

Liquidty Management and Financial Performance of Deposit Taking Microfinace Institutions in Nairobi City County, Kenya

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Abstract:

The general objective of this study was to establish the effect of liquidity management on financial performance of deposit taking microfinance institutions in Nairobi City County, Kenya. The study specific objectives were to find out the extent to which current ratio, operating cash flow management, capacity ratio and loan repayment ratio affect the financial performance of Microfinance institutions in Nairobi City County, Kenya. This study was anchored on anticipated income theory, the shift-ability theory, liabilities management theory and liabilities preference theory. The study used descriptive research design. The target population was 6 major deposit taking microfinance institutions in Nairobi County which met the threshold of five years existence. The study used secondary data collection sheet which involved the documentary reviews of data available in the released financial statements, and annual reports for the last 5 years, that is, 2016 to 2020. Quantitative data was analyzed using descriptive statistics such as mean and standard deviation. The study employed panel regression analysis model since the data employed had longitudinal and cross-sectional properties. The study found that current ratio management positively and significantly affects financial performance of deposit-taking microfinance institutions in Nairobi City County, Kenya. Also, operating cash flow management was found to positively and significantly affects financial performance of deposit-taking microfinance institutions in Nairobi City County, Kenya. It was found that capacity ratio management had positive influence on financial performance and the influence was significant. The study further found that loan repayment ratio management positively and significantly affects financial performance of deposit-taking microfinance institutions in Nairobi City County, Kenya. Since current ratio had significant effect on ROA, deposit-taking microfinance institutions should ensure that they maintain a current ratio that is enough to comply with CBK regulations and at the same time ensuring an optimum current ratio to minimize the institution's liquidity risks. The study also recommends the need for deposit-taking microfinance institutions to increase their operating cash flow, through reduction of their credit repayment period in order to positively influence their financial performance. In addition deposit-taking microfinance institutions should enhance the oversight on liquidity management practices to help reduce risks. Further, management of deposit-taking microfinance institutions to institute strict loan recovery measures in order to reduce the amounts spent on provisions for bad and doubtful debts. This would in turn increase the institutions interest earnings on loans, significantly enhancing its financial performance.

Key Word: cash position, operating cash flow, capacity position, non-performing loans, financial performance, deposit-taking microfinance institutions

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I. Introduction

Microfinance institutions (MFIs) have been accepted globally as a tool for poverty alleviation and financial inclusion of low-income earners (Khan & Ali, 2016). They are embodied in the values of self-help, honesty, openness, self-responsibility, social-responsibility, democracy, quality, equity, solidarity, mutual caring, efficiency, transparency and accountability (Mwambui & Koori, 2019). Different jurisdictions refer MFIs as financial administrations cooperatives, while in others they are explicitly alluded to as Credit Unions. This extension of financial services prompted the rise of the deposit-taking microfinance institutions along these lines offering ascend to two groups of MFIs the deposit-taking and non- deposit-taking.

Deposit-taking microfinance institutions have traditionally been formed and founded along unique common bond linkages from where they draw their membership, which previously served as the eligibility criteria for their members. The robustness of the financial system is a vital prerequisite in ensuring the economic growth and stability of any given country (Otwoko, Maina & Kwasira, 2021). Financial institutions perform valuable transactions on both the asset and liability sides of the balance sheet. As financial institutions carry out the various

functions involving cash and other liquid assets, they become exposed to liquidity risk. This is the risk that a financial institution may fail to meet its financial obligations to depositors when they seek to withdraw funds from the institution. This would affect the reputation of the company which may increase the cost of capital and thereby hurting the financial performance of the institution (Khan & Ali, 2016). Therefore, it becomes the top priority of a deposit-taking microfinance institutions' management to ensure the availability of sufficient funds to meet future demands of customers and borrowers.

Deposit-taking microfinance institutions are required by their regulatory framework to watch minimum liquidity consistently. Liquidity level shows an establishments capacity to meet commitments as and when they fall due. In order to remain liquidity, deposit-taking microfinance institutions need to coordinate the level of liquid resources to the short-term deposits and liabilities. To achieve financial performance, DT-MFI's should be well equipped to deal with the changing monetary policy that shapes the overall liquidity trends and the financial institutions' own transactional requirements and repayment of short term borrowing. Liquidity management is a combination of actions undertaken by a financial intermediary in the course of their day to day operations to ensure they meet their obligations as they fall due and increase profitability and shareholder's wealth (Njue, 2020).

Claeys, Vander and Vannet (2016) observe that a high liquidity is considered to be a sign of financial strength. However, according to Goddard, Molyneux and Wilson (2017), a high liquidity can be as undesirable as a low this is because the financial institutions might be holding the excess liquidity that could be used for investments to increase returns and income. Organizations are strained when their level of liquidity is low and have negative working capital. This is because either inadequate liquidity or excess liquidity may be injurious to the smooth operations of the organization.

Liquidity management has therefore been embraced by financial institution (commercial banks and investment banks) given volatility of economic climate, complexity of business environment and backdrop of increasing regulatory changes. It has seen banks embracing permanent up-to-date liquidity contingent plan which defines action policies and responsibilities under stress scenarios. This has been done through use of liquidity management platforms and regulation and supervision by government through apex banks (Mutinda & Ombati, 2018).

Liquidity management and financial performance are essential considerations in determining the growth and performance of DT-MFI's. One of the dilemmas in liquidity management is the achievement of the desired trade-off between liquidity and profitability. In the DT-MFI's subsector, liquidity management is an essential component of the overall risk management framework (Owade, 2018). Similarly, Adusei (2021) indicates that a firm is required to maintain a balance between liquidity and profitability in its day-to-day operations. The major aim of business organization like Microfinances is to maximize profit. Therefore, striking a balance between liquidity and financial returns is critical.

Statement of the Problem

Deposit-taking microfinance institutions act as alternative providers of financial services and serves more than 5 million. Talibong and Simiyu (2019) contend that deposit-taking microfinance institutions play a vital role in pooling resources for investment and wealth creation. They spur economic growth through the mobilization of domestic saving savings with an estimated contribution of 43 percent of the country's gross domestic product (Buluma, Kung'u & Mungai, 2017). This is however carried out when the MFIs obtain favourable financial performance. Liquidity has significant effect on the financial performance of firms when there exists a mismatch between assets liabilities. This may expose a financial institution to financial losses. This risk stems from the description of banking operations. It might affect the overall capital and earnings of the financial institution adversely. If the depositors start withdrawing their deposits from the bank, it will create a liquidity trap for the bank forcing the bank to borrow funds from the central bank or the inter- bank market at higher costs (Masika & Simiyu, 2019).

Generally, in Kenya, there has been an exponential increase in delinquent loans in deposit-taking MFIs over the last few years. This has led to an increase in liquidity problems in MFIs thus negatively impacting the investment decisions of MFIs leading to poor financial performance (CBK, 2016) since they are not able to meet a majority of their financial obligations. The original cause of liquidity risk is the maturity imbalance between assets and liabilities. In the year 2015, the total deposits in the DT MFIs system registered a 15.3% growth to stand at Kshs 237.4 billion from Kshs 205.9 billion recorded in the previous year (CBK, 2016). During the year 2018, twenty-seven (27) DT MFIs held assets worth Kshs 5 billion and above and represented 65.8% of the total asset market share in the DT MFIs system. This is in comparison with 21 DT MFIs during the previous year. It is imperative to note that 57 DT MFIs held assets of between Kshs 1 billion and Kshs 5 billion controlling 27.37% of the assets portfolio while the rest of the remaining 90 DT MFIs had assets of below Kshs 1 billion and controlled 6.83% of the entire asset portfolio of the DT MFIs system (CBK, 2019).

Effective liquidity management demands financial institutions estimating and planning for liquidity needs over numerous periods and considering how funding requirements may develop under various

circumstances, including adverse situations. Financial institutions have a duty to sustain appropriate levels of potential borrowing lines, liquid assets and cash to meet anticipated and conditional liquidity demands. Deposit taking financial institutions accumulate call deposits from their clients and invest these funds in both illiquid and short-term assets, such as loans. This makes the financial institutions to be vulnerable to liquidity shocks emanating mainly from the short-term liabilities that they hold (Kibet & Kimani, 2017). When a huge section of depositors demand their deposits, the financial institution may be forced to liquidate some of its fixed assets. Liquidating fixed assets over a short period of time involves a loss of value which can lead to a solvency crisis for the bank. Many financial institutions, such as Lehman Brothers, defaulted on their obligations due to liquidity problems not because of lack of profitability (Kinyanjui, Kiragu & Kamau, 2017). Thus, the study seeks to determine the effect of liquidity management financial performance of deposit-taking microfinance institutions in Nairobi City County, Kenya.

Various studies on the effect of liquidity on financial performance of financial institutions have been conducted both globally and locally. Salim and Bilal (2016) in a study on Jordanian commercial banks established that quick ratio and investment ratio positively influenced profitability while capital ratio and the liquid ratio negatively influenced profitability. Edem (2017) in a study in Nigeria established that liquid ratio, current ratio, loans to deposit ratio, cash ratio and loans to asset ratio had a statistically significant association with return on equity. However, the variables had a statistically insignificant relationship with ROA. Njeru (2016) established that current ratio, liquidity ratio and deposits significantly and positively influenced net interest income. The contradiction between the findings from the various studies and the lack of focus on all deposit taking financial institutions provided a justification for this study.

The above mentioned studies focused on liquidity management and financial performance of Deposit - Taking Microfinance but the studies were carried in different contexts under different methodologies which make the findings inadequate for the research problems on financial performance of Deposit -Taking Microfinance in Nairobi City County, Kenya. This study therefore sought to investigate the effect of liquidity management on financial performance of deposit-taking microfinance in Nairobi City County, Kenya.

Objectives of the Study

- i) To ascertain the effect of cash position on the financial performance of deposit-taking microfinance institutions in Nairobi City County, Kenya.
- ii) To establish the effect of operating cash flow on the financial performance of deposit-taking microfinance institutions in Nairobi City County, Kenya.
- iii) To determine the effect of capacity position on the financial performance of deposit-taking microfinance institutions in Nairobi City County, Kenya.
- iv) To assess the effect of non-performing loans on the financial performance of deposit-taking microfinance institutions in Nairobi City County, Kenya.

II. Literature Review

Theoretical Framework

Anticipated Income Theory

The anticipated income theory was developed by Prochnow in 1944 on the basis of the practice of extending term loans by the United States commercial banks. According to this theory, maintaining cash and near cash assets even though increases liquidity, but it forgoes income opportunity. A term-loan is for a period exceeding one year and extending to less than five years. According to Khan and Ali (2016), the bank puts restrictions on the financial activities of the borrower while granting this loan. At the time of granting a loan, the bank takes into consideration not only the security but the anticipated earnings of the borrower. Thus a loan by the bank gets repaid out of the future income of the borrower in installments, instead of in a lump sum at the maturity of the loan. The theory of anticipated income is not free from criticism. This theory is a method to examine a borrower's creditworthiness. It gives the bank conditions for examining the potential of a borrower to favorably repay a loan on time (Goddard, Molyneux and Wilson, 2017). Uddin and Barai (2016) also posits that the anticipated income theory fails to meet emergency cash requirements of an institution. This theory is relevant to the study because it fulfills the three objectives of liquidity, safety and profitability. Liquidity is assured to the deposit-taking Microfinance when the borrower saves and repays the loan regularly in installments. It satisfies the safety principle because the Microfinance grants a loan not only on the basis of a good security but also on the ability of the borrower to repay the loan. The bank can utilize its excess reserves in granting term-loan and is assured of a regular income. This theory was relevant in explaining the effects of current ratio on the financial performance of deposit-taking microfinance institutions in Nairobi City County, Kenya.

The Shift-Ability Theory

Moulton (1918) developed the Shiftability theory. The theory states that banks should invest some of their funds available for investment in securities and credit instruments that have secondary market so that they

can be converted to cash as and when a need arises to address declining liquidity. Shiftability theory suggests that financial institutions should give credit paid with notification before they apply for commercial paper pawn. According to this theory insurance companies maintain liquidity if they hold assets that is marketable (Njue, 2020). This theory is relevant to the study because it is an approach to keep Microfinance liquid by supporting the shifting of assets. When the Microfinance is short of ready money, it is able to sell its assets to a more liquid Sacco. The approach lets the system of Microfinance run more efficiently: with fewer reserves or investing in long-term assets. Under shift ability, the banking system tries to avoid liquidity crises by enabling banks to always sell at good prices. This theory states that, for an asset to be perfectly shiftable, it must be directly transferable without any loss of capital loss when there is a need for liquidity. This is specifically used for short term market investments, like treasury bills and bills of exchange which can be directly sold whenever there is a need to raise funds by banks. But in general circumstances when all banks require liquidity, the shiftability theory need all banks to acquire such assets which can be shifted on to the central bank which is the lender of the last resort. This theory was relevant in explaining the effect of capacity ratio on the financial performance of deposit-taking microfinance institutions in Nairobi City County, Kenya.

Trade –off Theory

This theory was initiated by Modigliani and Miller (1958). The trade-off theory estimates that the target debt ratio will vary between companies with each other. Companies with tangible and safe assets and abundant taxable profits that must be protected should have a high target ratio. Companies are not profitable with risky intangible assets that should depend on funding sourced from equity. The overall trade-off theory of capital structure has good purpose. This theory avoids extreme predictions and rationalizes moderate debt ratios (Akinwumi, Essien & Adegboyege, 2017). This means that banks should aim at maintaining an optimum level of liquidity to balance between the benefit of holding cash in the form of saving transaction cost to raise funds and the cost of holding cash in the form of tax disadvantage and liquidity premium (Edem, 2017). The theory is relevant for the study as it examines the relationship between liquidity and performance. Companies finance themselves using funds from both debt and equity. Debt refers to loans from outside sources, while equity is money the firm's owners or shareholders invest in the business. They key is getting the balance right between the two. Shibutse, Kalunda and Achoki (2019) indicate that commercial banks acquire funds by issuing fresh shares or debentures. But the availability of funds through these sources depends on the amount of dividend or interest rate which the microfinance is prepared to pay. Usually the banks are not in a position to pay rates higher than paid by manufacturing and trading companies. So they are not able to get sufficient funds from these sources. According to this theory, there is no need for banks to grant self- liquidating loans and keep liquid assets because they can borrow reserve money in the money market in case of need. Microfinance can acquire reserves by creating additional liabilities against it from different sources. This theory was relevant in explaining the effect of operating cash flow management on the financial performance of deposit-taking microfinance institutions in Nairobi City County, Kenya.

The Liquidity Preference Theory

This is a theory formed by Keynes (1936). The theory rests on the notion that the demands of an investor of higher rate of interest/premium for securities having long-term maturities is attributed to the high risk associated with them. This is due to the fact that holding all factors constant, cash and/or other highly liquid assets are preferred by investors. Keynes argued that there are three reasons for holding liquid assets. First, they act as ordinary transactions, second the act as a precaution against a rainy day, and third they are used for speculative purposes. Keynes showed that transaction deposits are inversely proportional to the rate of interest. The main argument in this theory is that an increase in money supply at low interest rates will lead to increase in cash balances and discourage people investment. The reason is that people expect the interest rate to rise later. Liquidity Preference Theory becomes vital to this research as it explains the rational of banks holding assets. The theory suggests that the financial institutions did not have to maintain old liquidity standards as they have no impact on asset stability in a bank. This demonstrates liquidity and liquidity premium segment of financing cost edge goes inverse way. Then again, the marvels that banks are hesitant to go out on a limb and confer new credits is portrayed as the „credit crunch" issue. For this situation regardless of the possibility that loaning financing cost increment, banks don't raise their level of advance arrangement. This theory was relevant in establishing the influence the effect of loan repayment ratio on the financial performance of deposit-taking microfinance institutions in Nairobi City County, Kenya.

Conceptual Review

The purpose of this study was to determine to what levels the dependent variable relies on the independent variables. The conceptual framework illustrates diagrammatically how these variables relate to each other.

Independent Variables

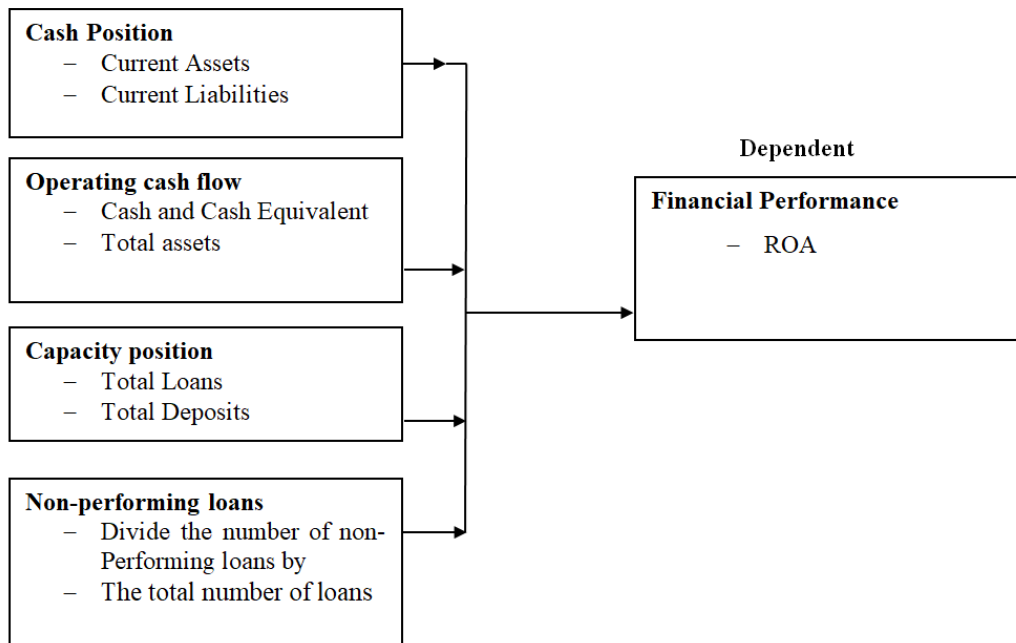


Figure 1.0: Conceptual Framework

Empirical Review

Cash position and Financial Performance

The current ratio is a liquidity ratio that measures a company's ability to pay short-term obligations or those due within one year. It tells investors and analysts how a company can maximize the current assets on its balance sheet to satisfy its current debt and other payables. The current ratio compares all of a company's current assets to its current liabilities. These are usually defined as assets that are cash or will be turned into cash in a year or less, and liabilities that will be paid in a year or less. The current ratio is sometimes referred to as the "working capital" ratio and helps investors understand more about a company's ability to cover its short-term debt with its current assets (Uddin & Barai, 2016). VRajindra, Burhanuddin, Wahba, Guasmin and Febrianti (2018) examined the effect of current ratio management on financial performance of organization. The study was a descriptive research that reviews the existing literature in this field and classifies them into two groups including the impact of working capital strategies on the performance and the other one is the impact of current ratio indicators on the performance. The survey result shows that the impact of current ratio management and indicators on profitability and liquidity should be considered simultaneously in development of current ratio management.

A study by Segun (2017) examined the impact of current ratio management on financial performance of quoted consumer goods manufacturing firms in Nigeria. The secondary data used were obtained from annual financial statements over a period of ten (10) years from 2005 to 2014 of purposively sampled fifteen (15) firms. Descriptive statistics were used to measure variations, statistical inferences were drawn using correlation and panel regression analysis was applied on performance and current ratio management indicators to test the formulated hypotheses. The findings revealed that efficient current ratio management increases financial performance. Riri (2019) study examined the effect of current ratio management practices on financial performance of hotels in Nyeri County Kenya. The study embraced descriptive research design. All hotels in Nyeri county Kenya formed the target population of the study. A purposive sample of two respondents in the management level in each hotel was used. The results indicated that cash flow management practices and inventory management practices had positive and statistically significant effect on financial performance of the Hotels.

Operating Cash Flow and Financial Performance

Operating cash flow management is the ratio of a company's cash and cash equivalent assets to its total assets (Sheikhdon, 2016). Potential creditors use this ratio as a measure of a company's liquidity and how easily it can service debt and cover short-term liabilities. Augustine and Jacob (2017) examined the impact of operating cash flow management on the performance of manufacturing companies in Nigeria. The results of the study suggested that a significant relationship exists between cash management on performance of manufacturing

companies in Nigeria. It was also discovered that mere availability of cash (liquidity) without proper management does not necessarily translate into favorable performance for manufacturing companies. Hence, need for effective cash management for better performance.

Kinyanjui, Kiragu and Kamau (2017) investigated the effects of operating cash flow management on financial performance of Small and Medium Enterprises in Nyeri Town, Kenya. Data was collected using a self-administered semi-structured questionnaire from a sample population of 62 SMEs operating in Nyeri town and registered by the business registrar's office in Nyeri County. Data was analyzed using statistical package for social sciences (SPSS) to generate descriptive and inferential statistics. Results obtained indicated that cash holding practices and use of technology in cash management had a relevant effect on financial performance of SMEs in Nyeri. A study carried out by Prasad (2017) focused on operating cash flow management and financial performance of small and medium enterprises (SMEs) in the Northern region of Ghana. Stratified random sampling technique was used. The data was analyzed using both descriptive and inferential statistics. The study revealed that SME financial performance was positively related to efficiency of cash management (ECM) at 1 per cent significance level. The study concluded that operating cash flow management have influence on the financial performance of SMEs, hence there was need for SME managers to embrace efficient operating cash flow management as a strategy to improve their financial performance and survive in the uncertain business environment.

Capacity Position and Financial Performance

The capacity ratio is a measure of a company's ability to meet its short-term obligations using its most liquid assets (near cash or quick assets) it also known as Acid –test ratio. Quick assets include those current assets that presumably can be quickly converted to cash at close to their book values (Seemule, Sinha & Ndlovu, 2017). A study by Durrah, Rahman, Jamil and Ghafeer (2016) explored the relationship between capacity ratio and indicators of financial performance in the food industrial companies listed in Amman Bursa during the period (2012-2014). The study sample included (8) industrial companies which operate in the field of food listed in Amman bursa. The results showed no relationship between all liquidity ratios and the gross profit margin, while there is a weak positive relationship between the current ratio and each of the operating profit margins and the net profit margin, as the study pointed to the existence of a positive relationship between (capacity ratios, defensive interval ratio) and operating cash flow margin.

Akenga (2017) study investigated the effect of capacity ratio on financial performance of firms listed at the Nairobi Securities Exchange, Kenya. Causal research design was adopted. Purposive sampling technique was used to select 30 firms. The data was analyzed using descriptive and inferential statistics. It was found that current ratio and cash reserves have a significant effect on ROA. The debt ratio was found to have no significant effect on ROA. Bibi and Amjad (2017) investigated the impact of capacity ratio on profitability: an empirical study of automobile sector in Karachi. This research paper is based on evaluation of liquidity management and profitability of five listed automobile companies Nissan Ghandhara, Toyota, Pak Suzuki, Honda and Hino Pak in Karachi by using liquidity ratios. Different research papers including national and international has also been taken for data collection. The study shows the negative impact on company's profitability companies has to improve their performance and their capacity ratio position to increase their profit and performance as well

Non-Performing loans and Financial Performance

Kibet and Kimani (2017) study examined the relationship between loan repayment and financial performance of micro retail enterprises in Bungoma Town, Kenya. Self-administered questionnaires and secondary data sheets were used to collect data. Both descriptive and inferential statistics will be used for data analysis. This study found out that loan repayment positively and significantly influences financial performance of micro retail enterprises. It was concluded that if managers/owners increase loan repayment, financial performance of micro retail enterprises could be enhanced. Mbogo (2016) examined the effect of loan repayment on financial performance of Investment Funds in Kenya. Primary data was collected through personal interview by use of interview guide. The study concludes that investment funds in Kenya takes an active investment strategy and found out to be integrated into operation investment funds in Kenya; financial performance is of positive influence to investment funds performance and greatly so is liquidity which probably means the investment firms utilize liquid assets to make quick investment which translates to good returns. Mweresa and Muturi (2018) carried out a study on the effects of loan repayment on the Financial Performance of Public Sugar Firms. The study adopted a survey design. The study used both primary and secondary data. Data was analyzed using descriptive and inferential statistics. Data was analysed using descriptive statistics. Inferential statistics involved the use of regression analysis and ANOVA to estimate the relationships of the variables under study. The study found that loan repayment has a strong effect on the financial performance of sugar companies.

III. Material and Methods

Descriptive survey research design was used in this study to explain and gather information and summarize, present and interpret data for the purpose of clarification (Orodho, 2003). The target population in the study was all the deposit taking Microfinance which is in existence for over five years after registration with Central Bank of Kenya by December, 2017. The study used secondary data collection sheet (see Appendix I) which involved the documentary reviews of data available in the released financial statements, and annual reports for the last 5 years, that is, 2016 to 2020. Quantitative data was analyzed using descriptive statistics such as mean and standard deviation and inferential statistics (regression analysis). Descriptive helped to generate the summary measures of the observed sample and prepare the quantitative data for further statistical analysis. The analysis was presented using tables, figures and charts. This was made possible by using Statistical Package for Social Sciences (SPSS) version 25.0.

IV. Result and Discussion

Descriptive Analysis

The main focus of this study was to establish the effect of liquidity on financial performance of deposit-taking microfinance institutions in Nairobi City County, Kenya. Financial performance was measured using Return on Asset (ROA). The study therefore assessed the trend in ROA between 2016 and 2020. Figure 2 presents the trend analysis findings obtained.

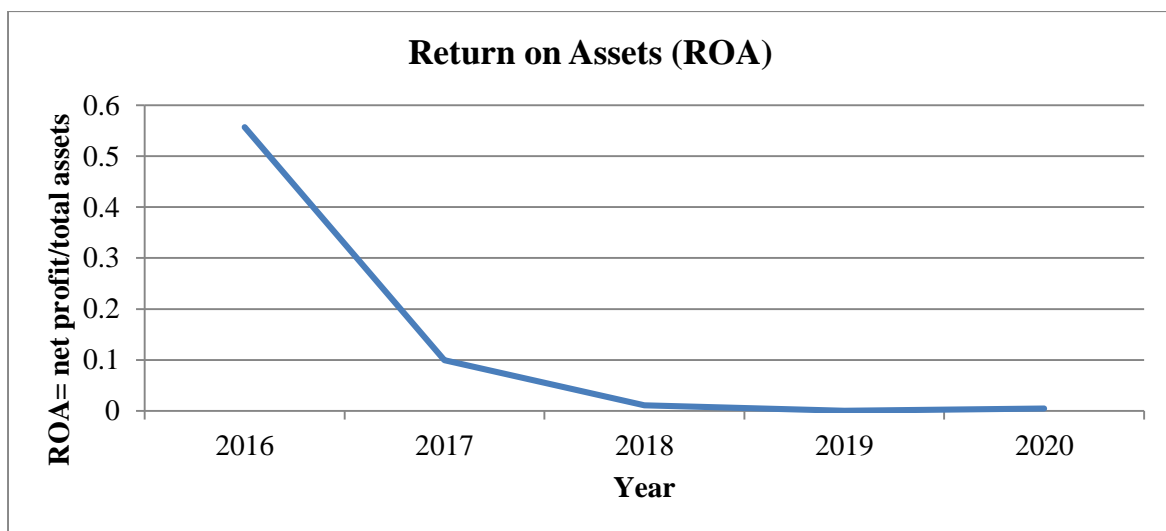


Figure 2: Trend Analysis for ROA

Figure 2 shows that ROA had decreased over the years. The findings show that there was a drastic decline between 2016 and 2017 which continued to decline in 2018 and 2019 and slightly increased in 2020. The study focused on establishing whether the decline in financial performance was attributed to the changes in cash position, operating cash flow, capacity position and loan repayment position assessed in the subsections above. Financial performance is the measurement of how a business entity has utilized its resources to generate revenues. This therefore shows that there was poor management of resources by MFIs which led to poor performance. The findings agree with Amusawi, Almagtome and Shaker (2019) that poor financial performance of an institution will affect the attraction of institution to would be investors which may lead it to insolvency and eventual collapse.

The study also sought the descriptive statistics of financial performance of deposit-taking microfinance institutions in Nairobi City County, Kenya. Table 1 presents the results.

Table 1: Descriptive Statistics for Financial Performance (ROA)

	N	Mean	Min.	Max.	Std. Dev.	Skewness		Kurtosis	
						Statistic	Std. Error	Statistic	Std. Error
Return on Assets (ROA)	30	.1344	0.0005	0.557	.23976	2.085	.946	4.386	1.794

The findings from Table 1 show that ROA has mean of .1344. It further indicates that the maximum for ROA was 0.557 and minimum was 0.0005. On skewness, the results showed that ROA was asymmetrical to the right around the mean. On the kurtosis, the variable exhibited positive kurtosis. According to Waddock and Graves (2017) profitability ratios of any business entity portrays the picture of how well an entity has employed the resources efficiently, liquidity ratios deals with the capacity of business entities to accomplish the short term obligations and the gearing ratios indicates the extent of debt employment by the companies. High performance is an indicator of management effectiveness and efficiency in the use of company’s resources and has a positive impact to the country’s economy at large.

Inferential Analysis

Hausman Test

Hausman specification test was employed in the detection of endogenous repressors in a regression model. For OLS regression to be computed, the data assumes that there is no correlation between independent variable and the error term. The null hypothesis was rejected if the value of P is less than the significant level (0.05), meaning that the used data is not from a normal population. The presence of endogenous repressors in a regression model may cause failure in the estimators of OLS. To decide between fixed or random effects a Hausman test was conducted where the null hypothesis was that the preferred model is random effects, that is if the Prob>chi2 value was greater than 0.05. The alternative the fixed effects if the Prob>chi2 value was less than 0.05. It basically tested whether the unique errors (ui) are correlated with the regressors.

Table 2: Hausman Specification Test

---- Coefficients ----				
	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
	Fixed	Random	Difference	S.E.
CR	.6487	.7594	-.1107	.2696
OCF	.2276	.1191	.1085	.2449
CaR	-.3441	-.2016	-.1424	.2139
LRR	.0910	.0308	.0601	.2881

b = consistent under Ho and Ha; obtained from xtreg

B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: Random effect model is appropriate

H₁: Fixed effect model is appropriate

$$\chi^2(4) = (b-B)'[(V_b-V_B)^{-1}](b-B)$$

$$= 0.62$$

$$\text{Prob}>\chi^2 = 0.9613$$

Since the Prob>chi2 value (0.9613) was greater than 0.05 a random effect was preferred and conducted. The findings were in agreement with Green (2018) that the null hypothesis for the test is that the random effect model is preferred to fixed effect model and is to be rejected if the p value is less than 5% to imply that fixed model is preferred. The rationale behind random effects model is that, unlike the fixed effects model, the variation across entities is assumed to be random and uncorrelated with the predictor or independent variables included in the model. Random effects assume that the entity’s error term is not correlated with the predictors which allows for time-invariant variables to play a role as explanatory variables.

Regression Analysis

From the Hausman test, the study found that random effect model was the most appropriate for our data. The study computed random effect model to provide information on individual behavior, both across individuals and over time. The study used the random effect (re) regression analysis to test the influence of cash position , operating cash flow , capacity ratio position , and loan repayment on financial performance of deposit-taking microfinance institutions in Nairobi City County, Kenya. The random effect model is important in the establishment of the strength and nature of a relationship. The main aim is to show how and the extent to which each variable separately influences the dependent variable. The findings were also used to answer the research questions. **Table 3** presents the model summary and the ANOVA findings.

Table 3: Random Effect Regression Model

xreg ROA CR OCF CaR LRR, re						
Random-effects GLS regression			Number of obs =		30	
Group variable: Year			Number of groups=		5	
R-sq:	Within =	0.6116	Obs per group: min =	6		
	Between =	0.7110		Avg =	6.0	
	Overall =	0.8090		Max =	13	
corr(u_i, X) = 0 (assumed)			Wald chi2(4) =		11.43	
			Prob > chi2 =		0.0221	
ROA	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
CR	0.143873	0.01494	9.63	0.001	-8.239753	-.431259
OCF	0.108642	0.01517	7.16	0.006	-1.049246	-.390605
CaR	0.137331	0.01479	9.29	0.004	-8.998858	-1.59141
LRR	0.129641	0.01612	8.04	0.032	-1.049246	-.390605
_cons	0.091061	0.01665	5.47	0.005	-8.998858	-1.59141
sigma_u	0					
sigma_e	.38066953					
rho	0 (fraction of variance due to u_i)					

The model summary results in Table 3 show that the overall R-squared is 0.8090 which suggests that 80.9% of all variation in financial performance of deposit-taking microfinance institutions in Nairobi City County, Kenya is explained by changes in cash position (CR), operating cash flow (OCF), capacity position (CP), and loan repayment t (LR). The remaining 19.1% variation in financial performance of deposit-taking microfinance institutions in Nairobi City County, Kenya implies that there are other factors not included in this study model that can explain financial performance of deposit-taking microfinance institutions. The findings further showed that Prob>Chi²= 0.0221 was less than the 0.05 significance level. This suggested that the model as constituted was fit in predicting financial performance of deposit-taking microfinance institutions in Nairobi City County, Kenya. To further understand the influence of each variable, the beta coefficients were computed. From the coefficients in **Table 3**, the following regression model was fitted;

$$Y = 0.0910 + 0.1438 CR_{it} + 0.1086 OCF_{2it} + 0.1373 CaR_{3it} + 0.1296 LRR_{4it}$$

The findings showed that holding cash position, operating cash flow, capacity position, and loan repayment to a constant at zero, financial performance of deposit-taking microfinance institutions in Nairobi City County, Kenya would be 0.0910. The constant ($\beta = 0.091061$) was significant at 0.05 significance level ($P = 0.005$). The coefficients findings were also used to answer the research questions.

Research Question One

The first research question was:

What is the effect of cash position on financial performance of deposit-taking microfinance institutions in Nairobi City County, Kenya?

From the findings, cash position had a coefficient of 0.1438 indicating that holding all other factors constant, a unit increase in cash position would result in a 14.38% increase in financial performance of deposit-taking microfinance institutions in Nairobi City County, Kenya. The coefficient was significant since the p-value obtained (0.001) was less than the level of significance of 0.05. Based on the findings, cash position was found to have positive significant effect on financial performance of deposit-taking microfinance institutions in Nairobi City County, Kenya. This is in line with the findings of Segun (2017) that efficient cash position increases financial performance. It also concurs with findings of Riri (2019) that working capital practices and inventory management practices had positive and statistically significant effect on financial performance of the Hotels.

Research Question Two

The second research question that the study sought to answer was;

To what extent does operating cash flow affect financial performance of deposit-taking microfinance institutions in Nairobi City County, Kenya?

Regarding operating cash flow, the study found that operating cash flow had a coefficient of 0.1086 suggesting that holding all other factors constant, a unit change in operating cash flow results in a 10.86% change in financial performance of deposit-taking microfinance institutions in Nairobi City County, Kenya. This variable was significant since the p-value (0.006) was less than the significance 0.05. This means that operating cash flow

has positive significant influence on financial performance of deposit-taking microfinance institutions in Nairobi City County, Kenya. The study findings are in line with those of Prasad (2017) that operating cash flow management have influence on the financial performance, hence there was need for managers to embrace efficient operating cash flow as a strategy to improve their financial performance and survive in the uncertain business environment.

Research Question Three

The third research question the study sought to answer was;

How does capacity position affect the financial performance of deposit-taking microfinance institutions in Nairobi City County, Kenya?

The coefficients findings in **Table 3** showed that capacity position had a beta coefficient of 0.1373 indicating that improving capacity ratio management by one unit while holding all other factors constant would result in 13.73% increase in financial performance of deposit-taking microfinance institutions in Nairobi City County, Kenya. This relationship was significant since the p-value (0.004) was less than the 0.05 significance level. This therefore meant that capacity position has positive significant influence on financial performance of deposit-taking microfinance institutions in Nairobi City County, Kenya. The findings are in agreement with those of Akenga (2017) who found that cash position and cash reserves have a significant effect on ROA. It also agrees with Bibi and Amjad (2017) that companies have to improve their performance and their capacity position to increase their profit and performance.

Research Question Four

The final research question that the study sought to answer was.

What is the effect of non-performing loans on the financial performance of deposit-taking microfinance institutions in Nairobi City County, Kenya?

Regarding loan repayment the regression findings (**Table 3**) showed that the coefficient for loan repayment was 0.1296 indicating that holding all other factors constant, a unit increase in loan repayment leads to a 12.96% increase in financial performance of deposit-taking microfinance institutions in Nairobi City County, Kenya. The variable was also found to be significant since the p-value (0.032) was less than significance level of 0.05. This implies that loan repayment has positive significant influence on financial performance of deposit-taking microfinance institutions in Nairobi City County, Kenya. The study finding agrees with Kibet and Kimani (2017) that loan repayment positively and significantly influences financial performance of micro retail enterprises and conclusion that if managers/owners increase loan repayment, financial performance of their enterprises could be enhanced. Based on the magnitude, the study found that cash position had the highest effect on financial performance of deposit-taking microfinance institutions in Nairobi City County, Kenya followed by capacity position, non-performing loans, and operating cash flow had the least effect.

V. Conclusion and Recommendation

The study concluded that cash position positively and significantly affects financial performance of deposit-taking microfinance institutions in Nairobi City County, Kenya. The study found that operating cash flow had positive influence on financial performance and the influence was significant. This meant that a unit improvement in operating cash flow will improve financial performance of deposit-taking microfinance institutions in Nairobi City County, Kenya. The study therefore concluded that operating cash flow positively and significantly affects financial performance of deposit-taking microfinance institutions in Nairobi City County, Kenya. Additionally, the study concluded that capacity position positively and significantly affects financial performance of deposit-taking microfinance institutions in Nairobi City County, Kenya. The study also concluded that loan repayment positively and significantly affects financial performance of deposit-taking microfinance institutions in Nairobi City County, Kenya.

Deposit-taking microfinance institutions should ensure that they maintain a cash position that is enough to comply with CBK regulations and at the same time ensuring an optimum cash position to minimize the institution's liquidity risks. The study also recommends the need for deposit-taking microfinance institutions to increase their operating cash flow, through reduction of their credit repayment period in order to positively influence their financial performance. To maintain high capacity position, the study recommends deposit-taking microfinance institutions to develop a more robust liquidity monitoring policy. The study recommends the management of deposit-taking microfinance institutions to institute strict loan recovery measures in order to reduce the amounts spent on provisions for bad and doubtful debts. This would in turn increase the institutions interest earnings on loans, significantly enhancing its financial performance. The central bank should review the loan policies for deposit-taking microfinance institutions to ensure sound loan policies are put in place based on prevailing economic environment for improved financial performance

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