

Impact of Cash Conversion Cycle on Profitability. An Empirical Study on the Listed Hotel Companies in Sri Lanka

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Abstract

Cash conversion cycle (CCC) is one of the most widely used measurements to evaluate the risks and returns associated with liquidity management. Each company is highly concerned with how profitability can be maintained and strengthened, so they have to keep an eye on the factors that influence profitability. Therefore, the main purpose of this study is to identify the impact of cash conversion cycle on profitability of selected listed hotel companies in Colombo Stock Exchange (CSE), Sri Lanka. The present study is concerned about evaluating how CCC affects the profitability of listed hotel companies within the consumer service sector in CSE. In terms, profitability was calculated using return on assets (ROA) and return on equity (ROE). CCC measured using the inventory turnover period (ITP), receivable turnover period (RTP) and payable turnover period (PTP). The sample covered the 30 listed hotel companies and took the period as twelve years starting from 2011/12 to 2022/23. In this study, regression and correlation statistical techniques were used to estimate the impact and the relationship between CCC and profitability. According to regression analysis, ITP has a negative relationship with ROA and a positive relationship with ROE. Further, the study found that PTP and RTP are negatively affected by ROA and ROE. The study reveals that CCC positively correlated with profitability and has a significant impact on profitability. There was a significant impact of CCC on profitability in listed hotel companies of the consumer service sector in CSE. These results of the study suggest and recommend that managers can create value for their shareholders by maintaining effective and efficient CCC.

Key terms: cash conversion cycle, return on assets, return on equity, listed hotel companies, working capital management, profitability

JEL classification: G30, G32, M41

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1. Introduction

The cash conversion cycle is the choices about investments in accounts receivable, inventories and about acceptance of credit from suppliers. It's one among the foremost generally utilized estimations to evaluate the risks and returns related to liquidity management. Every corporate organization is extremely concerned about the way to sustain and improve profitability. So, they need to stay and consider the factors affecting profitability, like inventory management, accounts receivables and also accounts payables. Consequently, the main purpose of the study is to spot the impact of CCC on profitability with regard to the listed hotel companies in Sri Lanka.

Working capital (WC) is like the blood to the human body. If it is carried effectively, efficiently and consistently, it will assure the health of an organization (Kumar, 2014). Working capital management (WCM) is a very important concept of every organization and its most significant concept in financial management. WCM plays a significant role in the management structure of an organization. It directly affects the profitability and liquidity in the organization. Therefore, management should pay attention to WCM. The company operating cycle will also determine the level of WC. Some components are very important in WCM. Cash conversion cycle (CCC), inventory turnover period (ITP), average receivable period (ARP) and average payable period (APP) are the most important criteria in the WCM.

The cash conversion cycle has been considered as an important factor of the firm's WCM. Otherwise, CCC is the most important part of WCM. Working capital is required for the day-to-day transaction of a business. CCC has three main components. Those are the receivable conversion period (RCP), payable conversion period (PCP) and the inventory conversion period (ICP). According to *Bhutto et al. (2015)*, as stated by *Eljelly (2004)*, there were two ways to appraise the WCM of the firm. The first one is by studying current assets and current liabilities and following the concept of financial statement position. The second way is the concept of WCM from the outlook of CCC. The CCC measures the number of days collecting the receivable from the sales of services or products, actual payments on purchasing and inventory turnover period.

The cash conversion cycle is vital for classifying the assets as current and fixed assets and liabilities as current and non-current/long term liabilities. The company measures the realization of a transaction by its sales and later by cash conversion of the consideration received into cash. The practical need for competent management of a company's current operations makes it important to current ratio, CCC and return ratio within the declared objectives of a company.

The modern world is changing in day by day. With the advancement of technology and increasing global competition among the companies, companies are aspiring to enhance profits and are making every effort to bring their CCC at optimum level to increase profitability. According to *Bolek and Grosicki (2012)*, two dynamic indicators are represented, economic value added (EVA) and CCC. The Inhere research did not represent CCC on the dynamic measure of liquidity of the company and the company performance. The research was done to reveal the hypothesis relationship between CCC and EVA. CCC can be affected with EVA system to make firm profitability more efficient.

CCC management is related to all business, including financial institutions, banks, manufacturing firms etc. The present study is concerned about how evaluating and measuring the changes in CCC affect the changes in the profitability of the listed hotel companies in Sri Lanka.

2. Problem identification

There is a fewer number of researches having been done relating to the topic of cash management and profitability of the listed hotels in Sri Lanka. Most of the managers' decisions depend on the firms' financial performance. Therefore, the managers have always tried to increase profit from many sources. This study is examining the impact of cash conversion cycle as one aspect that can exert an influence on profitability. According to *Mathuva (2010)*, and as stated by *Raheman and Nasr (2007)*, the final goal for any firm is to maximize the profitability by managing the cash or liquidity. WCM, especially CCC concept, would be needed a balance between the core objectives of the firm, of cash management and maintaining the expected level of liquidity. For these purposes, a firm's liquidity should not be high or should not be low. If excess cash indicates the idle funds, the lack of cash indicates the damage of the goodwill.

In Sri Lanka, tourism is the economy's third-largest export earner, and there has been unprecedented growth in the industry over the past five years (2014 – 9.8%, 2015 – 10.8%, 2016 – 11.5%, 2017 – 11.7%, 2018 – 12.2%)

(Knoema, n.d.). The Easter Sunday bomb attack that happened in 2019 caused an unleashing damage to the tourism industry in Sri Lanka. However, the tourism industry has much more untapped potential in Sri Lanka. The sector is thus in a position to generate a range of growth and investment opportunities. It is, however, only through the right policies and investment decisions that Sri Lanka will take advantage of the travel and tourism industry's economic prospects. There is a considerable number of ways that influence the total revenue of tourism in Sri Lanka (Embuldeniya, 2015). This study attempts to identify the effective cash conversion cycle management of the listed hotel companies in Sri Lanka by comparing the companies' details or information regarding the cash conversion cycle management.

Generally, most of the firms focus their attention almost with the short-term financing sources and especially concern about their working capital management. Therefore, in this study investigate the impact of cash conversion cycle on profitability of listed hotel companies in Sri Lanka. According to this topic, developed countries have conducted the studies to identify the impacts and relationships between the two aspects in different contexts. But those study results are not applicable to Sri Lanka depending upon the economic, political and other background factor differences. Therefore, this study focuses on the listed hotel companies in Sri Lanka to examine the impact of cash conversion cycle on profitability. Thereby, the problems and objectives of the study were set as follows.

2.1. Problems of the study

- ✓ *What is the relationship between cash conversion cycle and profitability?*
- ✓ *What are the key factors in the CCC that significantly impact the profitability of listed hotel companies in Sri Lanka?*

2.2. Objectives of the study

- ✓ *To investigate the relationship between cash conversion cycle and profitability.*
- ✓ *To examine which factors in the CCC significantly impact the profitability of listed hotel companies in Sri Lanka.*

3. Literature review

3.1. Theoretical framework

Working capital is the number of resources allocated to an entity for day-to-day activities. It simply consists of the entity's current assets, namely cash, short-term securities, account receivables and inventories. Working capital management uplifts the definition to a strategic level where it emphasized on efficient management of firm liquidity. Falope and Ajilore (2009) defined WCM as "management of current assets and current liabilities and financing these current assets". The studies which have been done in different countries found that WCM has a significant impact on both profitability and liquidity. Generally, WC refers to a company's investment in current assets. For the purpose of WCM, the more descriptive term is net working capital, which refers to current assets minus current liabilities.

The study reviewed by Gill (2011) found that the factors that impact WC requirement related to the Canadian market. He studied that the CCC, leverage, ROA, international firm, Tobin's Q ratio and firm size impact WC requirements in the manufacturing industry in Canada and beyond. Some findings view that the CCC, sales growth, ROA and firm size impact WC requirements in the service industry in Canada.

Early work is done by Bhutto *et al.* (2015), as stated by Eljelly (2004), there were two ways to appraise the WCM of firms. The first way is by studying current assets and current liabilities and following the concept

of financial statement position. The second way is the concept of WCM from the outlook of CCC. The CCC measures the number of days collecting the receivable from the sales of services or products, actual payments on purchasing and inventory turnover period.

The cash conversion cycle represented the interrelationship of sales, cash collections and trade credits in a way that cannot be calculated by individual numbers. To the degree that the business requires credit, the duration of the cash (operating) cycle is shortened.

Bhutto et al. (2015) analyse the average cash value of CCC, the total current assets (TCA/TA) and total current liabilities (TCL/TA) ratios in the listed companies of Karachi Stock Exchange (KSE). It is concluded that there is a major gap between CCC, WC funding policy and WC investment policy. According to the findings of this report, the oil and gas sector has the shortest CCC and varies greatly from other sectors. Another significant finding with respect to CCC is that the personal goods sector has the longest CCC.

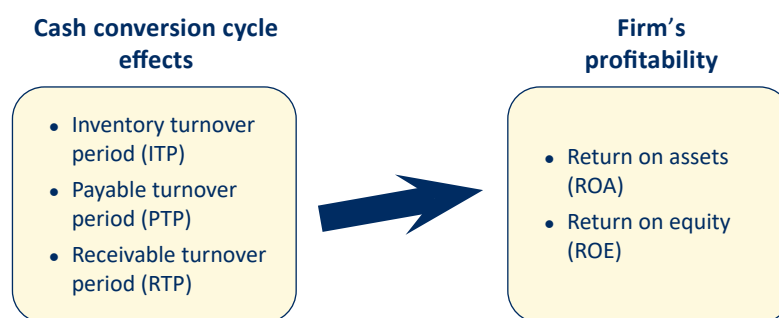
According to Bolek and Grosicki (2012), CCC on the other side is a dimension that makes a relationship between liquidity and profitability. Therefore, the quicker the conversion of funds, the faster the cash is released for the next cycle, like this increasing liquidity. Bolek and Wolski (2012), as stated by Richards & Laughlin (1980), examined the conversion cycle identified as the total of the conversion of inventory and receivables conversion period, deducing the period of the late payment obligation. Bolek (2013), as stated by Schilling (1996), explained cash as a CCC that represents the operating cycle, measured the difference between the time of procurement of the inventory for the use of the manufacturing process and the period of receipt of funds from the selling of the finished products.

The cash conversion cycle is a metric showing the length of time a business takes to turn its investments in inventory to cash. The formula of the conversion cycle calculates the amount of time in days. It takes a business to convert its resource inputs into currency. Bolek and Grosicki (2012) said the management of receivables, cash and liabilities are proportional to the unique business. As a result, the liquidity management of companies has concluded that the differences in inventory management are linked to the specific market. The cash conversion cycle is the period of time that funds are attached to working capital or the length of time between the payment of working capital and the collection of cash from the sale of working capital (Brigham & Houston, 2007).

3.2. Conceptual framework and hypotheses

■ Conceptual framework

This study focuses on identifying the impact of cash conversion cycle on the firm's profitability at listed hotel companies in Sri Lanka. Theoretical backgrounds being identified, the following conceptual framework has been developed.



Conceptual framework

■ *Hypotheses development*

Management of liquidity and profitability can be changed on CCC. According to [Saluja and Kumar \(2012\)](#), if the firm were to deduct its liquidity, the profitability would be high. Liquidity and profitability management seems to have a critical effect on today's competitiveness. As the findings show, there is a negative relationship between profitability and liquidity. According to [Saluja and Kumar \(2012\)](#), as stated by [Martínez-Solano and García-Teruel \(2006\)](#), the impact of WCM on the profitability of a sample of small and medium-sized Spanish firms was investigated. They argued that managers could build value by deducting their inventories and the number of days for which their accounts are arrears. In addition, the reduction of the CCC also increases the profitability of the companies.

According to [Gill et al. \(2010\)](#), their findings relate to the relationship between WCM and profitability. They investigated to find a statistically significant relationship between the CCC and profitability, measured by gross operating profit. It follows that top-level managers will generate wealth for their companies by correctly managing the CCC by keeping accounts receivable at an optimum point. The sample used was 88 American manufacturing firms listed on the New York Stock Exchange for a period of three years, from 2005 to 2007. They found a statistically significant association between CCC and profitability, calculated by gross operating profit, as in [Lazaridis and Tryfonidis \(2006\)](#) research. But they found a very important negative relationship between the accounts receivable and the profitability of the firm. They suggest that firms can improve their profitability by keeping their WC to a minimum. This is because they argue that less profitable firms would seek a decrease in their accounts receivable in an effort to minimize their cash gap in the CCC.

In Poland, [Bolek and Wolski \(2012\)](#) examined that there is no relationship between the liquidity ratios (CR, QR, AT) and CCC in the Warsaw Stock Exchange non-financial firms. According to [Khatik and Nag \(2014\)](#), the CCC study and the profitability of ROE indicate a negative relationship with the profitability of the business. Therefore, support for early research studies has shown that firms with shorter CCC turnover days are more profitable than firms with longer CCC. The problem of longer CCC turnover days may be the output of longer CCC turnover and inventory turnover in terms of days.

In the Polish market, [Bolek and Wolski \(2012\)](#) studied the Polish investors preferring profitability more than liquidity and analyzed the trade-off between liquidity and profitability. Current assets can be categorized into permanent and temporary assets finished by trade credit, and any other payable and accruals that arise temporarily in the firm's daily operations. Based on this theoretical background, the following hypotheses have been developed:

H1: There is a significant impact from the CCC on profitability.

H2: The components of the CCC, ITP, PTP and RTP, significantly impact profitability.

4. Methodology

For the study, researchers collected data from annual reports published for their statutory requirement from the 2011/12 financial year to 2022/23 financial year (12 years). Those reports were taken from the website of the CSE. In the investigation, listed hotel companies in Sri Lanka were identified as the population. The researchers selected 30 listed hotel companies from the consumer service sector for doing this research. The total number of the population is 38 listed hotel companies. 30 companies out of the total population were selected on the basis of availability of information for the period of study under review.

This study used secondary data because independent and dependent variables are measured by using secondary data. This study was selected for the financial year 2022/23 because it is the most recent financial year. The financial year 2011/12 was chosen as the year 2011/12 began as a stable year and it is the second year since the end of the Civil War. The operationalization of the variables was as follows:

Table 1. Operationalization of variables

Variable	Ratio	Formula	Measure	Source
Independent variable (CCC)	Inventory turnover ratio	$\frac{\text{Inventory}}{\text{Cost of sales}} \times 365$	Days	www.accaglobal.com
	Payable turnover ratio	$\frac{\text{Payables}}{\text{Purchases (Cost of sales)}} \times 365$	Days	www.accaglobal.com
	Receivable turnover period	$\frac{\text{Receivables}}{\text{Credit sales}} \times 365$	Days	www.accaglobal.com
Dependent variable (Profitability)	Return on equity	$\frac{\text{Net profit (after tax)}}{\text{Total shareholders' equity}}$	Percentage	www.readyratios.com
	Return on assets	$\frac{\text{Net profit (after tax)}}{\text{Total assets}}$	Percentage	www.readyratios.com

The data gathered has used to determine the CCC adopted by the listed hotel companies in CSE and their effects on profitability. Essentially, the data was presented using tables, bar charts, pie charts, histograms and other graphical and numerical methods, depending on the convenience of any person who goes through with this study. In addition, the relationship between CCC and the profitability of the selected companies was determined. Inhere used the financial ratios and statistical analytical techniques. The data has been analyzed using descriptive analysis, correlation analysis and regression analysis. Regression analysis was used to understand which among the independent variables are related to the dependent variable and explore the forms of these relationships. By comparing the results of this study, the researchers is trying to get an idea of the impact of CCC on the profitability of the listed hotel companies in Sri Lanka.

4.1. Descriptive statistical analysis

It is used to measure the central tendency and dispersion of the data collected for the descriptive statistical analysis of the study. Specifically, the descriptive statistics used to analyze the basic information of the research. Numerical methods such as mean, mode, median, variance and standard deviation were used to analyze the data under the descriptive statistics, and the results were illustrated using pie charts and bar charts.

4.2. Correlation analysis

Correlation analysis identifies the strength of the relationship between the independent variable and dependent variable, in this study, the relationship between cash conversion cycle and profitability. Correlation analysis measures the strength, as well the linear relationship of numerically measured variables. The researchers assumed that data was normally distributed without any significant variation.

The range of correlation coefficient is +1 to -1, and the plus and minus sign shows the direction of the relationship. If the correlation indicates +1, the researchers can deduce that there is a positive linear regression between two variables, and if it is -1, there is a perfect negative relationship between variables. The correlation coefficient should not be calculated if the relationship is not linear.

The Table 2 below explains the types of relationships according to the values of the correlation coefficient.

Table 2. Correlation analysis types of relationships

Correlation coefficient	Linear relationship
-1	Perfect negative linear relationship
-1 to -0.5	Strong negative linear relationships
-0.5 to 0	Weak negative linear relationship
0	No linear relationship
0 to 0.5	Weak positive linear relationships
0.5 to 1	Strong positive linear relationship
+1	Perfect positive linear relationship

4.3. Regression analysis

Analysis of regression is a group of mathematical techniques used to approximate the relationships between one or more independent variables and a dependent variable. It can be used to determine the frequency of the relationship between variables and to model the potential relationship between them. The researchers used regression analysis to understand the impact of CCC on profitability in listed hotel companies in Sri Lanka. By using this method, the researcher had aimed to identify the significance of individual CCC components to the model and also the significance of the overall model in listed hotel companies in Sri Lanka. For this purpose, the EViews software used to run the regression. For the analysis purpose, two linear multiple regression models have built up as given below:

$$\pi = \alpha + \beta_1 ITP + \beta_2 PTP + \beta_3 RTP + \varepsilon$$

However, the analysis's part divides into two models based on the dependent variable. Under Model 1, ROE takes as a dependent variable, and under Model 2, ROA takes as a dependent variable. According to those two regressions, models are developed as follows:

$$ROE = \alpha + \beta_1 ITP + \beta_2 PTP + \beta_3 RTP + \varepsilon \text{ (Model 1)}$$

$$ROA = \alpha + \beta_1 ITP + \beta_2 PTP + \beta_3 RTP + \varepsilon \text{ (Model 2)}$$

Where:

π = Profitability

ROA = Return on assets

ROE = Return on equity

ITP = Inventory turnover period

RTP = Receivable turnover period

PTP = Payable turnover period

β = Coefficient

ε = Error term

α = Intercept term.

5. Analysis and results

This study provided two types of data analysis, as descriptive and empirical analysis. The researchers used EViews statistical package for purpose of analysis, what things have been developed (hypotheses, model). Such metrics widely used to classify a data set are measures of core inclination and measures of uncertainty or dispersion

in descriptive statistics. Measures of central tendency normally include the mean, while measures of variability include the standard deviation (or variance), the minimum and maximum values of the variables. Under the quantitative data analysis, research used mainly regression analysis, rather than that correlation analysis which was also tested.

5.1. Descriptive statistical analysis

Descriptive analysis is the first step in this analysis, which helps to describe and provide detailed information about each relevant variable. Mean, maximum, minimum and standard deviation are the forms of descriptive statistics. In relevance to this study, descriptive statistics are calculating ICP, PCP, RCP, ROA and ROE in selected listed hotel companies in CSE by using EViews statistical package. Table 3 below presents the descriptive statistics for 24 firms in listed hotel companies of CSE in Sri Lanka for the period of 2011/12-2022/23.

Table 3. Descriptive statistical data analysis

	ITP	PTP	RTP	ROA	ROE
Mean	55.563	527.582	66.878	0.034	0.025
Maximum	968.971	15,954.910	328.536	0.222	0.285
Minimum	0.000	3.325	2.957	-0.241	-1.072
Standard deviation	102.000	1,447.297	55.092	0.060	0.128
Probability	0.000	0.000	0.000	0.000	0.000
Observations	216	216	216	216	216

Source: Analytical data from EViews 11 SV.

The descriptive statistics analyzed above shows the mean, maximum value, minimum value and standard deviation of the dependent and independent variables. The mean value of the ROE over the sample period was 2.59%. That demonstrates a non-remarkable performance of the companies in the period according to the study because minimum ROE value was -107.21%. The maximum value of ROE was 28.59%. The standard deviation from the mean was 12.86%. Further, the results depicted the mean value of ROA over the sample period was 3.4%. The maximum value of ROA was 22.23%, and the minimum value of ROA was -24.14%. That implied ROA was also not performing a remarkable position. ROA standard deviation was 6.09% deviated from the mean value.

According to this study's descriptive statistics, the independent variables are thus: The mean value of ITP was 55.56 days. The minimum and maximum value of ITP was in orderly 0 days and 968.97 days, and its standard deviation was 102 days from the mean value. Secondly, PTP mean value was 527.58 days. The minimum and maximum value of PTP was in orderly 3.32 days and 15,954.91 days, and its standard deviation was 1,447.29 from the mean value. Thirdly, the mean value of RTP was 66,87 days. The minimum and maximum value of RTP was in orderly 2.95 days and 328.53 days, and its standard deviation was 55.09 days from the mean value.

With given reference to the theoretical framework, normally ROE and ROA in financially sound companies is between 15% and 20%. Based on that, average ROE was 2.59% and average ROA was 3.4% in listed hotel companies in SEC. That has demonstrated remarkable financial performance in ROE and ROA in the selected sector. The general standard for ITP, PTP and RTP should be from 30 to 60 days. According to the above statistics of value range, in this research, the ITP (55.56 days) is in that range and the RTP (66.87 days) is slightly closer to the above expression value range. However, PTP value (527.58 days) is not in the above value range.

5.2. Correlation analysis

Analysis of correlation is a mathematical methodology used to measure the frequency of the association between two quantitative variables. A strong correlation means that two or more variables are closely linked, whereas a poor correlation means that the variables are barely related. In other words, it is the method of studying the intensity of the correlation with the statistical evidence available. This method is strictly related to the study of linear regression, which is a mathematical approach to modelling the relationship between a dependent variable called an answer and one or more variables that are explanatory or independent (www.statisticssolutions.com).

Table 4. Correlation analysis between CCC and profitability

Correlation probability	ITP	PTP	RTP	ROA	ROE
ITP	1.000				
PTP	0.155 0.022	1.000			
RTP	0.027 0.683	0.248 0.000	1.000		
ROA	0.057 0.402	-0.311 0.000	-0.291 0.000	1.000	
ROE	0.149 0.466	-0.636 0.000	-0.269 0.000	0.844 0.000	1.000

Source: Analytical data from EViews 11 SV.

According to the Table 4, where ROE is considered as dependent variable, and ITP, PTP and RTP are considered as independent variables, the correlation analysis states that there is a positive relationship between ROE and ITP as 0.149 with a p-value of 0.466. Simply, if the inventory turnover days decrease, it will have a positive impact on the net profit. But it's not significant. Correlation results between ROE and PTP show a strong negative relationship as -0.636 with a p-value of 0.000. It is highly significant at 95% level. Correlation results between ROE and RTP shows that there is a weak negative relationship as -0.269 with a p-value of 0.000. It is also highly significant at 95% level. Therefore, the entire CCC positively and negatively affects the overall profitability. Finally, the entire CCC has an impact on profitability. Therefore, H1 hypothesis can be accepted.

According to the Table 4, where ROA is considered as dependent variable, and ITP, PTP and RTP are considered as independent variables, the correlation analysis states that there is a positive relationship between ROA and ITP as 0.057 with a p-value of 0.402. Therefore, it is not significant. Correlation results between ROA and PTP show a weak negative relationship as -0.311 with a p-value of 0.000. It is highly significant at 5% level. Correlation results between ROA and RTP shows that there is also a weak negative relationship as -0.291 with a p-value of 0.000. It is also highly significant at 5% level. Then the researchers observed that independent variables have a positive and negative impact on the overall profitability. Therefore, H1 hypothesis can be accepted.

5.3. Regression analysis

Regression analysis is a statistical process used to estimate the relationships among variables. Before running the regression analysis, the researchers tested the models by using residual tests. Firstly, the researchers performed the normality test. The Inhere research identified the null and alternative hypotheses. Those are:

- ✓ Null: Residuals are distributed normally.
- ✓ Alternative: Residuals are not distributed normally.

Then the researchers found the normality test results. Those are as per Table 4.

Table 5. Normality test result

Model 1	Model 2
Series: Standardized residuals Sample: 4/01/2011 4/01/2023 Observations: 216	Series: Standardized residuals Sample: 4/01/2011 4/01/2023 Observations: 216
Jarque-Bera test: 140.663	Jarque-Bera test: 668.030
Probability: 0.000	Probability: 0.000

Source: Analytical data from EViews 11 SV.

According to both models, probability values are less than 5% (probability < 5%). So, reject the null and accept the alternative hypothesis. Therefore, residuals are not normally distributed.

Then the researchers test the heteroskedasticity for both models. The Inhere research also identified the null and alternative hypotheses. Those are:

- ✓ Null: There is no heteroskedasticity.
- ✓ Alternative: There is heteroskedasticity.

The result of the heteroskedasticity test is presented in Table 6 below.

Table 6. Heteroskedasticity test result

Model 1	Model 2
Panel cross-section heteroskedasticity LR Test Equation: Untitled Specification: ROA C ITP PTP RTP Null hypothesis: Residuals are homoscedastic.	Panel cross-section heteroskedasticity LR Test Equation: Untitled Specification: ROE C ITP PTP RTP Null hypothesis: Residuals are homoscedastic.
Likelihood ratio Value: 118.903 df: 24 Probability: 0.000	Likelihood ratio Value: 193.503 df: 24 Probability: 0.000

Source: Analytical data from EViews 11 SV.

According to results of both models, an alternative hypothesis was accepted. In quantitative analysis, this study used regression analysis to measure the relationship between dependent and independent variables. Regression analysis involves the identification of the relationship between one or more independent variables and a dependent variable. A relationship model is hypothesized, and to construct an approximate regression equation, projections of parameter values are used. In order to determine whether the model is satisfactory, different experiments are then employed. The approximate regression equation can be used to forecast the value of the dependent variable given values for independent variables, if the formula is found satisfactory.

The multivariate panel data regression analysis was used to define the effect between CCC and profitability, according to the methods described in this article. The following regression equations were used by the researchers for the analysis.

$$ROA = \alpha + \beta_1 RTP + \beta_2 PTP + \varepsilon \text{ (Model 1)}$$

$$ROE = \alpha + \beta_1 RTP + \beta_2 PTP + \varepsilon \text{ (Model 2)}$$

Variable identification and regression model clarification has been made in the previous chapters of this study. The regression model has been run in the EViews and hence Pooled OLS, Fixed effects and Random effect models have been generated. Out of the Fixed effect and Random effect models, the suitable model has been identified via the Hausman test, which suggested to use the Fixed effect model in this study.

The explanation of the variable recognition and regression model was done in the previous sections of this article. In EViews, the regression model was run, and, therefore, Pooled OLS, Fixed effects and Random effects models were created. The relevant model has been established through the Hausman test from the Fixed effect and Random effect models. In this analysis, according to the Hausman test, the use of the Fixed effect model was suggested, and the results were shown in Table 7 below.

Table 7. Regression analysis

Variable	Model 1				Model 2			
	R ² = 0.501		F-statistic = 7.323		R ² = 0.602		F-statistic = 11.020	
	Adjusted R ² = 0.433		P = 0.000		Adjusted R ² = 0.523		P = 0.000	
	Coefficient	Standard error	t-statistic	Probability	Coefficient	Standard error	t-statistic	Probability
C	0.045	0.008	5.359	0.000	0.066	0.015	4.197	0.000
ITP	-3.49E ⁻⁰⁵	6.21E ⁻⁵	-0.563	0.574	5.20E ⁻⁵	0.000	0.443	0.657
PTP	-1.03E ⁻⁰⁵	2.83E ⁻⁶	-3.637	0.000	-6.27E ⁻⁵	5.33E ⁻⁶	-11.761	0.000
RTP	-5.69E ⁻⁰⁵	0.000	-0.534	0.593	-0.000	0.000	-0.790	0.429

Source: Analytical data from EViews 11 SV.

Here all the independent variables are taken, which will have an impact on efficient WCM. Table 7 shows regression coefficients and their statistical significance, namely Model 1 and Model 2.

■ Model 1

For the Model 1, value of the coefficient of determination of factors, which was R², is 0.501. In the meantime, the results implied that 50.1% of the total variance in ROA could be explained. It does mean by 50.1% of the impact of independent variables on dependent variables. As the model revealed, the remaining 49.9% of the variability was not explained.

When considering ITP, it indicates negative impact on ROA, but it is not significant ($\beta = -3.49E^{-05}$, $p = 0.574$). PTP also indicates negative impact on ROA, and it is significant ($\beta = -1.03E^{-05}$, $p = 0.000$). RTP also indicates a negative impact on ROA, but it is not significant ($\beta = -5.69E^{-05}$, $p = 0.593$).

According to the probability, F-statistic (7.323) is greater than 0.05 and the overall model p-value is 0.000. Therefore, Model 1 was statistically significant.

■ Model 2

For the Model 2, value of the coefficient of determination of factors, which was R², is 0.602. In the meantime, the results implied that 60.2% of the total variance in ROE could be explained. It does mean by 60.2% of the impact of independent variables on dependent variables. As the model revealed, the remaining 39.8% of the variability was not explained.

When considering ITP, it indicates positive impact on ROE, but it is not significant ($\beta = 5.20E^{-05}$, $p = 0.657$). PTP also indicates negative impact on ROE, and it is significant ($\beta = -6.27E^{-05}$, $p = 0.000$). RTP also indicates a negative impact on ROE, but it is not significant ($\beta = -0.000159$, $p = 0.429$).

According to the probability, F-statistic (11.020) is greater than 0.05 and the overall model p-value is 0.000. Therefore, Model 2 was statistically significant.

6. Findings and discussion

The impact of cash conversion cycle on profitability was considered by this study. Based on the empirical results of the study, the researchers can accept the H_0 hypothesis, which referred to “there is a positive relationship between cash conversion cycle and profitability” (ROA and ROE). The result from testing hypotheses reflects the impacts of CCC on profitability. Thus, it is suggested that financial managers of the company should focus on the time period between raw material purchases used for the production and collection of receivables arising from sales of finish goods and should focus more on payables of the companies. Why financial managers are more focused on cash? Because a crucial part in managing WC is required to maintain its cash in day-to-day operations to ensure its smooth running and meet its obligations. As per the above statement, CCC is an essence of WCM in the business’s survival and a major determinant of the profitability. According to this research, results are consistence with [Sugathadasa \(2019\)](#), [Nijam \(2016\)](#) and [Panigrahi \(2013\)](#), who pointed to a positive relationship of CCC on profitability.

There are three key components of CCC: ITP, RTP and PTP. Two elements are covered by the current assets and the rest of the components are covered by the current liabilities. The control of current assets and current liabilities, which is liquidity management, is also necessary for a company’s effective management. Managing these items, the company typically determines acceptable recovery and discount plans for account receivables, and, therefore, these policies have a lot to do with the profitability of the company. Companies have to make a very suitable decision between the length of the CCC and giving their clients a discount. On the other side of loan transfers, companies must maintain their sufficient solvency and delay the billing date for the goods and material bought on credit to their borrowers and suppliers.

CCC is one of the most widely used measures to evaluate, since every corporate entity is highly concerned with how to maintain and improve profitability, the costs and returns associated with liquidity management. So, they have to keep an eye on what factors are affecting profitability. The present study is concerned about evaluating how CCC affects the profitability of listed hotel companies under the consumer service sector of CSE in Sri Lanka. From this perspective, this study aims to analyze determinants of the firm profitability by means of variables related to CCC by using a sample of listed hotel companies for 2011/12-2022/23 years. The purpose of this study is to investigate a relationship, as well as an impact. That is statistically significant between profitability, CCC and its components for listed hotel companies in CSE. Listed hotel companies in the consumer service sector make a significant contribution to the Sri Lankan economy. Therefore, this study was considered especially by the consumer service sector’s companies, as they play a very important role in boosting the economic growth of the Sri Lankan economy.

According to this study, Model 1 shows the separately negative relationship between all the independent variables (ITP, PTP and RTP) and ROA of dependent variables (Model 1: β_1 ITP = $-3.49E^{-05}$, β_2 PTP = $-1.03E^{-05}$, β_3 RTP = $-5.69E^{-05}$). But only PTP is significant (PTP p = 0.000) and other two variables are not significant (ITP p = 0.574, RTP p = 0.593). This kind of the same opinion was given by [Tsagem *et al.* \(2018\)](#). They were expressed there as a negative relationship between all the independent variables (ITP, PTP, RTP) and ROA. Further results depicted that there was a negative relationship between those variables (β_1 ITP = -1.27, β_2 PTP = -0.67, β_3 RTP = -2.15) and all the variables are significant at 1% level. According to the correlation analysis of this study, PTP and RTP were negatively correlated with ROA and ITP was positively correlated with ROA. Finally, the researchers observed the impacts of CCC on profitability.

Based on this study, Model 2 shows the positive relationship between ITP and ROE and also the negative relationship between PTP and RTP with ROE (Model 2: β_1 ITP = $5.20E^{-05}$, β_2 PTP = $-6.27E^{-05}$, β_3 RTP = -0.000159). But here also only PTP is significant (PTP p = 0.000), and other two variables are not significant (ITP p = 0.657, RTP p = 0.429). This kind of the same opinions was given by [Sugathadasa \(2019\)](#). They expressed that there was a positive relationship between ITP and ROE and also a negative relationship between PTP and RTP with ROE. Further results depicted that there was a positive relationship between ITP and ROE and a negative relationship between PTP and RTP with ROE (β_1 ITP = 0.029, β_2 PTP = -0.01, β_3 RTP = -0.052), and ITP and RTP are significant, and PTP is not significant. According to the correlation analysis of this study, PTP and RTP were negatively correlated with ROE and ITP was positively correlated with ROA. Finally, the researchers observed that CCC impacts profitability.

When considering about both models of this research study, both are statistically significant (Model 1 p = 0.000 and Model 2 p = 0.000) and both showed a positive relationship between CCC and profitability. [Nijam \(2016\)](#), [Sugathadasa \(2019\)](#) and [Panigrahi \(2013\)](#) are also pointing the positive relationship between CCC and profitability. So, according to the result of data analysis and discussion of H1 hypothesis, there is an impact of CCC on profitability that can be accepted.

7. Conclusion

The researchers conducted this research to investigate the impact of cash conversion cycle on profitability of listed hotel companies in Sri Lanka. The conclusions of this study are as follows.

This study analyzed the relationship between CCC and profitability in listed hotel companies in Sri Lanka, the researchers applying two models for that. These models are used to represent the fit of the regression lines with the actual data. According to that model, there was a significant relationship between dependent variables (ROA, ROE) and independent variables (ITP, RTP and PTP) and the results of this study are consistent with most of the findings provided in the literature review.

When considering listed hotel companies in Model 1, there was a negative relationship between ROA and ITP. The negative relationship between ITP and profitability means that maintaining lower inventory levels increases the cost of possible interruptions in the production process and the loss of business. Maintaining a lower level of inventories also increases the cost of supplying the products. This study is consistent with the findings of [Gill et al. \(2010\)](#) and [Luchinga \(2014\)](#), which have found the negative relationship between ITP and profitability (ROA). However, Model 2 shows a positive relationship between ITP and ROE, the same result being found by [Nijam \(2016\)](#).

According to this study, both models are showed the negative relationship between PTP with profitability (ROA and ROE). This means that, when companies take a higher level of PTP days, companies can achieve only a lower-level profit margin. Also, the same results are found by [Nijam \(2016\)](#) and [Sugathadasa \(2019\)](#).

When considering RTP with profitability, both models are showed a negative relationship. This result suggests that firms can improve their profitability, reducing the number of days accounts receivable are outstanding. This finding implies that managers can improve profitability by reducing the credit period granted to their customers. This finding implies that a more restrictive credit policy gives customers less time to make their payments improve performance. Moreover, the same results were found by [Nijam \(2016\)](#) and [Sugathadasa \(2019\)](#). They also found a negative relationship between RTP and profitability (ROA and ROE).

According to both models, the overall analysis indicates that CCC was positively and significantly related to the profitability of listed hotel companies of the consumer service sector in Sri Lanka. As the same result of [Nijam \(2016\)](#), he also found the positive relationship between CCC and profitability of the hotel and travel

sector in Sri Lanka. So, according to the result of this study, H1 hypothesis can be accepted and also researchers can identify that this study achieved its objectives.

This study has used listed hotel companies in Sri Lanka to identify the impact of cash conversion cycle on profitability. Based on the research experienced in the study, the ability to provide suggestions for future researchers to get more worth for their research will also help the organizations and investors for their decision-making.

Although the researchers computed CCC based on ITP, PTP and RTP ratios, there are many ratios/factors to measure the CCC, like firm size, sales growth, leverage and firm age. Therefore, in the future, the researchers can use various kinds of measures. To measure the profitability, also the researchers only used return on asset and return on equity. Also, the researchers can use many various ratios to compute profitability.

There are 285 companies listed on the Colombo Stock Exchange, but in the study the researchers only used 30 companies based on the consumer service sector. For the study, the researchers used the data within 12 years (2011/12-2022/23). Further researchers can increase the sample size based on the number of companies and the time period. In this study, the researchers used annual reports for collecting data. In the future, the researchers can gather the information from visiting the organizations for regularization of the data.

References

1. Bhutto, N.A., Abbas, G., Rehman, M.-ur, Shah, S.M.M. (2015), *Relationship of Cash Conversion Cycle with Firm Size, Working Capital Approaches and Firm's Profitability: A Case of Pakistani Industries*, Pakistan Journal of Engineering, Technology & Science, Vol. 1, No. 2, pp. 45-64, <https://doi.org/10.22555/pjets.v1i2.148>.
2. Bolek, M. (2013), *Dynamic and Static Liquidity Measures in Working Capital Strategies*, European Scientific Journal, Vol. 9, No. 4, pp. 1-24, <https://core.ac.uk/download/pdf/328023531.pdf>.
3. Bolek, M., Grosicki, B. (2012), *Liquidity Analysis of Innovative and Traditional Businesses in Poland*, Business, Management and Economics Engineering, Vol. 10, No. 2, pp. 232-247, <https://doi.org/10.3846/bme.2012.17>.
4. Bolek, M., Wolski, R. (2012), *Profitability or Liquidity: Influencing the Market Value. The Case of Poland*, International Journal of Economics and Finance, Vol. 4, No. 9, pp. 182-190, <https://doi.org/10.5539/ijef.v4n9p182>.
5. Brigham, E., Houston, J. (2007), *Fundamentals of Financial Management*, Thomson Southwestern, Cincinnati.
6. Eljelly, A.M.A. (2004), *Liquidity-Profitability Tradeoff: An Empirical Investigation in an Emerging Market*, International Journal of Commerce and Management, Vol. 14, No. 2, pp. 48-61, <https://doi.org/10.1108/10569210480000179>.
7. Embuldeniya, A. (2015), *Impact of Apparel Industry on the Economy of Sri Lanka*, Journal of Social Statistics, pp. 1-14, https://www.researchgate.net/publication/326543298_Impact_of_Apparel_Industry_on_the_Economy_of_Sri_Lanka.
8. Falope, O.I., Ajilore, O.T. (2009), *Working Capital Management and Corporate Profitability: Evidence from Panel Data Analysis of Selected Quoted Companies in Nigeria*, Research Journal of Business Management, Vol. 3, No. 3, pp. 73-84, <https://doi.org/10.3923/rjbm.2009.73.84>.
9. Gill, A. (2011), *Factors that Influence Working Capital Requirements in Canada*, Economics and Finance Review, Vol. 1, No. 3, pp. 30-40, <http://www.businessjournalz.org/efr>.
10. Gill, A., Biger, N., Mathur, N. (2010), *The Relationship Between Working Capital Management and Profitability: Evidence from the United States*, Business and Economics Journal, Vol. 2010, pp. 1-9, https://www.researchgate.net/publication/284875433_The_Relationship_Between_Working_Capital_Management_And_Profitability_Evidence_From_The_United_States.

11. Khatik, S.K., Nag, A.K. (2014), *A Cash Conversion Cycle Approach to Liquidity Analysis: A Case Study of Shoppers Stop*, Global Journal of Multidisciplinary Studies, Vol. 3, No. 9, pp. 1-15, [www.bsstias.ac.in/uploads/faculty-publications/AKN%20\(1\).pdf](http://www.bsstias.ac.in/uploads/faculty-publications/AKN%20(1).pdf).
12. Kumar, V. (2014), *Review of Literature on Working Capital Management*, International Journal of Trade & Global Business Perspectives.
13. Lazaridis, I., Tryfonidis, D. (2006), *Relationship Between Working Capital Management and Profitability of Listed Companies in the Athens Stock Exchange*, Journal of Financial Management and Analysis, Vol. 19, No. 1, <https://ssrn.com/abstract=931591>.
14. Luchinga, L.M. (2014), *The Effect of Working Capital Management on the Profitability of Agricultural Firms Listed in Nairobi Securities Exchange*, University of Nairobi, <http://erepository.uonbi.ac.ke/handle/11295/76056>.
15. Martínez-Solano, P., García-Teruel, P.J. (2006), *Effects of Working Capital Management on SME Profitability*, SSRN, <https://doi.org/10.2139/ssrn.894865>.
16. Mathuva, D.M. (2010), *The Influence of Working Capital Management Components on Corporate Profitability: A Survey on Kenyan Listed Firms*, Research Journal of Business Management, Vol. 4, No. 1, pp. 1-11, <https://doi.org/10.3923/rjbm.2010.1.11>.
17. 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, Vol. 7, No. 1, pp. 23-32, https://www.researchgate.net/publication/292394976_Cash_Conversion_Cycle_Its_Properties_and_Profitability_Evidence_from_Listed_Hotel_Companies_in_Sri_Lanka.
18. Panigrahi, A. (2013), *Cash Conversion Cycle and Firms' Profitability – A Study of Cement Manufacturing Companies of India*, International Journal of Current Research, Vol. 5, No. 6, pp. 1484-1488, <https://ssrn.com/abstract=2342460>.
19. Raheman, A., Nasr, M. (2007), *Working Capital Management and Profitability. Case of Pakistani Firms*, International Review of Business Research Papers, Vol. 3, No. 1, pp. 279-300, https://www.researchgate.net/publication/228727444_Working_capital_management_and_profitability-case_of_Pakistani_Firms.
20. Richards, V.D., Laughlin, E.J. (1980), *A Cash Conversion Cycle Approach to Liquidity Analysis*, Financial Management, Vol. 9, No. 1, pp. 32-38, <https://doi.org/10.2307/3665310>.
21. Saluja, P., Kumar, P. (2012), *Liquidity and Profitability Trade Off*, International Journal of Advanced Research in Management and Social Sciences, Vol. 1, No. 3, pp. 77-84, <https://garph.co.uk/IJARMSS/Sep2012/6.pdf>.
22. Schilling, G. (1996), *Working Capital's Role in Maintaining Corporate Liquidity*, TMA Journal, September/October, pp. 4-7.
23. Sugathadasa, D. (2019), *The Relationship Between Cash Conversion Cycle and Firm Profitability: Special Reference to the Manufacturing Companies in Colombo Stock Exchange*, IOSR Journal of Economics and Finance, Vol. 9, No. 6, pp. 38-47, <https://doi.org/10.9790/5933-0906023847>.
24. Tsagem, M.M., Aripin, N., Ishak, R. (2018), *Cash Conversion Cycle and Profitability of Nigerian Small and Medium-Sized Entities: An Empirical Analysis*, International Journal of Banking and Finance, Vol. 13, No. 1, pp. 49-69, <https://doi.org/10.32890/ijbf2017.13.1.8498>.
25. Knoema (n.d.), *Sri Lanka – Contribution of Travel and Tourism to GDP as a Share of GDP*, <https://knoema.com/atlas/Sri-Lanka/topics/Tourism/Travel-and-Tourism-Total-Contribution-to-GDP/Contribution-of-travel-and-tourism-to-GDP-percent-of-GDP>.

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