LIQUIDITY MANAGEMENT AND FINANCIAL PERFORMANCE OF MICROFINANCE BANKS IN NAIROBI CITY COUNTY, KENYA

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ABSTRACT

Microfinance banks offer both credit and deposit facilities to its clients thus liquidity management is important as it evaluates the ability of a firm to be able to convert its assets to cash easily making the organization to have ready funds to facilitate its operations in a perpetual basis. In general there is a decline in the percentage of return on asset from 2% in 2014, 1% in 2015 and 0.5% in 2016 which portrays that the microfinance banks are not efficient in utilizing their resources and at the end of the year 2016 out of thirteen microfinance banks five made profits while eight made losses. The study investigated the effect of liquidity management and financial performance of microfinance banks in Nairobi City County for the period 2011 to 2017. The study dependent variable is financial performance and the independent variables; capital adequacy, loan repayment, cash management and moderator inflation. The target population was all thirteen microfinance banks in Nairobi City County. The study used descriptive survey research design on both primary data and secondary through issuing structured questionnaires on independent variables and audited statements for the dependent variable. The data collected was steadily prepared, edited to achieve accuracy, and then inputed to SPSS Version 22.0 for analysis. The findings for capital adequacy on financial performance of MFBs indicated a weak positive relationship that was not significant while loan repayments and cash management had a significant positive relationship with financial performance of MFBs. The study recommended that MFBs should maintain quality capital base that can safeguard them against future risk exposures. Secondly, adoption of efficient loan management policies to safeguard MFBs against credit risks that can have negative financial performance results. Lastly, MFBs should adopt efficient cash management policies for improved financial performance.

Key Words: *liquidity management, financial performance, microfinance banks, Nairobi City County, Kenya*

INTRODUCTION

Liquidity management of the banking sector which includes MFBs is inversely related to the financial performance of financial institutions that was evidenced during the global financial crisis of 2007 to 2008 that hit banks hard by liquidity management pressures that led to massive failures by banks that facilitated to be bailed out by the governments. The impact of the crisis was very severe on the stock market as stocks shed prices affecting many economies facing huge financial blows resulting to foreclosures, auctioning of houses and unemployment. The study showed a positive relationship between liquidity management and financial performance. Majakusi, (2016)

According to Marozva, (2015) when a bank has deprived liquidity management it possess a major liquidity constrain which negatively affects their capital formation and earnings. Hence, if

liquidity management is not appropriately managed it may lead to harsh liquidity costs in financial institutions. Hence, banks face the dilemma on how to classify the level which it can maintain its assets in order to optimize profit maximization and meeting financial needs of depositors because every liquidity has a diverse impact on the profitability level. The challenge is there when banks tend to concentrate on profit maximization neglecting liquidity management whereas liquidity can lead to both technical and legal insolvency.

The financial crisis of 2007 to 2008 underscored the role of liquidity management to financial institutions in that very liquid assets have low risk they impose holding opportunity cost to banks and low returns thus bank managers should trade off risk and return on liquidity. In circumstances where regulation is absent banks are expected to hold liquid assets to that extend that they aid to maximizing the financial institutions financial performance. Policy makers thus have an option to require holding of liquid assets in large amounts to improve the stability of overall financial system BCBS, (2016)

OBJECTIVE OF THE STUDY

The objective of the study is to investigate the effect of liquidity management on financial performance of microfinance banks in Nairobi City County Kenya.

STATEMENT OF THE PROBLEM

Liquidity management is important as it evaluates the ability of a firm to be able to convert its assets to cash easily making the organization to have ready funds to facilitate its operations in a perpetual basis. Commercial banks maintained the minimum statutory liquidity requirements of 20% by having a general liquidity ratio of 38.30% as at the end of 2016 despite the fact that KCB bank had a pretax profit of 28.482 million as the best performer and Eco bank has a loss of 2.889 million as the worst performer. Thus, the study determined the effect of liquidity management and financial performance of microfinance banks in Nairobi City County in Kenya, as evidenced from CBK (Bank supervision Annual Report 2011 -2016) where there is a decline of the percentage of ROA from 2% in 2013 and 2014 to 1% in 2015 and 0.5% in 2016 which portrays that the MFBs are not efficient in utilizing their resources. Hence, the current study intended to establish why there is a declining performance of microfinance banks. At the end of the financial year 2016, out of thirteen microfinance banks five made profits after tax and eight made losses which is more than a half. MFBs offer credit facilities to its clients from deposits made by clients and most financial operations are carried out through the deposits thus in situations where majority of depositors make massive withdrawals the bank will face liquidity management trap that may lead to interbank borrowing which has higher costs. Due to these problems banks tend to maintain more funds that incur high holding costs in maintaining statutory reserves not less than statutory minimum (Vintila & Nenu, 2016). Several studies have been done in respect to liquidity management on financial performance in commercial banks. Majakusi (2016) researched on result of liquidity management on the financial performance of Kenyan

commercial banks. The research adopted a sample design limitations as secondary data of only 28 commercial banks was available and the quality of results depends upon the available data. In addition, qualitative data are limited as they present numerical descriptions. The current study will use primary data to provide detailed narrative on the independent variables and secondary data on dependent variable of microfinance banks. Njeru (2016) studied the outcome of liquidity management on financial performance among Kenyan deposit taking saving and credit cooperative society in Kenya. The study adopted cross sectional design which is prone to confounding bias and the study suffered from sample design limitations as it was undertaken on SACCOs within five best performing counties. In addition, regulation of SACCOs is different from regulation of the MFBs No study has been done comprehensively in respect to MFBs pertaining to liquidity management on declining financial performance in Kenya despite MFBs maintaining a high liquidity ratio more than the minimum statutory requirement of 20% as Kenya Women Microfinance Bank had a liquidity ratio of 28% with a net profit after tax of 224 million whereas Rafiki Microfinance Bank had a liquidity ratio of 12% with a net loss of 298 million which highlights that MFBs have a problem with liquidity management.

THEORETICAL REVIEW

Pecking Order Theory

According to Kibet, Achesa, & Omwono, (2015) pecking order theory can be associated with Myers (1994) whom opined that organisations often finance their needs in an orderly manner by first utilising available funds internally and then source of external debt and external equity. The model aims to esccape the risks that may occur when proftibale investment projects are not financed internally. The model assumes that when the earnings are not sufficient, firms will rather seek debt rather than finance through equity as debt providers who already have claims on the organisation's earnings and assets that may be less exposed that equity investots in erros in the firm's valuation. Hence, in this model, managers will only opt for equity finance as a last resort. According to Dada, (2015) the pecking order theory developed by Myers (1994) postulated that financing practices entail the opportunity and that managers will make financial decisions that are aimed to achieve the decline in the ineffectiveness in the firm as an outcome of the existence in information asymmetry. Myers further stated that in the course of explaining the assessment of corporate behavior, a firm will face challanges of information irregularity with additional problems of firm performace optimization. Therefore, managers of a firm will consider internal sources of finance to financing externally with preffered debt financing than financing through equity. According to Madole, (2013) Myers (1994) suggested that some organisations have a formula to determine which is the available source of finances and this presents the fear of dilution and instrusion of power in a firm and may contribute to a selection of a source. Myers (1994) also argues that debt issuing obtained by collateral may lessen the asymmetric information related to financing costs. The gap encountred in information between the parties were involved in hidden action that cause moral hazard problems and hidden information that cause adverse selection. Thus, debt secured by use of collateral may mitigate

asymmetric information related costs in financing. This theory supports the cash management variable of the study.

Buffer Theory of Capital Adequacy

According to Obiakor (2016) the buffer theory of capital adequacy by Calem and Rob (1996) assumes that an institution reaching for a regulatory minimum capital ratio can have a reason for boosting capital and reducing risks so as to avoid regulatory costs brought about by the breach of capital requirements. The theory is founded on how volatile of capital adequacy ratio, dependability and reliability of long term planning to pivet against extended undercapitalization and evade authorizations and possible closure by a regulatory institution as a breach of capital requirements is a significant violation of banks' legislation that may lead to closure of the financial institution. According to Mwai, (2017) the capital buffer theory states that commercial banks that have small capital buffers often attempt to restructure an adequate capital buffer by amassing the capital and banks with higher levels of capital buffers attempt to retain their capital buffers. When a bank has extra capital it tends to absorb unfavorable shocks and as a result it reduces the possibility of failure. Banks will raise their capital at the time they experience increased portfolio risks in order to maintain their capital buffer which will relate to banks' performance. According to Ailemen, (2012) banks can select to hold a buffer of surplus capital to reduce the likelihood of falling under the capital requirements authorised with an unstable capital adequacy ratio. Any breach of the minimum statutory capital requirements by a financial institution is viewed as a main infringement of legislations governing the banking sector and is not tolerated by the regulator as banks with prolonged undercapitalization are shut down. This theory supports the capital adequacy variable of the study.

Anticipated Income Theory

According to Song'e (2015), the anticipated income theory by Prochnow (1945) states that liquidity of a firm can be estimated and met in the scenario where payments that were scheduled are based on borrowers' income. Moreover, this highlighted the relation to loan repayment to the income of borrowers than heavily rely on collaterals. The theory argues that the firm's liquidity of an organization is affected by maturity pattern of loans and investments portfolio, consumer installment loans and business short term loans which would generate more liquidity than those secured by collaterals. According to Alshatti (2015), the anticipated income theory highlighted that bank management view their loan portfolio as a source of liquidity hence encouraging bank management to treat loans that are long term in nature as the likely source of liquidity. The long term loans are usually repaid in a series of scheduled installments by the borrower. In this case, the bank's loan portfolio generates a constant flow of funds that increases the bank's liquidity and banks can dispose of the loans to obtain required cash during liquidity crisis. According to Aghanifor, (2016) the anticipated income theory portrays that management of liquidity in banks is closely related to their asset liability management. Banks undertake liquidation of loans based on the income of the borrower's which will solve the challenges of default. According to this

theory, the potential of earning and credit worth of a borrower is the vital guarantee to ensure that sufficient liquidity is attained. Consequently, the liquidity of banks could be managed by appropriate phasing and structuring of the loan commitments prepared by a bank to the clientel. This theory supports the loan repayment variable of the study.

Agency Theory

According to Muriithi, (2013) agency theory by Smith and Stulz (1985) states that the principal agency problem can be minimized by improving monitoring and establishing incentives for managers to avoid management risk taking and hedging. The theory explains a feasible disparity of interest among shareholder management and holders of debt due to asymmetries in allocation of earnings that may result in firms' taking more risks or not engaging in projects that have a positive net value. This theory supports return on assets to maximize shareholders' wealth. According to Abdulrahman, (2014) agency theory by Jensen and Meckling (1976) states that agency overheads occur from the conflict of interest involving managers and shareholders when managers make crucial decisions of the firm as per their roles and responsibilities which will conflict with the wealth maximization objectives of the shareholders. Therefore, compensation ought to be contingent on more than one performance measure and further predicts that the importance of substitute performance measures is supposed to be a function of their precision and sensitivity to the manager's performance. According to Donellan and Wanda (2016), banking industry experience agency problems between principles and agents during deficient labour and capital markets as firm managers will seek out to capitalize on their own value instead of the corporate shareholders. Bank regulations and incentives of managers to take risks will enhance the agency theory in explaining managerial risk taking behavior to help in explanations of risk principles within the corporate business environment.

EMPIRICAL LITERATURE

Capital Adequacy and Financial Performance

According to Said & Tumin (2011) research on the financial performance ratios of Malaysian and Chinese commercial banks and measured the outcome of firm factors using operating expenses, credit, bank size, and liquidity on their performance utilising data from financial position statements and income statements from 2001 to 2007. Using panel data, the study estimated the fixed effect model that incorporates yearly data series of China and Malaysia. The findings showed that capital ratio has a negative significance on performance of banks measured by ROAA. Ochei, (2013) conducted a study on capital adequacy, liquidity management and performance in Nigerian commercial banks with the objective to determine the impact of bank capital adequacy ratio on bank performance with management efficiency, capital adequacy, and performance as the variables. The study used time series and cross-sectional research design on secondary data obtained from Central Bank of Nigeria, financial statements and annual reports of banks. The study adopted the ordinary least square (OLS) regression analysis to estimate the

model. The study found that capital adequacy measured by shareholders' fund to total assets has a negative impact on ROA.

Musyoka, (2017) researched the effect of capital adequacy on the financial performance of commercial banks in Kenya. The researcher used descriptive research design on secondary data from forty-two commercial banks which was analyzed using descriptive statistics and linear regressions. The results showed a negative significance relationship between ROA and capital adequacy. Mugwang'a, (2014) carried out a study on the determinants of capital adequacy on commercial banks in Kenya with the objective to establish the factors that determine capital adequacy of banks with capital adequacy as the variable. The study used secondary data of both listed and not listed banks at the Nairobi Stock Exchange and employing multiple linear regression analysis and Pearson correlation coefficient. The study found that there was no significant relationship between capital adequacy and ROA.

Loan Repayment and Financial Performance

A study was conducted by Ndiege et al, (2016) on the connection between financial performance and loan repayment management among Tanzanian SACCOs. The study evaluated the association between loan repayment and financial performance with the variables loan repayment and financial performance using secondary data from financial statements for 36 SACCOs. The study used descriptive statistics and regression models to analyze the data. The results showed that financial performance has an adverse effect of loan repayment. Ong'era & Onditi, (2016) analysed the influence of loan lending policies of financial performance on commercial banks in Kenya with the objective to examine the influence of loan lending policies on financial performance with loan policies and financial performance as the variables. The study employed a descriptive research design on data from 18 banks and adopted correlation analysis using Pearson (r) and multiple regression analysis. The findings revealed evidence of a positive connection between loan lending policies and financial performance.

Bwoma, Muturi, & Mogwambo, (2017) assessed the effects of loan management practices on profitability of deposit taking SACCOs in Kisii County. The objective was to dertermine the effect of loan management on the financial performance with loan management and financial performance as the variables using census technique to collect primary data that were analyzed by use of descriptive statistics and inferential; statistics. The study found that loan collection policies and loan default have a significant effect on the financial performance. A study was carried out by Ajiambo, (2013) on the relationship between loan policy and financial performance in Saccos in Nairobi County in Kenya using stratified sampling to collect both primary and secondary data that was tested using correlation and multiple linear regressions and analyzed using SPSS. The study showed that timely loan disbursement facilitates loan recovery and minimize costs. The study revealed a positive linear relationship between financial performance and loan repayment.

Cash Management and Financial Performance

Thevaruban, (2016) carried out a study to establish the impact of cash management on financial performance of the Sri Lanka manufacturing companies with the objective to determine the impact of cash management on finanacial performance and cash management and financial performance being the variables. The study used descriptive statistics and inferential statistics to analyze secondary data using SPSS version 23 package. The study showed there exists an impact of cash management on financial performance of manufacturing firms in Sri Lanka. The study found that cash ratio has a negative impact on ROA. Sheikhdon & Kavale, (2016) assessed the liquidity management on financial performance among Somalian commercial banks in Mogadishu with the objective to determine liquidity management factors affecting financial performance using descriptive survey design to collect primary data by use of questionnaires on the variables cash management, account receivables, account payable and financial performance. The collected purposive data was analyzed using SPSS version. The researchers found that liquidity management drivers have a positive significant influence on financial performance.

Mucheru & Shukla, (2017) analyzed the outcome of liquidity management on financial performance of Rwandan commercial banks in Rwanda. liquidity decisions, loan repayment, cash management were the study independent variables and response variable was financial performance. a descriptive research design was adopted for the study utilizing both secondary and primary data. The findings indicated that an increase in cash management resulted to an increase in financial performance. Mugambi, Njeru, Member, & Tirimba, (2015) carried out a study on effect of cash management on financial performance of deposit taking SACCOs in Mount Kenya Region with the objective to explore the effect of cash management to financial performance of deposit taking saccos and cash management, loan repayment, liquidity decisions, management competency and financial performance as the variables using descriptive survey to collect both primary and secondary data that was analyzed using descriptive statistics and inferential statistics. The findings showed that adequate cash management policy ensure optimal financial performance. The current study intends to evaluate cash management and performance of MFBs as the previous reader studied at deposit taking saccos.

Rate of Inflation and Financial Performance

According to Talaso, (2015) on the study to evaluate the outcome of micro and macro-economic variables on the financial performance of deposit taking microfinance banks in Kenya. The study used MFBs' liquidity, bank size, capital adequacy, market power, inflation, GDP, and return on assets as variables using descriptive research design on secondary data that was analyzed by multiple regression model and SPSS. The findings revealed that inflation positively affects the financial performance of microfinance banks. The current study will use qualitative data as the previous reader used correlation which cannot be used to measure causation of qualitative data.

According to Nzuve, (2016) on the research on impact of macroeconomic determinants of deposit taking MFIs with the aim of establishing the effect of macroeconomic determinants on financial performance with inflation, GDP, exchange rate, national saving rate, employment rate and financial performance as variables using secondary data from 9 microfinance institutions registered by CBK. The researcher analyzed data using multiple regression analysis models using SPSS version 20.0 and found out that there exists a negative relationship between the rate of inflation and financial performance. The current study intends to use inflation to determine the moderating effect as the previous reader used inflation as the independent variable.

According to Wamucii, (2010) researched on the association between financial performance and inflation among commercial banks in Kenya using secondary data from financial statements of all 44 commercial banks. The study adopted descriptive design and simple regression technique to analyze data by use of SPSS version 17.0. The findings showed a negative relationship between inflation and financial performance. The current study intends to use one method to measure inflation as the previous reader used different method in the 9 years and the last year.

RESEARCH METHODOLOGY

This study used descriptive survey research design as it will describe the existence of current state of affairs It also ascertained the charts, tables, graphs, means and other statistical data which helped the researcher to decide the trends and information about the population. The target population was 39 respondents selected purposively from the 3 that is branch manager, credit manager and credit officer as they have information about the study variables from all 13 registered microfinance banks in Nairobi City County and 39 target respondent consisting branch managers, credit managers and credit officers. The researcher adopted purposive sampling technique to choose 39 respondents as they had complete information on the variables of the study in all the 13 licensed MFBs in Nairobi City County. The researcher employed the whole sample of all the elements in the population to generate consistent and detailed information Cooper & Schindler, (2007). Primary data was collected using a structured questionnaire to the selected respondents and secondary data from audited statements in all the 13 MFBs in Nairobi City County. The study used questionnaires because they are manageable in terms of resources, time and have no interviewers bias and audited statements to measure return on assets. The validity of the structured questionnaires was established by through coverage of the study area under examination with respect to the expert advice view that is used to ensure the content and format of the research instrument to make judgement on the validity of the content by ascertaining the construct validity that will facilitate clear definition of the variables to be considered (Mugenda & Mugenda, 2003). Reliability is the degree at which a research instrument is able to yield regular results when it is tested in a number of times with the same researcher or by a different researcher (Mugenda and Mugenda, 2003). Consistency on questionnaires was attained by the use of control questions which highlighted the consistency on the answers as per the objectives of the study (Kothari, 2004). The researcher computed the Cronbach Alpha to test variables reliability. The researcher issued the questionnaires to the

respondents for them to fill and maintained a register of the questionnaires issued and the ones not yet issued to the target respondents to establish accuracy and control of the entire process. The researcher also collected audited statements and maintained a register of receipts from the MFBs. After all questionnaires and audited statements had been received the The data collected was steadily prepared, edited to achieve accuracy, and then coded to SPSS Version 22.0 for analysis. The study adopted descriptive statistics to analyse the data which was presented in tables. The study also adopted inferential and regression analysis to determine the effects of the independent variables on the dependent variable. The study also measured influence of the moderating variable on the relationship between financial performance and liquidity management. Multiple linear regression was used to determine the effects of loan repayment, cash management, and capital adequacy on financial perofmance. A Pearson correlation was also conducted to determine the strength of assoctaion between financial performance and liquidity management. The inferential tests was conducted at the 95 % level of confidence. The f-test was used to compare computed statistics with critical values. If critical values exceeds computed statistic then the coefficients are insignificant. For this reason, the null hypothesis is accepted. The study used multiple linear regression analysis method on statistical significance of independent variable loan repayment, capital adequacy, cash management and dependent variable financial performance of MFBs with the mediating effect of inflation on the relationship between liquidity management and financial performance. In this study the following regression model was used:

$$Y_{it} = \beta 0 + \beta 1 X_{1\,it} + \beta 2 X_{2\,it} + \beta 3 X_{3\,it} + e_{it}$$

Where: $X_{1\,it}$ = Capital adequacy of MFB i at time t; $X_{2\,it}$ = Loan repayment of MFB i at time t; $X_{3\,it}$ = Cash management of MFB i at time t; Y_{it} = Financial performance of MFB i at time t as espressed by ROA; β_0 is constant that is the value of dependent variable when all the independent variables are 0; $\beta 1$; i = 1,2,3 is the regression coefficients which measures the change induced by Xi; i=1, 2, 3 on Y; e_{it} is the error term.

The study used the following extended model to estimate the effect of moderating variable inflation.

$$Y_{it} = \beta 0 + \beta 1 (X_{1\,it} * M_{tt}) + \beta 2 (X_{2\,it} * M) + \beta 3 (X_{3\,it} * M_t) + e_{it}$$

Where: $X_{1\,it}$ = Capital adequacy of MFB i at time t; $X_{2\,it}$ = Loan repayment of MFB i at time t; $X_{3\,it}$ = Cash management of MFB i at time t; M_t = Average annual inflation rate at time t; Y_{it} = Financial performance of MFB i at time t as espressed by ROA

RESEARCH RESULTS

Effects of capital adequacy on financial performance of MFBs

The study aimed to determine the effects of capital adequacy on financial performance and respondents agreed that strengthening capital requirements laws by the regulator enhances financial performance of MFBs (mean=4.00) , maintaining a core capital of not less than 8% enhances financial performance of MFBs (mean=3.78), strengthening the risk coverage of the capital framework of MFBs enhances financial performance of MFBs (mean=3.57) and liquidity and size of bank assist financial performance of MFBs (mean=3.51). However, the respondents were undecided with regards to whether maintaining of minimum statutory capital requirement aid financial performance (mean=3.49). The standard deviation for strengthening capital requirements laws by the regulator was the highest depicting a more spread respondent's views on the issue, however the rest of standard deviations represented a more convergent opinion with respect to individual mean.

Effects of loan repayments on financial performance of MFBs

The study sought to determine the effects of loan repayment on financial performance of all licenced MFBs in Nairobi City County. The results indicated respondents strongly agreed that reduction of loan to deposit ratio enhances financial performance of MFBs (mean=4.59), extending borrowers payment period enhances financial performance of MFBs (mean=4.78) and maintaining portfolio at risk 30 days' ratio of not more than 5% enhances financial performance of MFBs (mean=4.62). However, the respondents agreed that high loan officer productivity assist financial performance of MFBs (mean=4.41) and conducting credit appraisal on clients in loan asset lending enhances financial performance of MFBs (mean=4.31). The standard deviation for extending borrowers payment period to convert non-performing loan into performing loan was the highest depicting a more spread respondents views on the issue, however the rest of standard deviations were closer to their respective means.

Effects of cash management on financial performance of MFBs

The research aimed to determine the effects of cash management on financial performance of all licensed MFBs in Nairobi City County. The respondents agreed that a high cash ratio with high cash reserves enhances financial performance of MFBs (mean=3.78), increasing the debt to capital liability on account payable assist financial performance of MFBs (mean=4.07), establishing prudent measures on liquidity ratios and cash flow forecasts enhances financial performance of MFBs (mean=4.00), policy adherence to CAMEL by management of microfinance banks enhances financial performance of MFBs (mean=4.00) and maintaining the statutory minimum liquidity ratio of 20% aid financial performance of MFBs (mean=3.68). The standard deviation for establishing prudent measures on liquidity ratios and cash flow forecasts was the highest depicting a more spread respondents' views on the issue, however the rest of standard deviations were not far from their respective means.

Effects of inflation on financial performance of MFBs

The study aimed to determine the effects of inflation on financial performance of all licensed MFBs in Nairobi City County. The respondents agreed that high rate of inflation enhances financial performance of MFBs (mean=4.24), the anticipation of inflation assist financial performance of MFBs (mean=4.22), when microfinance banks bear costs associated with inflation enhances financial performance of MFBs (mean=4.3.97), the upward adjustment of interest rates during periods of inflation in the economy enhances financial performance of MFBs (mean=3.35) and the investments of treasury bills during periods of inflation aid financial performance of MFBs (mean=4.49). The standard deviation for the anticipation of inflation was the highest depicting a more spread respondents' views on the issue, however the other standard deviations showed the respondents opinions were close to their respective means.

INFERENTIAL STATISTICS

The study intended to test postulated hypotheses with an aim of identifying if there existed a relationship between an intervention and an outcome and/or identify its strength. Inferential analysis enabled the researcher to test observed patterns in data to deduce whether the patterns ware due to chance or intervention effects. Correlation analyses were conducted on the data obtained from the questionnaires to explore the relationship between capital adequacy, loan repayment, cash management, rate of inflation and financial performance.

Table 1: Correlation Coefficients

		Capital adequacy	Loan repayment	Cash management	Inflation	Financial performance
Capital adequacy	Pearson Correlation	1				
	Sig. (2-tailed)					
Loan repayment	Pearson Correlation	.224	1			
	Sig. (2-tailed)	.182				
Cash management	Pearson Correlation	.204	.193	1		
	Sig. (2-tailed)	.225	.253			
Inflation	Pearson Correlation	.131	-.095	.062	1	
	Sig. (2-tailed)	.441	.574	.718		
Financial performance	Pearson Correlation	.210	.301*	.325*	-.087	1
	Sig. (2-tailed)	.211	.048	.046	.607	

*. Correlation is significant at the 0.05 level (2-tailed).
N=37

The findings indicate a significant positive correlation between loan repayment and cash management with financial performance. The association is moderate for both loan repayment and cash management with financial performance while capital adequacy shows a weak non-significant positive correlation with financial performance. However, with regards to inflation variable, it shows a weak non-significant negative correlation with financial performance.

Table 1 shows capital adequacy and financial performance has r=0.210 indicating a weak positive relationship. This is satisfactory to the first objective to establish the effects of capital adequacy on financial performance of microfinance banks in Nairobi City County Kenya. The p value is 0.211 hence failing to reject that capital adequacy has no significant effect on financial performance of microfinance banks in Nairobi City County Kenya at 5% significant level. The findings point out that by ensuring capital adequacy will positively correlated to financial performance of microfinance banks in Nairobi but not significant.

Mungwang'a (2014) research on determinants of capital adequacy on commercial banks in Kenya in which no significant relationship between capital adequacy and ROA was established. Further the study asserts that commercial banks should maintain quality capital base that can safeguard future risk exposures such as market risks, credit risks and operational exposures. However, Musyoka (2017) research posits that there existed a negative significance relationship between capital adequacy and ROA with regards to capital adequacy on the financial performance of commercial banks in Kenya.

Table 6 shows loan repayment and financial performance has r=0.301 indicating a moderate positive relationship. This is satisfactory to the second objective to determine the effect of loan repayments on financial performance of microfinance banks in Nairobi City County Kenya. The p value is 0.048 hence leading to rejection that loan repayment has no significant affect on financial performance of microfinance banks in Nairobi City County Kenya at 5% significant level. The findings indicate that adoption of loan repayments policies positively and significantly enhance financial performance of microfinance banks in Nairobi City County Kenya. The findings agrees with research findings by Bwoma, Muturi and Mogwambo (2017) who noted that loan management practices on the financial performance of deposit taking SACCOs in Kisii County had a significant effect on the financial performance of SACCOS. The findings are also consistent with the study of Ajiambo (2013) that adoption of efficient loan management policies plays a key role in safeguarding SACCOS against credit risks that can have negative financial performance results.

Table 1 shows cash management and financial performance has r=0.325 indicating a moderate positive relationship. This is satisfactory to the third objective to investigate the effect of cash management on financial performance of microfinance banks in Nairobi City County Kenya. The p value is 0.046 hence leading to rejection that cash management has no significant affect on financial performance of microfinance banks in Nairobi City County Kenya at 5% significant level. The findings indicate that adoption of cash management positively and significantly enhance financial performance of microfinance banks in Nairobi City County Kenya. The findings are consistent with research by Mugambi et al (2015) who noted that adequate cash management policy ensured optimal financial performance of deposit taking SACCOs in Mount Kenya Region. Similarly, the study by Thevaruban (2016) on impact of cash management on financial performance of the Sri Lanka manufacturing companies underscored the importance of cash management for sustainable financial performance.

Lastly with regards to inflation, table 6 shows inflation and financial performance has r= -0.087 indicating a negative relationship. This is satisfactory to the fourth objective to determine the moderating effect of the rate of inflation on the relationship between liquidity management and financial performance of microfinance banks in Nairobi City County Kenya. The p value is 0.607 hence failing to reject that rate of inflation has no significant moderating effect on the relationship between liquidity management and financial performance of microfinance banks in Nairobi City County Kenya at 5% significant level. The findings indicate that rate of inflation negatively affects financial performance of microfinance banks in Nairobi City County Kenya though the impact was not significant for the current study. The findings agree with study by Wamucii (2010) who observed that inflation affected negatively financial performance of commercial banks in Kenya.

Regression analysis was employed for the study to analyze the relationship between dependent variable and independent variables collectively by conducting multivariate regression analysis and identifying the extent and significant of the influence for the current study.

Table 2: Multiple linear regression analysis model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.731[a]	.534	.209	.44312

a. Predictors: (Constant), Capital adequacy, Loan repayment, Cash management

Table 2 indicate R=0.731 as correlation coefficient of the study model. This indicates that collectively as more variables are incorporated, the predictive nature of the model with regards to determining the financial performance of microfinance banks in Nairobi City County Kenya improves as it's the highest zero order value in the table. The R Square value for the model (r^2=0.534) points out that the model could account for 53.4% of variations of financial performance of microfinance banks in Nairobi City County Kenya. The study sought to further examine the extent and significant of individual independent variable influence to financial performance by analyzing the beta values as shown in table 3.

Table 3: Regression Output for independent variables coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-.198	1.299		-.153	.044
	Capital adequacy	.337	.229	.227	1.474	.048
	Loan repayment	.393	.151	.400	2.596	.014
	Cash management	.351	.151	.355	2.318	.027

a. Dependent Variable: financial performance

The results displays the study model coefficients that were used to determine the regression equation as indicated below.

$$Y = -0.198 + 0.337X_1 + 0.393X_2 + 0.351X_3 + \varepsilon$$

The model coefficients indicates that the loan repayment had the greatest significant influence on financial performance of microfinance banks in Nairobi City County Kenya (β=0.393, p=0.014) indicating that for every unit increase in loan repayment a 0.393 unit increase on financial performance is observed if all others variables are held constant. This is followed closely by cash management (β=0.351, p=0.027) and lastly capital adequacy (β=0.337, p=0.048). The individual independent variables influence to financial performance for the model were found to be statistically significant.

Table 4: Regression Output as moderated by Inflation

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-.188	1.276		-.143	.038
	Capital adequacy*M	.315	.239	.219	1.514	.047
	Loan repayment*M	.388	.156	.379	2.534	.021
	Cash management*M	.349	.144	.356	2.378	.031
	R	.736				.026
	R^2	.542				

a. Dependent Variable: financial performance

As shown in table 4 the moderating role of inflation is not strong. It shows a 0.8% change in R Square indicating an increase in variation explained due to addition of rate of inflation as moderating term in which the model is statistically significant (p=.026), hence the study established that the rate of inflation has a moderating effect on the relationship between liquidity management and financial performance of microfinance banks in Nairobi City County Kenya.

CONCLUSIONS

Capital adequacy on financial performance of MFBs

The first objective sought to establish the effects of capital adequacy on financial performance of microfinance banks in Nairobi City County Kenya. The findings on capital adequacy and financial performance of MFBs indicated a weak positive relationship that was not significant hence the study failing to reject that capital adequacy had no significant affect on financial performance of   microfinance banks in Nairobi City County Kenya at 5% significant level. The findings pointed out that by ensuring capital adequacy, MFBs will impact their financial performance though not significantly.

Loan repayments on financial performance of MFBs

The second objective sought to determine the effect of loan repayments on financial performance of microfinance banks in Nairobi City County Kenya. The findings indicated a moderate positive relationship between loan repayment and financial performance of MFBs that was significant hence leading to rejection that loan repayment had no significant affect on financial performance of microfinance banks in Nairobi City County Kenya at 5% significant level. The findings supported that the adoption of loan repayments policies will positively and significantly enhance financial performance of MFBs in Nairobi City County Kenya.

Cash management on financial performance of MFBs

The third objective sought to investigate the effect of cash management on financial performance of microfinance banks in Nairobi City County Kenya. The findings showed cash management and financial performance had a moderate positive relationship that was significant to financial performance of microfinance banks in Nairobi City County Kenya, hence leading to rejection that cash management had no significant effect on financial performance of microfinance banks in Nairobi City County Kenya at 5% significant level. The findings indicated that adoption of cash management will positively and significantly enhance financial performance of microfinance banks in Nairobi City County Kenya.

RECOMMENDATIONS

The study concluded that the capital adequacy does not significantly affect financial performance of microfinance banks in Nairobi City County Kenya, however the current study recommends that MFBs should maintain quality capital base that can safeguard MFBs future risk exposures such as market risks, credit risks and operational exposures.

The study also concluded that the loan repayments does significantly affect financial performance of microfinance banks in Nairobi City County Kenya. The study recommends the adoption of efficient loan management policies to safeguard MFBs against credit risks that can have negative financial performance results.

This study concluded that cash management does significantly affect financial performance of microfinance banks in Nairobi City County Kenya. The study recommends the adherence to maintaining the statutory minimum liquidity ratio of 20% to enhance positive impact on financial performance. MFBs should ensure they adopt efficient cash management policies as both excessive liquidity or illiquidity erodes profits attained by the institutions.

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