# THE IMPACT OF ACCOUNTS PAYABLE MANAGEMENT IN ENHANCING LIQUIDITY OF THE ENERGY SECTOR COMPANIES IN GHANA

Stephen Gbambil Tobazaa. Accra Institute of Technology (AIT), Department of Business, Accra, Ghana. John Gartchie Gatsi. University of Cape Coast, Ghana.

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# ABSTRACT

This study examines the impact of accounts payable management on the liquidity of energy sector companies in Ghana, focusing on two key indicators: Days Payables Outstanding (DPO) and Accounts Payable Turnover (APT). Using а quantitative research approach and secondary data extracted from published annual reports of selected firms between 2014 and 2022, the study also evaluates the moderating role of the Cash Conversion Cycle (CCC) in the relationship between payables practices and liquidity, measured through the Current Ratio (CR) and Quick Ratio (QR). Descriptive statistics reveal considerable variability in payables and liquidity practices, with some firms exhibiting extremely high DPO and APT values. Correlation analysis indicates a strong positive relationship between APT and both liquidity measures, while DPO shows a weak negative correlation. Regression results affirm that APT

significantly enhances both QR and CR, especially when moderated by a longer CCC, underscoring the importance of proactive and timely payables turnover in liquidity management. In contrast, DPO and CCC alone do not significantly influence liquidity. The findings suggest that merely extending payment periods is insufficient for improving liquidity. Instead, strategically managing APT, particularly under extended working capital cycles, offers more sustainable liquidity benefits. The study recommends that energy firms in Ghana adopt APT as a key performance indicator and align payment schedules with operational cash flows to enhance financial stability and supplier relationships.

**Keywords:** Liquidity, Accounts Payable, Cash Conversion Cycle, Energy Sector Companies, Ghana

# INTRODUCTION

In the dynamic landscape of corporate finance, liquidity is the lifeblood that sustains business operations, enabling institutions to meet short-term obligations, respond to financial disruptions, and support strategic investments. Defined as the availability of cash or near-cash assets to settle immediate liabilities (Priya, 2013), liquidity remains critical to institutional credibility and financial stability (Award & Al-Ewesat, 2012). In capital-intensive sectors such as energy, where infrastructure investment and supply chain continuity are paramount, effective liquidity management ensures operational resilience and safeguards against solvency risks (Mudida & Ngene, 2010; Singh & Shahid, 2016). A core strategy in this domain is the prudent management of accounts payable (AP), which represents short-term obligations to suppliers for goods and services received (Pandey, 2010). Strategic AP management—through

aligning payment schedules with cash flows and negotiating favorable credit terms—not only optimizes cash reserves but also sustains supplier relationships and mitigates liquidity pressure (Grifith, 2012). Empirical studies affirm this relationship: Nelson Nkwasibwe et al. (2023) found a strong positive correlation (r = 0.872, p = 0.000) between AP management and financial performance in Ugandan manufacturing firms, while Kazaara and Julius (2024) reported that efficient creditor management significantly improved liquidity and operational efficiency (R = 0.735;  $R^2 = 0.718$ ). Similarly, Mburu and Warui (2023) emphasized the role of process mapping in enhancing AP systems and boosting financial performance in Kenyan MFIs. Despite some findings of a negative direct effect on profitability (Nyachwaya, 2019), several studies advocate maximizing accounts payable as a low-cost financing source that can enhance cash flow and reduce financing costs (Nyachwaya, 2019; Moodley, Ward & Muller, 2017). In the energy sector, delays in payment cycles, poor vendor relationships, and weak forecasting often exacerbate liquidity challenges. Thus, incorporating tools such as automation, DPO analysis, and supplier evaluation frameworks (Kavale & Mwikali, 2012; Nair et al., 2015) can lead to more predictable cash flows and better financial planning. Evidence from public universities in Kenya (Kithinji et al., 2022) also supports the assertion that effective AP management enhances financial performance, particularly when influenced by operational scale and institutional governance. Therefore, this study seeks to examine how accounts payable management practices impact liquidity in Ghana's energy sector, where efficient cash outflows, supplier confidence, and sustainable financial performance are vital for national development and energy security.

# Accounts Payable Management and Liquidity of the Energy Sector of Ghana

In Ghana's energy sector, liquidity is vital for sustaining operations, managing supplier relationships, and supporting infrastructure investment. Defined as a firm's ability to meet short-term obligations (Priya, 2013), liquidity is essential for financial resilience, particularly in a capital-intensive and volatile industry (Award & Al-Ewesat, 2012; Mudida & Ngene, 2010).

Effective accounts payable (AP) management enhances liquidity by allowing firms to delay cash outflows while maintaining supplier trust (Pandey, 2010; Griffith, 2012). AP, a core element of working capital, can be leveraged as a short-term financing tool to strengthen cash flow.

Empirical studies confirm AP's strategic role. Nyachwaya (2019) found AP negatively affected profitability but improved liquidity in Kenyan agricultural firms. Moodley et al. (2017) reported a positive relationship between payable days and investor returns in South Africa. Similarly, Mburu and Warui (2023) advocate proactive AP strategies—including forecasting and real-time monitoring—for improved liquidity. In Uganda, Kazaara and Julius (2024) found a strong positive correlation between AP management and operational efficiency.

In Ghana's energy sector, aligning payables with cash inflows and optimizing supplier terms is essential. Poor AP practices lead to penalties, supplier distrust, and liquidity bottlenecks (Mathuva, 2010). Nelson Nkwasibwe et al. (2023) and Kithinji et al. (2022) showed that

disciplined AP policies significantly enhance financial performance across firms and public universities. Supplier evaluation, based on reliability and financial health, also improves AP efficiency (Kavale & Mwikali, 2012; Hald & Ellegaard, 2011; Murigi, 2014; Nair et al., 2015). Metrics like Days Payable Outstanding (DPO) and the Cash Conversion Cycle (CCC) are widely used to measure AP performance. Though extended DPOs conserve cash, they must be balanced against supplier relations.

In summary, efficient AP management is key to improving liquidity in Ghana's energy sector. Empirical insights from African contexts support its potential as a strategic lever for financial and operational sustainability.

# **Problem Statement**

Accounts payable (AP) management plays a pivotal role in firms' operational and financial resilience, particularly in capital-intensive industries such as the energy sector. Effective AP practices enhance cash flow stability, reduce financing costs, and strengthen supplier relationships—critical factors sustaining liquidity and long-term viability (Pandey, 2010; Priya, 2013). Liquidity, defined as a firm's ability to meet its short-term obligations using available assets, is especially crucial in the energy sector, where large-scale investments, supply chain complexities, and market volatility are common (Mudida & Ngene, 2010).

In Ghana, the energy sector is a cornerstone of national economic development, but continues to face pressing challenges, including delayed government payments, high operational costs, and unpredictable revenue flows. These constraints place increasing pressure on firms to optimize their working capital management strategies, particularly through efficient accounts payable systems. Poor AP management has been linked to cash flow problems, strained supplier relationships, and missed opportunities for operational investments (Grifith, 2012; Mathuva, 2010).

While numerous empirical studies have examined the relationship between working capital components and financial performance in various industries, much of the existing literature focuses on manufacturing, retail, or educational institutions (Kithinji et al., 2022; Nyachwaya, 2019). There remains a significant research gap in understanding how accounts payable practices specifically affect liquidity within Ghana's energy sector—a context characterized by high capital intensity and structural inefficiencies. Studies such as those by Mburu & Warui (2023) and Nelson Nkwasibwe et al. (2023) affirm that proactive AP management can significantly improve financial performance and liquidity, yet their findings are largely based on non-energy sectors or firms outside Ghana.

This study seeks to fill this empirical and contextual gap by investigating the extent to which accounts payable management influences liquidity in energy sector companies in Ghana. By focusing on performance indicators such as Days Payable Outstanding (DPO), Cash Conversion Cycle (CCC), and current ratios, the research aims to provide data-driven insights into the financial and operational implications of AP practices. The study adopts a quantitative

approach to assess how firms in this critical sector can enhance liquidity through strategic and vendor-sensitive accounts payable management.

Given Ghana's aspirations for energy sector reform and financial sustainability, understanding the nexus between AP management and liquidity is both timely and necessary. The results of this study will not only extend the academic discourse on working capital management but also inform policy, investment decisions, and financial planning within Ghana's evolving energy landscape.

# **Objectives of the Study**

- 1. To examine the impact of Days Payable Outstanding (DPO) on the liquidity of energy sector companies in Ghana.
- 2. To analyze the effect of Accounts Payable Turnover (APT) on the liquidity of energy sector companies in Ghana.
- 3. To assess the moderating role of the Cash Conversion Cycle (CCC) in the relationship between accounts payable management and the liquidity of energy sector companies in Ghana.

# **Motivation for the Study**

This study is motivated by three interrelated gaps rooted in empirical literature and the unique financial dynamics of Ghana's energy sector.

First, despite the central role of accounts payable (AP) in working capital management (WCM), there is a notable lack of empirical research focused on its impact within Ghana's energy sector. Existing studies tend to emphasize manufacturing, retail, or education, often overlooking capital-intensive industries like energy (Kithinji et al., 2022; Nyachwaya, 2019). This research addresses that gap by focusing on a sector critical to national development but underrepresented in WCM studies.

Second, the literature presents mixed findings on the relationship between AP and financial performance. While some studies highlight positive effects on liquidity and profitability through internal financing (Afeef, 2011; Kaddumi & Ramadan, 2012), others point to negative outcomes related to strained supplier relations and credit risk (Abuzayed, 2012; Usama, 2012). These inconsistencies suggest a need for contextual analysis—particularly in sectors with high operating costs and delayed revenues, such as Ghana's energy industry.

Third, although there is increasing attention on financial reform in Ghana's energy sector, limited focus has been placed on internal financial strategies like AP management. Prior research from other African countries shows that effective AP metrics, such as Days Payable Outstanding (DPO) and the Cash Conversion Cycle (CCC), can strengthen liquidity (Mburu & Warui, 2023; Nkwasibwe et al., 2023). This study explores the applicability of such practices in Ghana's energy firms.

# LITERATURE REVIEW

# Theoretical Framework Introduction

Theoretical frameworks guide financial decision-making and illuminate how firms manage liquidity, especially through short-term financing tools like accounts payable. Trade Credit Theory offers a valuable lens for analyzing liquidity strategies in capital-intensive, liquidity-sensitive industries such as Ghana's energy sector, where deferred payments are vital for operational continuity under funding constraints.

## **Trade Credit Theory**

Rooted in classical finance literature (Nadiri, 1969; Wilner, 2000), Trade Credit Theory conceptualizes trade credit as a tool for deferring cash outflows and enhancing sales. It has evolved into a strategic mechanism intersecting finance, operations, and marketing (Wu et al., 2019; Jing et al., 2012). Defined as credit extended by suppliers for goods or services, trade credit enables firms to manage liquidity by delaying payments and conserving cash (Hill et al., 2012).

Trade credit has dual implications: it enhances liquidity and profitability through payment deferral, but may also increase dependence on suppliers, reducing firm value (Wu et al., 2019). Thus, its use must balance financial benefits against relational costs.

Ghana's energy sector faces chronic liquidity challenges due to capital intensity and delayed receivables, particularly from public entities. Limited access to formal credit compels firms to rely on supplier credit, which helps bridge funding gaps but risks straining supplier relations if overused.

Trade Credit Theory complements Working Capital Management Theory, which emphasizes managing payables, receivables, inventories, and cash cohesively. In energy sectors, mismatches between long receivables cycles and short payment timelines can exacerbate liquidity stress, making trade credit a key component of broader liquidity management strategies.

Trade Credit Theory provides a robust basis for understanding how firms in Ghana's energy sector use accounts payable to address liquidity challenges. When integrated with working capital management principles, it highlights the strategic trade-offs between financial flexibility and supplier relationship health, aligning with the broader goal of sustaining operational and financial viability.

# **Empirical Studies**

## The Concept of Liquidity and its Strategic Importance

Liquidity, much like the lifeblood that sustains the human body, is essential for the survival and smooth functioning of a business. It is not merely about having cash on hand but ensuring the continuous, unhindered flow of cash through the economic arteries of the system. This systemic flow involves central banks, commercial banks, and markets (Williamson, 2008). From an accounting lens, liquidity refers to how swiftly assets can be converted into cash (Priya & Nimalathasan, 2014), and from a business standpoint, it represents a firm's capacity to meet its short-term obligations (Bhunia, 2010; Farlex Financial Dictionary, 2012).

The importance of liquidity is amplified in industries like energy, where high operational costs and long receivables cycles can tie up significant capital. Ware (2015) stresses that without adequate liquidity, even profitable firms may collapse. Thus, firms must carefully manage their working capital to maintain sufficient liquidity without letting idle resources gather dust. Liquidity is typically measured using ratios such as the current ratio, quick ratio, and cash ratio (Brealey, 2012). The current ratio provides a general measure, while the quick ratio excludes inventories for a more conservative estimate. The cash ratio, the most stringent of the three, reflects the firm's ability to pay off current liabilities using only the most liquid assets like cash and marketable securities (Ngwili, 2013). In essence, these ratios are like medical diagnostics—each revealing a different layer of the firm's financial health.

## Accounts Payable Management and Liquidity: Empirical Insights

Accounts payable, the credit extended by suppliers, is often considered a cost-free source of short-term financing. When managed wisely, it can act as a financial lever—freeing up cash to fund operations, support liquidity, and enhance financial performance.

Several empirical studies affirm this strategic potential. For example, Moodley et al. (2017), in a South African study, likened efficient accounts payable management to optimizing an investment portfolio: they found that longer payable days were significantly associated with increased investor returns, particularly in capital-intensive industries. This underscores that delaying payments (within ethical and contractual limits) can improve cash flow and liquidity, thereby boosting financial health.

In Kenya, Kithinji et al. (2022) examined public universities and found that accounts payable significantly influenced financial performance ( $R^2 = 0.536$ ), moderated by student enrollment. Their results suggest that even in non-profit-driven sectors, efficient management of payables is key to financial stability. Similarly, Mburu and Warui (2023) confirmed this relationship among microfinance institutions, highlighting the need for process improvements to eliminate inefficiencies in payable systems.

A parallel study by Nelson Nkwasibwe et al. (2023) on a manufacturing firm in Uganda found a strong positive relationship (r = 0.872) between accounts payable management and financial performance. Even though the firm's profits were declining, effective payable practices remained a buffer supporting liquidity. This is akin to having a strong immune system—it may not prevent all illnesses (profit losses), but it enhances survival and recovery chances.

In Uganda again, Kazaara and Julius (2024) studied creditors' management at Ntake Manufacturing and established a strong correlation (R = 0.735;  $R^2 = 0.718$ ) between accounts payable practices and both liquidity and operational efficiency. The analogy here is that of a supply chain as a river: when creditors are managed well, the flow remains smooth and uninterrupted, enhancing both liquidity and performance.

Interestingly, Nyachwaya (2019) observed a negative relationship between accounts payable and profitability in a Kenyan agricultural firm, yet still recommended maximizing payables to take advantage of their cost-effective financing potential. This reflects the nuanced nature of accounts payable—as a double-edged sword that must be carefully wielded.

# Synthesis and Implications for Ghana's Energy Sector

These empirical findings collectively suggest that accounts payable management is not just a passive accounting function—it is a strategic tool that, when effectively deployed, can enhance liquidity. For Ghana's energy sector, which faces capital constraints, irregular government disbursements, and long revenue cycles, optimizing payables could act as a pressure valve, easing liquidity strain without increasing debt.

However, as Panigrahi (2013) warns, mismanagement can tie up funds in idle assets, thus undermining liquidity. Hence, the challenge lies in striking the right balance—delaying payments just enough to maintain liquidity while preserving supplier relationships and operational efficiency.

## **Conceptual Framework**

This framework explores the relationship between accounts payable management (independent variable), liquidity (dependent variable), and the cash conversion cycle (CCC) as a moderating variable, focusing on energy companies in Ghana.

## Liquidity (Dependent Variable)

- Quick Ratio (QR): The Capacity to meet obligations without relying on inventory.
- Current Ratio (CR): Comparison of current assets to current liabilities.

## **Independent Variable**

Accounts Payable Management: The independent variables (Days Payable Outstanding (DPO) and Accounts Payable Turnover (APT) are expected to have a positive or negative effect on liquidity, depending on how efficiently they are managed.

# **Moderating Variable**

The Cash Conversion Cycle (CCC): The CCC influences the strength and direction of the relationship between accounts payable practices and liquidity. A shorter CCC may enhance the positive impact of DPO or APT on liquidity, while a longer CCC may weaken it.

The CCC helps contextualize how payment deferrals (DPO) interact with other working capital components. Even with effective accounts payable management, if the CCC is long (due to slow inventory turnover or delayed collections), liquidity may still be constrained.



# **RESEARCH METHODOLOGY**

## **Research Design**

This study adopts a multivariate regression framework to examine the relationship between accounts payable management, and liquidity (LQ), measured by Quick Ratio (QR) and Current Ratio (CR), in the energy sector companies in Ghana. The analysis incorporates the Cash Conversion Cycle (CCC) as a moderating variable that can influence the relationship between accounts payable management and liquidity.

Data Collection

The study utilizes secondary data collected from the financial statements of four energy sector companies in Ghana, covering nine years from 2014 to 2022.

## **Analytical Procedures**

#### **Descriptive Statistics**

The initial analysis involves calculating descriptive statistics for all key variables and providing an overview of the data characteristics, including means, medians, standard deviations, and ranges. This step aids in understanding the distribution and central tendencies of the variables.

## **Correlation Matrix**

A correlation matrix is generated to examine relationships between the key variables, identifying potential multicollinearity issues and assessing the strength and direction of relationships among LQ, CR, QR, and CCC.

#### **Regression Model Specification**

To empirically examine the relationship between accounts payable management and liquidity in the energy sector, the following moderated multiple regression models were estimated. Two dependent variables—Quick Ratio (QR) and Current Ratio (CR)—were employed to capture different dimensions of liquidity. The models incorporate Days Payables Outstanding (DPO) and Accounts Payable Turnover (APT) as independent variables, and the Cash Conversion Cycle (CCC) as a moderating variable.

#### **Model Structure**

To empirically assess these relationships, the following moderated multiple regression models are estimated:

Model 1: Quick Ratio (QR)  $QRi=\beta0+\beta1\cdot DPOi+\beta2\cdot APTi+\beta3\cdot CCCi+\beta4\cdot (DPOi\times CCCi)+\beta5\cdot (APTi\times CCCi)+\epsilon i$ Model 2: Current Ratio (CR)  $CRi=\beta0+\beta1\cdot DPOi+\beta2\cdot APTi+\beta3\cdot CCCi+\beta4\cdot (DPOi\times CCCi)+\beta5\cdot (APTi\times CCCi)+\epsilon i$ 

Where:

- QRi = Quick Ratio of firm i
- CRi = Current Ratio of firm i
- DPOi = Days Payables Outstanding for firm *i*
- APTi= Accounts Payable Turnover for firm i
- CCC= Cash Conversion Cycle for firm *i*
- DPOi× CCCi, APTi×CCCi = Interaction terms for moderation
- $\epsilon i = Error term$

## Variable Definitions

- **QR** = Quick Ratio (liquidity indicator excluding inventory)
- **CR** = Current Ratio (overall liquidity indicator)
- **DPO** = Days Payables Outstanding (average time taken to pay suppliers)
- **APT** = Accounts Payable Turnover (frequency of settling accounts payable)
- **CCC** = Cash Conversion Cycle (time lag between outflows and inflows)

• **DPO** × **CCC** and **APT** × **CCC** = Interaction terms representing the moderating role of CCC

•  $\epsilon_i = \text{Error term}$ 

 Table Error! No text of specified style in document..1 Variable Operationalization

Variable	Description	Measurement					
Independent Variables							
Quick Ratio (QR)	Indicator of a firm's ability to meet short-term obligations without relying on inventory.	(Current Assets – Inventory) Current Liabilities					
Current Ratio (CR)	General measure of liquidity, including all current assets.	<u>Current Assets</u> Current Liabilities					
Dependent Variables							
Days Payables Outstanding (DPO)	s Average number of days a firm takes to pay its suppliers.	Accounts Payable *365 Cost of Goods Sold					
Accounts Payable Turnover (APT)	<u>Cost of Goods Sold</u> Accounts Payable						
Moderating Variable							
Cash Conversion Cycle (CCC)	Time duration between cash outlay for inputs and cash recovery from sales.	DSO + DIO – DPO					

*Note: DSO* = *Days Sales Outstanding; DIO* = *Days Inventory Outstanding;* 

Source: Authors Construct (2025)

**Analysis and Discussions** 

## **Descriptive Statistics**

Table 4.1 presents the descriptive statistics for the key variables used in the analysis, including Days Payable Outstanding (DPO), Accounts Payable Turnover (APT), Current Ratio (CR), Quick Ratio (QR), and Cash Conversion Cycle (CCC). The table provides insights into the distribution, central tendency, and variability of these variables across the 36 observations, helping to establish a foundational understanding of the data.

Variable	Count	Mean	Std Dev	Min	25%	Median	75%	Max
DPO	36	168.64	247.18	10.95	51.73	74.28	142.72	999.21
APT	36	5.74	5.56	0.36	2.57	4.92	7.08	33.34
CR	36	2.69	6.22	0.59	0.82	1.05	1.46	37.31
QR	36	2.52	5.87	0.55	0.68	0.91	1.40	34.95
CCC	36	66.52	189.48	-393.01	-25.17	-11.58	156.38	452.99

Table 4. 1 Descriptive Statistics

Source: Generated by the researchers using data collected from financial statements of the selected Energy Sector Companies (2025)

The descriptive statistics reveal notable variation in the liquidity management practices of energy sector firms in Ghana. The average Days Payables Outstanding (DPO) is 168.64 days with a standard deviation of 247.18, and a maximum of 999.21 days. This extreme dispersion reflects inconsistent accounts payable policies. While some companies delay payments substantially to conserve cash or negotiate favorable terms, others pay suppliers more promptly. Such variations often result from differing levels of bargaining power, internal policy frameworks, or access to credit facilities (Gitman & Zutter, 2012). Notably, Nyachwaya (2019) argued that while higher DPO may negatively affect profitability, it can also serve as a cheap financing source when managed strategically.

The Accounts Payable Turnover (APT) has a mean of 5.74, indicating that firms, on average, settle their payables nearly six times annually. However, the wide range—from 0.36 to 33.34— signals that some firms pay almost monthly while others only once or twice a year. This disparity may result from variations in cash management discipline, supplier trust, and operational efficiencies (Deloof, 2003). Similarly, Mburu and Warui (2023) emphasized the value of proactive accounts payable management in driving financial performance through better process controls and minimized inefficiencies.

In terms of liquidity, both the Current Ratio (CR) and Quick Ratio (QR) exhibit relatively high mean values (2.69 and 2.52 respectively), but their skewed distributions (maximums exceeding 34) indicate extreme liquidity in some firms. This could reflect conservative cash policies or excess idle current assets, which may either serve as a liquidity buffer or indicate inefficiency (Padachi, 2006). The wide spread in liquidity metrics underscores the diverse cash management strategies across firms in the sector.

The Cash Conversion Cycle (CCC) also demonstrates wide variability—ranging from -393.01 to 452.99 days (mean = 66.52). Negative values imply that some firms collect revenues before settling payables, a strong liquidity position, while long positive cycles may indicate sluggish inventory or receivables turnover (Lazaridis & Tryfonidis, 2006). According to Kazaara and

Julius (2024), efficient creditor management plays a critical role in enhancing financial performance through timely cash flow conversion.

# **Correlation Matrix**

Table 4.2 displays the correlation coefficients among the study variables, offering a preliminary view of the linear relationships between them. This matrix helps assess the strength and direction of the associations, which is crucial for understanding potential multicollinearity and guiding the regression analysis.

Table 4. 2 Correlation Matrix							
	DPO	APT	CR	QR	CCC		
DPO	1.00						
APT	-0.45	1.00					
CR	-0.13	0.83	1.00				
QR	-0.13	0.83	1.00	1.00			
CCC	0.09	0.10	0.47	0.49	1.00		

Source: Generated by researchers (2025)

The correlation matrix reveals significant associations between payables practices and liquidity. APT demonstrates a strong positive correlation with both CR and QR (r = 0.83 each), suggesting that firms that settle payables more frequently maintain higher liquidity. This aligns with the findings of Mathuva (2010), who posited that efficient settlement of obligations enhances operational continuity and supplier goodwill. It also corroborates Nelson Nkwasibwe et al. (2023), who reported a strong positive correlation between payables management and financial performance (r = 0.872), recommending efficient payable practices to sustain liquidity and profitability.

Conversely, DPO shows a weak negative correlation with CR and QR (r = -0.13), implying that extended payment periods may slightly undermine liquidity. Though traditional financial logic suggests that delaying payments improves liquidity by preserving cash (Lyroudi & Lazaridis, 2000), excessive deferrals could strain supplier relationships and lead to operational disruptions, negating liquidity advantages. This nuanced relationship is echoed by Moodley, Ward, and Muller (2017), who found that industries with large investments in payables benefited only when delays were strategically managed to enhance investor returns.

The CCC displays moderate positive correlations with CR (r = 0.47) and QR (r = 0.49), suggesting that longer cash cycles may be associated with stronger liquidity—possibly due to deliberate working capital policies. However, firm-specific strategies, such as inventory buffering or sales cycles, likely mediate this relationship (Afza & Nazir, 2009).

## **Regression Results for Quick Ratio (QR)**

Table 4.3 summarizes the regression results examining the effect of Days Payable Outstanding (DPO), Accounts Payable Turnover (APT), and the Cash Conversion Cycle (CCC), including their interaction terms, on the Quick Ratio (QR). The results highlight the significance and direction of influence of the explanatory variables on liquidity as measured by QR.

Variable	Coefficient	Std. Error	t-Statistic	p-Value	95% Conf. Interval
Intercept	-0.9612	0.9235	-1.041	0.3062	[-2.8471, 0.9247]
DPO	0.0025	0.0019	1.262	0.2167	[-0.0015, 0.0064]
APT	0.3839	0.1230	3.122	0.0040	[0.1327, 0.6350]
CCC	0.0014	0.0038	0.378	0.7081	[-0.0063, 0.0092]
$DPO \times CCC$	-0.0000	0.0000	-0.076	0.9399	[-0.0000, 0.0000]
$APT \times CCC$	0.0016	0.0004	4.640	0.0001	[0.0009, 0.0024]

Table 4.3 Regression Results for Quick Ratio (QR)

Source: Generated by researchers (2025)

Regression analysis for QR affirms that efficient payables practices significantly influence short-term liquidity. APT shows a positive and statistically significant relationship with QR ( $\beta = 0.3839$ , p = 0.004), indicating that firms that frequently settle obligations are better positioned to meet immediate liabilities. This finding supports earlier research by Raheman and Nasr (2007), which emphasized the role of sound working capital policies in strengthening liquidity. More importantly, the interaction term between APT and CCC is also positive and highly significant ( $\beta = 0.0016$ , p = 0.0001). This implies that the positive impact of frequent payables turnover on liquidity is magnified when firms operate under longer cash conversion cycles. In other words, efficient APT practices become more beneficial when firms need to manage prolonged periods between expenditure and revenue realization—a concept supported by Gill, Biger, and Mathur (2010).

In contrast, DPO and its interaction with CCC are not statistically significant, reinforcing the conclusion that simply delaying payables does not necessarily enhance liquidity. Likewise, CCC itself is not a significant direct predictor of QR (p = 0.7081), suggesting its influence is conditional rather than absolute (Jose, Lancaster & Stevens, 1996). These insights are in line with the conclusions drawn by Mburu and Warui (2023), who emphasized the need for proactive, rather than passive, payables management.

## **Regression Results for Current Ratio (CR)**

Table 4.4 presents the regression estimates for the impact of DPO, APT, CCC, and their interaction terms on the Current Ratio (CR). This analysis provides further insight into how these working capital components relate to short-term financial stability, as reflected by CR.

Variable	Coefficient	Std. Error	t-Statistic	p-Value	95% Conf. Interval
Intercept	-0.8778	0.9347	-0.939	0.3552	[-2.7867, 1.0312]
DPO	0.0023	0.0020	1.156	0.2567	[-0.0017, 0.0063]
APT	0.3947	0.1245	3.171	0.0035	[0.1405, 0.6489]
CCC	0.0002	0.0039	0.063	0.9501	[-0.0076, 0.0081]
$DPO\timesCCC$	0.0000	0.0000	0.141	0.8886	[-0.0000, 0.0000]
$APT \times CCC$	0.0018	0.0004	5.065	0.0000	[0.0011, 0.0025]

 Table4. 4 Regression Results for Current Ratio (CR)

Source: Generated by researchers (2025)

The regression model for CR yields similar results. APT remains a significant and positive predictor ( $\beta = 0.3947$ , p = 0.0035), indicating that effective accounts payable turnover not only boosts short-term liquidity but also strengthens the broader liquidity profile. This supports findings by Boisjoly, Conine, and McDonald (2020), who observed that strong working capital efficiency—including timely settlement of obligations—is closely tied to enhanced financial health.

Moreover, the interaction between APT and CCC is again significant and positive ( $\beta = 0.0018$ , p < 0.0001), reaffirming that the benefits of APT intensify when firms operate within longer working capital cycles. This highlights the importance of aligning payment schedules with cash inflow timing to avoid mismatches that could erode liquidity (Mawutor & Borketey, 2021). Meanwhile, DPO and its interaction with CCC are statistically insignificant (p > 0.25), indicating that merely extending payment periods does not meaningfully improve liquidity performance. CCC alone also remains non-significant (p = 0.9501), reinforcing its moderating, rather than direct, influence.

## **Conclusion and Implications for the Energy Sector in Ghana**

This study provides compelling evidence that accounts payable turnover (APT) is a critical driver of liquidity among energy sector firms in Ghana. Firms that consistently settle their payables in a timely manner are better able to meet both immediate (QR) and overall (CR) liquidity demands, especially when their cash conversion cycles are extended. These findings are supported by prior research including Deloof (2003), Nelson Nkwasibwe et al. (2023), and Mburu and Warui (2023), all of which highlight the value of disciplined accounts payable practices in enhancing financial performance and stability.

Conversely, high DPO does not significantly impact liquidity outcomes, challenging traditional views that payment deferrals automatically improve cash flow. As shown by studies like Kithinji et al. (2022) and Nyachwaya (2019), the benefits of delayed payments may only materialize when managed within a structured financial strategy, rather than as an ad hoc liquidity tactic.

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From a policy and managerial perspective, several implications emerge:

- Firms should prioritize optimizing APT through efficient processing and regular reviews of payment cycles.
- Payment schedules should be aligned with operational cash flows to prevent liquidity mismatches.
- APT should be adopted as a key performance indicator (KPI) for assessing working capital efficiency and financial resilience.

In conclusion, energy firms in Ghana can strengthen their financial sustainability by shifting from passive payment delays to proactive and strategically timed accounts payable management. This approach not only enhances liquidity but also builds supplier trust and operational resilience.

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