The Impact of Working Capital Management on Profitability: Evidence from Listed Companies in Sri Lankan Consumer Staples Sector.

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ABSTRACT

This study aims to investigate the impact of Working Capital Management on Profitability with special reference to the Consumer Staples Sector firms in Sri Lanka. Further, this sector displayed a considerable growth potential in Sri Lanka. This study is adopted in a quantitative research approach. Data were drawn from a sample of 46 Consumer Staple Sector firms listed in the Colombo Stock Exchange (CSE) for a period of five years commencing from 2014/2015 to 2018/2019. To test the hypothesized relationships between the constructs, the panel data analysis is performed using STATA. The study found that the Inventory Conversion Period has an insignificant negative impact on Profitability. Receivables Collection Period negatively and significantly impact the Profitability. Further, the study observed that the Payables Settlement Period has an insignificant positive impact on Profitability and observed a significant positive impact of the Current Assets Ratio on Profitability. The findings are useful to investors, managers and shareholders when making decisions regarding the firm's profitability under aforementioned sector. This study is a contribution to the existing body of knowledge on Working Capital Management and it impact on the Profitability of listed companies in the Sri Lankan Consumer Staples Sector since the researchers used the recent data in the data analyzing process. Further, this paper is limited to the analysis of data obtained for five years by forty-six companies only. The time period and sample can further be increased by future researchers in order to broaden up the scope of the study.

Keywords: Cash Conversion Cycle, Consumer Staples Sector, Inventory Conversion Period, Payable Settlement Period, Receivables Collection Period, Working Capital Management.

INTRODUCTION

Investors all over the world invest their money in a business to get some return on their investment in different forms of business. In small and medium businesses like proprietorship and partnership owners have direct or indirect control over the management of the business. Therefore, they are responsible for all the profits and losses. On the other hand, in the large multinational companies, the managers of the company manage the affairs of the company on behalf of owners and owners of the company need management to take such decisions which will give positive signals to the market, increase the value of the firm, and enhance the profitability. In order to fulfil these expectations, managers should pay attention to maintain their daily operations smoothly. This means they should keep eye on the concept of Working Capital Management. Hence, Working Capital Management is the method a company manages the relationship between assets and liabilities in the short term. The primary objective of Working Capital Management is to enable the company to maintain an adequate cash flow to meet its short-term debts. Therefore, Working Capital Management is an essential concept for every business organization to run its business efficiently. Every business organization in the world highly considered about the concept of Working Capital Management. But currently,

most of the businesses are faced with Working Capital Management issue due to the COVID-19 outbreak. According to Singhania and Mehta (2017), Working Capital is a measurement of operating liquidity, and it describes the short-term position of a company. Further, the inefficient handling of working capital can decline the strength of the entity. Financing decisions that are taken in the short-term, are the basis for the working capital management efficiency and it is necessary for maintaining a proper balance between liquidity and profitability of a firm. Moreover, WCM is all about managing current assets and current liabilities (Panda & Nanda, 2018). WCM is the day-to-day function of all management decisions that affect the size and effectiveness of the working capital (Kaur, 2010).

And the Profitability is the ability to make a profit from all the business activities of an organization. It shows how efficiently the management can make a profit by utilizing all the resources available in the organization (Sandhar & Janglani, 2013). Maintaining liquidity on daily basis in business operations is crucial. It is a difficult task for managers to make sure that the business is running in a well-organized and advantageous manner. There are inclinations for inequality of current assets and current liability which affects a firm's growth and profitability. Thus, the importance of Working Capital Management cannot be overemphasized in corporate finance due to its direct effect on the liquidity and profitability of the firm.

Therefore, this study is to investigate the impact of Working Capital Management on Profitability with special reference to the Consumer Staples Sector firms in Sri Lanka. Consumer Staples Sector is created to group together all the industries that consumers rely on for everyday necessities. Recently, the Sri Lankan market is boosted by gains in consumer staples by displaying considerable growth potential regarding the Consumer Staples Sector. According to the Global Industry Classification Standard (GICS) in CSE, Consumer Staples Sector consists of mainly three industries: Food, Beverage &

Tobacco, Food & Staples Retailing, and Household & Personal Products. Moreover, Consumer Staples Sector is one of the fast-growing sectors in Sri Lanka. Currently this sector is performing an important role in COVID -19 pandemic. Most of the consumers spend their money on the Consumer Staples Sector. Therefore, those companies have to keep a proper balance between components of Working Capital Management and Profitability. Otherwise, the business may face failure. Further, firms in the Consumer Staples Sector are mainly dealing with customers and heavily depend on working capital for their daily operating activities. Therefore, Working Capital is an important concept to do daily operations efficiently in the Consumer Staples Sector. And it is highly required to know how Working Capital Management can be used to enhance the Profitability of the firm. Identifying the relationship between Working Capital Management and Profitability of firms in the Consumer Staples Sector will be provided support to achieve the grand objective of the firms which is profit maximization. Thus, in this study, especially Consumer Staples Sector companies are taken into consideration since those are playing an important role in Sri Lanka. Further, Consumer Staples Sector companies represent an appropriate sample in order to analyze Working Capital Management. Because all three components in Working Capital Management (Inventory, Account Receivable, and Payable) play an important role in the Consumer Staples Sector.

A review of the existing literature on Working Capital Management and Profitability reveals contradictory results reported by scholars. Deloof (2003) has found a significantly negative relationship between Gross Operating Income and the Number of Days of Accounts Receivable, Inventories, Accounts Payables, and Cash Conversion Cycle of Belgian manufacturing firms. Lyngstadaas and Berg (2016) also found the result which is similar to the (Deloof, 2003). Recent research conducted by Kwatiah & Asiamah (2020) have found that inventory management, account receivables, account payables, cash conversion cycle,

current asset, current ratio, and firm size have positive effects on return on assets (ROA) and return on return on equity (ROE) whilst leverage affects them negatively. Further, the most recent study conducted by Alvarez, Sensini, and Vazquez (2021), also found a positive and statistically significant relationship between all components of Working Capital and Profitability. However, Makori and Jagongo (2013) have conducted a study on the effect of Working Capital Management on Business Profitability in Kenya and they have observed a negative relationship between Profitability and Cash Conversion Cycle, and at the same time, Profitability was positively co-related with the Inventory Turnover Period and Average Payment Period. Altaf and Shah (2018) have found an inverted U-shape relationship between Working Capital Management and firm Profitability in Indian manufacturing firms. Also, they have found that the firms should complete their Cash Conversion Cycle on an average of 63days. Recent research conducted by EL-Ansary and Al-Gazza (2021) on effect of Net Working Capital(NWC) level on Profitability for Middle East and North Africa region listed companies. They have found that the NWC levels have a non-linear effect on profitability using ROA as a profitability proxy while results were insignificant using ROE as a profitability proxy.

There are so many studies conducted in different countries on the relationship between Working Capital Management and Profitability. In the Sri Lankan context, few studies have been conducted on this area of study. But there's a lack of knowledge on this subject area especially regarding the Consumer Staples Sector firms. Further, studies conducted in the Sri Lankan context have found some contradictions to the global context studies. For instance, research conducted by Ajanthan (2013) has found a highly significant negative relationship between Profitability and Average Collection Period, Inventory Conversion Period, and Cash Conversion Cycle. And also, a highly significant positive relationship was found

between the Average Payment Period and Profitability. However, Nijam (2016) has found a negative relationship between the Inventory Conversion Period and Profitability. And also found a positive relationship between the Receivable Collection Period, Cash Conversion Cycle with Profitability. Further, the researcher has found Accounts Payable is not significantly related with Profitability in Hotels and Travel Sector firms.

Therefore, aforementioned factors motivate the researchers to examine the impact of Working Capital Management on Profitability with special reference to the Consumer Staples Sector firms in Sri Lanka. Accordingly, the study aims to determine the impact of Working Capital Management in terms of Inventory Conversion Period, Receivables Collection Period, Payable Settlement Period, Cash Conversion Cycle, and Current Assets Ratio on the Profitability (proxied by Return on Asset (ROA) and Gross Operating Profit (GOP)) of listed companies in the Sri Lankan Consumer Staples Sector.

The major purpose of this study is to assess the impact of Working Capital Management on Profitability with special reference to the Consumer Staples Sector firms in Sri Lanka. To achieve this, the study examines the following research questions.

1. What is the impact of the Inventory Conversion Period on the profitability of the Consumer Staples Sector in Sri Lanka?
2. What is the impact of the Receivables Collection Period on the profitability of the Consumer Staples Sector in Sri Lanka?
3. What is the impact of the Payable Settlement Period on the profitability of the Consumer Staples Sector in Sri Lanka?
4. What is the impact of the Cash Conversion Cycle on the profitability of the Consumer Staples Sector in Sri Lanka?
5. What is the impact of the Current Assets Ratio on the profitability of the Consumer Staples Sector in Sri Lanka?

The general objective of this research is to determine the impact of Working Capital Management on the Profitability of listed companies in the Sri Lankan Consumer Staples Sector.

Further, the findings of this study will be beneficial to several stakeholders such as creditors, shareholders, and management of the selected firms when making decisions regarding the firms' profitability. Through this study, creditors can know whether these organizations are maintained an adequate fund to settle their payables or not. The management of the selected firms will have a better understanding of the firms' current working capital management and their profitability. To the shareholders, this study will be provided a better idea about the importance of working capital management as a critical component of profit generation.

From the academic perspective, in the Sri Lankan context, there's a lack of knowledge regarding this subject matter, especially in the Consumer Staples Sector. Thus, this study will be seen as a contribution to the existing body of knowledge on working capital management and its impact on the profitability of listed companies in the Sri Lankan Consumer Staples Sector. So, this effort will fill the knowledge gap in this area of study.

The paper proceeds from the above introduction with sections organized as follows: next section presents the review of related literature, followed by research methods, findings and discussion. Finally, it presents the conclusion.

LITERATURE REVIEW

Working Capital Management is a significant component of corporate finance theory and deals with managing short-term financing and investment decisions of the firm (Sharma & Kumar, 2011). According to the Garcı́a-Teruel and Martı́nez-Solano (2007), Working Capital Management is concerned with the management of short-term capital of a firm, that is, capital required by a firm to finance its day-to-day operations. This short-term capital consists of current assets and current liabilities.

According to Aminu and Zainudin (2015), Working Capital Management considers as the management of the firm's current assets and current liabilities. In terms of components, Working Capital Management consists of four elements: Inventory Management, Account Receivables, Account Payables, and Cash Conversion Cycle.

Relationship between working capital management components and profitability

Impact of inventory conversion period on profitability

Lazaridis and Tryfonidis (2006) have conducted research on the relationship between Working Capital Management and Profitability with regards to the listed companies in the Athens Stock Exchange (ASE) based on the sample of 131 companies listed in the ASE for the period from 2001 to 2004. The study has found a negative relationship between the Number of Days of Inventory and Corporate Profitability. This result is aligned with previous researches conducted by Deloof (2003), Garcia-Teruel and Martinez-Solano (2007). Moreover, Tran, Abbott, and Yap (2017) have reported a similar result based on a sample of 200 Vietnamese SMEs. On the contrary, Gill, Biger, and Mathur (2010) have conducted research on The Relationship between Working Capital Management and Profitability based on a sample of 88 American firms which are listed in the New York Stock Exchange for the period of 3 years from 2005 to 2007. They have found no significant relationship between the Average Number of Days of Inventory and Profitability. Notwithstanding, Kwatiah and Asiamah (2020) have recently conducted research on Working Capital Management and Profitability of listed manufacturing firms in Ghana based on a sample of 20 listed manufacturing firms for the period from 2015 to 2019. They have found that a strong positive and significant relationship between inventory management with the Return on Assets and Return on Equity (ROE).

The industrial companies have a relatively large number of inventories. Thus, storing up a large number of inventories will result in stagnant working capital, large storage costs, affecting the profitability of businesses. Most of the previous researchers have concluded that the Inventory Conversion Period has a negative impact on Profitability Lazaridis and Tryfonidis (2006); Garcı́a-Teruel and Martı́nez-Solano (2007). Which means if a firm required more time to convert their inventory into cash their Profitability will be lower. However, research conducted by Gill, Biger, & Mathur (2010) and Alvarez, Sensini, & Vazquez (2021)have found a positive relationship between Inventory Conversion Period and Profitability.

Impact of receivables collection period on profitability

Samiloklu and Demirgu.ns (2008) have conducted research on The Effect of Working Capital Management on Firm Profitability: Evidence from Turkey based on a sample of listed manufacturing firms in Istanbul Stock Exchange (ISE) for the period of 1998-2007.Data were analyzed under a multiple regression model. They have found that the Accounts Receivables Period significantly and negatively affects the Profitability of Turkish manufacturing firms. Another study was conducted by Dong and Su (2010) on The Relationship between Working Capital Management and Profitability regards to Vietnam. This study is based on secondary data which are gathered from listed firms in the Vietnam stock market for the period from 2006 to 2008. They have found that a strong negative relationship between the number of days accounts receivable and corporate profitability.

However, a study conducted by Sharma and Kumar (2011) on the Effect of Working Capital Management on Firm Profitability in India based on a sample of 263 non-financial firms listed in the Bombay Stock Exchange (BSE) from 2000 to 2008. Data were evaluated using OLS multiple regression. They have found a positive relationship between Profitability and the Number of Days Accounts Receivables. A similar result was obtained by Kwatiah and Asiamah (2020) regarding the research on Working Capital Management and Profitability of listed manufacturing firms in Ghana based on a sample of 20 listed manufacturing firms from 2015 to 2019.

Relationship between Receivable Collection Period and the Profitability is the important for the firms. The shorter the Receivable Collection Period, helps firms to be proactive in settling all payments and to broaden the investment opportunities in other projects to make a profit. Previous researches conducted by Deloof (2003), Samiloklu & Demirgü.nš (2008) and Dong & Su (2010) have obtained the negative relationship between Receivable Collection Period and Profitability. However, the research conducted by Sharma & Kumar (2011) and Kwatiah & Asiamah (2020) have obtained the positive relationship which is the contradictory to the previous researches.

Impact of payable settlement period on profitability

Research conducted by Garcia-Teruel and Martinez-Solano (2007) on the Effects of Working Capital Management on SMEs' Profitability is based on the panel of 8,872 SMEs for the period from 1996 to2002. The effect of Working Capital Management on SMEs' Profitability was tested by using the panel data methodology. The authors were unable to confirm that the Number of Days Accounts Payable affect SME's Return on Assets. Because they lost significance when they control for possible endogeneity problems. Gill, Biger, and Mathur (2010) have conducted research on The Relationship between Working Capital Management and Profitability. They have found no statistically significant relationship between the Average Number of Days of Payables and Profitability. However, a study conducted by Dong and Su (2010) on The Relationship between Working Capital Management and Profitability regarding the listed firms in the Vietnam Stock Market. They have found that a positive relationship between the Number of Days Accounts Payable and Profitability. Recent

research conducted by Kwatiah and Asiamah (2020) with regards to the listed manufacturing firms in Ghana also reported a similar result.

The lower the Payable Settlement Period, the better the solvency of the enterprise is, the less it takes the working capital of other businesses and increases the reputation of the firm. Therefore, it shows the profitability of businesses in the future. However, the higher the Payable Settlement Period helps to increase the profitability in short term. As per the previous researches, researchers have found that the Payable Settlement Period has the positive relationship between Profitability Kwatiah & Asiamah (2020). And several studies were concluded that they were unable to confirm the relationship between Payable Settlement Period and Profitability Garcı´a-Teruel & Martı´nez-Solano (2007) and Gill, Biger, & Mathur (2010).

Impact of cash conversion cycle on profitability

Lyngstadaas and Berg (2016) have conducted research on Working Capital Management in Norway based on a sample of 21,075 Norwegian SMEs covering the period of 2010–2013 from using Panel Data treatment with fixed effect regression. They have found a negative relationship between Cash Conversion Cycle and Return on Assets. However, Abuzayed (2012) has conducted research on Working Capital Management and firms' performance in emerging markets with reference to Jordan. The study is based on a sample of listed firms in Jordan for the period from 2000 to 2008. This study has found that Profitability is affected positively by the Cash Conversion Cycle by using several estimation techniques such as panel data analysis, fixed and random effects, and Generalized Methods of Moments(GMM). The equal results have obtained from previous research conducted by Gill, Biger, and Mathur (2010) and Sharma and Kumar (2011) with reference to the USA and India respectively. The most recent research conducted by Kwatiah and Asiamah (2020) with regards to the listed manufacturing firms in Ghana also reported a similar result. Furthermore, recent research has conducted by

Alvarez, Sensini, and Vazquez (2021) on impact of Working Capital Management on the Profitability of Argentine manufacturing firms and they have found a positive relationship between CCC and Profitability.

Therefore, most of the previous researchers have found that the firms have the positive relationship between Cash Conversion Cycle and Profitability.

Impact of current assets ratio on profitability

Most of the studies have conducted by previous researchers did not pay much attention to the Current Assets Ratio in their studies. According to the previous literature, Lyngstadaas and Berg (2016) have found a positive significant relationship between Current Assets Ratio and Profitability in their study regarding Working Capital Management in Norwegian SMEs. Similar results were found in the most recent research conducted by Kwatiah and Asiamah (2020) with regards to the listed manufacturing firms in Ghana. On the contrary, some researchers have found a negative relationship between Current Assets Ratio and Profitability in the Sri Lankan context. For instance, Jahfer (2015) has found that the Current Asset Ratio is having a negative association with Profitability with reference to the research on the Effects of Working Capital Management on Firm Profitability in manufacturing companies listed in CSE in Sri Lanka. In addition to that, Anandasayanan (2011) has found a significant negative relationship in research on Current Assets Ratio and Corporate Profitability with regards to the quoted public companies in Sri Lanka. Moreover, Current Assets Ratio is used as a control variable in these studies.

As per the previous researches, most of the studies have found that the Current Asset Ratio has the positive relationship with the Profitability. But in Sri Lankan context, most researchers have found the negative relationship between Current Asset Ratio and the Profitability.

Empirical studies in sri lanka

Anandasayanan (2011) conducted research on Working Capital Management and Corporate Profitability with regards to the quoted companies in Sri Lanka based on 80 firms listed in CSE for the period from 2003 to 2009. The study found a highly significant negative relationship between Profitability and Average Collection Period, Inventory Conversion Period, and Cash Conversion Cycle. Also, a highly significant positive relationship has found between the Average Payment Period and Profitability. Another study conducted by Jayarathne (2014) on Working Capital Management and Profitability with regards to the manufacturing companies listed in the CSE. The study reported the same results to the (Anandasayanan, 2011). Nijam (2016) has conducted research on Working Capital Management and the Profitability of Hotels and Travel Sector firms in Sri Lanka based on a sample of 26 listed firms in CSE regarding the Hotels and Travel Sector over three years from 2011 to 2013. The study has found a negative relationship between the Inventory Conversion Period and Profitability. Further this study has found a positive relationship between the Receivable Collection Period, Cash Conversion Cycle with Profitability. Moreover, this study has found Accounts Payable is not significantly related with Profitability in Hotels and Travel Sector firms. Jariya (2019) also found a significant negative relationship between the Cash Conversion Cycle and Firms' Profitability with regards to the research on Cash Conversion Cycle and Firms' Profitability in listed firms in Beverage, Food, and Tobacco Sectors in Sri Lanka. Table 1 summarizes the key literature found on previous studies.

There are some theories relating to the management of working capital namely: Pecking Order Theory, Agency Theory/ Stakeholder Theory, the Risk and Return Theory, Resource-Based Theory, and Cash Conversion Cycle Theory (Aminu & Zainudin, 2015). However, in this study, the Cash Conversion Cycle Theory has been considered.

Cash conversion cycle theory

The Cash Conversion Cycle theory was developed by Richards & Laughlin, (1980). They have explained how firms can ensure a shorter operation cycle to reduce the implications of poor Working Capital Management. Hence, this measures the length of time between a company's purchase of inventory and the receipts of cash from its account's receivables. The Cash Conversion Cycle theory can be used by the management of firms to forecast how long a firm's cash remains tied up in its operations. The Cash Conversion Cycle theory is the core theory that explains Working Capital Management concerning all concepts and components, spanning from raw materials to finished products and outputs indicating inventory levels as well as to receivables, payment, and the cash component (Kwatiah & Asiamah, 2020). The Cash Conversion Cycle analysis provides more clear insights for managing a firm's working capital position in a manner that will assure the proper amount and timing of funds available to meet a firm's liquidity needs.

RESEARCH METHODS

The main objective of this research is to determine the impact of Working Capital Management on the Profitability of listed companies in the Sri Lankan Consumer Staples Sector. The research is mainly a correlational study that focuses on testing hypotheses. To achieve the research objectives, the researchers have followed by a positivism research paradigm and used the deductive reasoning approach. Moreover, this research was performed in a quantitative research approach since it is used quantitative research methods for data analysis purposes.

Data and sample

The population of the study consists of 52 companies listed in the CSE which is coming under the Consumer Staples Sector. According to the Global Industry Classification Standard (GICS) hierarchy, Consumer Staples Sector consists of three industry groups: Food Beverage & Tobacco, Food & Staples Retailing and, Household & Personal

Table 1 Summary of the key literature.

Author Year Context	Relationship with the Profitability				
	ICP	ARP	APP	CCC	CAT
Deloof (2003) Belgium	(-)	(-)	(-)	(-)	
Lazaridis & Tryfonidis (2007) Greece	(-)	(-)	(-)	(-)	
Sharma and Kumar (2011) India	(-)	+	(-)	+	
Anandasayanan (2011) Sri Lanka	(-)	(-)	+	(-)	(-)
Jahfer (2015) Sri Lanka	+	(-)	(-)	(-)	(-)
Lyngstadas & Berg (2016) Norway	(-)	(-)	(-)	(-)	+
Kwatiah, & Asiamah (2020) Ghana	+	+	+	+	+
Alvarez, Sensini, Vazquez (2021) Argentina	+	+	+	+	

Where ICP denotes Inventory Conversion Period, ARP denotes Receivables Collection Period, APP denotes Payable Settlement Period, CCC denotes Cash Conversion Cycle CAT denotes Current Assets Ratio

Products. This study is adopted to the total population as the sample of the study. Accordingly, the current study is performed as a population study. Six companies were removed from the total population (52 firms) due to unavailability of data. Therefore, final sample consists of 46 consumer staple sector companies which are listed in the CSE. The present study is collected data at the firm level and used the secondary data from the audited annual reports of sample companies for a five-year period commencing from the financial year 2014/2015 to 2018/2019 which provided the panel of 230 observations.

Conceptualization and hypotheses development

When considering the conceptualization of the current study, it evaluates the impact of Working Capital Management on Profitability. In detail, Working Capital Management is the independent variable, and it is measured by its components; Inventory (Inventory conversion period), Accounts Receivables (Receivables Collection period), Accounts Payables (Payable Settlement Period), and Cash Conversion Cycle. And Current Assets Ratio is also taken as the measurement of Working Capital Management. Further, Profitability is the dependent variable, and it is measured by the Return on Assets and Gross Operating Profit. Furthermore, Firm Size and Sales Growth are used as the control variables. The Conceptual Framework of this research is developed with the guidance of the recent research conducted by (Kwatiah & Asiamah, 2020). Figure 1 presents the conceptual Framework of the study.
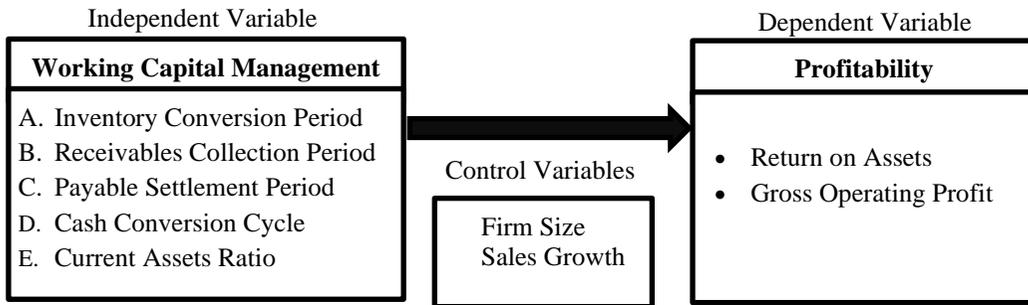
Independent Variable

Dependent Variable

Figure 1: Conceptual Framework

Accordingly, based on the conceptual framework following hypotheses were developed to achieve its research objectives. Five hypotheses were named as A, B, C, D and, E to clear identification.

H_{A1}: There is an impact of the Inventory Conversion Period on Profitability of Consumer Staples Sector firms in Sri Lanka.

H_{B1}: There is an impact of the Receivables Collection Period on Profitability of Consumer Staples Sector firms in Sri Lanka.

H_{C1}: There is an impact of the Payables Settlement Period on Profitability of Consumer Staples Sector firms in Sri Lanka.

H_{D1}: There is an impact of the Cash Conversion Cycle on Profitability of Consumer Staples Sector firms in Sri Lanka.

H_{E1}: There is an impact of the Current Assets Ratio on Profitability of Consumer Staples Sector firms in Sri Lanka.

The empirical models

To achieve the purpose of the study, present study has employed panel data analysis. In order to justify the most appropriate panel data analysis model from pooled OLS, Fixed Effect, and Random Effect Models, the F Test, LM Test, and Hausman Test were used. Therefore, the study found the fixed-effect model as the best-suited model for ROA and GOP. Accordingly, regression equations are illustrated for both ROA and GOP as below.

$$(1) ROA_{it} = \beta_0 + \beta_1 ICP_{it} + \beta_2 ARP_{it} + \beta_3 APP_{it} + \beta_4 CAT_{it}$$
$$+ \beta_5 FSIZE_{it} + \beta_6 SGROWTH_{it} + \varepsilon_{it}{}^i$$

$$(2) GOP_{it} = \beta_0 + \beta_1 ICP_{it} + \beta_2 ARP_{it} + \beta_3 APP_{it} + \beta_4 CAT_{it}$$
$$+ \beta_5 FSIZE_{it} + \beta_6 SGROWTH_{it} + \varepsilon_{it}{}^{ii}$$

Of above formulas, ROA denotes Return on Assets, GOP denotes Gross Operating Profit, ICP denotes Inventory Conversion Period, ARP denotes Receivables Collection Period, APP denotes Payable Settlement Period, CAT denotes Current Assets Ratio, FSIZE denotes Firm Size, SGROWTH denotes Sales Growth, β_0 denotes the Intercept term, β_1 - β_6 denotes Coefficient of each independent and control variables and, ε denotes error term. Also, i denotes firm and t denotes time.

When consider about the measurements of variables, variables are calculated as follows; Independent variables of the study: Inventory Conversion Period (ICP) is calculated by (Average Inventories/Cost of Goods Sold) X365. Receivable Collection Period (ARP) is calculated by (Average Receivables/Sales)X365. Payable Settlement Period (APP) is calculated by (Average Payables/Cost of Goods Sold)X 365. Further, Cash Conversion Cycle (CCC) is calculated by ICP+ARP-APP. Current Assets Ratio (CAT) is calculated by Current Assets/Total Assets. Then the dependent variables of the study calculated as follows: Return on Assets (ROA) is calculated by Net Profit/Total Assets. Gross Operating Profit (GOP) is calculated by $\frac{(Sales-Cost\ of\ Goods\ Sold)}{(Total\ Assets-Financial\ Assets)}$. Considering the control variables of the study, Firm Size (FSIZE) is calculated by

Log of Market Capitalization and Sales Growth (SGROW) is calculated by $(Sales_1 - Sales_0)/Sales_0$.

Accordingly, ICP used as the proxy for the Inventory. The efficient management of inventory ensures a stable working capital. Therefore, the researchers used ICP in order to measure its impact on Profitability. ARP is used as a proxy for the Accounts Receivables. Proper maintenance of account receivables provides additional importance and efficient collection of accounts receivables to determines both profitability and liquidity of the firm. APP used as a proxy for Accounts Payable which is a partial component of the Working Capital Management. Therefore, Accounts Payable is ultimately supported to measure the efficiency of Working Capital Management. CAT is used as the independent variable, and it is an important measure of liquidity. Using above mentioned proxies provide support to test the research objectives in an accurate manner. Further, the researchers used widely applied two measurements of Profitability: ROA and GOP. These measurements are used by the previous influential studies conducted by (Deloof, 2003) , (Lyngstadaas & Berg, 2016) , (Altaf & Shah, 2018) and, (Kwatiah & Asiamah, 2020).

Also, to reduce the potential biases on results, the researchers control the firm characteristics including Firm Size and Sales Growth. The selection of the control variables is based on the previous research conducted by (Charles, Ahmed, & Joshua, 2018). According to Charles, Ahmed, and Joshua (2018), explained Firm Size and Sales Growth are significant determinants of Profitability. Therefore, to reduce the potential biases on results, the researchers control the firm characteristics including firm size and sales growth. Most researchers used the natural logarithm of total assets or the natural logarithm of sales to measure the firm size, for instance; (Sharma & Kumar, 2011; Tran, Abbott, & Yap, 2017 ; Kwatiah & Asiamah, 2020). But the current study, Profitability (Dependent Variable) is measured through ROA and the second control

variable (Sales Growth) is measured by sales. Therefore, to eliminate the correlation issue firm size is measured by the natural logarithm of market capitalization instead of using the natural logarithm of total assets or the natural logarithm of sales.

FINDINGS AND DISCUSSION

This study analyzed the data using panel data methodology[iii]. With the selection of the appropriate model, this study used the descriptive statistics to identify the behavior of the entire variables of the study. Further, study used an inferential statistic, correlation, and multiple regression analysis to check the direction, strength, and significance of all variables in the study.

Descriptive statistics

According to Table 2, ICP has the highest mean value of 49.40 with a 19.89 standard deviation. ROA has the lowest mean value of 0.04 with a 0.10 standard deviation. Further, GOP presented maximum and minimum values of 1.29 and -0.10 respectively. Overall, the entire mean values for the variable range between 49.40 - 0.04. Further, ARP shows the highest standard deviation of 28.79 and the ROA show the lowest standard deviation of 0.10. Moreover, ROA presented maximum and minimum values of 0.34 and -0.42 respectively. (Table 1 presents the descriptive statistics of the study.)

With the selection of the fixed-effect model as the best-suited model for ROA and GOP, this study tested four main assumptions of panel data analysis: testing multicollinearity, heteroscedasticity, autocorrelation, and cross-sectional dependence to confirm that the data fits the basic assumptions of the regression model.

In this study, the researchers tested the correlation between the ICP, ARP, APP, CCC, and CAT. And also, tested with the Firm Size and Sales Growth (Control Variables). However, the researchers obtained the multicollinearity issue between CCC and ICP, CCC and ARP. As a remedy for that, researchers removed CCC from the model.

Table 2: Overall Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max	Observations
ROA	0.04	0.10	-0.42	0.34	N = 230
GOP	0.23	0.26	-0.10	1.29	N = 230
ICP (Days)	49.40	19.89	11.86	113.71	N = 230
ARP (Days)	25.08	28.79	0.12	143.72	N = 230
APP (Days)	17.56	12.80	0.44	70.79	N = 230
CAT	0.31	0.21	0.07	0.88	N = 230
FSIZE	21.81	1.65	18.87	27.58	N = 230
SGROWTH	0.05	0.20	-0.99	0.74	N = 230

Where ROA denotes Return on Assets, GOP denotes Gross Operating Profit, ICP denotes Inventory Conversion Period, ARP denotes Receivables Collection Period, APP denotes Payable Settlement Period, CAT denotes Current Assets Ratio, FSIZE denotes Firm Size, SGROWTH denotes Sales Growth.

Table 3: Correlations Matrix

Variables	ICP	ARP	APP	CAT	FSIZE	SGROWTH
ICP	1.000					
ARP	0.326	1.000				
APP	0.097	0.199	1.000			
CAT	0.245	0.484	0.076	1.000		
FSIZE	0.296	0.135	0.241	0.264	1.000	
SGROWTH	-0.075	-0.041	-0.165	0.157	0.051	1.000

Where ICP denotes Inventory Conversion Period, ARP denotes Receivables Collection Period, APP denotes Payable Settlement Period, CAT denotes Current Assets Ratio, FSIZE denotes Firm Size, SGROWTH denotes Sales Growth.

After removing the high correlated variable from the model, the researcher runs the model without the highly correlated variable. Thus, the researchers obtained the tested result without the multicollinearity issue. Accordingly, all correlations valued in the correlation matrix table 3 are much closer to zero. This means there is no issue of multicollinearity, thus enhanced the reliability for regression analysis. (Table 3 presents the matrix of correlation of the study.) In order to test the heteroscedasticity for ROA and GOP, this study used the Modified Wald test for Groupwise heteroskedasticity. According to the results, the test rejects the null hypothesis and concluded heteroscedasticity as P-value is less than 0.05 (P=0.0000).

The Researchers run the "Wooldridge test" to check the Autocorrelation for ROA. According to this output, the null hypothesis where there is no serial correlation in the model has been accepted, since the Prob > F = 0.0666 which is higher than 0.05. Therefore, the result concludes that this model has no serial correlation (Autocorrelation). The Researchers also run the "Wooldridge test" to check the Autocorrelation for GOP. According to this output, the null hypothesis has been rejected, since the Prob > F = 0.0000 which is less than 0.05. Hence, the result concludes that this model has serial correlation (Autocorrelation).

In order to test the cross-sectional dependence for ROA and GOP, this study used the Pesaran test. The results of this test concluded cross-sectional dependence as p values for ROA and GOP are less than 0.05 which is 0.0001 for both models.

Regression results for ROA

According to the regression model (Table 4),

the P value is 0.0000 which is less than 0.05. Thus, the overall model is statistically significant. In this study, the R square value is 0. 3551. This means 35.51 % variance of profitability is explained by ICP, ARP, APP, CAT, FSIZE, and SGROWTH. However, 64.49% of the variance of profitability is explained by other variables that are not included in this study.

Table 4: Regression Results for ROA

ROA	Coef.
ICP	-.0003
ARP	-.0005***
APP	.0003
CAT	.1839***
FSIZE	.0242***
SGROWTH	.0646**
_cons	-.5247
Number of groups	46
Number of observations	230
P value	0.0000
R-squared	0.3551

Note: *** p<.01, ** p<.05, * p<.1 (***, ** and * denote significance at 1%, 5% and 10% level respectively.)

Where ROA denotes Return on Assets, ICP denotes Inventory Conversion Period, ARP denotes Receivables Collection Period, APP denotes Payable Settlement Period, CAT denotes Current Assets Ratio, FSIZE denotes Firm Size, SGROWTH denotes Sales Growth.

The coefficient value for ICP is -0. 0003. That means increasing one day of ICP causes to decrease in ROA by 0.0003, while other independent variables remain constant. This result is not significant at any level. Therefore, H_{A1} is not supported. Thus, this study concluded that there is negative insignificant

impact of ICP on Profitability (ROA). ARP is also presented -0.0005 coefficient value, which denotes when ARP increase from one day, ROA will decrease by 0.0005 units while other independent variables remain constant. This result is significant at 1% level and this result support to accept H_{B1}. Therefore, this study concluded that there is a significantly negative impact of ARP on Profitability (ROA). When considering APP, it presented a 0.0003 coefficient value, which denotes when APP increase from one day, ROA will increase by 0.0003 units while other independent variables remain constant. Result is not significant at any level. Therefore, this study concluded that there is positive insignificant impact of APP on Profitability (ROA). This result is directing the H_{C1} for rejection. The coefficient value for CAT is 0.1839. This means increasing one unit of CAT leads to an increase ROA by 0.1839 units, while other independent variables remain constant. Further, the result is significant at 1% level. Therefore, it concluded that there is a significant positive impact of CAT on Profitability (ROA). This result supports to accept the H_{E1}. Further, under this model, Firm Size and Sales Growth (Control Variables) are significant at levels 1% and 5% respectively. (Table 4 presents the regression results for ROA.)

Regression results for GOP

According to the regression model (Table 5), P-value is 0.0000 which is less than 0.05. Thus, the overall model is statistically significant. In this study, the R square value is 0. 6383. This means 63.83% variance of profitability is explained by ICP, ARP, APP, CAT, FSIZE, and SGROWTH. However, 36.17% of the variance of profitability is explained by other variables that are not included in this study.

The coefficient value for ICP is -0.0003. That means increasing one day of ICP causes to decrease GOP by 0.0003, while other independent variables remain constant. This result is not significant at any level. Therefore, H_{A1} is not supported. Accordingly, there is negative insignificant impact of ICP on Profitability (GOP). According to the regression model, the coefficient value for

ARP is -0.0008. That means increasing one day of ARP causes to decrease GOP by 0.0008, while other independent variables remain constant. Result is significant at 1% level. Therefore, this study concluded that there is a significant negative impact of ARP on Profitability (GOP).

Table 5: Regression Results for GOP

GOP	Coef.
ICP	-.0003
ARP	-.0008***
APP	.0001
CAT	.7577***
FSIZE	.0673***
SGROWTH	.1239*
_cons	-1.4460
Number of groups	46
Number of observations	230
P value	0.0000
R-squared	0.6383

Note: *** p<.01, ** p<.05, * p<.1 (***, ** and * denote significance at 1%, 5% and 10% level respectively.)

Where GOP denotes Gross Operating Profit, ICP denotes Inventory Conversion Period, ARP denotes Receivables Collection Period, APP denotes Payable Settlement Period, CAT denotes Current Assets Ratio, FSIZE denotes Firm Size, SGROWTH denotes Sales Growth. Further, APP has also presented a 0.0001 coefficient value, which denotes when APP increase from one day, GOP will increase by 0.0001 units while other independent variables remain constant. Result is not significant at any level. Therefore, this study concluded that there is a positive insignificant impact of APP on Profitability (GOP). This result support to

rejection of the H_{C1}. The coefficient value for CAT is 0.7577. This means increasing one unit of CAT leads to an increase in GOP by 0.7577 units, while other independent variables remain constant. Further, the result is significant at 1% level. Therefore, it concluded that there is a significantly positive impact of CAT on Profitability (GOP). This result supports to accept the H_{E1}. Additionally, under this model, Firm Size and Sales Growth (Control Variables) are significant at levels 1% and 10% respectively. (Table 5 presents the regression results for ROA).

Above hypotheses testing was made based on the significance level of the relationship between the dependent variable and the independent variables. Hypotheses tested by using the P-value (significant value) of each coefficient of independent variables. The confidence interval of accepting hypotheses is 95%. To achieve this confident interval, P-value should be equal to or less than 0.05. If it is not equal to or less than 0.05 alternative hypothesis is not supported. Accordingly, this study found several findings after the testing developed hypotheses. The study found that the Inventory Conversion Period has negative but insignificant impact on Profitability (both ROA and GOP). This means if a firm has lower ICP it caused to increase the Profitability. This is good for the firms, and they can utilize their cash in profit generating activities and can reduce the other cost relating to the inventory maintenance. Therefore, Consumer Staples Sector firms should pay more attention on reducing the ICP to obtain more profitability. This result is aligned with the research conducted by (Garcı́a-Teruel & Martı́nez-Solano, 2007) and (Gill, Biger, & Mathur, 2010). Even though, this result is consistent with the aforementioned researches, but it is differing with the recent study conducted by (Kwatiah & Asiamah, 2020). They have found that there is a strong positive and significant relationship between the Inventory Conversion Period and Profitability. Similarly, research conducted by Alvarez, Sensini, and Vazquez (2021), found a positive relationship between the Inventory Conversion Period and Profitability.

Further, study found that the Receivables Collection Period is negative and significantly impact the Profitability. This is also good for the companies to maintain a strong cash flow and increase the profitability. Consumer Staples Sector firms should concern about a maintaining lower Receivables Collection Period to make more profitability. This result complies with the research conducted by Samiloklu and Demirgu.ns (2008) on The Effect of Working Capital Management on Firm Profitability based on Turkish firms. And the same results were obtained by Dong and Su (2010) , Garcia-Teruel and Martinez-Solano (2007) , Deloof (2003), and Tran, Abbott, and Yap (2017) regarding the impact of Receivable Collection Period on Profitability. However, this result is differing with some studies conducted by (Sharma & Kumar, 2011) ,and (Kwatiah & Asiamah, 2020) , since they have found the positive relationship between the Receivables Collection Period and Profitability.

Moreover, the study observed that the Payables Settlement Period has an insignificant positive impact on Profitability. This is good for the companies in short term. But when it comes to the long term, if a firm can pay their debts easily rather than taking more time, they can enhance the trustworthiness with their suppliers and can build a good reputation among them. This would be more beneficial to get more profitability in future. The same results were obtained by (Gill, Biger, & Mathur, 2010). However, this result is contradictory to some previous studies in literature. Because most of researchers found that APP has a negative impact on Profitability for instance: (Deloof, 2003); (Lyngstadaas & Berg, 2016; Tran, Abbott, & Yap, 2017). Other than these findings, the researchers were unable to confirm the impact of Cash Conversion Cycle on Profitability since the variable was removed due to the multicollinearity issue. And finally, the researchers found that there is a significant positive impact of the Current Assets Ratio on Profitability. Current Asset Ratio is rarely used by previous researchers in their studies. And this result was confirmed by the previous studies conducted by (Lyngstadaas & Berg, 2016) ,and (Kwatiah & Asiamah, 2020). However, this result is contradictory with the research conducted in the Sri Lankan context. For instance, research conducted by Anandasayanan (2011) and Jahfer (2015) have found a negative impact of CAT on Profitability. But this study found a positive significant impact of CAT on Profitability. Accordingly, these results provide new knowledge to the literature.

CONCLUSION

This study aimed to investigate the relationship between Working Capital Management and firms' Profitability of listed companies in the Sri Lankan Consumer Staples Sector. In the present study, researchers observed that there is an insignificant negative impact of the Inventory Conversion Period. Also found a significant negative impact of Receivables Collection Period on Profitability. Further, study found an insignificant positive impact of Payables Settlement Period on Profitability. And finally found a significant positive impact of Current Assets Ratio on Profitability. These results were obtained from the Fixed Effect model and after controlling the Firm Size and the Sales Growth. The researchers used these control variables to avoid the biases of the result and enhance the clearness of the obtained results as well. According to the findings of the present study, it concludes that the Working Capital Management has the impact on Profitability. Therefore, the researchers can suggest that the firms should pay more attention to their Working Capital Management, since it is very important concept to continue their business operations smoothly. And Consumer Staples Sector firms should be more concerned about the Receivables Collection Period and the Current Assets Ratio in order to enhance their profitability. Consumer Staple Sector is the fastest growing sector in Sri Lanka; therefore, the firms in the Consumer Staple Sector should pay more attention to all three components in the Working Capital Management, since those components are highly required to continue their operations efficiently.

There are some limitations faced by the researchers when performing this research. In brief, this study is performed in a quantitative approach. Hence the study is limited to the secondary data which were gathered from the annual reports and qualitative data were not considered in this study. In addition, when identifying the population of the study, it was difficult to recognize the firms which belong to the Consumer Staples Sector according to the GICS classification in CSE. Due to that limitation the researchers have used three GICS industry groups that are coming under the Consumer Staple Sector of GICS Hierarchy in CSE. Moreover, this study only considered the publicly listed companies in the Consumer Staples Sector. But in Sri Lanka, there are number of private companies and small and medium sized enterprises which are operated in Consumer Staples Sector. Therefore, the validity of the findings is limited to the public listed companies in the Consumer Staples Sector. Since some companies are ended their financial year at 31st December, annual reports are not available on the CSE for all companies in the sample.

Therefore, the present study does not consider the 2019/20 financial year. And the following recommendations can present to the future researchers for the identified issues in the present study. Future researchers can focus on SMEs and private limited companies that are involving in the consumer staples sector in order to expand the research and the enhance the knowledge of this area of study. And also, due to the COVID-19 pandemic situation, most companies were faced Working Capital issues in their business operations. Accordingly, the present researchers encourage future researchers to perform their research by considering the COVID-19 pandemic situation and comparing before and after effect of Working Capital Management on Profitability. Future researchers can consider a larger number of samples for a better representation of the actual phenomenon.

Moreover, the future researchers can conduct this research in a qualitative or mixed research approach in order to contribute to the knowledge of the study.

NOTES

[i] *Study found the high collinearity between CCC and ICP, CCC and ARP. Therefore, as a remedy to avoid the multicollinearity issue the researchers have removed the highly correlated variable which is CCC from the model 1. (ROA).*

[ii] *Study found the high collinearity between CCC and ICP, CCC and ARP. Therefore, as a remedy to avoid the multicollinearity issue the researchers have removed the highly correlated variable which is CCC from the model 2. (GOP).*

[iii] *Researchers have used STATA 14.2 version which is a very powerful command driven package for panel data methodology.*

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