Working Capital Management, Free Cash Flows and Financial Performance: Evidence from Commercial State Corporations in Kenya

Walter Onkundi Chanua, Dr. Kennedy Okiro, Dr. Fredrick Ogilo

Department of Finance and Accounting, Faculty of Business and Management Science, University of Nairobi, Kenya

DOI: https://dx.doi.org/10.47772/IJRISS.2025.90700015

Received: 18 June 2025; Accepted: 23 June 2025; Published: 26 July 2025

ABSTRACT

This study aimed to investigate the mediating role of free cash flows in the relationship between working capital management and financial performance among commercial state corporations in Kenya. The research sought to determine how free cash flows influence the effectiveness of WCM in driving the financial performance of these corporations. Free cash flow theory was used to guide the study, emphasizing how efficient management of working capital leads to surplus cash flows that enhance financial performance and shareholder value. The study employed a positivist philosophy, using secondary data sourced from the annual reports of the 28 commercial state corporations in Kenya over the period 2014 to 2023. Regression analysis was utilized to assess the mediating effect of free cash flows. The results indicated that free cash flows significantly mediated the relationship between working capital management and financial performance, with corporations that managed their working capital more effectively demonstrating better operational efficiency and higher profitability. These findings suggest that improving working capital management not only directly enhances financial performance but also does so by increasing the availability of free cash flows for reinvestment and strategic allocation.

Keywords: Working capital management, financial performance, days inventory outstanding, days sales outstanding, days payables outstanding, and free cash flows

INTRODUCTION

Effective working capital management (WCM) has long been recognized as a critical factor in improving the financial performance of business organizations. This is particularly important for commercial state corporations (CSCs) in Kenya, which are often large and complex entities, operating in sectors crucial to the nation's economic development (Riany, 2021). WCM refers to the management of short-term assets and liabilities to ensure that a firm maintains sufficient liquidity to meet its operational needs while optimizing its profitability (Osei et al., 2023). By efficiently managing working capital components such as inventory, receivables, and payables, firms can reduce costs, improve cash flow, and ultimately enhance their financial performance (Habib & Dalwai, 2023). However, while WCM is crucial, its effect on financial performance may be influenced by other factors, such as the firm's ability to generate free cash flows (FCF), which mediate the relationship between working capital management efficiency and overall financial performance.

Free cash flow (FCF) is a key financial metric that represents the cash generated by a business after accounting for capital expenditures required to maintain or expand its asset base (Jensen, 1986). FCF is critical because it reflects a firm's ability to reinvest in its operations, pay down debt, or distribute funds to shareholders (Alves, 2021). When a firm efficiently manages its working capital, it is more likely to generate surplus cash flows that can be used for these purposes, further enhancing its financial health (Lai et al., 2020). Therefore, understanding the mediating role of FCF in the relationship between WCM and financial performance is essential for managers and policymakers aiming to improve the financial sustainability and operational efficiency of CSCs in Kenya.

The current study operationalized WCM by utilizing Cash Conversion Cycle (CCC), which is an important parameter used in gauging the effectiveness of WCM decisions. CCC is the time resources of the firm are tied

up in the business cycle (Mahmood et al., 2022). WCM can also be measured through the firm's periodic liquidity analysis. In this analysis, liquidity position can be recognized by the risk and return characteristics (Mandipa & Sibindi, 2022).

Free Cash Flows are operationalized as operating cash flows minus capital expenditures, which provides a straightforward measure of the cash generated from core operations available for reinvestment or distribution to stakeholders. Alternatively, some researchers use the direct method, where they sum up cash inflows and outflows related to operational activities, excluding non-operational and financing cash flows. Abughniem et al. (2020) measure free cash flows as operating net income before depreciation expense less income tax, interest expense, preferred and common dividend. This measure of operating income plus depreciation less interest expense, dividends and loan repayment were adopted as it has been widely used in various studies (Lai et al., 2020; Jiang et al., 2023).

Profitability, liquidity, solvency, and efficiency are a few examples of the metrics that may be used to evaluate financial performance (Gartenberg, Prat & Serafeim, 2019). A company's profitability is determined by how much profit it is making in relation to its sales or investments. This covers figures for return on assets (ROA), net income, and gross profit margin. How quickly a corporation can fulfill its immediate financial commitments is measured by its liquidity. Metrics like the current ratio, quick ratio, and cash ratio are examples of this (Barardehi, Bernhardt & Davies, 2019). Efficiency assesses how effectively a business uses its resources and assets to produce sales and profits. Metrics like the asset turnover ratio and inventory turnover ratio fall under this (Nugroho & Sugiyanto, 2023). The current study measured financial performance using ROA as it is a widely recognized and accepted metric that commendably evaluates the efficiency of an organization in generating profits from its assets, offering a robust indicator of overall operational effectiveness and resource utilization.

Research Problem

In Kenya, commercial state corporations play a pivotal role in the economy by providing essential public goods and services, such as energy, transport, and telecommunications (Nyansimora & Deya, 2022). These organizations often face challenges in managing their working capital due to the capital-intensive nature of their operations and the need to balance liquidity with long-term strategic goals (Atheru, 2023). Despite these challenges, CSCs that effectively manage their working capital are better positioned to generate free cash flows, which can be reinvested into their operations or used to meet financial obligations (Goode, 2020). As such, examining the role of FCF as a mediating variable in the WCM-financial performance relationship is crucial for understanding how these firms can optimize their operations and contribute to sustainable economic growth in Kenya.

While existing literature has explored the direct impact of WCM on financial performance (Sawarni et al., 2022), fewer studies have examined how FCF mediates this relationship. Lack of the moderator effect in the existing studies poses a methodological gap. By investigating the role of FCF, this study further fills a gap in the literature and provides new insights into how working capital management practices influence financial performance through the generation of free cash flows. Previous studies, such as those by Mollah and Lipy (2021), have shown that FCF acts as a conduit for WCM to influence profitability, but this research has largely been conducted in different economic contexts, such as the UAE (Kadhim et al., 2021) and Pakistan (Ali & Rehman, 2020), with limited focus on commercial state corporations in Kenya.

Research Objective

To establish the effect of free cash flows on the relationship between working capital management and financial performance of commercial state corporations in Kenya.

LITERATURE REVIEW

Theoretical Foundation

The Free Cash Flow (FCF) Theory, developed by Jensen (1986), is central to understanding how excess cash

generated by efficient working capital management can enhance a firm's financial performance. According to this theory, when a company generates more cash than it requires for its operating and capital expenditures, the surplus, or free cash flow, can be used for strategic purposes such as reducing debt, making investments, or distributing dividends to shareholders. Jensen argued that companies with abundant free cash flow are more flexible, able to reinvest in growth opportunities, or pay down debt, which ultimately boosts shareholder value and improves the company's market performance.

This theory is particularly relevant in understanding the relationship between working capital management and financial performance because it emphasizes the role of excess cash in influencing firm decisions and operational success. In the context of commercial state corporations in Kenya, the efficient management of working capital—particularly in managing accounts receivable, inventory, and payables—can free up cash, which is then available for reinvestment or distribution to shareholders. Effective WCM leads to improved liquidity and, by extension, an increase in free cash flows that can positively affect a firm's overall financial performance. However, the theory has been criticized for oversimplifying the relationship between cash flows and financial performance, especially in firms facing substantial capital expenditures or external financing constraints (Faruqi et al., 2019).

Agency theory, as introduced by Jensen and Meckling (1976), explains the conflicts of interest between managers (agents) and shareholders (principals) that arise due to the separation of ownership and control within a company. According to this theory, agents may make decisions that are not aligned with the interests of shareholders, often prioritizing their own benefits (such as job security or compensation) over maximizing shareholder wealth. This agency problem can be exacerbated when firms have excessive free cash flow, as managers may use it inefficiently, for instance, by indulging in non-value-creating projects or increasing personal perks.

The application of agency theory to the study of working capital management highlights how managerial discretion over cash flows—especially excess free cash flow—can impact firm performance. By efficiently managing working capital, firms can minimize the amount of cash tied up in current assets and, consequently, reduce the agency costs associated with excess liquidity. In the context of CSCs, efficient WCM can help mitigate the potential for managerial misuse of free cash flows, ensuring that funds are used productively, thereby improving financial performance. However, critics argue that agency theory may not fully capture the complexities of managerial motivations, as it tends to assume that all managers act in their self-interest, ignoring factors like trust and ethical behaviour (Tekin & Polat, 2020).

The trade-off theory, primarily associated with Myers (1984), posits that firms strive to achieve an optimal capital structure by balancing the benefits of debt financing (such as tax shields) with the potential costs of financial distress (such as bankruptcy risks). While this theory primarily addresses capital structure decisions, its principles can be applied to working capital management by considering the trade-offs firms face between maintaining sufficient liquidity and the costs of holding excessive cash. According to the trade-off theory, firms need to find the optimal level of working capital that balances the costs of holding too much liquidity—such as lost opportunities for higher returns on invested capital—against the risks of not having enough liquidity to meet operational demands.

For CSCs, effective working capital management can be seen as a process of balancing these trade-offs. By efficiently managing cash, receivables, and inventory, firms can maintain liquidity to meet short-term obligations while minimizing the costs associated with idle capital. The theory supports the view that firms with efficient working capital management practices are better positioned to optimize their financial performance by maintaining an appropriate level of liquidity that minimizes costs and maximizes returns. The limitation of this theory, however, lies in its focus on the capital structure and liquidity trade-offs without considering other factors such as managerial efficiency or external market conditions (Serrasqueiro et al., 2021).

Empirical Review

Empirical research consistently highlights the positive relationship between efficient working capital management and improved financial performance. For instance, Sawarni et al. (2022) studied Indian SMEs and found that effective WCM, measured by shorter cash conversion cycles (CCC), positively influenced financial

performance, as it improved profitability and liquidity. Similarly, Arnaldi et al. (2021) discovered a negative relationship between CCC and financial performance in US manufacturing firms, indicating that firms with shorter cash conversion cycles had better profitability. This empirical evidence aligns with the idea that efficient WCM leads to improved operational efficiency and financial performance by optimizing cash flow and minimizing excess working capital.

In Kenya, Waweru and Atheru (2022) explored the effect of WCM on supermarkets' financial performance and found that the quick ratio was a significant predictor of financial success. However, the study also noted that other WCM components, such as creditor turnover and inventory turnover, did not show significant relationships with financial performance. This suggests that while certain elements of WCM can influence performance, their effects may vary depending on the specific industry or firm characteristics, supporting the view that working capital practices need to be tailored to the firm's operational context.

Kadhim et al. (2021) examined the relationship between WCM and financial performance in UAE manufacturing firms and found that effective management of receivables and inventory was positively related to profitability, supporting the argument that efficient WCM enhances financial outcomes. These findings are consistent with those of Mahmood et al. (2022), who emphasized the importance of managing the cash conversion cycle in improving profitability. However, both studies highlight the contextual gap, as they were conducted in different economic environments, suggesting that further research is needed to explore the relationship in developing countries like Kenya, where economic and managerial factors may differ.

Several studies have explored the role of free cash flows in mediating the relationship between working capital management and financial performance. Mollah and Lipy (2021) highlighted the critical role of FCF in enhancing the effects of WCM on financial performance, showing that firms with higher free cash flows were better positioned to reinvest in growth opportunities, reduce debt, and distribute profits to shareholders. Gul and Khan (2020) similarly found that FCF acted as a significant mediator in the WCM-financial performance relationship, suggesting that effective working capital management directly leads to the generation of free cash flows, which, in turn, improves financial performance.

However, while many studies, such as those by Mollah and Lipy (2021) and Gul and Khan (2020), support the mediating role of FCF, there are limited studies on this relationship in the context of commercial state corporations (CSCs) in Kenya. Given the capital-intensive nature of CSCs and their reliance on government funding, it is important to examine how the relationship between WCM and financial performance is influenced by FCF in this specific context. This study fills this gap by examining how free cash flow mediates the effects of WCM on the financial performance of CSCs, offering new insights into the financial dynamics of state-owned enterprises in Kenya.

While previous studies have established the positive relationship between WCM and financial performance, and highlighted the role of free cash flows as a mediator, several gaps remain in the literature. Most studies have focused on SMEs and private firms in developed economies, with limited research on the unique challenges faced by commercial state corporations in developing countries like Kenya. This study contributes to the literature by focusing on CSCs in Kenya, using panel data over a ten-year period to examine the mediating effect of free cash flows on the relationship between working capital management and financial performance. The findings are expected to provide valuable insights for policymakers and managers in state-owned enterprises, enabling them to optimize their working capital practices and improve financial performance.

RESEARCH METHODOLOGY

This study adopted a positivist research philosophy, focusing on empirical observation and scientific methods to explore the relationship between working capital management (WCM) and financial performance of commercial state corporations (CSCs) in Kenya. The research utilized a descriptive panel research design, which allowed for the examination of both cross-sectional and time-series data across the 28 CSCs operating in Kenya over a ten-year period (2014–2023). A census approach was employed to include all 28 commercial state corporations, ensuring comprehensive analysis without the risk of sampling errors. The use of secondary data, sourced from annual reports provided by the Office of the Auditor General and the individual state corporations, ensured

consistency and reliability in the data.

For the operationalization of study variables, working capital management was measured using the cash conversion cycle, while financial performance was assessed using return on assets (ROA). Free cash flow was considered as the mediating variable. Descriptive statistics were employed to summarize the data, and regression analysis was used to test the hypothesized relationships between the variables. To ensure the robustness of the findings, diagnostic tests, such as normality, multicollinearity, autocorrelation, and heteroscedasticity tests, were conducted. These steps ensured that the statistical results were reliable and valid, providing a comprehensive understanding of how working capital management impacts financial performance in Kenyan commercial state corporations. The regression model used was as follows:

Four Step Test for Mediation: (Baron and Kenny (1986).

Step1: $Y = \alpha + \beta_1 X_1 + \varepsilon$

This step evaluates the independent and dependent variables' correlations

Step 2: $X_2 = \alpha + \beta_1 X_1 + \varepsilon$

This step estimates the association between the independent and mediator variable

Step3: $Y = \alpha + \beta_2 X_2 + \varepsilon$

This step control for the independent variable and estimate the connection among the mediating and the criterion variable

If the relationship is significant then proceed to:

Step 4: $Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$

Y= ROA

X_1 = WCM

X_2= FCF

The following hypotheses were tested.

$H_0$1: Free cash flows have no significant mediating influence on the relationship between working capital management and financial performance of commercial state corporations in Kenya.

$H_0$1a: Free cash flows have no significant mediating influence on the relationship between days inventory outstanding and financial performance of commercial state corporations in Kenya.

$H_0$1b: Free cash flows have no significant mediating influence on the relationship between days sales outstanding and financial performance of commercial state corporations in Kenya.

$H_0$1c: Free cash flows have no significant mediating influence on the relationship between days payable outstanding and financial performance of commercial state corporations in Kenya.

The study utilized Baron and Kenny's (1986) technique to explore the mediating effect. Multiple regression analyses were carried out in four phases, with the significance of the coefficients assessed at each stage.

Step 1: Establish a Significant relationship between the Independent Variable (X) and the Dependent Variable (Y): Test whether the independent variable significantly predicts the dependent variable.

Step 2: Establish a significant relationship between the Independent Variable (X) and the Mediator (M): Test whether the independent variable significantly predicts the mediator.

Step 3: Establish a significant relationship between the Mediator (M) and the Dependent Variable (Y): Test whether the mediator significantly predicts the dependent variable when controlling for the independent variable.

Step 4: Check if the relationship between the Independent Variable (X) and the Dependent Variable (Y) is Reduced (or Eliminated) When the Mediator (M) is Included: If the effect of the independent variable on the dependent variable decreases (partial mediation) or becomes non-significant (full mediation) after including the mediator, mediation is established.

FINDINGS AND DISCUSSION

The objective of this study was to analyze the mediating the effect of free cash flows on the relationship between working capital management and financial performance of commercial state corporations in Kenya.

Days Inventory Outstanding, FCF and Financial Performance

The analysis followed Baron and Kenny's (1986) four-step mediation framework, which tested the direct relationships between Days Inventory Outstanding, FCF, and Return on Assets, and subsequently examined whether FCF mediated the relationship between DIO and ROA. Regression models were employed at each step to assess the significance of the relationships, with particular attention to changes in the coefficients when FCF was introduced as a mediator. The results provide insights into how inventory management impacts financial performance directly and indirectly through its influence on cash flow availability. The findings from each step are presented and interpreted below.

The results in Table 1 indicate that Days Inventory Outstanding has a negative and significant relationship with financial performance, as measured by ROA. The coefficient for DIO is -0.07334 (p = 0.03), suggesting that an increase in inventory holding periods negatively affects financial performance. The R-squared value is 0.0194, indicating that only 1.94% of the variation in ROA is explained by DIO. Despite the low explanatory power, the negative and significant relationship underscores the importance of efficient inventory management in enhancing financial performance.

Table 1: Days Inventory Outstanding and Financial Performance

Random-effects GLS regression			Number of obs		=	280
Group variable: CompanyID			Number of groups		=	28
R-sq:			Obs per group:			
within = 0.0163			Min		=	10
between = 0.0206			Avg		=	10
overall = 0.0194			Max		=	10
			Wald chi2(1)		=	4.71
corr(u_i, X) = 0 (assumed)			Prob > chi2		=	0.0299
ROA	Coef.	Std. Err.	Z	P>z	[95% Conf.	Interval]
DIO	-0.07334	0.033779	-2.17	0.03	-0.13954	-0.00713
_cons	1.085309	0.219532	4.94	0	0.655034	1.515584

Source: Research Findings (2025)

The resulting regression model based on the results from Table 1 is:

ROA=1.085309−0.07334DIO

Table 2 shows that DIO has a negative and significant effect on Free Cash Flows (FCF), with a coefficient of –

0.12128 (p = 0.002). The R-squared value of 0.0690 suggests that 6.9% of the variation in FCF is explained by DIO. This finding highlights that longer inventory holding periods reduce the availability of free cash flows, potentially limiting the financial flexibility of the corporations. The statistically significant relationship underscores the role of inventory management in influencing cash flow outcomes.

Table 2: Days Inventory Outstanding and Free Cash Flows

Random-effects GLS regression			Number of obs	=	280	
Group variable: Company ID			Number of groups	=	28	
R-sq:			Obs per group:			
within = 0.0342			Min	=	10	
between = 0.0826			Avg	=	10	
overall = 0.0690			Max	=	10	
			Wald chi2(1)	=	10.08	
corr(u_i, X) = 0 (assumed)			Prob > chi2	=	0.0015	
FCF	Coef.	Std. Err.	Z	P>z	[95% Conf.	Interval]
DIO	-0.12128	0.038206	-3.17	0.002	-0.19616	-0.0464
_cons	15.1699	0.387994	39.1	0	14.40944	15.93035

Source: Research Findings (2025)

The resulting regression model based on the results from Table 2 is:

FCF=15.1699−0.12128DIO

The results in Table 3 reveal that FCF has a positive and significant relationship with financial performance. The coefficient for FCF is 0.372151 (p = 0.000), indicating that higher free cash flows are associated with improved ROA. The R-squared value of 0.0827 implies that 8.27% of the variation in ROA is explained by FCF. This finding emphasizes the importance of liquidity and financial flexibility in driving financial performance, highlighting the critical role of effective cash flow management.

Table 3: Free Cash Flows and Financial Performance

Random-effects GLS regression			Number of obs	=	280	
Group variable: CompanyID			Number of groups	=	28	
R-sq:			Obs per group:			
within = 0.2710			Min	=	10	
between = 0.0687			Avg	=	10	
overall = 0.0827			Max	=	10	
			Wald chi2(1)	=	75.72	
corr(u_i, X) = 0 (assumed)			Prob > chi2	=	0	
ROA	Coef.	Std. Err.	Z	P>z	[95% Conf.	Interval]
FCF	0.372151	0.042766	8.7	0	0.288331	0.455972
_cons	-4.69696	0.640569	-7.33	0	-5.95245	-3.44147

The resulting regression model based on the results from Table 3 is:

ROA=−4.69696+0.372151FCF

Table 4 presents the combined model, including both DIO and FCF. While FCF remains positive and significant, with a coefficient of 0.469365 (p = 0.000), the effect of DIO on ROA becomes insignificant, with a coefficient of -0.01844 (p = 0.555). The R-squared value of 0.0844 indicates that 8.44% of the variation in ROA is explained by the combined model. The results suggest that the inclusion of FCF as a mediator reduces the effect of DIO on ROA, indicating the presence of mediation.

Table 4: Days Inventory Outstanding, FCF and Financial Performance

Random-effects GLS regression			Number of obs	=	280	
Group variable: CompanyID			Number of groups	=	28	
R-sq:			Obs per group:			
within = 0.2717			min	=	10	
between = 0.0703			avg	=	10	
overall = 0.0844			max	=	10	
			Wald chi2(2)	=	76.75	
corr(u_i, X) = 0 (assumed)			Prob > chi2	=	0	
ROA	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
DIO	-0.01844	0.031187	-0.59	0.555	-0.07986	0.042983
FCF	0.469365	0.050083	9.37	0	0.370728	0.568003
_cons	-6.02508	0.773073	-7.79	0	-7.54765	-4.50251

Source: Research Findings (2025)

The resulting regression model based on the results from Table 4 is:

ROA=−6.02508+0.469365FCF−0.01844DIO

In summary, the findings support the mediating effect of free cash flows in the relationship between Days Inventory Outstanding and financial performance. The null hypothesis $H_0$1a, which posits that free cash flows have no significant mediating influence on the relationship between DIO and financial performance, is rejected. This confirms that free cash flows play a critical role in mediating the impact of inventory management on financial performance in commercial state corporations in Kenya.

Days Sales Outstanding, FCF and Financial Performance

The objective of this study also examined the mediating effect of free cash flows on the relationship between Days Sales Outstanding and financial performance of commercial state corporations in Kenya. The analysis followed Baron and Kenny's four-step mediation approach, testing the direct relationship between DSO and ROA, the effect of DSO on FCF, the effect of FCF on ROA, and the combined effect of DSO and FCF on ROA. The results from the regression analyses at each step provide insights into the mediation role of FCF in the relationship between receivables management and financial performance.

The results in Table 5 reveal that DSO has a significant negative effect on financial performance. The coefficient for DSO is -0.12374 (p = 0.000), indicating that longer receivables collection periods are associated with reduced ROA. The R-squared value of 0.2527 suggests that 25.27% of the variation in ROA is explained by DSO. These

results underscore the importance of efficient receivables management in improving financial outcomes, as delayed collections negatively impact liquidity and efficiency.

Table 5: Days Sales Outstanding and Financial Performance

Random-effects GLS regression			Number of obs		=		280
Group variable: CompanyID			Number of groups		=		28
R-sq:			Obs per group:				
within = 0.0363			min		=		10
between = 0.3406			avg		=		10
overall = 0.2527			max		=		10
			Wald chi2(1)		=		20.57
corr(u_i, X) = 0 (assumed)			Prob > chi2		=		0
ROA	Coef.	Std. Err.	z	P>z	[95% Conf.		Interval]
DSO	-0.12374	0.027286	-4.53	0	-0.17722		-0.07026
_cons	1.381956	0.187575	7.37	0	1.014316		1.749597

The resulting regression model based on the results from Table 5 is:

ROA=1.381956−0.12374DSO

Table 6: Days Sales Outstanding and Free Cash Flows

Random-effects GLS regression			Number of obs		=		280
Group variable: CompanyID			Number of groups		=		28
R-sq:			Obs per group:				
within = 0.0588			min		=		10
between = 0.0040			avg		=		10
overall = 0.0012			max		=		10
			Wald chi2(1)		=		14.34
corr(u_i, X) = 0 (assumed)			Prob > chi2		=		0.0002
FCF	Coef.	Std. Err.	z	P>z	[95% Conf.		Interval]
DSO	-0.12829	0.033874	-3.79	0	-0.19468		-0.0619
_cons	15.258	0.397711	38.36	0	14.4785		16.0375

Source: Research Findings (2025)

The resulting regression model based on the results from Table 6 is:

FCF=15.258−0.12829DSO

Table 6 shows that DSO also has a significant negative effect on FCF, with a coefficient of -0.12829 (p = 0.000).

This indicates that longer receivables collection periods reduce the availability of free cash flows, potentially limiting the corporation's financial flexibility. The R-squared value is relatively low at 0.0012 overall, reflecting that only a small proportion of the variation in FCF is explained by DSO. However, the significant negative relationship highlights the critical link between receivables management and liquidity.

Table 7: Free Cash Flows and Financial Performance

Random-effects GLS regression			Number of obs		=	280
Group variable: CompanyID			Number of groups		=	28
R-sq:			Obs per group:			
within = 0.2710			Min		=	10
between = 0.0687			Avg		=	10
overall = 0.0827			Max		=	10
			Wald chi2(1)		=	75.72
corr(u_i, X) = 0 (assumed)			Prob > chi2		=	0
ROA	Coef.	Std. Err.	Z	P>z	[95% Conf.	Interval]
FCF	0.372151	0.042766	8.7	0	0.288331	0.455972
_cons	-4.69696	0.640569	-7.33	0	-5.95245	-3.44147

Source: Research Findings (2025)

The resulting regression model based on the results from Table 7 is:

ROA=−4.69696+0.372151FCF

The results in Table 7 confirm a positive and significant relationship between FCF and financial performance, with a coefficient of 0.372151 (p = 0.000). The R-squared value of 0.0827 indicates that 8.27% of the variation in ROA is explained by FCF. These findings emphasize the importance of free cash flows in driving financial performance.

Table 8: Days Sales Outstanding, FCF and Financial Performance

Random-effects GLS regression			Number of obs		=	280
Group variable: CompanyID			Number of groups		=	28
R-sq:			Obs per group:			
within = 0.2527			min		=	10
between = 0.2114			avg		=	10
overall = 0.2066			max		=	10
			Wald chi2(2)		=	82.84
corr(u_i, X) = 0 (assumed)			Prob > chi2		=	0
ROA	Coef.	Std. Err.	Z	P>z	[95% Conf.	Interval]
DSO	-0.09181	0.025432	-3.61	0	-0.14166	-0.04196
FCF	0.31438	0.040646	7.73	0	0.234715	0.394044
_cons	-3.37055	0.637654	-5.29	0	-4.62033	-2.12077

Source: Research Findings (2025)

The resulting regression model based on the results from Table 8 is:

ROA=−3.37055+0.31438FCF−0.0918DSO

Finally, Table 8 presents the combined effect of DSO and FCF on ROA. Both DSO and FCF remain significant, with coefficients of -0.09181 (p = 0.000) and 0.31438 (p = 0.000), respectively. The R-squared value of 0.2066 shows that 20.66% of the variation in ROA is explained by the combined model. The reduction in the magnitude of the DSO coefficient compared to Table 5.6 suggests that FCF partially mediates the relationship between DSO and ROA. This finding indicates that while receivables management directly affects financial performance, its influence is partially transmitted through its impact on free cash flows.

In summary, the results demonstrate that free cash flows partially mediate the relationship between Days Sales Outstanding and financial performance. The null hypothesis $H_0$1b, which posited that FCF has no significant mediating influence on the relationship between DSO and financial performance, is rejected. These findings highlight the dual importance of efficient receivables management and liquidity in driving financial outcomes for commercial state corporations in Kenya.

Days Payable Outstanding, FCF and Financial Performance

The third analysis examined the mediating effect of free cash flows on the relationship between Days Payable Outstanding and financial performance of commercial state corporations in Kenya. Following Baron and Kenny's four-step mediation process, regression analyses tested the direct effect of DPO on ROA, the effect of DPO on FCF, the relationship between FCF and ROA, and the combined effect of DPO and FCF on ROA. The results shed light on the interplay between payable management, liquidity, and financial performance.

Table 9: Days Payables Outstanding and Financial Performance

Random-effects GLS regression			Number of obs		=	280
Group variable: CompanyID			Number of groups		=	28
R-sq:			Obs per group:			
within = 0.0606			Min		=	10
between = 0.5236			Avg		=	10
overall = 0.3671			Max		=	10
			Wald chi2(1)		=	34.95
corr(u_i, X) = 0 (assumed)			Prob > chi2		=	0
ROA	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
DPO	-0.15326	0.025924	-5.91	0	-0.20407	-0.10245
_cons	1.631942	0.184426	8.85	0	1.270475	1.993409

Source: Research Findings (2025)

The resulting regression model based on the results from Table 9 is:

ROA=1.631942−0.15326DPO

Table 9 shows that DPO has a significant negative effect on financial performance, with a coefficient of -0.15326 (p = 0.000). This indicates that longer payment periods are associated with lower ROA, suggesting potential

drawbacks of delayed supplier payments, such as strained supplier relationships or inefficiencies in resource utilization. The R-squared value of 0.3671 indicates that 36.71% of the variation in ROA is explained by DPO.

Table 10: Days Payable Outstanding and Free Cash Flows

Random-effects GLS regression			Number of obs	=	280	
Group variable: CompanyID			Number of groups	=	28	
R-sq:			Obs per group:			
within = 0.0972			min	=	10	
between = 0.0066			avg	=	10	
overall = 0.0009			max	=	10	
			Wald chi2(1)	=	25.68	
corr(u_i, X) = 0 (assumed)			Prob > chi2	=	0	
FCF	Coef.	Std. Err.	Z	P>z	[95% Conf.	Interval]
DPO	-0.15413	0.030413	-5.07	0	-0.21374	-0.09452
_cons	15.48914	0.397529	38.96	0	14.70999	16.26828

The resulting regression model based on the results from Table 10 is:

FCF=15.48914−0.15413DPO

Table 10 reveals that DPO also has a significant negative effect on FCF, with a coefficient of -0.15413 (p = 0.000). This suggests that longer payable periods reduce free cash flows, potentially reflecting increased cash outflows to suppliers or inefficiencies in working capital management. The R-squared value is relatively low at 0.0009 overall, indicating that while DPO significantly affects FCF, other factors also influence cash flow outcomes. Nonetheless, the negative relationship highlights the financial strain associated with extended payables.

Table 11: Free Cash Flows and Financial Performance

Random-effects GLS regression			Number of obs	=	280	
Group variable: CompanyID			Number of groups	=	28	
R-sq:			Obs per group:			
within = 0.2710			Min	=	10	
between = 0.0687			Avg	=	10	
overall = 0.0827			Max	=	10	
			Wald chi2(1)	=	75.72	
corr(u_i, X) = 0 (assumed)			Prob > chi2	=	0	
ROA	Coef.	Std. Err.	Z	P>z	[95% Conf.	Interval]
FCF	0.372151	0.042766	8.7	0	0.288331	0.455972
_cons	-4.69696	0.640569	-7.33	0	-5.95245	-3.44147

Source: Research Findings (2025)

The resulting regression model based on the results from Table 11 is:

ROA=−4.69696+0.372151FCF

Table 11 confirms a positive and significant relationship between FCF and financial performance, with a coefficient of 0.372151 (p = 0.000). This underscores the importance of free cash flows in driving ROA, as higher liquidity enhances operational flexibility and investment capacity. The R-squared value of 0.0827 indicates that 8.27% of the variation in ROA is explained by FCF, further emphasizing its role as a key driver of financial performance.

Table 12: Days Payable Outstanding, FCF and Financial Performance

Random-effects GLS regression			Number of obs	=	280	
Group variable: CompanyID			Number of groups	=	28	
R-sq:			Obs per group:			
within = 0.2325			min	=	10	
between = 0.3084			avg	=	10	
overall = 0.2851			max	=	10	
			Wald chi2(2)	=	88.11	
corr(u_i, X) = 0 (assumed)			Prob > chi2	=	0	
ROA	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
DPO	-0.1217	0.024405	-4.99	0	-0.16954	-0.07387
FCF	0.264822	0.038123	6.95	0	0.190103	0.339541
_cons	-2.41539	0.606205	-3.98	0	-3.60353	-1.22725

Source: Research Findings (2025)

The resulting regression model based on the results from Table 12 is:

ROA=−2.41539+0.264822FCF−0.1217DPO

Table 12 presents the combined effect of DPO and FCF on ROA. Both DPO and FCF remain significant, with coefficients of -0.1217 (p = 0.000) and 0.264822 (p = 0.000), respectively. The R-squared value of 0.2851 indicates that 28.51% of the variation in ROA is explained by the combined model. The reduction in the magnitude of the DPO coefficient compared to Table 5.10 suggests that FCF partially mediates the relationship between DPO and ROA, reflecting the indirect effect of payable management on financial performance through liquidity.

In summary, the results confirm the partial mediating role of free cash flows in the relationship between Days Payable Outstanding and financial performance. The null hypothesis $H_0$1c, which posited that FCF has no significant mediating influence on the relationship between DPO and ROA, is rejected. These findings emphasize the dual importance of efficient payable management and liquidity in shaping financial outcomes for commercial state corporations in Kenya.

This study analyzed the mediating effect of free cash flows on the relationship between working capital management and financial performance of commercial state corporations in Kenya. FCF was examined as a mediator to determine its role in enhancing or diminishing the effects of Days Inventory Outstanding, Days Sales Outstanding, and Days Payable Outstanding on financial performance, measured by ROA. The findings revealed that FCF partially mediated the relationship between WCM components and ROA. Specifically, DSO had a significant negative effect on ROA through FCF, indicating that longer receivables periods reduce free liquidity, constraining operational efficiency and profitability. Similarly, DPO had a significant positive mediating effect, demonstrating that extended payment periods enhance FCF, enabling organizations to allocate resources more

effectively. However, FCF did not mediate the relationship between DIO and ROA, highlighting potential inefficiencies in inventory practices within state corporations. These findings underscore the importance of liquidity management as a conduit through which WCM practices influence financial outcomes.

The findings align with Yakubu, Kapusuzoglu, and Ceylan (2020), who found that WCM positively impacted FCF and ROA in Egyptian manufacturing firms. Similar to the current study, their research emphasized the critical role of liquidity in operational efficiency and profitability. However, the conceptual gap in their study—failing to establish the mediating effect of FCF on the WCM-financial performance relationship—is addressed here, providing a clearer understanding of how FCF functions as a financial enabler in public-sector organizations. This study also complements their findings by extending the analysis to a different context, demonstrating that FCF mediates the effects of DSO and DPO on ROA in Kenyan state corporations.

The results also support Rahman (2022), who found that WCM significantly influences financial performance in the Indian manufacturing sector. Like this study, Rahman highlighted the importance of efficient receivables and payables management in improving profitability. However, while Rahman identified a direct relationship between WCM components and financial performance, this study advances the discourse by introducing FCF as a mediator, revealing how liquidity facilitates or constrains these relationships. The conceptual gap in Rahman's study regarding the role of FCF is thus bridged, providing deeper insights into the operational-financial performance nexus.

The findings diverge from Ahmad, Bashir, and Waqas (2022), who examined WCM in Chinese SMEs but did not establish a mediating role for FCF. This divergence highlights the contextual differences between private SMEs in developing economies and Kenyan state corporations. While Ahmad et al. demonstrated a direct positive effect of WCM on ROA and ROE, the inclusion of FCF as a mediator in this study enriches the theoretical understanding of WCM practices in public-sector entities, where liquidity constraints are often pronounced.

The mediating effect of FCF also aligns with the Free Cash Flow Theory, which posits that effective liquidity management facilitates operational efficiency and profitability. By showing that FCF mediates the effects of DSO and DPO on ROA, this study underscores the transformative role of liquidity in operational decision-making. The insignificant mediation effect of FCF in the DIO-ROA relationship suggests inefficiencies in inventory practices that warrant further investigation.

CONCLUSIONS

The study concluded that working capital management significantly impacts the financial performance of commercial state corporations in Kenya, with varying effects across its components. Efficient receivables and payables management are critical to improving profitability, as evidenced by the significant negative effect of DSO and the significant positive effect of DPO on ROA. However, inventory management, as measured by DIO, demonstrated a limited influence on financial performance. These findings emphasize the need for corporations to prioritize strategies that reduce receivables collection periods and optimize payables cycles to improve financial outcomes.

The mediating role of free cash flows in the relationship between WCM and financial performance was evident in the study. FCF partially mediated the effects of DSO and DPO on financial performance, highlighting its role as a bridge between operational practices and profitability. The findings underscored the importance of liquidity management in translating working capital practices into financial performance improvements. Organizations with higher free cash flows were better positioned to address operational challenges, invest in growth opportunities, and enhance overall profitability.

RECOMMENDATION AND AREAS FOR FURTHER RESEARCH

The study recommends that policymakers and practitioners implement measures to improve receivables and payables management within commercial state corporations. For Days Sales Outstanding, corporations should establish stringent credit policies and adopt robust receivables collection systems to reduce collection periods.

Policymakers can introduce guidelines or benchmarks for receivables management, ensuring consistency and efficiency across the sector. For Days Payable Outstanding (DPO), corporations are encouraged to strategically utilize supplier credit while maintaining healthy relationships with suppliers. Policymakers should also develop frameworks that encourage suppliers to offer flexible credit terms, balancing financial stability and operational efficiency.

To maximize the mediating effect of free cash flows, state corporations should invest in tools and systems that enhance liquidity planning and monitoring. Practitioners are advised to establish clear policies on cash flow management, ensuring that liquidity is optimized to support operations and strategic investments. Policymakers should consider mandating regular liquidity reporting for state corporations to promote transparency and accountability in cash flow management. This recommendation aims to ensure that organizations not only maintain adequate liquidity but also use it strategically to achieve financial sustainability.

Future research could expand the scope of analysis to include a comparative study between commercial state corporations and private firms. By exploring how working capital management, and free cash flows influence financial performance across different organizational contexts, researchers can uncover insights into sectoral variations. Additionally, future studies could investigate these relationships in other countries or regions to understand how different regulatory, economic, and cultural environments shape the effectiveness of WCM practices.

While this study focused on specific WCM components, and FCF, future research could incorporate additional variables such as macroeconomic factors (e.g., inflation, interest rates, and exchange rates) or organizational characteristics (e.g., governance structures and corporate culture). These variables could provide a more holistic understanding of the drivers of financial performance. For instance, examining how external economic shocks influence the mediating role of FCF could offer valuable insights for policy and practice.

REFERENCES

1. Abughniem, M. S., Al Aishat, M. A. H., & Hamdan, A. (2020). Free cash flow and firm performance: Empirical evidence from the Amman stock exchange. International Journal of Innovation, Creativity and Change, 10(12), 668-681.
2. Afiezan, A., Wijaya, G., & Claudia, C. (2020). The effect of free cash flow, company size, profitability and liquidity on debt policy for manufacturing companies listed on IDX in 2016-2019 periods. Budapest International Research and Critics Institute-Journal (BIRCI-Journal), 3(4), 4005-4018.
3. Agyei, J., Sun, S., & Abrokwah, E. (2020). Trade-off theory versus pecking order theory: Ghanaian evidence. Sage Open, 10(3), 2158244020940987.
4. Alvarez, T., Sensini, L., & Vazquez, M. (2021). Working capital management and profitability: Evidence from an emergent economy. International Journal of Advances in Management and Economics, 11(1), 32-39.
5. Alves, S. (2021). Free cash flow and earnings management: The moderating role of leverage. In Comparative research on earnings management, corporate governance, and economic value (pp. 85-103). IGI Global.
6. Arnaldi, A., Novak, B., Roscigno, R., & Zhang, W. (2021). Working capital management and profitability: Empirical evidence. International Journal of Business Management and Economic Research, 12(2), 1911-1917.
7. Barardehi, Y. H., Bernhardt, D., & Davies, R. J. (2019). Trade-time measures of liquidity. The Review of Financial Studies, 32(1), 126-179.
8. Gallegos, M. J. (2022). Working capital management and business performance: Evidence from Latin American companies. Economic Research-Ekonomska Istraživanja, 35(1), 3189-3205.
9. Gartenberg, C., Prat, A., & Serafeim, G. (2019). Corporate purpose and financial performance. Organization Science, 30(1), 1-18.
10. Habib, A. M., & Dalwai, T. (2023). Does the efficiency of a firm's intellectual capital and working capital management affect its performance? Journal of the Knowledge Economy, 8(7), 1-37.
11. Jensen, M. C. (1986). Agency costs of free cash flow, corporate finance, and takeovers. The American Economic Review, 76(2), 323-329.

12. Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behaviour, agency cost and ownership structure. Journal of Financial Economics, 3(4), 305-360.
13. Jiang, X., Kanodia, C., & Zhang, G. (2023). Reporting of investment expenditure: Should it be aggregated with operating cash flows? The Accounting Review, 3(8);1-24
14. Lai, E. K. S., Latiff, A. R. A., Keong, O. C., & Qun, T. C. (2020). The impact of free cash flow on firm's performance: evidence from Malaysia. In Eurasian Economic Perspectives: Proceedings of the 26th and 27th Eurasia Business and Economics Society Conferences (pp. 3-16). Springer International Publishing.
15. Mahmood, F., Shahzad, U., Nazakat, A., Ahmed, Z., Rjoub, H., & Wong, W. K. (2022). The nexus between cash conversion cycle, working capital finance, and firm performance: Evidence from novel machine learning approaches. Annals of Financial Economics, 17(02), 2250014.
16. Mandipa, G., & Sibindi, A. B. (2022). Financial performance and working capital management practices in the retail sector: Empirical evidence from South Africa. Risks, 10(3), 63.
17. Mollah, M. M., & Lipy, N. M. (2021). Working capital management and free cash flow: Mediating effects in the financial performance of firms in Bangladesh. International Journal of Emerging Markets, 8(4), 33-52.
18. Mutinda, J. N. (2021). Influence of public financial management reforms on organizational performance of commercial state corporations in Kenya (Doctoral dissertation, KCA University).
19. Nasrallah, N., & El Khoury, R. (2022). Is working capital management a good predictor of SMEs financial performance? Evidence from developing countries (the case of Lebanon). Journal of Sustainable Finance & Investment, 12(1), 13-43.
20. Nugroho, H. H., & Sugiyanto, F. X. (2023). The Impact of Financial Technology on Banking Profitability. IKRAITH-EKONOMIKA, 6(2), 255-264.
21. Osei, A., Osei Agyemang, A., Amoah, J. O., & Sulemana, I. (2023). Empirical study on the impact of working capital management on going concern of manufacturing firms in Ghana. Cogent Business & Management, 10(2), 2218177.
22. Othuon, D. O., Gatimbu, K. K., Musafiri, C. M., & Ngetich, F. K. (2021). Working capital management impacts on small-scale coffee wet mills' financial performance in eastern Kenya. Heliyon, 7(9), e07623.
23. Phuong, N., & Hung, D. (2020). Impact of working capital management on firm profitability: Empirical study in Vietnam. Accounting, 6(3), 259-266.
24. Saeedi, P., Saeedi, S. P., & Gutierrez, L. (2021). Enterprise risk management and its effect on firm performance: A multi-country approach. Economic Research-Ekonomska Istraživanja, 34(1), 1283-1305.
25. Saeidi, P., Saeidi, S. P., Gutierrez, L., Streimikiene, D., Alrasheedi, M., Saeidi, S. P., & Mardani, A. (2021). The influence of enterprise risk management on firm performance with the moderating effect of intellectual capital dimensions. Economic Research-Ekonomska Istraživanja, 34(1), 122-151.
26. Saeidi, S. P., & Saeidi, P. (2022). Cash flow management and financial performance of state corporations: The Kenyan case. International Journal of Emerging Markets, 13(5), 1225-1239.
27. Waweru, F. G., & Atheru, G. (2022). Working capital management and financial performance of selected supermarkets in Nairobi County, Kenya. Asian Journal of Economics, Finance and Management, 114-122.
28. Yusuf, M. B. (2019). The impact of working capital management practice on firm profitability: Evidence from manufacturing firms listed in Istanbul stock exchange (Doctoral dissertation, Sakarya University, Turkey).