**Can Working Capital Management Transform Non-Financial Listed Companies? A Performance-Based Analysis from Ghana**

**Abstract:** This study examines the impact of working capital management (WCM) on corporate performance among non-financial firms listed on the Ghana Stock Exchange (GSE) from 2013 to 2022. Using a purposive sampling technique, 10 firms with complete financial data were selected. The study utilizes secondary data from audited financial statements, concentrating on Net Operating Profit (NOP) as the dependent variable. Key components of Working Capital Management (WCM), such as Accounts Receivable Days (ARD), Inventory Turnover Days (ITD), Accounts Payable Days (APD), and the Cash Conversion Cycle (CCC), were examined as independent variables. Panel regression analysis indicates a significant negative correlation between CCC and profitability, underscoring the necessity of reducing working capital cycles to improve financial performance. ARD shows a negative correlation with profitability, whereas APD reveals a positive correlation with profitability, highlighting the strategic advantages of prolonged payment terms. ITD, however, shows an insignificant relationship with profitability, suggesting industry-specific variations. Descriptive statistics reveal significant variability among firms, indicating diverse cash flow efficiencies. The findings underscore the significant impact of efficient working capital management practices on profitability enhancement. This study presents empirical results from Ghana and offers managers and legislators in developing nations practical insights, strengthening existing literature.

**Keywords:** Working Capital Management**,** Corporate Profitability**,** Cash Conversion Cycle**,** Inventory Turnover Days**,** Ghanaian Firms

1. **INTRODUCTION**

A vital component of financial management, working capital management seeks to balance profitability and liquidity, thereby preserving the continuity of company operations. Improving cash flow and operational efficiency depends on short-term asset and liability management, which includes cash, receivables, payables, inventory, and debt (Wichitsathian, 2019). Effective working capital management helps companies meet their financial obligations and carefully allocate the surplus capital to current assets, minimizing their impact. Working capital management is crucial in developing countries like Ghana because of restricted access to funding, economic uncertainty, and supply chain inefficiencies (García-Teruel & Martínez-Solano, 2023). Excellent working capital management helps companies to improve financial stability, lower dependence on outside funding, and raise profitability. Previous research (Deloof, 2021; Lazaridis & Tryfonidis, 2022) has underlined the influence of working capital management on company performance; however, the degree of this relationship in Ghana remains little investigated. Numerous firms in Ghana encounter difficulties associated with ineffective working capital management, leading to cash flow difficulties and decreased profitability (Owusu & Kyeremateng, 2020). Extended receivables collection periods can delay cash inflows, while excessive inventory retention increases costs. On the other hand, Ahmed and Nasiru (2024) underlined that companies that successfully manage receivables, inventory, and payables usually enhance their cash conversion cycles (CCC), showing higher financial performance.

Little empirical data on the relationship between corporate profitability and working capital management is available in Ghana. Few studies have examined businesses' difficulties in Ghana's economic environment; most current knowledge focuses on developed countries. Focusing primarily on Accounts Receivable Days (ARD), Inventory Turnover Days (ITD), Accounts Payable Days (APD), and the Cash Conversion Cycle (CCC), this paper aims to close the gap by analyzing the impact of several components of working capital management on the profitability of companies within Ghana's non-financial sector.

1. **THEORETICAL FRAMEWORK**

This study, employing several theoretical models, clarifies the association between corporate performance and working capital management. To reach their best financial potential, businesses must balance liquidity and profitability (Eljelly, 2004). The Trade-off Theory provides a valuable framework for this aim. The results of this investigation confirm the theory, particularly regarding the negative link between profitability and the Cash Conversion Cycle (CCC). Shorter CCC firms are more suited to increasing earnings while keeping enough liquidity. According to the Resource-Based View (RBV), effective management of internal resources, such as working capital, helps companies to develop a competitive advantage (Barney, 1991). Studies show the strategic importance of lowering Accounts Receivable Days (AR) and raising Accounts Payable Days (APD) to boost profitability, thus stressing the possibilities of efficient Working Capital Management (WCM) systems to increase operational effectiveness. According to the Pecking Order Theory, internal financing minimizes financial costs and risks more than external financing (Myers & Majluf, 1984). Efficient working capital management helps companies to depend less on external funding. Their study shows that simplified accounts receivable and payable systems improve financial flexibility.

1. **RELATED STUDIES**

A major focus of corporate finance is working capital management (WCM), which dramatically affects a company's liquidity, profitability, and general performance. Global scholars have looked at many facets of WCM, highlighting the advantages of efficient systems and the problems resulting from inefficiencies.

Deloof (2021) examined Belgian businesses, showing a negative relationship between the length of outstanding accounts payable, inventory, and gross operating income. Companies with faster inventory turnover cycles and receivable collection often show better profitability. Examining Pakistani companies, Raheman and Nasr (2023) discovered that corporate profitability suffers from a negative cash conversion cycle (CNC). This emphasizes how urgently we must reduce the time required to turn working capital into income. In their investigation of Athens Stock Exchange companies, Lazaridis and Tryfonidis (2022) found an inverse association between profitability and the CCC. This result emphasizes the need to run effective WCM operations. Emphasizing small manufacturing businesses in Mauritius, Padachi (2022) underlined that resource allocation is important in this situation since significant investment in receivables and inventories results in decreased profitability.

Extending their research to the United States of America, Gill et al. (2019) found a favorable correlation between the CCC and profitability. Unlike earlier studies, some companies could gain from extended cash conversion cycles because of good supplier terms or proactive inventory control methods. In poor countries, WCM is especially important. In their research of Nigerian companies, Kolapo *et al.* (2015) showed that good working capital management increases profitability. Mathuva (2019) examined Kenyan businesses and found a negative relationship between profitability and cash conversion cycle (CCC). This study emphasizes the need to properly control inventory, payables, and receivables in line with general worldwide trends.

Ganesan (2023) identified a negative correlation between working capital and profitability in his analysis of the telecommunications equipment industry; nonetheless, this relationship is statistically insignificant. The effectiveness of WCM strategies depends on factors specific to the sector. Enow and Brijlal (2014) found similar results in their study of small and medium-sized firms (SMEs) in South Africa, highlighting that efficient WCM positively impacts profitability regardless of organization size. Afza and Nazir (2023) examined the relationship between aggressive and conservative working capital management strategies. The authors contend that conservative policies emphasizing liquidity over profitability are more inclined to advantage businesses. Appuhami (2008) identified that capital expenditure significantly influences working capital management, as companies experience increased liquidity challenges during times of substantial investment.

Emphasizing the need to lower working capital cycles, Dong *et al.* (2019) showed how cash conversion cycle (CCC) negatively influences profitability in Vietnamese companies. Falope and Ajilore (2009) found a negative correlation between Nigerian businesses' cash conversion cycle, average payment periods, and net operating profitability. These results were confirmed by Bhunia *et al.* (2012), who showed that good working capital management increases profitability in many sectors. By adding other elements, including industry-specific features, managerial compensation, and organizational practices, Moussowicz *et al.* (2022) drew on earlier studies to show their significant impact on the efficiency of working capital management. These studies underline the need to lower the CCC to increase profitability and acknowledge the moderating effect of several internal and external elements in different economic environments.

According to Uremadu *et al.* (2012), the debtor collecting period, the inventory conversion period, and profitability in Nigerian companies showed a favorable relationship. Shorter cash conversion cycles usually help increase liquidity, while longer durations could help build closer ties with suppliers and customers. Malik and Bukhari (2014) underlined the complexity of these interactions, stressing that although a more extended collecting period may improve strategic relationships, it could harm supplier ties and firm reputation.

The research by Sen and Oruc (2009) on Turkish enterprises shows that shorter cash conversion cycles (CCCs) are usually associated with higher profitability. The study found a notable inverse relationship between CCC and return on total assets. Researching Indian cement companies, Ghosh and Maji (2021) found that WCM's efficacy changed dramatically with time. This result emphasizes the challenges companies have in keeping consistent processes. Furthermore, the changing nature of working capital management is underlined by Raheman *et al.* (2019) and Owusu and Kyeremateng (2020). Working capital management methods and their effect on profitability are greatly shaped by macroeconomic variables, including inflation, interest rates, and currency variations.

1. **METHODOLOGY**

**Research Design**

Using a quantitative approach, this study concentrates on numerical data and statistical methods to examine how working capital management (WCM) affects business performance. Quantitative design makes objective measurement of financial performance indicators and their association with WCM components possible. This method gives quantitative data priority to guarantee accuracy and dependability in assessing essential indicators, including Inventory Turnover Days (ITD), Accounts Receivable Days (ARD), Accounts Payable Days (APD), and the Cash Conversion Cycle (CCC). Using statistical approaches, especially correlation and regression analyses, this study investigates the relationships between WCM elements and corporate profitability, as expressed by Net Operating Profit (NOP), thus providing important evidence to assess the research hypotheses and accomplish the study objectives.

**Population and Sample**

The study's population consisted of all non-financial companies registered on the GSE. Non-financial companies were chosen because their working capital structures differed from those of financial companies, which mostly rely on quantitative indicators such as capital adequacy ratios and liquidity reserves. There were 39 companies listed on the Ghana Stock Exchange (GSE) Main Market as of December 2024. 14 companies were in this group, all classified as financial institutions, banks, and insurance firms. The GSE notes 25 businesses not involved in the finance industry, excluding them from the study. 10 companies from this demographic were chosen using a purposive sampling technique to guarantee the availability of thorough financial data covering 2013 to 2022. The chosen companies represent several industries, providing a strong basis for examining how working capital management affects company performance. Benso Oil Palm Plantation (BOPP), Clydestone Ghana Limited (CLYD), Camelot Ghana Limited (CAMELOT), Fan Milk Limited (FML), Guinness Ghana Breweries Limited (GGBL), Ghana Oil Company Limited (GOIL), Produce Buying Company Limited (PBC), Total Energies Marketing Ghana Plc (TOTAL), Tullow Oil Plc (TULLOW), Unilever Ghana Limited. This choice guarantees that the study covers the non-financial sector listed on the GSE. Non-financial companies are perfect industries for examining the complexity of working capital management since they handle extensive inventories and receivables. Companies with complete financial records from 2013 to 2022 were chosen for the study using a purposive sampling approach. The sample size of this study was sufficient to allow valid generalizations about every non-financial company mentioned in Ghana.

**Data Collection**

The primary data source for this research was the yearly financial reports of the selected companies. The Ghana Stock Exchange database and the listed companies' official websites helped one access these reports. Reliable and consistent financial information is available at a reasonable cost via the secondary data technique. Examining the financial statements helped one to find important factors such as ITD, ARD, APD, CCC, NOP, Current Ratio (CR), and Sales. These factors were chosen depending on their relevance to WCM (Deloof, 2021; Lazaridis & Tryfonidis, 2022) and their proven use in past studies. Audited financial data, under careful review by independent auditors, guarantees the validity and accuracy of the results.

**Operationalization of Variables**

Ensuring that the study's variables were precisely measured and examined became crucial. All study variables have been carefully defined and operationalized to guarantee correct measurement and analysis. The dependent variable for evaluating profitability and a leading indicator of a company's financial performance is net operating profit (NOP). An independent variable that evaluates inventory management techniques is inventory turnover days (ITD). While Accounts Payable Days (APD) show the period in which companies are expected to satisfy their financial commitments to suppliers, Accounts Receivable Days (ARD) show the average length of time that organizations need to wait to collect consumer payments. Working Capital Management (WCM) is evaluated generally in the Cash Conversion Cycle (CCC). Integration of control variables, company size, debt, and growth, has helped to comprehensively analyze WCM's impact by addressing any external factors influencing profitability.

**Table 1: Definition and Measurement of Study Variables**

|  |  |  |
| --- | --- | --- |
| **Variable** | **Definition** | **Measurement** |
| ***Dependent variable*** |  |  |
| NOP | Net Operating Profit | Net Profit / Total Assets |
| ***Independent*** variables |  |  |
| ITD | Inventory Turnover Period | Inventory / Cost of Sales \* 365 |
| ARD | Accounts Receivable Days | Account Receivable /Sales \* 365 |
| APD | Accounts Payable Days | Account Payable/Cost of Sales \*365 |
| CCC | Cash Conversion Cycle | ITD + ARD – APD |
| ***Control Variables*** |  |  |
| CAT | Sales to current assets | Sales/currents assets |
| LOS | Firm size | Logarithm of sales |
| CR | Current Ratio | Current Assets / Current Liabilities |

**Statistical Techniques**

According to studies by Nazir & Afza (2009), Zariyawati et al. (2008), Samilowicz & Demirgunes (2008), and Garcia-Teruel & Martinez-Solano (2007), four fundamental elements of working capital management, along with other unique traits, influence the company's profitability. The effect of working capital management on corporate profitability was forecasted using the following OLS regression models.

NOP = f (ARD, APD, ITP, CCC, CAT, LOS, CR).

Model 1: NOPit = β0 + β1ARDit + β2CATit+ β3LOSit + β4CR + εit

Model 2: NOPit = β0 + β1ITPit + β2CATit+ β3LOSit + β4CR + εit

Model 3: NOPit = β0 + β1APDit + β2CATit+ β3LOSit + β4CR + εit

Model 4: NOPit = β0 + β1CCCit + β2CATit+ β3LOSit + β4CR + εit

Where:

NOP = Net Operating Profit

ARD = Accounts Receivable Days

ITP = Inventory Turnover Period

APD = Accounts Payable Days

CCC = Cash Conversion cycle

CAT = Sales/Current Assets

LOS = Logarithm of sales

CR = Current Ratio

CR = Current Ratio

ε = error term

β0, β1, β2, β3 and β4 =Regression model coefficients

**Hypotheses Testing**

Four hypotheses were examined to guide the research.

H1: Accounts receivable days is negatively associated with firm profitability.

H2: The inventory turnover period is negatively associated with firm profitability.

H3: Accounts payable days is positively associated with firm profitability.

H4: Cash conversion cycle is negatively associated with firm profitability

**Data Analysis Techniques**

Statistical methods were utilized to examine the data and assess the research hypothesis. Descriptive statistics were computed to encapsulate the data and offer insights into key variables' central tendencies, variability, and distribution patterns. A correlation analysis explored the relationships between WCM components and profitability. Pearson correlation analysis was used to determine whether there was a relationship between the variables. Five models were developed to test the hypotheses stated. Three main estimators were used: Pearson correlation, Random effect, and panel regression analysis. The panel regression analysis was employed as the key estimator in the secondary data analysis. Applying the OLS and correlation analysis ensured consistency with prior studies and made the findings comparable.

**Statistical Tools and Software**

Statistical software was employed to ensure precise and efficient data analysis. Descriptive statistics were prepared, and preliminary data was cleaned using Microsoft Excel. Advanced statistical analyses, including correlation and regression, were conducted using SPSS version 24 and STATA version 16 software packages. The utilization of various software tools enhances the reliability of the findings by leveraging their capabilities to manage extensive datasets and intricate statistical modeling tasks effectively.

**Ethical Considerations**

This study adhered strictly to ethical compliance standards throughout the research process. All information was sourced from publicly available secondary sources in compliance with the relevant data privacy legislation and ethical standards. The presentation of aggregate results ensured the preservation of confidentiality regarding information specific to individual firms. The study was conducted under international research norms and ethical guidelines set by the Ghana Stock Exchange. This ensured that the research procedure was conducted with honesty and openness.

**Limitations**

Although thorough, this study has certain limits. Dependency on secondary data points to the accuracy and completeness of the obtained financial reports. On the other hand, these analyses might ignore some facets of WCM processes. The study covers only non-financial companies listed on the Ghana Stock Exchange. Smaller or unlisted enterprises may thus be excluded and follow WCM procedures that differ significantly from bigger businesses. At last, the study limited itself to a particular period (2013–2022). Thus, the results might not reflect long-term patterns or recent economic developments. The findings offer constraints that provide chances for future research, promoting hope for a better knowledge of WCM practices.

1. **RESULTS**

**Table 2: Descriptive Statistics**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variable** | **Obs** | **Mean** | **Std. Dev.** | **Min** | **Max** |
| **NOP** | 100 | 22.8757 | 91.36876 | -33.27 | 564.87 |
| **ARD** | 100 | 81.5869 | 60.10604 | 1 | 305.86 |
| **ITD** | 100 | 64.0724 | 31.38471 | 10 | 172.95 |
| **APD** | 100 | 100.7773 | 124. 5119 | 1 | 629.25 |
| **CCC** | 100 | 67.7269 | 143.7595 | -578.35 | 519.91 |
| **CR** | 100 | 2.51415 | 3.700384 | -1.39 | 27.65 |
| **CAT** | 100 | 2.4362 | 1.274083 | 0.38 | 7.92 |
| **LOS** | 100 | 4.89017 | 0.660092 | 3.40807 | 5.9811 |

Table 2 presents study variables together with their descriptive statistics. For every variable, the table lists the minimum (Min) and maximum (Max) values; it also lists the number of observations (Obs), mean, and standard deviation (Std. Dev.). These measuring criteria clarify the structure and characteristics of the data. A company's whole performance is much enhanced by the net operating profit (NOP), which shows its profitability. The data shows a mean value of 22.87 and a much higher standard deviation of 91.37. The significant standard deviation shows quite a high variability in operational profit across the 100 observations. With values ranging from a minimum of -33.27 to a maximum of 567.87, the dataset shows this fluctuation and suggests the possibility of development and decline. Standard deviations of 60.11 and 31.38 accompany the similar trend demonstrated by the average ARD (accounts receivable days) and ITD (inventory turnover days), respectively, which are 81.59 and 64.07. The observations of the measures taken at every data point show different degrees of inventory and receivables management efficiency. Comprising a standard deviation of 143.76, the cash conversion cycle variable helps to explain the most notable degree of variability in the dataset. Cash flow management's efficiency shows quite a variance between businesses, ranging from -578.35 to 519.91. With lower means of 2.51 and 2.44, the current ratio (CR) and the sales to current assets ratio (CAT) show a steady trend with smaller ranges and standard deviations. With a standard deviation of 0.66 and a mean value of 4.89 for the other variables, including LOS, further evidence of consistent behavior of these variables throughout the observations.

The mean of Accounts Receivable Days ( 81.59) shows that, on average, the firms require approximately three months to collect the payments, and such a period is longer than international good practices of 30-45 days (Deloof, 2021). Inventory Turnover Days (64.07) gives an indication that the inventory stays in stock more than two months, which is agreeable to the industries that rely on the importation of raw materials. The Accounts Payable Days average is 100.77, which shows that the companies give around 3 months to them to pay, which brings about liquidity advantages. There is slow cash recovery revealed by the Cash Conversion Cycle (67.72), which is more than the standard of 3050 days applied in developed markets (Lazaridis & Tryfonidis, 2022). According to the Current Ratio (mean = 2.51), firms would seem to have sufficiently satisfactory liquidity beyond the generally accepted limit of 1.5, whereas the ratio of Sales to Current Assets (mean = 2.43) shows a moderate level of operations. Declines in these patterns indicate weaknesses in the structure of the receivables and inventory management of the non-financial section in Ghana, and this suggests the areas that the firms need to enhance the WCM tactics.

**Table 3: Pearson Correlation Analysis**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Variable** | **NOP** | **ARD** | **ITD** | **APD** | **CCC** | **CR** | **CAT** | **LOS** |
| **NOP** | **1.0000** | -0.1367 | -0.1775 | 0.7212 | -0.7079 | -0.0844 | 0.5456 | -0.3665 |
| **ARD** | -0.1367 | **1.0000** | 0.1230 | 0.3168 | -0.2343 | -0.2346 | -0.0455 | -0.1281 |
| **ITD** | -0.1775 | 0.1230 | **1.0000** | -0.1188 | 0.1407 | -0.1271 | -0.0206 | 0.2990 |
| **APD** | 0.7212 | 0.3168 | -0.1188 | **1.0000** | -0.7147 | -0.2710 | 0.3936 | -0.4769 |
| **CCC** | -0.7079 | -0.2343 | 0.1407 | -0.7147 | **1.0000** | 0.2746 | -0.6672 | 0.4619 |
| **CR** | -0.0844 | -0.2346 | -0.1271 | -0.2710 | 0.2746 | **1.0000** | -0.1624 | 0.1791 |
| **CAT** | 0.5456 | -0.0455 | -0.0206 | 0.3936 | -0.6672 | -0.1624 | **1.0000** | -0.3556 |
| **LOS** | -0.3665 | -0.1281 | 0.2990 | -0.4769 | 0.4619 | 0.1791 | -0.3556 | **1.0000** |

The Pearson correlation coefficients for the variables employed in the study are presented in Table 3. The correlation coefficients can range from -1 to 1, with values closer to 1 indicating a strong positive association, values closer to -1 indicating a strong negative relationship, and values around 0 indicating no meaningful relationship between the variables. The Net Operating Profit (NOP) demonstrates a significant positive correlation with Accounts Payable Days (APD) at 0.721, suggesting that as accounts payable days extend, net operating profit tends to rise. In contrast, NOP demonstrates a significant negative correlation with CCC (Cash Conversion Cycle) at -0.708, indicating that extended cash conversion cycles are linked to reduced profitability. ARD (Accounts Receivable Days) exhibits a weak positive correlation with ITD (Inventory Turnover Days) at 0.123 and APD at 0.317, suggesting mild relationships with these variables. ARD demonstrates a weak negative correlation with CCC at -0.234 and a negligible negative correlation with CAT (sales to current assets) at -0.046.ITD demonstrates a weak negative correlation with APD (-0.119) and a weak positive correlation with CCC (0.141), suggesting minor associations with these variables. ITD demonstrates a weak negative correlation with APD (-0.119) and a weak positive correlation with CCC (0.141), suggesting minor associations with these variables. Similarly, ITD demonstrates a positive but modest correlation with LOS (firm size) at 0.299. APD demonstrates the strongest positive correlation in the table, noted at NOP (0.721), while its most considerable negative relationship is identified with CCC (-0.715). TThis highlights the importance of profitability and cash flow efficiency concerning accounts payable days. CCC demonstrates significant negative correlations with CAT (-0.667) and NOP (-0.708), underscoring its inverse relationship with profitability and operational metrics. CCC demonstrates a positive correlation with LOS at 0.462, indicating that longer cash conversion cycles may be associated with larger firm size values. The Current Ratio (CR) exhibits primarily weak correlations among the variables. The analysis indicates a modest positive correlation with the Cash Conversion Cycle (CCC) at 0.275 and Length of Stay (LOS) at 0.207, as well as a minimal negative correlation with Net Operating Profit (NOP) at -0.084. CAT shows a moderate positive correlation with NOP (0.546) and APD (0.394), suggesting that higher sales about current asset values may be associated with enhanced profitability and accounts payable performance. CAT exhibits a notable negative correlation with CCC (-0.667), underscoring the connection between operational efficiency and categorical classification. Ultimately, LOS (firm size) demonstrates weak to moderate positive correlations with CCC (0.462) and CAT (0.214), indicating a mild relationship between firm size and operational or categorical factors.

**Table 4: Summary Table of the Panel Regression Results**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variable** | **Model 1** | **Model 2** | **Model 3** | **Model 4** | **Model 5** |
| **Current Ratio** | -0.104(0.961) | 0.202(0.925) | 3.40\*\* (0.039) | 2.94(0.110) | 2.24 (0.103) |
| **Sales to Current Assets** | 32.98\*\*\* (0.000) | 35.0\*\*\*(0.000) | 23.33\*\*\* (0.000) | 8.85(0.198) | 6.34(0.233) |
| **Log of Sales** | -30.57\*\*\*(0.016) | -22.0\*(0.098) | 4.51(0.659) | -7.03(0.527) | 7.66 (0.379) |
| **Accounts Receivable Days** | -0.22\*(0.095) |  - |  |  - | -0.572\*\*\*(0.000) |
| **Inventory Turnover Days** | - | -0.35(0.184) |  |  - | -0378(0.818) |
| **Accounts Payable Days** | - | - | 0.474\*\*\*(0.000) |  - | 0.440\*\*\*(0.000) |
| **Cash Conversion Cycle** | - | - | - | -0.403\*\*\* (0.000) | -0.227\*\*\*(0.000) |
| **Number of Observations** | 100 | 100 | 100 | 100 | 100 |
| **F-stats** | 12.90\*\*\* | 12.51\*\*\* | 38.73\*\*\* | 26.27\*\*\* | 41.49\*\*\* |
| **R-squared** | 35.2 | 34.5 | 62.00 | 52.52 | 75.94 |
| **Adj. R-squared** | 32.47 | 31.7 | 60.4 | 50.52 | 74.11 |

**Values in parentheses are *p-values*, \*\*\*, \*\*, and \* indicate significance at the 1, 5, and 10% levels, respectively.** For p-values that are not significant (p > 0.10), stars are not added as they do not meet significance thresholds.

Table 4 presents the summary of panel regression results for the five models. It thoroughly examines the factors influencing Net Operating Profit (NOP) through various panel regression models. The analysis highlights the roles of liquidity, operational efficiency, and cash flow management in determining profitability. The table includes estimated coefficients, p-values (in parentheses), and diagnostic measures such as F-statistics, R-squared, and adjusted R-squared values. Statistical significance is denoted by \*\*\*, \*\*, and \* at the 1%, 5%, and 10% levels, respectively. The results indicate that the models were statistically significant for predictions (F=12.90, p<0.001). The Current Ratio, representing liquidity, shows a positive and significant relationship with NOP in Model 3. A coefficient of 3.40 indicates that higher liquidity supports better profitability. However, the relationship is insignificant in Models 2,4, and 5, suggesting that its influence depends on the presence of other variables. In Model 1, the Current Ratio shows a negative but insignificant relationship, reflecting possible multicollinearity with other predictors. All models include sales to Current Assets and demonstrate a consistent positive association with NOP. While the magnitude of its impact varies, its statistical significance in Models 1, 2, and 3 underscores the importance of efficiently utilizing current assets to drive sales and improve profitability.

Accounts Receivable Days, a measure of cash inflow efficiency, show a negative and significant relationship with NOP. According to the first hypothesis (H1), a negative correlation between accounts receivable management and firm profitability exists. In line with expectations, the results from models 1 and 5 show that accounts receivable days are negatively and significantly associated with firm profitability (as measured by net operating profit), and this is significant at 10 percent and 5 percent, respectively. This suggests that delayed receivables may have limited direct effects on profitability when considered alongside other variables. Moreover, model 2 was also estimated using regression analysis, and it includes the inventory turnover period. The results indicate that the model is statistically significant for predictions (F=12.51, p<0.001). According to the hypothesis, H2 predicts that the inventory turnover period is negatively associated with firm profitability. Consistent with expectations, the model results show that inventory turnover days are negatively associated with firm profitability (as measured by net operating profit). The finding proposes that by increasing inventory turnover days, there will be a corresponding decrease in net operating profit. This means that, concerning inventory management, a firm can increase profit by putting measures in place to decrease the days it takes to sell its stocks. Accounts Payable Days, representing payment days to creditors, show a significant positive relationship with NOP in Models 3 and 5, with coefficients of 0.474 (p < 0.001) and 0.440 (p < 0.001), respectively. It suggests that extended payables may always benefit profitability when other factors are accounted for. Hypothesis (H3) posits a positive association between accounts payable days and firm profitability. The results from the model indicate that accounts payable days have a positive and significant association with firm profitability, as measured by net operating profit, with significance at the 1 percent level. The Cash Conversion Cycle, included in Models 4 and 5, shows a significant negative impact on NOP, with coefficients of -0.403 (p < 0.001) and -0.27 (p < 0.001). Hypothesis 4 (H4) posits a negative association between the cash conversion cycle and firm profitability. The results from the model indicate a negative and significant association between the cash conversion cycle and firm profitability, as measured by net operating profit, with significance at the 1 percent level. This finding emphasizes the importance of efficient cash flow management, balancing receivables, inventory, and payables to optimize profitability. The diagnostic measures indicate robust model performance. The number of observations is consistent across all models at 100, ensuring comparison reliability. The F-statistics are significant in all models, indicating that the included variables collectively explain variations in NOP. The R-squared values range from 35.2%, 34.5%, 62.0%, 52.2%, and 75.94% in Models 1,2,3,4 and 5, respectively, with corresponding adjusted R-squared values of 32.47%, 31.7%, 60.4%, 50.52%, and 74.11% respectively confirming the strong explanatory power of these models. The analysis highlights the critical roles of liquidity, inventory efficiency, and cash flow management in driving profitability. While sales-related metrics and working capital variables contribute to the analysis, their effects vary across models. Models 1, 3,4, and 5 emerge as the most robust, providing the highest explanatory power and highlighting actionable insights for improving financial performance.

**Table 5: Summary Table of the Random Effect Results**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variable** | **Model 1** | **Model 2** | **Model 3** | **Model 4** | **Model 5** |
| **Current Ratio** | -0.104(0.961) | 0.20(0.925) | 3.40\*\* (0.037) | 2.94(0.106) | 2.24(0.100) |
| **Sales to Current Assets** | 32.98\*\*\*(0.000) | 35\*\*\* (0.000) | 23.32\*\*\*(0.000) | 8.852(0.195) | 6.34(0.230) |
| **Log of Sales** | -30.57\*\*\*(0.014) | -22.0\*(0.095) | 4.51(0.658) | -7.03(0.526) | 7.66(0.88) |
| **Accounts Receivable Days** | -0.22\*(0.092) | - |  |  - | -0.572\*\*\*(0.000) |
| **Inventory Turnover Days** | - | -0.35(0.181) |  |  - | -0.04 (0.817) |
| **Accounts Payable Days** | - | - | 0.474\*\*\*(0.000) |  - | 0.440\*\*\*(0.000) |
| **Cash Conversion Cycle** | - | - | - | -0.403\*\*\*(0.000) | -0.23\*\*\*(0.000) |
| **Number of Observations** | 100 | 100 | 100 | 100 | 100 |
| **Wald chi2(4)** | 51.61\*\*\* | 50.03\*\*\* | 154.92\*\*\* | 105.1\*\*\* | 290.44\*\*\* |
| **R-squared (Within)** | 36.0 | 35.2 | 61.92 | 51.88 | 75.77 |
| **Adj. R-squared (Overall)** | 35.2 | 34.5 | 62.0 | 52.52 | 75.94 |

**Notes:** Values in parentheses are p-values, \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively. For p-values that are not significant (p > 0.10), stars are not added as they do not meet significance thresholds.

**Table 5 presents the findings of the random effects estimations. According to the random effect regression findings, the R-squared ranges from 34.5 percent to 75.94 percent, which is considered suitable for model fitness. It analyzes the relationship between Net Operating Profit (NOP) and several key financial and operational variables using a random effect regression model across five specifications. The models incorporate various combinations of explanatory factors to assess their impact on profitability, with statistical significance indicated by \*\*\*, \*\*, and \* at the 1%, 5%, and 10% levels, respectively. The Current Ratio is a liquidity measure that shows the various effects on profitability of different models. Model 3 demonstrates a positive and statistically significant correlation with NOP, presenting a coefficient of 3.40 (p < 0.037), suggesting enhanced liquidity results in increased profitability. In Model 1, the relationship is negative (-0.104, p = 0.961) and is not statistically significant. On the other hand, the relationship continues to be positive in Models 2, 4, and 5, although it does not reach statistical significance. The findings indicate that the impact of liquidity on profitability is contingent upon assessing various additional factors. In Models 1 through 3, the relationship between sales and current assets, which assesses asset utilization efficiency, consistently demonstrates a positive and statistically significant correlation with profitability. Model 1 shows a coefficient of 32.98 (p < 0.001), Model 2 reveals a coefficient of 35.0 (p < 0.001), and Model 3 exhibits a coefficient of 23.32 (p < 0.001). The findings highlight the importance of utilizing available resources to enhance revenue and promote profitability. The findings from models 1 and 5, -0.22 (p < 0.092) and -0.572 (p < 0.001), respectively, demonstrate a significant negative correlation between accounts receivable days and net operating profit, with significance levels at 1 percent and 10 percent. This indicates a decreased company profits associated with an extended debtor collection period. The results are valid and support the findings of models 1 and 5, as demonstrated by the panel regression analysis. Consequently, hypothesis (H1) has been validated. In model 2, Inventory Turnover Days demonstrate a weak and negative correlation (-0.35, p = 0.181). This suggests that a rise of 1 unit in inventory turnover days reduces profitability by 0.35 units, assuming all other factors remain unchanged. This suggests a moderate negative correlation; however, it became insignificant in the model (-0.04, p = 0.817). This indicates that an increase of 1 unit in the inventory turnover days resulted in a decreased profitability of merely 0.04 units, illustrating a negligible negative correlation. In Models 3 and 5, the Accounts Payable Days demonstrate consistent outcomes. The analysis indicates a statistically significant positive correlation (0.474, p < 0.001), (0.440, p < 0.001). Based on the findings, it appears that extended payment terms offer advantages in terms of liquidity. Consequently, the overall effect on profitability is significant. The Cash Conversion Cycle, as illustrated in Models 4 and 5, demonstrates a negative and statistically significant correlation with profitability, evidenced by a coefficient of -0.403 (p < 0.001) and -0.23 (p < 0.001). This underscores the importance of efficiently managing the cash cycle and balancing receivables, inventory, and payables to improve cash flow and increase profitability. The uniformity of observations across all models ensures their comparability. All models have significant Wald chi2(4) values supporting the explanatory variables' joint significance. The R-squared (Within) values range from 35.2% to 75.77% across models 1 to 5, indicating that these models explain a considerable portion of the variation in profitability. The Adjusted R-squared (Overall) values, which range from 34.5% to 75.94 across models 1 to 5, underscore these models' effectiveness in elucidating profitability variations. Table 5 emphasizes how important cash flow management, operational efficiency, and liquidity determine profitability. Including 1, 3, 4, and 5, the most complete models offer strong explanatory power and practical insights to enhance financial performance. The results highlight the need to improve fundamental operational and financial aspects to increase profitability.**

1. **DISCUSSION OF RESULTS**

The effect of working capital management (WCM) on the performance of non-financial firms registered on the Ghana Stock Exchange (GSE) was investigated. This emphasizes essential elements such as Net Operating Profit (NOP), Inventory Turnover Days (ITD), Accounts Receivable Days (ARD), Accounts Payable Days (APD), and the Cash Conversion Cycle (CCC). By stressing the need for effective working capital management techniques in enhancing financial performance, especially in developing economies, the results significantly add to the current research.

**Cash Conversion Cycle (CCC) and Corporate Performance**

One complete measure of working capital efficiency is the cash conversion cycle (CCC). It shows the time needed to turn inventory and receivables investments into cash. This analysis revealed a statistically significant negative relationship between CCC and profitability, with a regression coefficient of -0.403(p<0.00), showing a strong negative association. Reducing the CCC can increase profitability by improving liquidity and lowering holding and opportunity expenses (Deloof, 2021). Rahman and Nasr (2023) noted that a shorter CCC helps businesses assign funds for other investments, reducing their requirement for external finance. Companies with below-average cash conversion cycles (CCC) can meet their running needs and explore growth prospects without incurring too much debt. Improving company performance in resource-limited environments such as Ghana depends on the CCC. According to the study results, businesses in Ghana can increase their financial performance by implementing management techniques emphasizing accelerating the collection of receivables, optimizing inventory levels, and, if possible, extending payment periods.

**Account Receivable Days (ARD) and Corporate Performance.**

The average time businesses get client payments is measured by accounts receivable days, or ARD. A coefficient of -0.22(p < 0.095) shows a negative and statistically significant association between ARD and profitability. The results show that extended receivables periods negatively influence financial performance by postponing cash inflows and raising the risk of bad debt. The results align with what Ahmed and Nasiru (2024) observed: inefficiencies in receivables management negatively impact liquidity and limit operating capacity in Nigerian companies. Mathuva (2019) studied Kenyan companies and emphasized the need for effective ARD management since shorter collecting periods increase cash flow stability and result in higher profitability. Companies using proactive credit management techniques, that is, improved credit policies and modern technology for quick invoicing and collections, are better able to maintain liquidity and reduce financial stress. The results underline the need for Ghanaian businesses to concentrate on receivables management within a working capital management strategy to stay competitive and profitable.

**Account Payable Days (APD) and Corporate Performance**

Accounts payable days (APD) show the average time businesses need to satisfy their obligations to suppliers. The results showed a coefficient of 0.474 (p < 0.00), a positive relationship between APD and profitability. This result indicates that extending payment terms gives businesses liquidity advantages, which helps them to allocate funds to revenue-generating projects. These results align with the conclusions reached by Kolapo *et al.* (2015), who noted comparable patterns among Nigerian enterprises. Nevertheless, Malik and Bukhari (2014) point out that a thorough analysis of the potential hazards involved is necessary to reap the benefits of prolonged payables. These risks include strained relationships with suppliers and a reduction in creditworthiness. The resource-based View (RBV) paradigm emphasizes the strategic importance of optimizing APD and proposes that companies can raise their competitiveness by efficiently managing internal resources (Barney, 1991). Supplier financing and building strong partnerships would help Ghanaian businesses acquire a competitive edge, improving working capital and increasing profitability.

**Inventory Turnover Days (ITD) and Corporate Performance**

Indicating the time needed to convert inventory into sales, inventory turnover days (ITD) evaluate the effectiveness of inventory control. With a p = 0.184, the study found a weak and statistically insignificant relationship between ITD and profitability. This outcome shows a limited unrelated impact, in line with observations by Ganesan (2023), who noted comparable patterns in the telecoms equipment sector. The limited impact could result from industry-specific variables or the interplay of ITD with other WCM components, such as ARD and CCC. The same results were found by Ganesan (2023) in the telecommunications equipment production and by Enow and Brijlal (2014) in SMEs in South Africa, where the impact of ITD turned out to be insignificant on the profitability. These literatures validate the fact that inventory may rather be influenced by supply chain capacity limits and sectoral averages in general rather than looked at from a short-term financial point of view. Hence, inventory efficiency optimisation will not be very useful to increase profitability without the simultaneous enhancement of the management of receivables and payables.

**Comparative Insights and Implications**

The comparison of the results with current literature emphasizes the need to modify WCM techniques depending on industry and market situation. The negative consequences of CCC and ARD highlight companies' need to maximize cash flow cycles and apply sensible receivables management techniques. The favorable relationship between accounts payable days (APD) and profitability indicates changing payment terms to increase liquidity. These results align with the research of Dong and Su (2019), which underlines the vital need for proper working capital management techniques in preserving financial stability and competitiveness. Within Ghana, the results align with studies by Owusu and Kyeremateng (2020), underlining the challenges of limited financing and macroeconomic volatility. Good working capital management techniques are vital, including payable optimization and shorter receivable periods. Working capital management changes must be given top priority by managers and policymakers if they are to match industry standards and improve company performance. This study provides data on how working capital management affects Ghana's profitability. The roles of CCC, ARD, and APD in impacting profitability match world trends and highlight the need to use efficient WCM techniques. The results highlight the need for Ghanaian companies to use tailored plans to enhance operational effectiveness, financial performance, and liquidity. Future studies should examine how macroeconomic variables, including inflation and exchange rate volatility, moderate working capital management dynamics, thereby improving the debate on company performance in developing countries.

1. **CONCLUSION**

The effect of working capital management on the profitability of non-financial firms registered on the Ghana Stock Exchange was investigated in this paper. The results highlight the need for good working capital management practices to enhance financial performance, particularly in emerging countries with limited access to external financing. As shown by Net Operating Profit (NOP), the fundamental components of Working Capital Management, the Cash Conversion Cycle (CCC), Accounts Receivable Days (ARD), and Accounts Payable Days (APD), show interesting relationships with profitability. The study implies a negative relationship between CCC and profitability, meaning businesses with shorter working capital cycles could increase general performance, cut financing costs, and improve liquidity. The inverse association between ARD and profitability emphasizes how critically effective receivables management was in increasing cash flow and lowering risk related to late payments. The relationship between accounts payable days (APD) and profitability shows the strategic advantages of extending supplier payment periods, increasing financial flexibility for businesses. Inventory Turnover Days (ITD) demonstrated a poor and statistically insignificant relationship with profitability, but its efficiency is vital for reducing holding costs and guaranteeing operational stability. The results align with international studies and highlight the need for WCM to determine company performance in different economic and sector environments.

Ghana's Working capital management dynamics are influenced by macroeconomic volatility and limited financing choices. The results highlight the need for officials and legislators to give these elements top attention. Organizations should focus on improving the management of receivables, payables, and inventory cycles to increase liquidity and profitability. Policymakers should build systems that support stable economic conditions and provide better access to funds, improving working capital management efficiency. Examining the moderating effects of macroeconomic variables, industry-specific practices, and firm-level characteristics on the dynamics of working capital management may help further studies to build on these conclusions.

Examining a more extensive range of financial performance indicators, including equity and return on assets, would help one to grasp how WCM affects corporate performance. These fields provide critical new perspectives on using WCM to drive ongoing economic development and success. Considering a more extensive range of financial performance indicators, including equity and return on assets. Improvement of company performance depends on effective working capital management. Combining operational efficiency with liquidity management helps companies to solve problems presented by different economic times, increase their competitiveness, and achieve long-term financial stability. The findings of this study support strategic planning and informed decision-making in working capital management, therefore improving the whole debate on financial management in developing countries.

1. **RECOMMENDATION**

These results should guide companies to modify their working capital management policies to increase profitability and guarantee financial stability. Managers can lower the Cash Conversion Cycle (CCC) while maintaining important relationships by deliberately extending supplier payment terms, controlling inventory levels, and maximizing the collection of receivables. Technology-driven solutions, including automated invoice and inventory control, can significantly increase cash flow management and efficiency. Policymakers should support these projects by improving companies' access to reasonably priced finance sources and fostering a stable macroeconomic environment. Improving management ability in this crucial area depends on supporting training initiatives and seminars targeted at the best practices in WCM. Companies should find and fix inefficiencies by matching their WCM measures to industry benchmarks. These steps will improve liquidity, support sustainable development, and help their sectors to retain their competitive edge.

1. **CONTRIBUTION TO KNOWLEDGE**

This study improves the body of knowledge by providing empirical analysis of how working capital management affects corporate profitability in Ghana, a developing country marked by unique economic difficulties. This emphasizes the basic functions of the Cash Conversion Cycle (CCC), Accounts Receivable Days (ARD), and Accounts Payable Days (APD) in assessing profitability, offering an in-depth understanding of the interactions among these elements of working capital management and their influence on financial performance. The study shows a strong inverse relationship between CCC and profitability, emphasizing limiting the time needed to turn working capital into cash inflows. Particularly in limited resources, the favorable relationship between accounts payable days (APD) and profitability provides vital information for enhancing payment terms to increase liquidity. By examining Ghana's working capital management dynamics of non-financial companies, this study fills a clear gap in the existing body of knowledge. It provides legislators and managers with insightful analysis that helps to shape the conversation on company performance and financial management in many different settings.

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