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Cash Management and Financial Performance of Microfinance Banks in Kenya

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Abstract

Microfinance banks play a significant role in promoting inclusion in finance and addressing financial needs of low-income individuals and small businesses. To maintain their financial stability, microfinance banks ensure regulatory compliance and ensure their ability to meet their financial obligations, microfinance banks have adopted various cash management practices. However, in spite of adoption of these practices, the financial performance of Kenvan microfinance banks still remains poor. The study therefore sought to investigate the effect of cash management on financial performance of microfinance banks in Kenya. The study was anchored on Keynesian liquidity preference theory. This research employed explanatory research design. The target population of this study was all the 13 microfinance banks in Kenya and spanned a period of eight years between 2016 and 2023. In addition, the secondary data used in this study was obtained from the Central Bank of Kenya, and from the financial statements of individual micro finance banks from Kenya. Secondary data was collected by using a data extraction checklist. The data obtained was quantitative and hence was analyzed using descriptive and inferential statistics with the help of STATA version 14. Descriptive statistics include mean and standard deviation, variances, frequency distributions and percentages. Diagnostic tests included autocorrelation test, heteroscedasticity test, normality test, linearity test, stationarity test and Hausman test. Panel regression model was used in testing the hypothesized relationships between the independent variables and the dependent variable. The study found that cash management positively and significantly affects the financial performance of microfinance banks in Kenya. The study recommends that microfinance banks in Kenya prioritize robust cash management strategies to maintain liquidity, meet short-term obligations, and capitalize on growth opportunities.

Keywords: Cash Management, Financial Performance, Liquidity, Microfinance

INTRODUCTION

Microfinance banks play a crucial role in poverty reduction, promoting economic development and financial inclusion especially in developing and underprivileged communities. However, due to increased competition from other financial institutions and the ever changing business environment, microfinance banks in various regions of the world are experiencing poor financial performance in relation to growth and profitability (Navin & Sinha, 2021). The high cost of operation, including staff salaries, rent, and technology expenses, considerably erode profitability. Microfinance Institutions (MFIs) may struggle to balance the need to expand their services with cost containment. According to Alqemzi (2022), financial liquidity is vital in improving organizational performance and ensuring the financial stability of an institution. One of the components of financial liquidity is cash management (Sathyamoorthi & Mashoko, 2022).

Cash management refers to the strategies businesses use to control and optimize their cash flow, ensuring sufficient liquidity to meet financial obligations while maximizing the use of available funds (Onyemaechi, Udodi & Hkay, 2022). A key element is cash flow forecasting, which predicts future inflows and outflows based on historical data and operational trends (AL Smirat, 2019). The cash ratio is a crucial liquidity metric that assesses a company's ability to pay short-term liabilities using only cash and cash equivalents, such as currency, bank deposits, and other liquid assets convertible within 90 days. It is calculated by dividing cash and cash equivalents by current liabilities. A higher ratio indicates a stronger liquidity position and greater resilience in facing unexpected financial pressures (Al Smirat, 2019).

Cash management is a critical component of financial liquidity, enabling institutions to meet short-term obligations and mitigate liquidity risk. In Pakistan, cash management is closely tied to the overall financial performance of commercial banks (Wajid & Rauf, 2021). In Botswana, banks improve their profitability by effectively managing cash flows and liabilities (Sathyamoorthi & Mashoko, 2022). Ghanaian banks prioritize maintaining optimal cash reserves to ensure smooth operations and timely fulfillment of short-term obligations (Nyamador, 2021). In Nigeria, sound cash management practices enhance Return on Investment (ROI) and Return on Capital Employed (ROCE) by preparing institutions for liquidity shocks (Onyekwelu, 2019). In Uganda, Stanbic Bank employs proactive cash management by monitoring daily liquidity levels and adjusting reserve money to meet short-term needs (Businge, 2019), ensuring financial resilience.

Cash management is critical to the financial stability of local financial institutions in Kenya. Among SACCOs in Kisii County, effective cash management, particularly in aligning assets and liabilities, was shown to influence financial performance through its impact on ROA (Osoro & Muturi, 2020). Amira, Alala, and Musiega (2023) emphasized that cash management is vital for long-term resilience among microfinance institutions. Similarly, in microfinance institutions, sound cash management through asset-liability alignment enables them to absorb financial shocks and sustain operations (Njue, 2020). Deposit-taking SACCOs in Kakamega proactively manage liquidity risks to maintain profitability (Mwashi & Miroga, 2019). Also, effective cash management in commercial banks is key to meeting obligations and avoiding high-cost borrowing during liquidity shortfalls (Kung'u, 2017).

Statement of the Problem

Microfinance banks play a significant role in promoting inclusion in finance and addressing financial needs of small businesses and low-income individuals (King'ori, 2019). Most of microfinance banks heavily depend on deposits as a funding source, lend to high risk clients who most of the times do not provide any collateral (Issack & Mutswenje, 2022). Due to the nature of their business and the characteristics of their clients, microfinance banks often face unique liquidity challenges. To maintain their financial stability, ensure regulatory compliance and ensure their ability to meet their financial obligations, microfinance banks have adopted cash management (Gitari & Musau, 2023). However, in spite of adoption of cash management on MFIs financial performance in Kenya still remains poor (King'ori, 2019).

Microfinance banks in Kenya have been experiencing poor performance in the last four years as their ROE and ROA have been decreasing for the last five years (2018 to 2022). In the year 2019, return on equity in microfinance banks in Kenya was -2.76%, which decreased to -26.13%

in 2020, increased to -8.-06% in 2021, but decreased to -14.89%. Return on assets in Kenyan microfinance banks in 2019 was -0.40%, which decreased to -2.83% in 2020, increased to -0.99% in 2021, but decreased to -1.85% in 2022. Between the year 2019 and 2020, customer deposits in microfinance banks increased by 18.3%, but reduced by 4.8% in 2021 and by 6.9% in 2022. Therefore, it is crucial to assess how cash management impacts Kenyan MFIs financial performance.

Numerous studies have been performed on financial liquidity and organizational performance in Kenya. For instance, Otieno (2021) studied the relationship between cash management and SMEs' performance in Eldoret Central Business District; Waiganjo and Theuri (2019) examined the effect of cash management on the performance of private universities in Kenya; and Geteri and Nyang'au (2019) explored on cash management impact on performance among public secondary schools in Kisii County. However, the studies were limited to SMEs, private universities and public secondary schools, which are different from microfinance banks due to their particular business contexts and legal frameworks. In addition, these studies used primary data, but the current study used secondary data. Therefore, the study aimed to explore on the influence of cash management on financial performance of MFIs in Kenya.

The study sought to test the following null hypothesis;

 H_{01} : Cash management has no significant effect on financial performance of MFIs in Kenya

LITERATURE REVIEW

Theoretical Framework

This study was anchored on the Keynesian Liquidity Preference Theory, which was formulated by British economist John Maynard Keynes in his 1936 work, "The General Theory of Interest, Money, and Employment," is a central component of Keynesian economics. This theory focuses on the need for money and its relationship to interest rates, providing information into how changes in interest rates can impact economic activity (Kamasa & Bentum-Ennin, 2023). It suggests that individuals and firms hold cash for three main motives: transaction, precautionary, and speculative. Effective cash management practices that ensure sufficient liquidity to meet daily transaction needs can lead to smoother operations for microfinance banks. This, in turn, can enhance customer satisfaction and reduce the risk of default on loans, positively affecting financial performance (Sadath & Acharya, 2021).

Keynes identified three motives for individuals and firms to hold money: the speculative motive, the transaction motive and precautionary motive. The transaction motive entails holding cash to facilitate daily transactions, such as buying goods and services. The precautionary motive involves having a cash reserve for unforeseen expenses or emergencies (Kamasa & Bentum-Ennin, 2023). The speculative motive refers to holding money in anticipation of investment opportunities or changes in interest rates. Keynes also introduced the notion of a "liquidity trap," a situation where nominal interest rates approach zero. In a liquidity trap, even with negligible interest earnings, people and businesses prefer to hoard cash rather than invest it (Burns, 2016). In such conditions, conventional monetary policy, which relies on central bank actions to influence interest rates, loses effectiveness (Sadath & Acharya, 2021). Economic stagnation can result, necessitating alternative policy measures like increased government spending to stimulate economic activity.

Keynesian Liquidity Preference Theory was used in this study to show the impact of cash management on financial performance of microfinance banks in Kenya. The theory indicates that individuals and institutions hold money based on their preferences for liquidity and the prevailing interest rates. In the frameworks MFIs in Kenya, these banks also hold cash as part of

their financial liquidity practices. Microfinance banks may also follow the "precautionary motive" by holding cash reserves to guard against unforeseen financial shocks or liquidity needs. This serves as a buffer against unexpected withdrawals or sudden financial demands. In addition, microfinance banks, like other financial institutions, may find it more appealing to hold cash rather than invest in interest-bearing assets because the potential interest earnings are minimal. This can influence the cash management decisions of microfinance banks, especially when determining their optimal cash reserves and investment strategies.

Conceptual Framework

Conceptual framework is a diagram that illustrates association between independent⁰ and dependent variables (Devi, 2019). Figure 1 depicts the link between independent⁰ and dependent variables. The independent variable was cash management. The dependent variable was financial performance.



Figure 1: Conceptual Framework Empirical Review

In Jordan, Al Smirat (2019) investigated⁶the inter link between cash⁶management and the financial performance of SMEs. Research method used in the research was descriptive and data was collected through structured questionnaire. The research established that cash management policies have a substantial effect in SME's performance. This finding underscores the significance of effective cash management for the general SMEs' finance and performance.. Effective cash management can help SMEs maintain liquidity, reduce financial risks, and make more informed financial decisions. Additionally, educating SME managers and staff about cash control procedures is essential for ensuring that these practices are implemented successfully.

In Nigeria, Onyemaechi, Udodi and Hkay (2022) studied^othe inter link between cash management and financial performance of Nigerian manufacturing firms. Concerning the research methodology, ex-post facto approach was used for the research. The study examined 55 manufacturing firms listed on the NSE and purposefully selected 26 companies from consumer and industrial goods sub-sector. The findings indicated a substantial negative impact of cash management on both ROA and Tobin's Q. This suggests that conservative cash management strategies might negatively affect these financial performance indicators. However, returns on equity (ROE) was found to be negative and non-significant, indicating that the inter link between cash management and ROE was not statistically significant in the study.

Otieno (2021) studied the inter link between cash management and SME performance in Eldoret Central Business District. The research sampled 171 respondents. This sample size represents a cross-section of individuals and businesses in the area and serves as a basis for drawing conclusions about cash management strategies and their effects on SME performance. The study utilized questionnaires as a primary tool for data collection. The paper's main finding is that cash management strategies have a positive and substantial effect on SME performance. In other words, efficient cash management practices are associated with improved SME performance within the context of the study. The positive and significant impact found in the study underscores the need for SMEs to adopt and implement sound cash management strategies to improve their financial health and overall success. Waiganjo and Theuri (2019) examined the impact of cash management on the performance of private universities in Kenya. The research employed an explanatory research⁰design, focusing on a target population of 35 private universities that have registered with the Commission for University Education. The findings showed that on average most of the cash management practices, specifically accounting practices, cash policies, investing surplus cash and cash budgeting have a substantial positive impact on the financial performance determination in the private institutions. In addition, budgeting is valuable for predicting future cash flows and comparing actual performance to the budget. This allows universities to identify discrepancies and take corrective actions. Cash policies are crucial for ensuring the safe handling and custody of cash and financial documentation. Accounting practices are essential for recording and summarizing business transactions, which is fundamental for preparing accurate financial statements.

Among Public Secondary Schools in Kisii County, Geteri and Nyang'au (2019) explored on cash management impact on performance. The study made used descriptive research methodology. The findings indicated that cash budgeting, internal control, and auditing have a positive effect on the financial performance of public secondary schools. This implies that when these practices are effectively implemented, they lead to improved financial outcomes for the schools. Encouraging schools to develop and implement these practices is aimed at improving their financial performance, which, in turn, can lead to better educational outcomes and the efficient use of resources.

RESEARCH METHODOLOGY

The study adopted an explanatory research design. In this study, an explanatory research design was considered the most suitable approach for demonstrating how cash management influences the financial performance of Kenyan microfinance banks. The target population was registered microfinance banks in Kenya. According to CBK (2023), there are 13 licensed microfinance banks. The target population was therefore 13 licensed Kenyan microfinance banks. The study utilized a census approach, as the target population is small, allowing for the inclusion of the entire population in the analysis. The study used employed secondary panel data. Secondary data on cash management and financial performance was obtained from the Central Bank of Kenya (CBK) and from the financial statements of individual microfinance banks in Kenya. Moreover, the study obtained secondary data by use of data extraction checklist.

Panel data was collected using a data collection checklist. This study covered a time period of 8 years (2016 - 2023) and was conducted among 13 microfinance banks in Kenya. In analyzing the data, the study employed both descriptive and inferential statistics, with all statistical analysis being conducted using STATA version 14. Descriptive statistics included frequency distributions, percentage, means, standard deviation and variance. Inferential statistics included panel regression model. The results were presented in tables and figures. The study adopted a panel data regression model as presented in equation 1.

 $FP_{it} = \beta_0 + \beta_1 CM_{1it} + \varepsilon_{it}$ (1) FP is dependent study variable (Financial performance (Return on Assets)), B₀ symbolize Y intercept, β_1 is coefficient of determination, CM represents Cash Management, $\varepsilon =$ error term, t subscript symbolize time, while *i* subscript symbolizes microfinance banks.

This study employed seven key diagnostic tests to ensure the validity of its regression model: linearity, normality, multicollinearity, heteroscedasticity, autocorrelation, stationarity, and the Hausman test. The linearity test, assessed using scatter plots, confirmed proportional relationships between variables. The Shapiro-Wilk test verified the normal distribution of data. Multicollinearity was checked through the Variance Inflation Factor (VIF), with values above 10 indicating concern. The Breusch-Godfrey LM test detected autocorrelation, while heteroscedasticity was evaluated using the Cook-Weisberg/Breusch-Pagan test. Stationarity was analyzed using the IPS test to identify unit roots in panel data. Also, the Hausman test determined whether fixed or random effects models were more appropriate, based on the endogeneity of regressors. Collectively, these tests strengthened the model's reliability by addressing key statistical assumptions and improving the robustness of the findings.

RESEARCH FINDINGS AND DISCUSSIONS

Descriptive Statistics

In this study, descriptive statistics included observations, mean, standard deviation, minimum and maximum. The results were presented in Table 1. FP represents Financial Performance and CM represents Cash Management. Assessed in terms of ROA, the mean financial performance is - 0.083, indicating that, on average, microfinance banks experienced a negative return during this period. The standard deviation of 0.146 implies variability in financial performance, with some institutions performing significantly worse than others. The minimum value of -0.584 highlights severe losses for some banks, while the maximum of 0.262 indicates that a few banks achieved positive returns. Overall, the negative mean implies that many microfinance banks struggled with profitability during this time.

Cash management, measured by the cash ratio, has a mean of 0.078, indicating that microfinance banks maintain cash reserves equivalent to around 7.8% of their total liabilities. The standard deviation of 0.055 shows moderate variability in how banks manage their cash. The minimum value of 0.007 reflects that some banks operate with minimal cash buffers, while the maximum of 0.209 shows that others maintain relatively higher liquidity levels. Overall, the cash management practices appear to be cautious but vary across institutions.

Variable	Obs	Mean	Std. Dev.	Min	Max
FP	104	0832692	.146335	584	.262
СМ	104	.0779231	.0548206	.007	.209

Table 1: Descriptive Statistics

In descriptive analysis, kurtosis and skewness are statistical measures used to understand the shape and distribution of a dataset. The results were as presented in Table 2. The skewness and kurtosis values for financial performance and cash management suggest that the data are approximately normally distributed. For financial performance, the skewness is 0.222 with a standard error of 0.237, and the kurtosis is 0.154 with a standard error of 0.269. Similarly, cash management has a skewness of 0.379 and kurtosis of 0.207, both with the same respective standard errors. Since the skewness and kurtosis statistics for both variables fall within ± 1 and are smaller than twice their standard errors, there is no evidence of significant deviation from normality.

Table 2: Skewness and Kurtosis

	Skewness		Kurtosis		
	Statistic	Std. Error	Statistic	Std. Error	
Financial Performance	.222	.237	.154	.269	
Cash Management	.379	.237	.207	.269	

Diagnostic Tests

Diagnostic tests included linearity, autocorrelation, heteroscedasticity, normality, linearity, unit root and Hausman and tests. Linearity was assessed using scatter plots by plotting predicted values to determine whether a linear relationship exists between the independent and dependent variables. As illustrated in Figure 2, cash management, assessed through the cash ratio, demonstrates a positive linear relationship with the financial performance (return on assets) of microfinance banks in Kenya. These findings imply that enhancements in cash management are likely to lead to improved financial performance (return on assets) for Kenyan MFIs. Additionally, the analysis shows that cash management accounts for 1.5% of the financial performance, as measured by return on assets, in Kenyan microfinance banks. This indicates that the cash ratio is positively associated with financial performance in terms of return on assets for these institutions.





The Shapiro-Wilk test was utilized to examine the normality of a data sample. As illustrated in Table 3, the Shapiro-Wilk Test results indicate that the p-values for financial performance (0.189) and cash management (0.201) are all greater than 0.05 significance level. This implies that the null hypothesis, which poses that the data follows a normal distribution, cannot be rejected for any of the variables. Therefore, the data for financial performance and cash management is normally distributed in this study of microfinance banks in Kenya.

Table 3: Shapiro-Wilk Test

	Statistic	df	Sig.
Financial Performance	.985	104	.189
Cash Management	.988	104	.201
Cash Management	.988	104	

a. Lilliefors Significance Correction

Autocorrelation was tested using The Breusch-Godfrey LM (Lagrange Multiplier) test. As shown in Table 4. The Breusch-Pagan Lagrangian Multiplier test for random effects yielded a highly significant p-value of 0.0000, indicating strong evidence against the null hypothesis. This confirms that the random effects model is appropriate for the data, as unobserved heterogeneity significantly influences financial performance across microfinance banks.

Table 4: Breusch-Godfrey LM test

Breusch and Pagan Lagrangian multiplier test for random effects

Heteroscedasticity was tested using Breusch –Pagan/Cook- Weisberg test. As shown in Table 5, the p-value of 0.2607 was higher than 0.05 significance level, which suggests that there was homoscedasticity in the dataset. This is a favourable result for linear regression analysis because it means that one of the assumptions of homoscedasticity is met, and hence we can proceed with the analysis without the concern of heteroscedasticity affecting the validity of the results. **Table 5: Breusch-Pagan Test for Heteroskedasticity**

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Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
Ho: Constant variance
Variables: fitted values of ROA
chi2(1) = 1.27
Prob > chi2 = 0.2607
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The Im, Pesaran, and Shin (IPS) unit-root test results for Financial Performance (FP) and Cash Management (CM) indicate that both variables are non-stationary. This is evidenced by their high p-values, 0.9911 for FP and 0.9434 for CM, shown in Table 6, which exceeds the significance levels of 0.01, 0.05, and 0.10. As a result, the null hypothesis of a unit root cannot be rejected, confirming that FP and CM are not stationary at their levels.

 Table 6: IPS Unit-Root Test

Variable	t.statistic	p.value	Fixed-N exact critical-values		
			1%	5%	10%
FP	-1.2353	0.9911	-2.140	-1.950	-1.850
CM	-1.2133	0.9434	-2.140	-1.950	-1.850

The Hausman Test is used to determine whether a fixed effects or random effects model is more appropriate for panel data analysis. The Hausman test results, as shown in Table 7, indicate that the p-value of 0.1002 is greater than the commonly used significance level of 0.05. This suggests that we fail to reject the null hypothesis, which posits that the differences between the coefficients obtained from the fixed effects model and the random effects model are not systematic. In other words, the random effects model is deemed appropriate for the data because there is no significant evidence that the fixed effects model offers a perfect fit.

Table 7: Hausman Test

	(b) fixed	(B) random	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
СМ	-1.187555	-1.134214	0533417	.0308026

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

Test: Ho: difference in coefficients not systematic

chi2(1) = (b-B)'[(V_b-V_B)^(-1)](b-B) = 3.00 Prob>chi2 = 0.0833

Panel Regression Model

Panel regression models are statistical techniques used to analyze data where the same entities (microfinance banks) are observed repeatedly over time. Regression model was as illustrated;

 $FP_{it} = \beta_0 + \beta_1 CM_{1it} + \varepsilon_{it}$ (2) FP is dependent study variable (Financial performance (Return on Assets)), B₀ symbolize Y intercept, β_1 is coefficient of determination, CM represents Cash Management, $\varepsilon =$ error term, t subscript symbolize time, while *i* subscript symbolizes microfinance banks.

Based on the regression results, the regression model was by substituting the estimated coefficients into the model equation. The regression results indicate:

 $FP_{it} = -0.2242032 + 1.808638CM_{1it}$

In this study, as shown in Table 8, the within R² (0.5896) suggests that 58.96% of the variation in financial performance within firms over time is explained by cash management. The between R² (0.1799) indicates that 17.99% of the variation in financial performance between firms is accounted for by the model, while the overall R² (0.0150) suggests that 1.50% of the total variation in financial performance is explained by the independent variables. The Wald Chi-square statistic ($\chi^2 = 100.19$, p = 0.0000) serves as the equivalent of the F-statistic in Generalized Least Squares (GLS) regression and tests the significance of the independent variable in the model. A highly significant p-value (0.0000) indicates that cash management, has a significant effect on financial performance.

Cash management, measured in terms of the cash ratio, has a positive and statistically significant effect on financial performance of microfinance banks in Kenya ($\beta_1 = 1.808638$, p-value = 0.000). A 1-unit increase in the cash ratio leads to a 1.808638unit increase in ROA, holding other variables constant. The p-value of 0.000 is below the 0.05 significance level, confirming that this effect is statistically significant. This finding highlights the importance of cash management in meeting financial obligations, reducing financial distress, ultimately enhancing profitability. The findings agree with Onyemaechi et al. (2022) findings that cash management has a positive effect on financial performance of firms. Similarly, the findings concur with Otieno (2021) argument that cash management has a positive effect on performance of small and medium enterprises. Moreover, the findings are in concurrence with Waiganjo and Theuri (2019) observation that cash management positively affects financial performance of firms.

Table 8: Regression Results

Random-effects	GLS regress	ion		Number	of obs	=	104
Group variable	e: MFB			Number	of group	os =	13
R-sq: within	= 0.5896			Obs per	group:	min =	8
betweer	n = 0.1799					avg =	8.0
overall	= 0.0150					max =	8
				Wald ch	i2(1)	=	100.19
corr(u_i, X)	= 0 (assume	d)		Prob >	chi2	=	0.0000
FP	Coef.	Std. Err.	Z	P> z	[95%	Conf.	Interval]
СМ	1.808655	.1806916	10.01	0.000	1.454	1506	2.162804
_cons	2242052	.0349079	-6.42	0.000	2926	6235	1557869
sigma_u	.10474798						
sigma e	.06647201						
rho	.71290861	(fraction	of varia	nce due t	o u_i)		

Conclusion and Recommendations

The study concludes that cash management, as measured by the cash ratio, positively affects the financial performance of microfinance banks in Kenya. This positive relationship underscores the importance of liquidity in maintaining operational stability and profitability. Microfinance banks with higher cash ratios are better positioned to meet short-term obligations, seize growth opportunities, and mitigate financial distress. Effective cash management, therefore, serves as a key driver of success in the highly competitive microfinance sector.

Based on the findings, microfinance banks in Kenya should prioritize robust cash management strategies to enhance financial performance. Banks are encouraged to maintain sufficient liquidity levels through effective monitoring and control of cash ratios. Implementing efficient cash flow management systems will enable banks to meet short-term obligations, capitalize on growth opportunities, and prevent liquidity crises. Additionally, adopting advanced forecasting tools to better predict cash requirements and optimize resource allocation will further strengthen operational stability. By focusing on maintaining a strong cash position, microfinance banks can enhance their profitability and resilience in the face of economic challenges.

Suggestions for Further Studies

This study focused on the relationship between cash management and financial performance in microfinance banks in Kenya. However, the findings are limited to the microfinance sector and may not be generalizable to other types of financial institutions. Therefore, further research is needed to explore how cash management influences the performance of commercial banks, savings and credit cooperatives (SACCOs), and other financial institutions in Kenya. Additionally, the study concentrated on financial performance in terms of profitability, so further research could investigate how cash management affects financial performance using other metrics such as return on equity (ROE) or return on investment (ROI). Given the dynamic nature of the financial sector, future studies could also examine the impact of external factors, such as economic conditions and regulatory changes, on the cash management-performance relationship within the microfinance sector.

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