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Cash Conversion Cycle and Firm's Performance

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Abstract

Cash conversion cycle (CCC) is a performance-based measure for determining how well a company manages its working capital. Effective management of working capital will enhance a company's performance and enable it to accomplish its profitability objectives. Even though there have been a few studies on CCC in the past, CCC research has grown in importance. This is because the CCC in any business may have evolved over time. The goal of this study is to present a conceptual framework for analysing the CCC and firm performance, as well as their relationship. The measurement of CCC, which is Days Sales Outstanding (DSO), Days Inventory Outstanding (DIO), and Days Payables Outstanding (DPO), are independent variables, whereas the firm's performance is measured by return on asset (ROA) and return on equity (ROE). This research contributes to the current knowledge on the correlation between the CCC and firm performance.

Keywords: Cash Conversion Cycle, Firm Performance, Return on Asset, Return on Equity, Framework.

Introduction

Capital structure and ownership structure are two financial corporate aspects that organisations frequently focus on directly to generate profits. However, this analysis will solely focus on the firm's CCC, which comprises of the course of transaction operations required to earn profits while enhancing firm performance. Financially speaking, effective working capital management (WCM) is crucial to a company's performance. CCC has become one of the most popular WCM efficiency measurement tools for businesses. CCC facilitates the measurement of the time lag between the procurement of raw materials and the collection of expenses on the sale of completed goods to clients. This is reinforced by Hassan (2017), who argues that the CCC is required in every organisation and is a potent instrument for evaluating the working capital management of a business. In fact, CCC is one of the most popular techniques for evaluating and calculating the risks and profits associated with liquidity management (Chen et al., 2022; Zaher & Illescas, 2022; Lin & Lin, 2021).

In addition, a company can effectively manage its working capital by considering the duration of the CCC as a crucial metric for achieving high WCM management efficiency (Nwakaego & Ikechukwu, 2015). CCC is a concern that must be considered seriously while managing the operations of a business. According to Ciprian Cristea (2018), CCC is a significant statistic that is used to assess the company's overall financial health. With the measurement of CCC, it is possible to determine the number of days between a company's cash expenditure for the purchase of raw materials to make a product and the accumulation of cash from the sale of finished items.

CCC is defined numerically as the sum of Days Sales Outstanding (DSO) and Days Inventory Outstanding (DIO), minus Days Payable Outstanding (DPO). According to a study by Majanga (2015), the smaller a company's CCC, the faster it may recover cash from the sale of its products, and the more cash a company possesses, the more liquid it will be. Alternatively, if the CCC is high, the firm will require more time to reintroduce the currency into the system. Thus, the high CCC is the cause of the firm's liquidity issue. In most circumstances, a company requires WCM to ensure that sufficient cash is always accessible to operate daily operations. According to Syarief (2016), the cash indicated is how a company generates funds through its operations.

First, a DSO receivable period is the average time required to convert receivables into cash. DSO will determine the number of days required to collect money for the company following a sale. DSO can be determined based on the average collection period (ACP). According to a study conducted by Mwangi (2011), ACP is the firm's capacity to get payment from consumers for goods or services given on time, which can boost the firm's liquidity. In addition, the income obtained from customers can be invested in operations that promote increased sales, for instance. Second, DIO is the average number of days an organisation retains inventory prior to selling it. To determine the DIO, the inventory turnover period is used, which includes the number of days and the average time it takes for a company to convert its inventory into revenues. The final component is the debt suspension period, also known as DPO, which is the average time required to repay debts incurred for raw materials and labour. DPO refers to the amount of time between the payment for the procurement of raw materials and the receipt of cash from the sale of the goods. This is closely tied to accounts payable, one of the company's primary sources of guaranteed short-term funding. According to Ozbayrak and Akgun (2006), accounts payable play a significant role in the achievement of a positive cash flow, as an increase in cash due to certain active purchases might lead to liquidity issues. The account payable reflects the rate at which the company pays its suppliers. They are frequently referred to as suppliers whose invoices are sent for processed, but unpaid products or services. The greater the sum, the longer it takes for companies to fulfil their payment obligations to suppliers.

Most research has focused on the impact of liquidity, working capital, cash cycles, and enterprise size on profitability, but there is no definitive evidence of a negative or positive correlation between CCC and profit (Linh and Mohanlingam, 2018). On the basis of prior research, Tsagem and Aripin (2018) determined that the CCC, payable account period, and account receivable period are negatively correlated with firm profitability as measured by return on assets (ROA), whereas inventory holding periods are positively correlated with the firm's profit. In addition, investigations conducted by Hassan (2017) reveal that ROA and ROE

are the most popular metrics used by researchers to evaluate a company's profitability. According to the findings of his study, there is a negative correlation between CCC and firm performance as measured by ROA and ROE. This implies that the CCC has no effect on the firm's profitability, as a negative CCC suggests a shorter CCC period, which is favourable for any company. If a company gains a shorter CCC time, it might generate a greater profit.

To ensure the efficacy of the CCC, a company must also generate significant earnings and expand their level (Zaher & Illescas, 2022). According to Raheem (2013), a company's earnings can be increased by decreasing the CCC time by shortening or lengthening the debtor collection duration, inventory sales period, and credit payment term. In addition, Tsagem and Aripin (2018) discovered that the CCC, account payment period, and account receivable time are adversely correlated with firm profitability as assessed by ROA, however inventory holding periods are positively correlated with a company's profit. This implies that the CCC has no effect on the firm's profitability, as a negative CCC suggests a shorter CCC period, which is favourable for any company.

The goal of this study is to present a conceptual framework for analysing the CCC and firm performance, as well as their relationship. The following section will discuss the literature review, followed by the discussion, conceptual framework, implications, and conclusion.

Literature Review

Cash Conversion Cycle

Cash Conversion Cycle (CCC) is one of the most common indicators used by businesses to evaluate and quantify risks and rewards related with liquidity management (Sugathadasa, 2018). It quantifies the time it takes to convert inventory into cash from the moment the inventory is purchased until it is sold and the debts are paid. According to Majeed et al. (2013), CCC is the foundation of effective working capital management and a standard indicator of working capital efficiency.

CCC is a common metric used by businesses to evaluate how well a company manages its liquidity and working capital (Linh & Mohanlingam, 2018). According to a study by Sugathadasa (2018), enterprises can boost their profitability by shortening CCC by reducing the period of debt collection, shortening or reducing the duration of inventory sale, and extending or increasing the credit payback period. According to Nwakaego & Ikechukwu (2015), the firm's performance had a favourable effect on ROA by reducing the time CCC. However, shortening the CCC might also have a detrimental impact on the firm's operations, resulting in a decrease in performance (Tsagem & Aripin, 2018). In their study, they provide the illustration that prolonging the account payment time could harm the firm's credit rating and that reducing the detention period would increase inventory shortfall costs and result in the loss of a good client.

Abuzayed (2012), on the other hand, suggested that if the CCC was longer, the firm's profitability may grow because to its large sales. He added the positive CCC indicating the number of days the corporation needs borrow or retain funds while waiting for consumer payments. While the negative CCC indicates the number of days a firm must get cash from a sale before paying its trade creditors, the positive CCC indicates the number of days a company must receive cash from a sale before paying its trade creditors. According to the

preceding definitions, the CCC is the number of days required to generate operating cash from the collection of accounts receivable plus inventories less the sale of debt payments. Overall, it can be stated that the definition of the CCC is inconsistent and has differing perspectives due to the fact that several writers were analysed in the same research.

In this study, CCC is proposed to utilise all three metrics: DSO, DIO and DPO to evaluate the performance of the company (DPO). DSO represents the number of days it takes to turn a credit sale into cash, or how long it takes the company to pay off its account debt. DSO calculation, also known as the average collection period or sale of the debtor, estimates the number of days necessary for a business to receive cash from the sale of credit. While DIO measures the rate at which a corporation converts raw inputs into sales, Less value is preferable for the company. In addition, the DPO is used to determine how quickly a corporation can pay for its transactions. DPO differs from DSO and DIO because the company has an incentive to extend the time it takes to settle debt payments in order to eliminate all debt and provide cash today. Firms must use cash to repay debt, whereas debt increases from one period to the next increase cash. This indicates that companies want the DPO to be longer and greater.

All three of these variables can be found using the following formula:

DSO = Account Receivable / Revenue x 365 days
DIO = Inventories / COGS x 365 days
DPO = Account Payable / COGS x 365 days

Firm's Performance

There was also an evaluation of financial performance based on returns on investment, residual income, earnings per share, dividend yield, income ratio, sales growth, market capitalization, and other metrics derived from earlier studies. Performance measurement is based on the information included in measurement methods and utilised instruments. Utilized by the CCC, profitability is one of the most widely employed firm performance analysis methods. As a result, this study demonstrates that every company is crucial to its profitability. Profit ratios reveal the overall effectiveness and performance of a business. So it will aid in providing input on management decisions for the long-term success of the organisation.

The performance of the company can be measured by net profit, gross profit, return on investment (ROI), return on assets (ROA), and return on equity (ROE). Historically, ROA is regarded as a more trustworthy indicator of the benefits of ROE when evaluating the performance and efficiency of a business. Therefore, the study by Majeed et al (2013) concludes that low-profit manufacturing enterprises face a high ROA and a low ROE, as seen by the high ROA and profitability, respectively. ROA and ROE are two measures of profitability utilised in this study to explore CCC connections and firm profitability.

Relationship between CCC and Firm's Performance

Hassan (2017) utilised correlation analysis in his research to analyse the relationship between the CCC and the firm's performance. According to Tsagem and Aripin (2018), a cohesive relationship between the CCC and its components and the profitability of Nigerian

SMEs can be created by focusing on SME entities from developing nations in Nigeria that have inadequate financial management. In the same study, a negative correlation between CCC, inventory holding period, and account pay out period and SME profitability was discovered. They also discovered that the conversion duration had a strong positive link with the profitability of manufacturing companies in Sri Lanka, whereas the loan payback period had a large negative relationship.

To ensure the efficacy of the CCC, a company must also generate significant earnings and expand their level. Consequently, businesses in both the public and private sectors must ensure that their profits are always in good or better condition. In addition, a company's performance must be measured in order to determine the degree to which it has increased or decreased its achievements. This is due to the fact that a firm's profit level is an efficient indicator of resource use in its business activities. Consequently, maximising profits is the objective of a company's business operations. In the meantime, it can demonstrate that the high profit level is a result of the firm's effective management.

According to Raheem (2013), a company's earnings can be increased by decreasing the CCC time by shortening or lengthening the debtor collection duration, inventory sales period, and credit payment term. Thus, a decrease in borrowing costs associated with the holding of inventories and receivables and a decrease in expenditures directly associated with the receipt of discounts may imply that enterprises can produce better profits if the CCC is short (Mwangi, 2011). Moreover, a short CCC suggests that the company has handled and kept inventory more efficiently, received cash from debtors more quickly, and delayed cash payments to suppliers. To reduce the CCC, businesses must produce and sell items to consumers more quickly, reduce the collection duration of receivables by accelerating the collection, or slow payments to suppliers by raising the deferred payment period (Nobanee & Al Hajjar, 2014).

Garanina and Petrova (2015) contend, to the contrary, that the abbreviated CCC may be detrimental to the operations and performance of a company. This is owing to the fact that a reduction in the conversion time may increase the cost of the absence of inventory and cause the company to lose clients with strong credit, whilst an extension of the payment term may harm the company's credit standing.

Linh and Mohanlingam (2018) found that the CCC has a substantial adverse association with the profitability of Thai agriculture and food firms. Moreover, production cycles and debt ratios were discovered to have a substantial negative association with ROA, whilst cycle and payment dimensions were revealed to have a positive link with ROE. In the same study, it was also determined that there is no significant correlation between profit and cash collecting cycle. In a separate study, Anser (2013) analysed the relationship between CCC and business profitability, concluding that increases in collection duration, inventory sale period, and decreases in payment period have a negative impact on profitability. Nevertheless, the data indicate that CCC is significantly and negatively related to ROE, indicating that reducing CCC will be advantageous for the company.

Discussion and Conceptual Framework

Kaur and Singh (2013) found a favourable correlation between profitability as evaluated by ROA and ROE and the day the account is received, the payment account, and the CCC. According to Gill et al (2010), CCC and profit appear to have a favourable relationship. In its analysis, it is recommended that less profitable companies reduce the cash gap in the CCC in order to sustain the decline in account receivables. The longer a company's cash cycle, the higher its profitability, as shown by (Sharma and Kumar, 2010). CCC has a substantial positive correlation with ROA and ROE (Hussain et al., 2021) This advantageous relationship exists because the company can raise funds for the debtor before making payments to suppliers.

The negative link between a company's CCC and ROA can be explained by the fact that a minimal investment in current assets might help increase earnings (Majeed, 2013). This result is also consistent with Linh and Mohanlingam's (2018) observation that the coefficient for CCC is adversely connected with ROA and ROE. This study is pertinent to the efficient management of working capital in light of the belief that CCC is shorter and results in more earnings. Tsagem and Aripin (2018) revealed that as the profitability of SMEs increases, the coefficient of CCC decreases. All three components of CCC employed in the same study, accounts receivable period (ARP), inventory holding period (IHP), and accounts payable period (APP), result in a negative correlation between ARP and a company's profitability. This suggests that a one-day reduction in accounts receivable is connected with a rise in SME earnings. According to Oseifuah and Gyekye (2018), there is a negative correlation between CCC and profitability. In addition, they identified a negative association between inventory conversion and receivables collection and profitability, as well as a positive relationship between accounts payable deferral duration and profitability. Their findings suggested that managers may boost profitability by shortening the duration of production and cash collection and lengthening the payables period.

However, according to a study conducted by Nwakaego and Ikechukwu in 2015, the CCC had no substantial impact on the company's earnings. In addition, Hemalatha and Kamalavalli (2017) discovered that CCC is not significantly related to ROE and ROA.

Nonetheless, there are research with contradictory findings. This indicates that the results of the study indicate a positive and negative association between the variables utilised in the CCC and the performance of companies utilising ROA and ROE. Few research examining the correlation between CCC as a metric of efficient working capital management and corporate profitability have produced contradictory results. According to Linh and Mohanlingam (2018), the withdrawal cycle shows a negative correlation with ROA and a positive correlation with ROE. This indicates that while the production cycle is short, enterprises create greater ROA profits, and the longer they take to pay their creditors, the greater their ROE profits. The CCC has a negative influence on ROA and a favourable effect on ROE, as demonstrated by (Margaretha and Oktaviani, 2016). The study reveals that the CCC component consists of days in which account receivables have a positive impact on ROA and ROE, but inventory days have a negative impact on ROA and a positive impact on ROE; therefore, leverage has a negative influence on gross operating profit.

According to Kaur and Singh (2013), there is a dearth of empirical research on the relationship between CCC and company performance, particularly in the setting of CCC, highlighting the need to focus on WCM. The majority of studies on WCM were conducted through empirical research, the author noted. The management of CCC differs slightly from the management of WCM. Working capital policy can be an essential issue for any company since, without the right management of working capital components, it will be difficult for the organisation to operate without interruption. Consequently, its efficient provision can assure the success of a firm, whereas its ineffective management can result in not just losses but also the ultimate demise of an otherwise promising enterprise. However, the capacity of finance executives to efficiently handle receivables, inventory, and payables is crucial to the profitability of their businesses (Filbeck, 2005).

Figure 1 depicts the conceptual framework of this study.

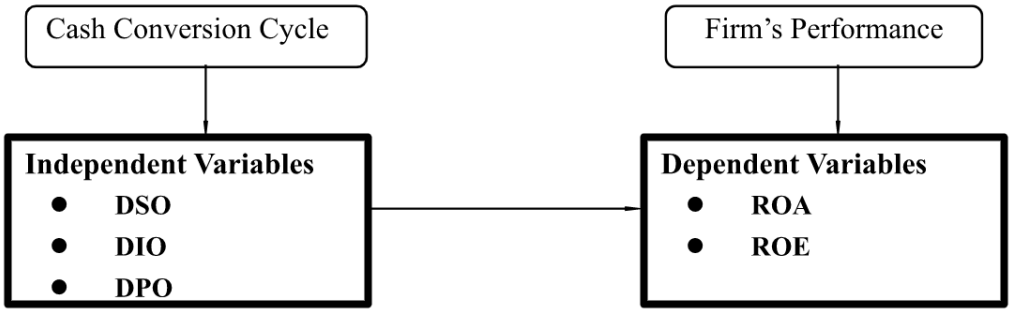

Figure 1. Conceptual Framework

Days Sale Outstanding (DSO)

Days Sale Outstanding is a measure of the average number of days that a company needs to collect payment for the following sales. DSO is often determined on a monthly, quarterly or annual basis.

$$DSO = \frac{\text{Account Receivable} \times 365 \text{ days}}{\text{Revenue}}$$

Days Inventory Outstanding (DIO)

Days Inventory Outstanding is a financial ratio which shows the average time in days that a company takes to turn its inventory, including goods that are a work in progress, into sales.

$$DIO = \frac{\text{Inventories} \times 365 \text{ days}}{\text{COGS}}$$

Days Payable Outstanding (DPO)

Days Payable Outstanding is a financial ratio which indicates the average time that a company takes (in days), including suppliers, sellers or other companies, to pay its bills and invoices to its commercial creditors. The ratio is measured annually or quarterly, which indicates how efficiently cash flows are handled by the organization.

$$DPO = \frac{\text{Account Payable} \times 365 \text{ days}}{\text{COGS}}$$

Implication and Conclusion

This research presents a paradigm for analysing the CCC and corporate performance. Numerous scholars have undertaken numerous studies on the correlation between CCC and firm performance over the years. According to research conducted by Sugathadasa (2018); Quayyum (2011); Hassan (2017); Margaretha & Oktaviani (2016) on a variety of companies and industries, the benefits associated with effective working capital management, in particular CCC, have varying effects on company performance. According to Sugathadasa's (2018) research, there is a negative correlation between CCC and the performance of manufacturing enterprises. In addition, several additional researchers, such as Quayyum (2011) and Hassan (2009), discovered a favourable correlation between CCC and company performance (2017). In Indonesia, Margaretha and Oktaviani (2016) observed a mixed link between CCC and firm performance, with a negative correlation between CCC and ROA and a positive correlation between CCC and ROE. Despite the fact that the relationship between CCC and firm performance has been the subject of studies and study for decades, academics continue to hold divergent opinions and findings.

This work contains a number of theoretical contributions. Despite the fact that a number of papers have already incorporated this research issue into their studies, there is a dearth of in-depth scholarly research on this topic because the results are inconsistent. This demonstrates that this topic is still necessary in terms of contributing new knowledge to ongoing arguments. Furthermore, the research on this area is scarce in Malaysia. Given the dearth of research on CCC and company performance in the Malaysian setting, it is anticipated that this study will contribute to the field of expertise. In addition, future researchers will be required to conduct additional research to ensure that this study continues to expand and does not end here. Researchers will also be expected to use this study as a source of reference and learning materials for future research endeavours. This research may help enhance comprehension of the CCC, company performance, and their interrelationship. In addition, this study will explain the significance of the CCC's effectiveness on the performance of the company. With the effectiveness of the CCC in relation to the firm's performance, it is possible to safeguard both stakeholders and the firm.

Besides that, this paper also helps to aid in the practical contributions to the industry. One of the main reasons is because firm performance and profitability is one of the most essential aspects of a business. In order to prevent losses within the organisation, managers must pay close attention to all aspects of earnings and performance. According to Linh and Mohanlingam (2018), CCC has a detrimental impact on the link between return on assets (ROA). This means that while the CCC is short, the corporation will generate greater profits. A careful analysis of the relationship between the CCC and the firm's performance is required so that the company may coordinate its debt and equity financing as necessary. In other words, if a business management is unable to manage the firm's operations carefully, the firm may experience loss issues, and investors are hesitant to engage in difficult companies.

Moreover, the majority of shareholders and investors may assume that CCC is irrelevant or does not affect the firm's value and performance, therefore they lack a clear understanding of the impact of CCC on firm performance measurement. This will cause investors to incur losses on their capital investments in a company. Due to the impact, some researchers have determined that greater emphasis must be paid to studies on the influence of CCC, as it is

crucial for enterprises' long-term survival in regard to working capital. In spite of the fact that companies listed on the Bursa Malaysia should be regarded as successful, there are a number of enterprises that struggle with unstable financial management. This is because, if a firm manager is not attentive to the CCC and its impact on the firm's performance, this could result in financial issues such as a heavy debt burden.

In addition, enterprises in Malaysia can utilise this study as further evidence to examine the correlation between CCC and their firm's performance. CCC and firm performance can also be determined through research that uses other Malaysian companies as a benchmark. This study is anticipated to be utilised by regulators, investors, firms, and others who contend that a strong CCC is necessary to improve company performance and investor confidence.

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