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# Impact of Cash Conversion Cycle on Firm's Profitability by Applying to Companies Listed on the Saudi stock market

**By: Marwan Othman Ghabban[1*], Yazeed Abdalrhman Alsughayyir[2], Marwan Abdulrahem Alghanmi[3], Saeed Mansour AlGhamdi[4], Eihab Sabri owaidhah[5]**

PhD Researcher, Effat University, Saudi Arabia [1,2,3,4,5]

Email: moghabban@effat.edu.sa

## Abstract

This study examines the complex relationships between Cash Conversion Cycle and firm profitability using a dataset of seven companies. The primary goal is to assess the subtle impact of the Cash Conversion Cycle (CCC) on two key dependent variables: Return on Assets (ROA) and Earnings Per Share (EPS). The focus of this investigation is on four independent variables: leverage ratio, quick ratio, current ratio, and debt to service ratio. In a departure from conventional wisdom, our findings call into question established financial theories by demonstrating the CCC's insignificant impact on ROA. However, the CCC's critical role in influencing EPS highlights the CCC's diverse implications for financial performance. The alignment of the Leverage Ratio with financial theories has a significant impact on ROA. This research provides nuanced insights into the complex dynamics of financial ratios and their collective impact on firm profitability. The findings provide strategic guidance for financial decision-makers, emphasizing the importance of a customized and sophisticated approach to working capital management in navigating the complexities of today's dynamic business environment, and the study recommended to create CCC strategies that are unique to each company's industry dynamics, Take into account industry benchmarks when optimizing the CCC for improved financial performance.

**Keywords:** Cash Conversion Cycle (CCC), Earnings per Share (EPS), Leverage ratio, Return on Assets (ROA), Working Capital Management.

## 1. Introduction

Working capital management is the management of a firm's current assets and current liabilities in order to achieve a balance between profitability and risk that adds value to the firm (Gitman, 2000). A widely recognized and potent indicator of efficient working capital administration is the Ca sh Conversion Cycle. The Cash Conversion Cycle (CCC) is a critical financial management metric that provides deep insights into a company's operational efficiency and working capital dynamics. In essence, the CCC represents the time required to convert inventory investments into cash flows from sales—a critical indicator of a company's liquidity and overall financial health. The CCC is comprised of three primary components:

Inventory Conversion Period, Receivables Collection Period and Payables Deferral Period

The formula for CCC encapsulates the cycle of cash outflow to purchase inventory, the time the inventory spends in the company’s processes, and the time it takes to collect the cash from sales, offset by the time the company holds onto its cash before settling its payables.

Effective CCC management has moved beyond operational necessity to become a strategic imperative in today's dynamic business landscape, exerting a significant influence on a company's profitability and long-term sustainability. Also, it measures the time elapsed between a company's cash outflows for raw materials and its cash inflows from finished goods sales (Brigham & Ehrhardt, 2004). Unlike static measures such as the current ratio and quick ratio, the Cash Conversion Cycle provides a dynamic perspective on ongoing liquidity management by integrating balance sheet and income statement data (Jose et al., 1996).

Furthermore, the relationship between the Cash Conversion Cycle and the firm’s financial performance is explored in this study. The study aims to find the crucial factors which affect the CCC. Moreover, the study delves into the intricate connection between the Cash Conversion Cycle and profitability.

### 1.1. Research Questions

- What effect does effective Cash Conversion Cycle (CCC) management have on a company's financial health and operational efficiency?
- What factors influence the relationship between CCC and financial performance across different industries and regions?

- How do inventory turnover, accounts receivable, accounts payable, and debt influence the Cash Conversion Cycle and, consequently, a firm's profitability?

### 1.2. Objective of the Study

The study aims are to identify the effect of the cash conversion cycle on financial and operational efficiency. It will also investigate the factors those influence the relationship between CCC and financial performance and debt to equity of different health care firms in Saudi Arabia. The research will discover the effect of the inventory turnover, account receivables, accounts payable and debt on cash conversion cycle and to the firm profitability accordingly.

### 1.3. Beneficiary of the Study

This study has significant implications for a variety of stakeholders. Decision makers especially who work in health care field, investors, health care supplies vendors and financial sector decision maker and analysts' "creditors".

### 1.4. Added Value of the Study

The study adds value to business leaders and managers by learning and better understanding about effective working capital strategies that improve operational efficiency and financial health. Investors and financial analysts gain a better understanding of the relationship between the Cash Conversion Cycle and key financial indicators, which allows them to make more informed investment decisions. The academic community benefits from an addition to the existing literature, which lays the groundwork for future research on dynamic aspects of working capital. Policymakers can use the findings to inform financial regulations, and SMEs can learn practical strategies for optimizing working capital despite constraints. Furthermore, stakeholders, suppliers, educational institutions, economic researchers, and the general public stand to benefit from new insights into the financial dynamics that affect businesses, economic stability, and the general public. in generally, we can conclude the added value in this area,

- Enhances operational efficiency and financial health.
- Deeper understanding of financial indicators for better investment decisions.
- Expands current literature and stimulates future research.
- Informs the development of enlightened financial policies.
- Practical strategies to improve working capital.
- Better grasp of business and economic dynamics.
- Increased awareness of economic issues.

## 2. Literature Review

The study of the Cash Conversion Cycle (CCC) and its effects on business profitability has arisen as a critical topic across a wide range of organizations. This chapter explains the theoretical foundation of the study and methodically analyses prior literature on the evaluation of CCC and its consequences on the financial health of various enterprises and banks at the national and international levels.

This study's theoretical approach navigates through known theories and models, providing a conceptual underpinning for understanding the complexities of the Cash Conversion Cycle and its impact on corporate profitability. This framework, which is based on fundamental works in financial literature, provides a systematic lens for analyzing and interpreting empirical data in succeeding parts.

The study of literature delves deeply into previous studies on the Cash Conversion Cycle and its influence on business profitability. Scholars have looked into many approaches, models, and indicators on a national and worldwide scale to provide a comprehensive knowledge of how CCC management influences a firm's financial well-being. These research findings contribute not just to intellectual debate, but also to practical consequences for stakeholders in the financial sector.

The Cash Conversion Cycle (CCC) measures a company's liquidity and operational effectiveness. This analysis emphasizes its importance for private enterprises, who are frequently limited in capital markets, and investigates the complex relationship between CCC and debt. It highlights the difficulties that both private and public enterprises confront when borrowing through formal financial markets, as informed by Pecking Order Theory. Diversifying financing sources is critical, as proven by worldwide research, particularly those from developing economies, which shed light on distinct cash management issues in the face of economic changes.

Richards and Laughlin (1980) proposed the Cash Conversion Cycle (CCC), which challenged the use of traditional liquidity ratios. The CCC, which includes inventory, accounts receivable, and payable periods, is an essential component of a company's financial machinery, with significant implications for corporate strategy and performance. Additionally, Koliasa et al. (2020) emphasize the macroeconomic effects on the CCC, emphasizing the impact of monetary policy and interest rate changes. Given recent global economic shifts, particularly the effects of the COVID-19 pandemic, it is critical to keep data and understanding up to date in order to effectively manage the cash conversion cycle.

Debt serves a dual purpose in the Cash Conversion Cycle (CCC) management. On the one hand, strategically structured debt can improve the CCC by giving the firm the leverage it needs to optimize its operational cycle without incurring excessive financial obligations. As Laghari et al. (2023) explain, an overreliance on debt, particularly short-term debt, has the potential to extend the CCC, resulting in capital tying up and hindering liquidity. Aktas et al. (2015) emphasize this delicate balance even further, arguing that maintaining an optimal level of working capital, and thus a balanced CCC, can contribute to improved returns and operational performance. This highlights the complicated interplay of debt in achieving effective CCC management. (Koliasa et al., 2020).

According to the Pecking Order Theory, companies prioritize internal funds over debt and equity in their financing preferences. Myers (1984) explains this tendency as a result of information asymmetry and the costs associated with it. As Obeng et al. (2021) point out, firms with ample internal funds are likely to have a shorter Cash Conversion Cycle (CCC) due to less reliance on external financing mechanisms.

The empirical findings provide a more nuanced perspective. While some studies support the Pecking Order Theory, indicating a preference for shorter Cash Conversion Cycles (CCCs) in firms with significant internal financing, others add variables such as market conditions, firm size, and industry-specific factors. According to Zeidan and Shapir (2017), these variables can have a significant impact on a firm's financial strategy and, as a result, its CCC.

Analyzing specific business cases provides practical insights into how to apply cash conversion cycle concepts. As Qadri, Altas, and Aman (2021) point out, certain cement companies in the Saudi market have successfully implemented inventory management strategies. This proactive approach has resulted in shorter cash conversion cycles, increasing financial liquidity.

Asset and liability management are at the heart of CCC optimization. The agility with which a firm manages its inventory turnover and accounts receivable can significantly reduce the CCC, fostering greater liquidity and reducing the need for debt. Conversely, the liability structure, particularly the terms and conditions of debt, can either compress or expand the CCC, thus dictating the firm's liquidity stance (Buddenberg, 2019).

The lifecycle stage of a firm is a determinant of its financial strategy and, by extension, its CCC. Berger and Udell (1995) highlighted that firms at different lifecycle stages exhibit varying capacities to raise funds, which in turn influences their CCC management.

Mature firms, with more predictable cash flows, might manage their CCC differently from growth-stage firms that might be navigating more erratic cash flows and greater reliance on external financing (Zhang & Xu, 2021).

While an insignificant relationship was discovered between cash conversion cycle CCC and firms return on equity ROE in contracts and construction firms listed in the Bombay Stock Exchange (Vartak, 2019), results indicated that the cash conversion cycle has a significant negative effect on the profitability measured by return on equity ROE or return on assets ROA in one hand and the firm size affect the ROE and ROA in manufacturing companies in the other hand (Saraswatia & Bernawati, 2020).

With a consistently observed negative relationship, the Cash Conversion Cycle (CCC) has been identified as a significant factor influencing both return on equity and return on assets (Doğan & Kevser, 2020). A negative relationship was discovered between the cash conversion cycle and return on equity and return on assets in the Nigerian Stock Exchange's healthcare sector. It was proposed that lowering the CCC could improve financial performance by increasing return on equity and improving return on assets.

A study of the Sri Lankan industrial sector found a positive relationship between the inventory conversion period, a critical component of the cash conversion cycle, and return on assets. In contrast, a negative correlation was discovered between the payable conversion period and return on assets. Furthermore, a negative correlation was found between all components of the cash conversion cycle and return on equity. This highlights the important relationship between the cash conversion cycle and overall company profitability in the Sri Lankan industrial sector, emphasizing the importance of paying close attention to working capital requirements (Sugathadasa, 2019).

A study conducted in Thailand discovered a significant inverse relationship between the cash conversion cycle and the profitability of agricultural and food companies. Furthermore, the production and debt ratios were negatively related to return on assets, whereas the payment receivables collecting cycle and firm size were positively related to return on equity. However, no significant relationship was identified between the cash collection cycle and overall profitability (Linh, 2018).

A thorough investigation into the Saudi Arabian market, involving 100 listed companies from various industrial sectors, revealed a positive and significant relationship between working capital

components, represented by the cash conversion cycle, and company profitability, as reflected in return on assets and return on equity. However, a negative and significant relationship with gross operating profit was discovered. The study emphasized that larger firms were more profitable than their smaller counterparts.

Despite a large sample size, another Saudi Arabian study found a negative relationship between the current ratio, debt-to-equity ratio, and company size on one hand, and return on equity and return on assets on the other (Anis, 2022). A positive relationship between a company's profitability and receivables turnover was discovered in a separate study in the same region. Days of sales outstanding (DSO), a key indicator of receivables, correlated negatively with earnings. In Saudi industrial organizations, account receivables turnover has been identified as a significant influencer of cash flows and profitability (Kumaraswamy & George, 2019).

According to the pecking-order theory, firms prefer internal funds, such as retained earnings, to external financing for investments. This theory is supported by research into the impact of EBITDA on the cash conversion cycle. According to the literature, while pecking-order theory insights hold true, the relationship between EBITDA and the cash conversion cycle is affected by factors such as industry and debt financing.

Several studies have been conducted to investigate the relationship between the Cash Conversion Cycle (CCC) and profitability in various sectors and regions. Nwude et al. (2018) discovered that CCC has a negative impact on the profitability of Nigerian insurance firms. Linh and Mohanlingam (2018) discovered an inverse relationship between production and payment cycles in Thailand's agriculture and food industries. Samosir (2018) emphasised the positive impact of CCC on the profitability of Indonesian manufacturing firms. In Malawian manufacturing firms, Nijam (2016) discovered an inverse relationship between CCC and returns. According to Upadhyay et al. (2015), a shorter CCC contributes to higher hospital profitability in Washington State. Telly's (2019) research on Indonesian manufacturing firms highlighted the significant impact of CCC on profitability, while firm size had a lesser impact. These studies collectively underline the crucial role of effective working capital management in enhancing a firm's financial performance across diverse contexts.

### 2.1. Conceptual Model

The Cash Conversion Cycle (CCC) conceptual model is a theoretical framework that depicts the interplay of various components affecting a firm's working capital management and, as a result,

its financial performance. The CCC is the amount of time it takes for a company to turn its investment in raw materials and other inputs into cash flows from the sale of finished goods. The following is an overview of the CCC conceptual model's key components:

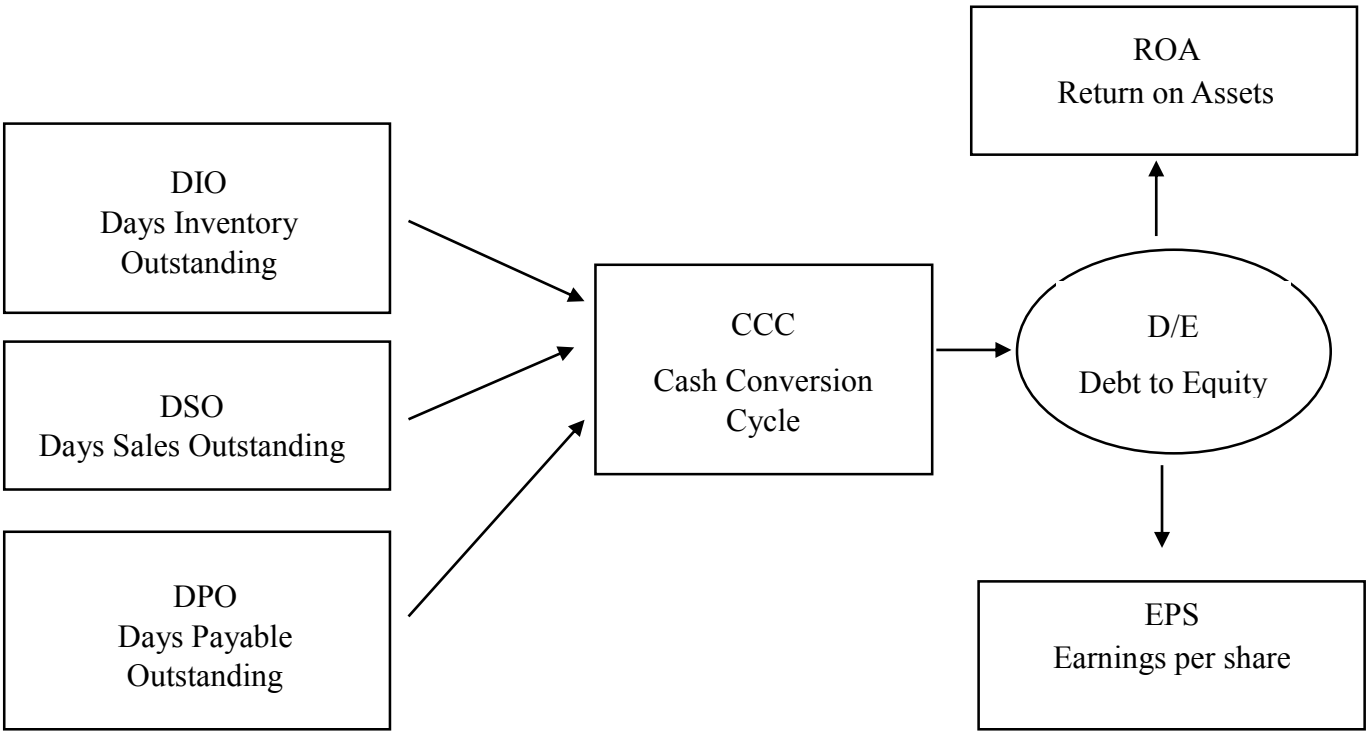


***Figure 1: Conceptual Model***

The model emphasizes the delicate balance between efficiently managing inventory, collecting receivables on time, and handling payables strategically. The CCC depicts effective working capital management as being associated with improved liquidity and financial health. The model also recognizes these components' dynamic nature, which is influenced by industry dynamics, economic conditions, and firm-specific factors. The CCC conceptual model depicts how the efficiency of a firm's operating cycle, which includes inventory, receivables, and payables, contributes to its overall financial performance. It guides businesses in optimizing their working capital practices for improved cash flow and profitability.

## 3. Methodology

The dataset, Dependent variables, and independent factors employed in this study are all attempted to be discussed in this section and a brief outline of discriminatory strategies used in our model i.e. Regression analysis.

### 3.1 Dataset

The dataset for the study consists of seven financial enterprises spanning the years 2015-2022 from the companies listed in the Saudi stock market in the healthcare sector, The selected companies are:

1- Dr. Sulaiman Al Habib Medical Services Group Company.
2- Al Hammadi Holding Company.
3- Dallah Healthcare Holding Company.
4- Middle East Healthcare Company.
5- Ayyan Investment Company.
6- Mouwasat Medical Services Company.
7- National Medical Care Company.

The financial variables were extracted from the official websites of these companies and TADWAL website. However, the current study uses the panel data set for analysis.

### 3.2 Model Diagnostic Test

#### 3.2.1. Variance Inflating Factor VIF

The Variance Inflation Factor (VIF) is a critical diagnostic test in regression analysis for assessing multicollinearity, a condition in which predictor variables in a model have strong linear relationships. VIF measures how much the variance of an estimated regression coefficient is inflated as a result of collinearity. A VIF of 1 indicates no collinearity, while higher values indicate an increasing level of collinearity. It is calculated by regressing each predictor against all other predictors in the model. A threshold of 5 or 10 is typically used, and predictors that exceed this threshold are considered problematic. VIFs are calculated by regressing one predictor against all other predictors in the model.

$$VIF = \frac{1}{1 - {R_i}^2}$$

#### 3.2.2. Panel Unit Root Test

The panel unit root test is used to determine whether or not the time series is stationary. The time series is said to be stationary if the variance and mean remain constant over time. Harris and Tzavalis designed a test for use on data sets with relatively short periods (T) and large panels (N) in 1999, with the centered and rescaled test statistic N (0, 1). On Balanced Panel data, the test is permitted.

The test assumes that panel data have a unit root, as opposed to the alternative hypothesis that time series are stationary. If the probability value is less than 0.05, the null hypothesis is rejected. This test was applied to our dataset since it fulfils the respective test assumptions.

### 3.2.3. Hausman Specification Test

The Hausman specification test of Hausman (1978) is used to distinguish between fixed effect and random effect panel data modeling approaches. The Hausman test sets the hypothesis that there is no statistically meaningful difference between the estimators of the random effect and fixed-effect model. The fixed-effect model will be appropriate if the null hypothesis gets rejected and vice versa. The general equation of the Hausman test statistic is:

$$H = (\beta_{RE} - \beta_{FE}) \sum -1 \ (\beta_{RE} - \beta_{FE}) \sim \chi^{2\,(k)}$$

The hypothesis for the test is explained as:

**$H_0$:** The appropriate model is Random effects. There is no correlation between the error term and the independent variables in the panel data model.

$$Cov\ (\mu_i, x_{it}) = 0$$

**$H_1$:** The appropriate model is Fixed effects. The correlation between the error term and the independent variables in the panel data model is statistically significant.

$$Cov\ (\mu_i, x_{it}) \neq 0$$

If the p-value is found to be less than & equal to 0.05 then reject $H_0$ otherwise don't reject.

### 3.2.4. Heteroscedasticity

The ordinary least square regression is inherent in certain assumptions. One of the important assumptions is that there should be no heteroscedasticity of residuals. It implies that the variance of residuals should not vary with the fitted values. Cross-sectional data are more likely to exhibit heteroscedasticity due to the underlying unique characteristics of each cross-section unit, which can cause the problem of an outlier in the dataset. Heteroscedasticity is also caused due to the omission of the important explanatory variable. To find out this, the study employs the Breusch-Pagan test which states the null hypothesis of no heteroskedasticity or homoskedasticity. The test uses chi-square ($\chi^2$) by giving the degree of freedom equal to the number of parameters in the regression. (Gujarati, 2003)

### 3.2.5. Autocorrelation

The Wooldridge test was used to determine whether autocorrelation existed in panel data. In the Wooldridge test, the null hypothesis is "there is no first-order autocorrelation." Because the Wooldridge test yields p-values less than 0.05 for both regression models (0.0000 and 0.0001, respectively.

## 3.3. Research Variables

### 3.3.1. Dependent Variables

Table 1 demonstrates that Return on Assets (ROA) and Earnings per Share (EPS) are two key Dependent variables used in this study to assess a company's financial performance and profitability. Return on Assets (ROA) is an important indicator that measures how efficiently a company uses its assets to generate profit. Earnings per Share (EPS) is a per-share measure of a company's overall profitability that represents the profit attributable to each outstanding share of common stock.

***Table 1: Dependent Variables***

| Variables | Data Dictionary |
|---|---|
| ROA (Return on Assets) | ROA is a metric that measures how effectively a company uses its assets to generate profit. |
| EPS (Earnings per share) | EPS is the profit per outstanding share of common stock of a company. |

### 3.3.2. Independent Variables

Table 2 introduces key independent variables that are critical for comprehending a company's financial landscape. The Cash Conversion Cycle (CCC) measures a company's ability to convert resources into cash flow, which reflects its working capital efficiency. The Leverage Ratio assesses a company's debt-to-equity ratio, indicating financial risk. The Quick Ratio evaluates a company's immediate liquidity, while the Debt to Service Ratio evaluates its ability to meet debt obligations with operating income. These variables shed light on the complex dynamics that influence financial health and operational efficiency, laying the groundwork for further investigation.

*Table 2: Independent Variables*

| Variables | Data Dictionary |
|---|---|
| CCC- Cash Conversion Cycle | The time it takes for a company's resources to be converted into cash flow is measured by CCC. |
| Leverage Ratio | The leverage ratio compares a company's debt to its equity. |
| Quick Ratio | The Quick Ratio measures a company's ability to meet its most liquid obligations with its most liquid assets. |
| Debt to Service Ratio | The Debt to Service Ratio measures a company's ability to meet its debt obligations using operating income. |

### 3.4. Descriptive Statistics

Table 3 provides a detailed overview of key financial indicators for seven companies. With an average of 10%, the Return on Assets (ROA) reflects the companies' efficiency in utilizing assets. Earnings Per Share (EPS) shows a wide range of profitability, ranging from 0.12SR to 29.59SR, with an average of 5.15SR. The Cash Conversion Cycle (CCC), which averages 395.24 days, represents the time it takes to convert the cash cycle and varies greatly between companies, ranging from 38.31 to 2,127.43 days. The Leverage Ratio, which averages 0.82, shows an average debt proportion of 82%, with variations ranging from 21% to 153%. Liquidity ratios, such as The Quick Ratio, reflected at -0.94, and the Current Ratio, positioned at 1.74, signal potential liquidity concerns that merit a thorough investigation. This prompts a closer scrutiny of the companies' financial robustness and their capacity to fulfill immediate financial commitments. The Debt to Service Ratio, which ranges from 0.04 to 1.23, provides insight into the relationship between debt and service. These statistics serve as a meaningful starting point for a nuanced analysis of the financial, operational, and leverage positions of the selected companies. The diverse range in these indicators underscores the unique financial profiles and potential areas of strength or concern across the companies.

*Table 3: Descriptive Statistics*

| | Observation | Mean | Standard Deviation | Minimum | Maximum |
|---|---|---|---|---|---|
| **Return on Assets** | 56 | 0.10 | 0.05 | 0.02 | 0.17 |
| **Earning Per Share** | 56 | 5.15 | 6.21 | 0.12 | 29.59 |
| **Cash Conversion Cycle** | 56 | 395.24 | 520.90 | 38.31 | 2,127.43 |
| **Leverage Ratio** | 56 | 0.82 | 0.45 | 0.21 | 1.53 |
| **Quick Ratio** | 56 | -0.94 | 3.15 | -8.66 | 1.42 |
| **Current Ratio** | 56 | 1.74 | 1.04 | 1.02 | 8.33 |
| **Debt to Service Ratio** | 56 | 0.22 | 0.30 | 0.04 | 1.23 |

### 3.5. Multiple Linear Regression

In this research, Multiple linear regression was used first to analyze the impact of CCC on a firm's profitability. It is a statistical method for modeling the relationship between two or more independent variables (also known as predictors or features) and one or more dependent variables (also known as the response or outcome). Multiple linear regression considers multiple predictors, as opposed to simple linear regression, which only considers one independent variable.

The study employs the subsequent regression model:

$$ROA_{it} = \beta_0 + \beta_1 (CCC_{it}) + \beta_2 (LR_{it}) + \beta_3 (QR_{it}) + \beta_4 (CR_{it}) + \beta_5 (D/S_{it}) + \epsilon_{it}$$

$$EPS_{it} = \beta_0 + \beta_1 (CCC_{it}) + \beta_2 (LR_{it}) + \beta_3 (QR_{it}) + \beta_4 (CR_{it}) + \beta_5 (D/S_{it}) + \epsilon_{it}$$

Where,

ROA = Return on Assets

EPS = Earning per share

CCC = Cash conversion Cycle

LR = Leverage Ratio

CR = Current Ratio

QR = Quick Ratio

D/S = Debt to service ratio

By using this model, the combined effect of these variables on profitability can be assessed. If $\beta_1$ is statistically significant and negative, it implies that a longer CCC is associated with lower profitability, assuming all other variables remain constant.

This analysis assists in determining which factors, including CCC, contribute significantly to the variability in profitability, providing valuable insights for financial management and decision-making in firms.

## 4. Results and Discussions

### 4.1. Panel Unit Root Test

The study began with a unit root test at the level for each variable. In contrast to the alternative hypothesis, which was based on the idea that each variable is stationary, that is, variables do not have a unit root, the null hypothesis was thought to have a unit root. All of the variables did not support the null hypothesis. The test results for the panel unit root are shown in the table below:

***Table 4: Panel Unit Root***

| Variables | z-statistics | p-value |
|---|---|---|
| **Harris-Tzavalis Test** | | |
| Return on Assets | -3.070 | 0.001* |
| Earning Per Share | -4.573 | 0.000* |
| Cash Conversion Cycle | -3.902 | 0.000* |
| Leverage Ratio | -1.332 | 0.091** |
| Quick Ratio | -2.317 | 0.010* |
| Current Ratio | -5.762 | 0.000* |
| Debt to Service Ratio | -5.450 | 0.000* |

Note: * and ** indicates the level of significance at 5% and 10% confidence interval, respectively.

### 4.2. Correlation Matrix

Table 5 demonstrates that the correlation matrix sheds light on the relationships between the dependent variables, Return on Assets (ROA) and Earnings Per Share (EPS), as well as various independent financial ratios. ROA and EPS have a negative correlation with the Cash Conversion Cycle (CCC), implying that a longer CCC has an adverse effect on return on assets and negatively impacts earnings per share. Furthermore, ROA has a strong negative correlation with the Leverage

Ratio, implying that firms with higher leverage experience lower asset returns whereas EPS has a strong negative relation with the Leverage ratio implying that firms with higher leverage cause lower earnings per share. However, the correlation with liquidity ratios such as Quick Ratio and Current Ratio is weak and not statistically significant, implying that these liquidity measures have a limited association with ROA and EPS respectively. Similarly, ROA and EPS are negatively correlated with Debt Service Ratio, implying that firms with a higher debt-to-service ratio have lower returns on assets and lower earnings per share.

***Table 5: Correlation Matrix***

| | **Return on Assets** | **Earnings Per Share** | **Cash Conversion Cycle** | **Leverage Ratio** | **Quick Ratio** | **Current Ratio** | **Debt to Service Ratio** |
|---|---|---|---|---|---|---|---|
| **Return on Assets** | 1 | | | | | | |
| **Earnings Per Share** | -0.178 | 1 | | | | | |
| | (0.189) | | | | | | |
| **Cash Conversion Cycle** | -0.302* | 0.765* | 1 | | | | |
| | (0.024) | (0.000) | | | | | |
| **Leverage Ratio** | -0.758* | 0.352* | 0.475* | 1 | | | |
| | (0.000) | (0.008) | (0.000) | | | | |
| **Quick Ratio** | 0.120 | 0.540* | -0.517 | -0.115 | 1 | | |
| | 0.380 | (0.000) | (0.000) | (0.400) | | | |
| **Current Ratio** | -0.043 | 0.694* | 0.436* | 0.068 | -0.310* | 1 | |
| | 0.755 | (0.000) | (0.001) | 0.619 | (0.020) | | |
| **Debt to Service Ratio** | -0.355* | 0.853* | 0.834* | 0.488* | -0.462* | 0.658* | 1.000 |
| | (0.007) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | |

Note: 1): The level of significance at the 5% confidence intervals is shown by the *. 2): The values in () indicate the p-value of the estimated coefficients.

### 4.3. Variance Inflating Factor

Table 6 shows the Variance Inflation Factor (VIF) for each variable, indicating that each variable has a VIF less than 10, indicating the lack of multicollinearity. VIFs are calculated by regressing a single predictor against all of the model's predictors.

***Table 6: Variance Inflating Factor***

| Variable | VIF | 1/VIF |
|---|---|---|
| | | |
| Debt to Service Ratio | 6.750 | 0.148 |
| Earning Per Share | 4.940 | 0.203 |
| Cash Conversion Cycle | 4.110 | 0.243 |
| Current Ratio | 2.590 | 0.386 |
| Leverage Ratio | 1.590 | 0.629 |
| Quick Ratio | 1.530 | 0.653 |
| **Mean VIF** | **3.590** | |

### 4.4. Results of ROA Fixed Effect Model

Table 7 summarizes the findings of a regression analysis designed to determine the impact of various financial ratios, particularly the Cash Conversion Cycle (CCC), on firm profitability as measured by Return on Assets (ROA). The results reveal intricate relationships between these variables. The Leverage Ratio exhibits a noteworthy and negative influence on profitability. These findings are consistent with established financial theory, indicating an increase in financial risk associated with increased leverage, as noted by Karim et al. (2023) and other scholars. Similarly, the Quick Ratio exhibits a significant and negative coefficient, implying that a higher proportion of liquid current assets may be associated with lower profitability, potentially indicating underutilized resources. Conversely, the Current Ratio demonstrates a positive and substantial impact on profitability. one independent variable in the model significantly influences firm profitability. While an increased Current Ratio corresponds to increased profitability, it is critical to consider both statistical and economic significance. Notably, the constant term in the model, which represents the baseline profitability when all independent variables are zero, achieves statistical significance.

In summary, the regression model is statistically significant, as indicated by F-statistics and associated p-value (p 0.05) indicating that at least one independent variable in the model significantly influences firm profitability.

***Table 7: Results of ROA Fixed Effect Model***

| | **Coefficient** | **t** | **P>\|t\|** |
|---|---|---|---|
| Cash Conversion Cycle | 0.000 | -0.180 | 0.860 |
| Leverage Ratio | -0.179* | -5.000 | 0.000 |
| Quick Ratio | -0.008* | -3.900 | 0.000 |
| Current Ratio | 0.009* | 3.870 | 0.000 |
| Debt to Service Ratio | 0.078 | 0.640 | 0.525 |
| Constant | -0.025* | -4.420 | 0.000 |
| | | | |
| **F-statistics** | 17.390* | | |
| **Prob > F** | 0.000 | | |

Note: * indicates the level of significance at 5% confidence interval.

### 4.5. Results of EPS Fixed Effect Model

Table 8 shows the regression analysis which reveals important insights into the complex relationship between various financial ratios and firm profitability, as measured by Earnings Per Share (EPS). Four significant variables are found in this analysis. To begin, the `negative Cash Conversion Cycle (CCC) coefficient of -0.021 indicates that a shorter CCC is closely associated with higher profitability, emphasizing the critical role of effective working capital management. This finding aligns with financial theory and emphasizes the critical role of optimizing the CCC to enhance firm performance. The Quick Ratio has a highly negative coefficient of -3.442, indicating that increased liquidity is associated with increased profitability Bordeleau and Graham (2010), Similarly, the Current Ratio has a highly positive coefficient of 4.727, highlighting the positive relationship between a higher current ratio and higher profitability.

The overall model is statistically significant, as indicated by the F-statistics with a p-value of 0.000. This underscores the collective impact of the included variables on firms' profitability. In summary, the findings highlight the critical role of a shorter CCC and favorable liquidity positions in positively influencing firms' profitability, providing valuable insights for financial decision-makers.

***Table 8: Results of EPS Fixed Effect Model***

| | **Coefficient** | **t** | **P>\|t\|** |
|---|---|---|---|
| Cash Conversion Cycle | -0.021* | -3.050 | 0.004 |
| Leverage Ratio | -0.059 | -0.010 | 0.993 |
| Quick Ratio | -3.442* | -8.530 | 0.000 |
| Current Ratio | 4.727* | 10.740 | 0.000 |
| Debt to Service Ratio | 19.929 | 0.830 | 0.412 |
| Constant | -6.922* | -6.190 | 0.000 |
| | | | |
| **F-statistics** | 31.290* | | |
| **Prob > F** | 0.000 | | |

Note: * indicates the level of significance at 5% confidence interval.

In Conclusion, the regression analyses in Tables 7 and 8 provide critical insights into the complex dynamics of financial ratios and firm profitability as measured by ROA and EPS. According to financial theories on leverage and risk, the Leverage Ratio has a significant influence on ROA. Quick and Current Ratios provide more nuanced views on liquidity and profitability. Notably, the CCC has a negligible impact on ROA, implying that it is not a reliable indicator of profitability. A shorter CCC emerges as a critical factor in the context of EPS, emphasizing the importance of effective working capital management. The overall statistical significance emphasizes the combined impact of these factors on firm profitability, providing concise strategic guidance for long-term financial success.

## 5. Conclusion

This study delves into the financial dynamics of seven companies in the context of effective working capital management, assessing the impact of Cash Conversion Cycle (CCC) on two dependent variables: Return on Assets (ROA) and Earnings Per Share (EPS). This research looks at four independent variables—Leverage Ratio, Quick Ratio, Current Ratio, and Debt to Service Ratio—to better understand their complex relationships with ROA and EPS across these companies. To achieve our goals, this study investigates the impact of CCC on financial health, the factors influencing CCC's impact on financial performance, and the roles of inventory turnover accounts receivable, accounts payable, and debt in shaping CCC and firm profitability.

The findings shed light on these relationships in a variety of ways. While the Leverage Ratio corresponds to financial theories, demonstrating a significant influence on ROA, the CCC appears to be insignificantly correlated with ROA, challenging conventional wisdom. In the realm of EPS, on the other hand, a shorter CCC emerges as a pivotal factor, emphasizing its importance in driving profitability. These findings highlight the complexities of Cash Conversion Cycle dynamics in influencing firm performance. Lastly, this research provides valuable strategic guidance to financial decision-makers by highlighting the multifaceted effects of various financial ratios on firm profitability in a dynamic business landscape.

### 5.2. Recommendations and practical impactions

- Strategic management can help to mitigate the financial risks associated with increased leverage.
- Manage the Quick Ratio and Current Ratio strategically to avoid resource underutilization.
- Provide a comprehensive view of a company's performance that goes beyond traditional profitability measures.
- Create CCC strategies that are unique to each company's industry dynamics.
- Take into account industry benchmarks when optimizing the CCC for improved financial performance.

We recommend conducting further research that includes more companies in the healthcare sector, as well as companies from other sectors, to compare the results.

### 5.3. Limitations

This study has some limitations because it includes a dataset of only seven companies which may not fully represent the diversity of industries and business practices. Larger datasets with broader industry coverage will provide a more complete picture. External factors such as macroeconomic indicators, regulatory changes, and global events were not taken into account thoroughly.

## 6. Reference

Aktas, N., Croci, E., & Petmezas, D. (2015). Is Working Capital Management Value-enhancing? evidence from firm performance and Investments. *Journal of Corporate Finance*, 30, 98–113.

Ali, A., & Shaik, A. R. (2022). Effect of Debt Financing on Firm Performance: A Study on Energy Sector of Saudi Arabia. *International Journal of Energy Economics and Policy*, 12(6), 10–15.

Berger, A. N., & Udell, G. F. (1995). Relationship Lending and Lines of Credit in Small Firm Finance. *The Journal of Business*, 68(3), 351–381.

Bordeleau, E. and Graham, C. (2010). The Impact of Liquidity on Bank Profitability. *Working Paper*, Bank of Canada Working.

Brigham, E., F., & Ehrhardt, M., C. (2004). *Financial Management: Theory and Practice*. 11th ed. New York. South-Western College Publishers.

Buddenberg, J. (2019). Aggressive Working Capital Strategies for Network-enabled Business Models.

Doğan, M., & Kevser, M. (2020). The Determinants of Cash Conversion Cycle and Firm Performance: An Empirical Research for Borsa Istanbul Turkey. *Management and Economics Review*, 5. 197-206.

Gitman, L. J. (2000). *Principles of Managerial Finance*. India: Pearson Education.

Gujarati, D. N. (2003). Basic Econometrics.

Hausman, J. A. (1978). Specification tests in Econometrics. *Econometrica*, 46(6), 1251-1271.

Jose, M., L., Lancaster, C., & Stevens, J., L. (1996). Corporate returns and cash conversion cycles. *Journal of Economics and Finance*, 20(1), 33-46.

Karim, R., Mamun, M. a. A., & Kamruzzaman, A. S. M. (2023). Cash conversion cycle and financial performance: evidence from manufacturing firms of Bangladesh. *Asian Journal of Economics and Banking*.

Koliasa, G., Arnisa, N., & Karamanisa, K. (2020). The simultaneous determination of cash conversion cycle components. *Accounting and Management Information Systems*, 19(2), 311-332.

Kumaraswamy, S., & George, S. (2019). Trade credit management and firm profitability of Saudi manufacturing firms. *Polish Journal of Management Studies*, *20*(1), 243–253.

Laghari, F., Ahmed, F., & López García, M. N. (2023). Cash flow management and its effect on firm performance: Empirical evidence on non-financial firms of China. *PLoS ONE*, 18(6).

Linh, N. T. P., & Mohanlingam, S. (2018). The effects of cash conversion cycle on profitability: An insight into the agriculture and food industries in Thailand. *Asian Journal of Business and Accounting*, 11(1), 97-119.

Linh, N., T., P., & Mohanlingam, S. (2018). The effects of cash conversion cycle on profitability: An insight into the agriculture and food industries in Thailand. *Asian Journal of Business and Accounting*, 11(1), 97-119.

Myers, S. C. (1984). The capital structure puzzle. *The Journal of Finance*, 39(3), 574–592.

Nijam, H., M., (2016). Cash conversion cycle, its properties and profitability: Evidence from listed hotel companies in Sri Lanka. *Research Journal of Finance and Accounting*, 7(1), 23-32.

Nwude, E., C., Agbo, E. I., & Ibe-Lamberts, C. (2018). Effect of Cash Conversion Cycle on the Profitability of Public Listed Insurance Companies. *International Journal of Economics and Financial Issues*, 8(1), 111-117.

Obeng, H., Enos, B. K., & Yensu, J. (2021). Working capital management, working capital policy, and firm performance in Ghana: Empirical evidence using a dynamic system GMM. *African Journal of Business and Economic Research (AJBER)*, 16(1), 249-271.

Qadri, F. A., Altas, S., & Aman, Q. (2021). The impact of cash conversion cycle on the performance of cement industry in Saudi Arabia. *International Journal of Management*, 12(2), 894-903.

Richards, V., D., & Laughhin, E., J. (1980). A cash conversion cycle approach to liquidity analysis. *Financial Management*, 9(1), 32-38.

Samosir, F., C., (2018). Effect of cash conversion cycle, firm size, and firm age to profitability. Journal of Applied Accounting and Taxation, 3(1), 50-57.

Saraswati, T., & Bernawati, Y. (2020). The Effect of Cash Conversion Cycle and Firm Size on the Profitability of Manufacturing Companies. *International Journal of Innovation, Creativity and Change*, 11(9).

Saudi Exchange. (n.d.). Company Profile Main Market. Retrieved from https://www.saudiexchange.sa/wps/portal/saudiexchange/hidden/company-profile-main/?companySymbol=4013

Saudi Exchange. (n.d.). Company Profile Main Market. Retrieved from https://www.saudiexchange.sa/wps/portal/saudiexchange/hidden/company-profile-main/?companySymbol=4007

Saudi Exchange. (n.d.). Company Profile Main Market. Retrieved from https://www.saudiexchange.sa/wps/portal/saudiexchange/hidden/company-profile-main/?companySymbol=4004

Saudi Exchange. (n.d.). Company Profile Main Market. Retrieved from https://www.saudiexchange.sa/wps/portal/saudiexchange/hidden/company-profile-main/?companySymbol=4009

Saudi Exchange. (n.d.). Company Profile Main Market. Retrieved from https://www.saudiexchange.sa/wps/portal/saudiexchange/hidden/company-profile-main/?companySymbol=2140

Saudi Exchange. (n.d.). Company Profile Main Market. Retrieved from https://www.saudiexchange.sa/wps/portal/saudiexchange/hidden/company-profile-main/?companySymbol=4002

Saudi Exchange. (n.d.). Company Profile Main Market. Retrieved from https://www.saudiexchange.sa/wps/portal/saudiexchange/hidden/company-profile-main/?companySymbol=4005

Sugathadasa, K. (2018). The Relationship between Cash Conversion Cycle and Firm Profitability: Special Reference to the Manufacturing Companies in Colombo Stock Exchange. *Journal of Economics and Finance*, 9, 38-47.

Telly, B., R., (2019). Effect of size and cash conversion cycle on company profitability. *Journal of Applied Managerial Accounting*, 3(1), 155-165.

Upadhyay, S., Sen, B., & Smith, D. (2015). The cash conversion cycle and profitability: A study of hospitals in the state of Washington. *Journal of Health Care Finance*, 41(4).

Vartak, P., S. (2019). Relationship between Cash Conversion Cycle and Firm Profitability: Contract and Construction Companies listed on BSESME. *Seventeenth AIMS International Conference on Management.*

Zeidan, R., & Shapir, O. M. (2017). Cash conversion cycle and value-enhancing operations: Theory and evidence for a free lunch. *Journal of Corporate Finance*, 45, 203–219.

Zhang, X., & Xu, L. (2021). Firm life cycle and debt maturity structure: *Evidence from China. Accounting & Finance*, 61, 937-976.



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