexus between credit management strategies and the loan performance amongst microfinance banks in Nigeria. Primary data were used to determine the impact of the identified credit management strategies (credit term, client appraisal and collection policy) on the loan performance of 180 microfinance banks. The data were sourced from the responses to a research questionnaire by the sampled credit managers/officers in the banks. The ordinal logistic regression technique was used to evaluate the relationships among the variables, with the aid of the Statistical Package for Social Science (SPSS). The results from the analysis revealed that client appraisal has a positive and significant impact on loan performance; credit term has a positive but non-significant impact on loan performance and collection policy has a negative but non-significant impact on loan performance. The study concluded that client appraisal is an integral credit management strategy influencing loan performance among microfinance banks in Nigeria. Therefore, it was recommended that microfinance banks in Nigeria should adhere to strict client appraisal techniques in granting loans. In addition, the government should create and maintain a functional and effective Credit Information Reporting system in the microfinance banking sub- sector, to assist the banks in carrying out thorough client appraisals.

Keywords: Credit Management Strategies, Loan performance, Microfinance Banks.

INTRODUCTION

Microfinance is a catalyst for economic growth among developing countries. It involves lending activities to micro-units of the economy, which have been identified as agents of change and development. Loans, in the form of microcredits, which are essential for the survival of small business, are not readily available at the normal commercial banks and hence, the need for Microfinance Banks (MFBs). MFBs are the custodians of these microcredits, which signifies their importance in any economy. Therefore, the financial health of microfinance banking sub- sector is an essential prerequisite for economic stability and growth (Halling & Haydeen, 2006).

According to Mohammad, (2014), MFBs continuously monitor, screen and recover loan for better performance of their loan portfolios. However, credit risk remains a major challenge, limiting lending activities in the microfinance sub-sector, and banks have been adopting different techniques to manage the risk (Afolabi et al., 2020a). Credit management includes the totality of procedures, techniques, systems, strategies and control a bank has in place to ensure the efficient collection of customer's payments, thereby minimizing the risk of default (Mokogi, 2003). Effective credit risk management is crucial for the survival of MFBs, since their primary business is the provision of credit facilities.

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There are several credit management strategies and procedures relating to the performance MFBs, which have been identified and discussed by different scholars. Some of these strategies, which include credit terms, client's appraisal and loan collection policy, have been utilized in many developing countries, such as Malaysia (Ho & Yousuf, 2009), Kenya (Orua, 2009; Kiplimo & Kalio, 2012; Justus et al., 2016), Ghana (Addae-Korankye, 2014), Pakistan (Malik & Ahmed, 2015) and some East Africa nations (Sindani, 2012). Findings from these studies have also examined the effect of these strategies on loan performance. However, there is a scarcity of literature on the use of credit management strategies in Nigeria, with the closest being that of Oguntoyinbo, (2011). This researcher, as reported by Idama et al., (2014), identifies six credit management models among MFBs in Nigeria, using Accion MFB as a case study. Unfortunately, these models only centered on collection policy and failed to address other credit management strategies. Therefore, this study sought to investigate the influence of the identified credit management strategies on the loan performance of microfinance banks in Nigeria.

Nigeria is divided into six geo-political zones and reports from the apex bank indicates that the southwestern zone houses the highest number of MFBs in the country, with a total of three hundred and twenty-six (326) (CBN, 2020). This represents thirty-three percent (33%) of the entire population of MFBs in the country and it is closely followed by the north-central zone with just eighteen percent (18%). With these statistics and the crucial roles played by the banking sub-sector in economic development, it is necessary to study the influence of credit management strategies on their loan performance. In other to achieve the objective of this research, the following hypotheses were formulated and subjected to empirical test; credit term strategy has no significant impact on loan performance, client appraisal strategy has no significant impact on loan performance and loan collection policy has no significant impact on loan performance, among MFBs in Nigeria.

LITERATURE REVIEW

Microfinance

Lafourcade et al., (2005) define microfinance as the process of supplying financial services in the form of loans, savings, money transfers, insurance, and others to low-income people. The Central Bank of Nigeria (2017) describes microfinance banks (MFBs) as those with the primary responsibility of providing financial services to rural and poor micro-enterprises and households nationwide. According to Oluyombo, (2007) and as reported by Afolabi et al., (2020b), MFBs are globally accepted media of reaching people or firms that are either not served at all or inadequately served by the normal commercial banks. In any economy, microfinance banks play these important roles on either side of the balance sheet. They offer financial support to other segments by facilitating flow of funds through lending and the provision of liquidity supports. Nyagol & Onditi, (2016) opine that the microfinance banking subsector supports low-end entrepreneurs operating SMEs that form the bulk of many economies and at such the sector is key to economic development.

Vincent et al., (2014) opine that MFBs operate in an environment where customers are without credit histories or necessarily predictable borrowing behaviours making it more necessary to deal with credit risk management. Nikolaidou & Vogiazas, (2014) define credit risk management among MFBs as the combination of coordinated tasks and activities for controlling and directing risks confronted by the banks through the use of key risk management techniques which are in agreement with their objectives.

Theoretical Framework

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The credit market and credit risk theories form the theoretical framework for this research. The credit market theory was formulated by Stiglitz & Weiss in 1981, as a model of the neo-classical credit market. The theory states that the terms of credits clear the market. This implies that if collateral, as a credit management tool and other restrictions remain constant, the interest rate is the only price mechanism (Kangogo & Olweny, 2015). The credit market theory creates the assertion that credit management strategies have no effect on the lending rate.

The credit risk theory holds that the risk in giving credit is primarily that of the lender. This theory states that in order to reduce the lender's risk, the lender (MFBs) may perform a credit check on the prospective borrower or require the borrower to take appropriate insurance or seek security/ guarantee of third parties. This theory supports the credit control measures in literature, such as the client appraisal, collection policy and credit terms.

Empirical Review

In a study on credit risk management strategies among Malaysian microfinance institutions, Ho & Yusoff, (2009) discovered that loan diversification, risk mitigation, credit reminder, credit criteria, credit culture and staff training are the most popular strategies in the management of credit risk. In Kenya, Orua, (2009) conducted a study on the relationship between loan applicant appraisal and loan performance and concluded that short-term debt significantly impacted MFBs outreach positively. Similarly, Sindani, (2012) conducted a study on the effectiveness of credit management system on loan performance. Based on the empirical review, the study established that credit terms formulated by microfinance institutions in East Africa, affected their loan performance.

Oguntoyinbo, (2011) conducted a study on the credit risk assessment of the microfinance industry in Nigeria. Using Accion MFB as a case study, the researcher identified the use of daily collection board, collections in group meetings, rotation of loan accounts, periodic review of passbooks, and disbursements made from branch offices as strategies adopted by the MFB to moderate risks inherent in it mode of operation. The sample size of this study is limited to just one MFB, thus failing to provide a robust investigation. Kiplimo & Kalio, (2012) examined the influence of credit management strategies on loan performance of MFBs in Kenya. By employing a descriptive research design based on a survey of banks in the Baringo County, the study revealed a strong relationship between client appraisals and loan performance and that credit management strategies significantly influence loan performance.

In a further study in Kenya, Justus et al., (2016) investigated the influence of credit management practices on loan delinquency in savings and credit cooperative societies. The result revealed the existence of a strong relationship between credit risk controls, collection policy and loan delinquency. Malik & Ahmed, (2015) conducted an empirical investigation on the effect of credit risk management on the loan performance of MFBs in Pakistan. Using credit terms, client appraisal, collection policy and credit risk control as the study variables, the analysis revealed that only credit terms and client appraisal significantly influence loan performance.

Empirical findings from these scholars have established the relationships between credit management strategies and loan performance among MFBs in many developing countries. However, such empirical results involving the study variables are yet to be seen among MFBs in Nigeria. This study is intended to fill this gap.

MATERIALS AND METHODS

Study Design and Sampling Technique

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A descriptive cross-sectional design was adopted in the study, which involved the use of a research questionnaire to gather primary data for the analysis of the hypothesized relationship among the variables. The study area included the southwestern geo-political zone in Nigeria because it houses the highest number of MFBs in the country, with a total of three hundred and twenty-six (326) (CBN, 2020). The credit managers in these banks (one from each) represent the population size of this study and captures thirty-three percent of the total number in the country (CBN, 2020). The Yemane, (1973) formula for a finite population was used at the 95% confidence level, to specify the appropriate sample size of one hundred and eighty (180). A multi-stage probability sampling procedure was then used to select this sample size from the population. In the first stage, the credit managers of the MFBs in the southwestern geo-political zone were stratified into the six (6) existing states; Ekiti, Lagos, Ogun, Ondo, Osun and Oyo. In the second stage, the required sample size (180) was shared in corresponding proportions across these six states and a random sampling method was finally used to select the required number of credit managers from the MFBs in each state.

Data Collection Instrument

A total number of one hundred and eighty (180) copies of the questionnaire were administered through personal visit to the offices of the credit managers in the selected MFBs. A pre-test was conducted on the research instrument, using thirty (30) credit managers in microfinance banks, outside the study area. The cronbach's alpha statistic was computed with the aid of the Statistical Package for Social Science (SPSS) version 23, to ascertain the reliability of the developed instrument. The result shows that all the variables have reliability greater than 0.70, which is the minimum acceptable threshold, according to (Nunnally, 1978). Mugenda & Mugenda, (1999) rule of thumb also gives 0.60 as a minimum acceptable cronbach's alpha level for a reliability test.

Model Specification and Estimation

The ordinal logistic regression model was used to specify the relationship between the identified credit management strategies (credit terms, client appraisal and collection policy) and loan performance. This model is adopted from the work of established scholars who have studied this empirical relationship (Gatimu & Frederick, 2014; Malik & Ahmed, 2015; Abdul-Rauf & Mulafara, 2016, Edwin & Omagwa, 2018). The linear relationship is expressed as;

$$LP = \beta_0 + \beta_1 CT + \beta_2 CA + \beta_3 CP + e \quad [1]$$

Where, LP = Loan Performance; CT = Credit Term; CA = Client Appraisal; CP = Collection Policy; β_0 = constant or intercept; β_1 to β_3= regression coefficients; e = error term.

Statistical tools, such as the frequency distribution table, mean and standard deviation were used to present the demographic characteristics of the respondent and the descriptive analysis. The inferential analysis involves the use of the ANOVA, autocorrelation test, multi- collinearity test and the ordinal logistic regression technique.

RESULTS AND DISCUSSION

Demographic Characteristics

Results from Table 1 show that a total number of 180 respondents completed the questionnaire, out of which 74 (41.1%) are male and 106 (58.9%) are female. Other results indicate that the mean age group is 31 – 40years, most of the respondents are married (80%) and are with a

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minimum of a University Degree (84.4%). Furthermore, the work designation of the respondents is evenly spread between credit manager (50.6%) and credit officers (46.1%), with majority (56.7%) having between 1 and 5years experience in microfinance business. Lastly, the distribution of the location of the MFBs, shows that majority are located in Lagos (52.8%). This is expected because the state has the highest number of MFBs in the country (CBN, 2020).

Table 1
DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

Characteristics	Frequency	Percent	Cumulative Percent
Gender			
Male	74	41.1	41.1
Female	106	58.9	100
Age (in years)			
21-30	26	14.4	14.4
31-40	72	40.1	54.5
41-50	60	33.3	87.8
Above 50	22	12.2	100
Marital Status			
Single	32	17.8	17.8
Married	144	80	97.8
Divorced	2	1.1	98.9
Separated	2	1.1	100
Education			
Certificate/Diploma	9	5	5
Degree	98	54.4	59.4
Post-graduate	73	40.6	100
Work			
Credit officer	83	46.1	46.1
Credit Manager	91	50.6	96.7
Managing Director	6	3.3	100
Experience (in years)			
Below 1	5	2.8	2.8
1-5	102	56.7	59.5
6-10	70	38.9	98.4
Above 10	3	1.6	100
Location			
Ekiti	4	2.2	2.2
Lagos	95	52.8	55
Ogun	27	15	70
Ondo	9	5	75
Osun	16	8.9	83.9
Oyo	29	16.1	100

Source: Author's Computation from SPSS23 (2021)

Descriptive Statistic of Variables

The summary statistics of the responses to the research instrument are presented in Table 2. The results show that 'Credit Term' variable has a mean response value of 4.24, with a standard deviation of 25%. This suggests that most of the respondents consider credit term as an important component of their credit management strategies. Similarly, 'Client Appraisal' has a mean score of 4.46, with a standard deviation of 20%. This shows that majority of the respondents see client appraisal as a very important tool in the management of credits risk. Furthermore, 'Collection Policy' has a mean response rate of 4.02, with standard deviation of

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24%. This also implies that most of the respondents accept collection policy as a useful strategy in the management of credit risk among MFBs. Lastly, responses to 'Loan Performance' has a mean value of 4.07, with a standard deviation of 39% representing a fair dispersion in the responses, across the respondents. This outcome suggests that majority of the respondents believe that loan performance is related to their credit management strategies.

Table 2
STATISTIC OF RESPONSES TO STUDY VARIABLES

Variables	N	Minimum	Maximum	Mean	Std. Deviation
Credit Term	180	3	4	4.24	0.25349
Client's Appraisal	180	4	5	4.46	0.20012
Collection Policy	180	3	4	4.02	0.23968
Loan Performance	180	2	5	4.07	0.39346
Valid N (listwise)	180				

Source: Author's Computation from SPSS23 (2021)

Parameter Estimates of Variables in the Regression Model

Table 3 gives a summary of the parameter estimates of the variables in the regression model. The results show that credit term (CT) variable has a chi-square statistic of 0.091 with degree of freedom of 1, which is not significant at the 5% level (p = 0.763). The estimate of the co-efficient of the variable is positive (β1 = 0.163), which implies a direct relationship between credit term and loan performance (LP), such that a unit change in credit term leads to 16.3% change in the performance of the loan, with other variables remaining constant.

Table 3
ESTIMATES OF THE PARAMETERS IN THE MODEL

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[LP = 3]	3.517	4.687	0.563	1	0.453	-5.670	12.703
	[LP = 3]	4.227	4.661	0.822	1	0.364	-4.908	13.361
	[LP = 3]	5.389	4.645	1.346	1	0.246	-3.714	14.492
	[LP = 4]	6.894	4.646	2.202	1	0.138	-2.212	15.999
	[LP = 4]	8.391	4.659	3.243	1	0.072	-0.741	17.524
	[LP = 4]	10.299	4.679	4.844	1	0.028	1.127	19.470
	[LP = 5]	12.673	4.732	7.174	1	0.007	3.399	21.946
Location	CT	0.163	0.543	0.091	1	0.763	-0.900	1.227
	CA	2.070	0.691	8.971	1	0.003	0.716	3.425
	CP	-0.457	0.575	0.632	1	0.427	-1.583	0.669

Source: Author's Computation from SPSS23 (2021)

Similarly, the parameter estimate of the client appraisal variable (CA) shows a chi-square statistic of 8.971 with degree of freedom of 1, which is statistically significant at the 5% level (p= 0.003). The estimate of the co-efficient is positive (β2 = 2.070), which implies a direct relationship between client appraisal and loan performance, where a unit change in client appraisal results in 2.070 units change in the loan performance, with other variables remaining constant. Furthermore, the chi-square statistic (0.632) of the estimate of the collection policy (CP) variable, with 1 degree of freedom is not significant at the 5% significance level (p =0.427). The estimate of the co-efficient is negative (β3 = -0.457), suggesting an indirect relationship between collection policy and loan performance, such that a unit increase in collection policy reduces loan performance by 45.7%, with other variables remaining constant.

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Post Diagnostic Test Results

The results from the correlation matrix in Table 4 indicate a weak correlation among all the variables. The Pearson correlation between CT and LP is positive but very weak (r = 0.044) and also non-significant (p = 0.557) at the 5% level. Similarly, CA has a weak positive correlation with LP (r = 0.233) but significant at the 5% level (p = 0.002). CP exhibits a very weak negative association with LP (r = -0.062), which is non-significant at the 5% level (p = 0.412). Among the explanatory variables CT is negatively correlated with CA (r = -0.002) and the value is very weak and non-significant (p = 0.98). CT and CP have a weak negative correlation (r = -0.183), which is statistically significant (p = 0.014). CA and CP are positively correlated (r = 0.021), with the value being very weak and insignificant (p = 0.78). In all, there is a weak correlation among all the variables (dependent and independents), implying the absence of multi-collinearity.

Table 4
SUMMARY OF CORRELATION MATRIX

		Credit Term	Client's Appraisal	Collection Policy	Loan Performance
Credit Term (CT)	Pearson Correlation	1	-0.002	-0.183*	0.044
	Sig. (2-tailed)	-	0.977	0.014	0.557
	N	180	180	180	180
Client's Appraisal (CA)	Pearson Correlation	-0.002	1	0.021	0.233**
	Sig. (2-tailed)	0.977	-	0.779	0.002
	N	180	180	180	180
Collection Policy(CP)	Pearson Correlation	-0.183*	0.021	1	-0.062
	Sig. (2-tailed)	0.014	0.779	-	0.412
	N	180	180	180	180
Loan Performance (LP)	Pearson Correlation	0.044	0.233**	-0.062	1
	Sig. (2-tailed)	0.557	0.002	0.412	-
	N	180	180	180	180

*Significant at the 0.05 level (2-tailed). **Significant at the 0.01 level (2-tailed). Source: Author's Computation from SPSS23 (2021)

Results from Table 5 reveal an R-squared value of 0.6, indicating that 60 percent of the variation in the dependent variable is explained by the explanatory variables. The Durbin- Watson statistic is 1.6, suggesting that the variables have no serial correlation.

Table 5
RESULT OF AUTOCORRELATION TEST

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.245[a]	0.600	0.440	0.38475	1.644

Source: Author's Computation from SPSS23 (2021)

Similarly, the ANOVA result from Table 6 shows that the F-statistics (3.731) is statistically significant (p = 0.012) at the 5% significance level. The results from Tables 5 and 6 imply that the regression model is a good fit and that the data representing the variables are ideal for making inference.

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Table 6 ANOVA RESULT						
	Model	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Regression	1.657	3	0.552	3.731	0.012[b]
	Residual	26.054	176	0.148		
	Total	27.710	179			

Source: Author's Computation from SPSS23 (2021)

Furthermore, Table 7 shows that the tolerance statistics for all the variables are greater than 10% (CT-0.97, CA–1.00, CP–0.97). In addition, the statistics of the variance inflation factor (VIF) are all less than 10 (CT-1.04, CA-1.00, CP-1.04). These results further confirm the absence of multi-collinearity among the variables.

Table 7 RESULT OF MULTI COLLINEARITY TEST					
				Collinearity Statistics	
	Model	**t-statistics**	**Sig.**	**Tolerance**	**VIF**
1	(Constant)	2.228	0.027		
	Credit Term (CT)	0.451	0.652	0.966	1.035
	Client's Appraisal (CA)	3.205	0.002	1.000	1.000
	Collection Policy (CP)	-0.811	0.418	0.966	1.035

Source: Author's Computation from SPSS23 (2021)

Lastly, Table 8 reveals the model fitting and test of parallel lines results. The Chi-square value (9.854) of the likelihood ratio, with degree of freedom of 3, is statistically significant (p = 0.02) at the 5% level. This suggests a good model fitting information and that the regression model is appropriate for the ordinal data. Also, the result of the test of parallel lines shows that the Chi-square statistic is not significant at the 5% level (p = 0.169). This implies a proportional relationship and that the explanatory variables are consistent with the rank on the dependent variable.

Table 8 MODEL FITTING AND TEST OF PARALLEL LINES RESULT				
Model	**-2 Log Likelihood**	**Chi-Square**	**df**	**Sig.**
Intercept Only	442.284			
Final	432.43	9.854	3	0.02
Null Hypothesis	432.43			
General	408.851	23.579	18	0.169

Source: Author's Computation from SPSS23 (2021)

Implication of the Findings

The empirical results of the relationship between credit term and loan performance have shown that credit term has a direct but non-significant impact on loan performance among MFBs in Nigeria. This implies that effective credit term policies do not significantly drive loan performance among MFBs. This finding is consistent with the findings of Ross, Westerfield & Jordan, (2008); Gatimu & Frederick, (2014); Ahmed & Malik, (2015); Edwin & Omagwa, (2018). Further results also established a direct and significant relationship between client appraisal and loan performance of MFBs in Nigeria. This relationship implies that thorough appraisals on loan clients, yield positive returns on the loan portfolio. This result agrees with the findings of Gatimu & Frederick, (2014); Ahmed & Malik, (2015), but fails to agree with those of Abdul-Rauf et al., (2016); Edwin

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& Omagwa, (2018) who discovered a non- significant relationship between the variables.

Lastly, collection policy has been shown to have a negative and non-significant impact on loan performance among MFBs in Nigeria. The result implies that bank's policies on the collection of loans from their customers has little or no effect on the performance of their loan portfolios, such that stricter measures tend to increase loan default. This finding agrees with the finding of Moti et al., (2012). The finding however disagrees with those of Gatimu & Frederick, (2014); Edwin & Omagwa, (2018); who found a significantly positive relationship between loan recovery (collection) policy and loan performance; and Ahmed & Malik, (2015) who found a positive but non-significant relationship between collection policy and loan performance.

CONCLUSION AND RECOMMENDATIONS

This study investigated the impact of credit management strategies (credit term, client appraisal and collection policy) on the loan performance among microfinance banks in Nigeria. The results show that client appraisal directly and significantly influence loan performance, while credit term and loan collection policy have no significant impact. The study concludes that client appraisal is an integral credit management strategy, influencing loan performance among microfinance banks in Nigeria.

The study recommends that microfinance banks in Nigeria should adhere to strict client appraisal techniques, where loans are only granted to customers with decent to high credit ratings. There should also be a thorough knowledge of all loan applicants prior to the approval of their loan. Furthermore, the government and relevant agencies should urgently create and maintain a functional and effective Credit Information Reporting system in the microfinance banking sub-sector, to assist the banks in carrying out thorough client appraisals.

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