The Impact of Working Capital Management on Firm Profitability and Value

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ABSTRACT

Management of working capital is one of the key functions in financial management. Working capital management has its impact on the liquidity and profitability of the firm. Because of its importance, this study examines the impact of working capital management on firms' profitability and firms' value in listed companies of Sri Lanka. Financial data from forty-one companies listed in the Colombo Stock Exchange for the period of four years, which comprises 205 firm-year observations were analysed using panel data regression analysis. It is revealed that the cash conversion cycle, days of accounts payable, and working capital financing policy has a significant negative impact on return on assets. Meanwhile, a significant positive effect is found between days of accounts receivable and return on assets. Further, there is a significant positive impact of firm size on both firms' profitability and firms' value. Evidence implies that firms could improve their profitability through efficient working capital management. The evidence implies that firms may improve their profitability through efficient working capital management and that would be useful to consider on maintaining optimal working capital management components and policies to ignore corporate collapse in Sri Lanka.

Keywords: Firms' profitability, Firms' value, Working capital management.

INTRODUCTION

Working capital Management is a significant component of the firm's financial management. Hence, it is paramount important to maintain an optimal level of working capital that maximises the firm's value (Deloof, 2003). The increasing attention of working capital management has received because of the global financial crisis and the collapse of massive organisations such as General Motors, Lehman Brothers, Bear Stearns (Charitou, Stephanou, Elfani and Lois, 2010). Kaur (2010) states that working capital management refers to all managerial decisions and actions that usually influence the size and effectiveness of the working capital. Therefore, it focuses on attention to the managing of current assets, current liabilities and the relationship that exists between them. As well as, Makori and Jagongo (2013), states that working capital management is the ability to control effectively and efficiently the

current assets and current liabilities in a manner that provides the firm with maximum return on its assets and minimises payments for its liabilities.

Firms can maximise their value and profitability by maintaining an optimal level of working capital (Deloof, 2003). Baghiyan (2013) states that financial managers take more time for working capital management than any other financial activity. Because the working capital policy is having different aspects in a way that financial distress leading to bankruptcy. Also, Rasyid et al., (2018) state that working capital management is one of the most important issues in organisations, where many financial managers are struggling to identify the basic working capital drivers and an appropriate level of working capital. Ultimately firms may not be able to enhance profitability and firm value.

Bandara (2015) states that working capital management policy refers to “the firm’s way of investing their current assets which are known as working capital investment policy and use short- term liabilities to finance firm’s assets which are known as working capital financing policy”. Based on the firm’s investment and financing policy the firm can adopt different working capital management practices such as aggressive working capital management policy, moderate working capital management policy and conservative working capital management policy. Those different practices and policies affect the profitability, liquidity, risk as well as ultimately to firm value in different ways. In addition to that, examining the relationship of working-capital components to firm value would offer a better understanding of the investment levels in working-capital components (Atkas et al, 2015).

The goal of working capital management is to continue firm operations and sufficient cash flow to satisfy both short-term debt and future operational expenses (Nimalathasan, 2010). Azeema and Jahfer, (2015) reveal that some businesses fail to concentrate on working capital management to develop their business, and if there is no proper working capital management planning, the firm will face many problems in day-to-day operations. Bandara, (2015) states that high investment in current assets leads the lower risk due to the ability to set short-term obligations, but also lower profitability because of the inability to invest in profitable long-term investments. Therefore, firms need to keep an optimal level of working capital that maximise firm profitability and firm value.

Though International and Sri Lankan researchers have done studies based on working capital management, in the Sri Lankan context, for example, the studies done by Nireesh (2012) and Nimalthasana (2010), it seems to a lack of attention on working capital management policies and the firm value and profitability. Therefore, this study’s special attention will be given to firm value and working capital management policies.

It is important to study the impact of working capital management on the firm’s profitability and firm value in the Sri Lankan context. This study’s findings will help the firm’s managers to make strategies to increase the firm’s profitability and maximise the firm’s value. Thus, investors’ confidence would be raised in favor of the Sri Lankan capital market and it would lead to the growth of the economy in the future. Therefore, this study aims to examine the impact of working capital management on a firm’s profitability and firm’s value of listed companies in Sri Lanka. The rest of the paper is organized as follows. Section 2 presents the findings of past studies. Section 3 explains data and methodology. In Section 4 we present findings and discussion and Section 5 concludes.

LITERATURE REVIEW

Working capital management is a significant component of the firm’s financial management & the company should maintain an optimal level of working capital that maximises firm value (Deloof, 2003). Eljelly (2004) reveals that the working capital approach to liquidity management has been a prominent technique used to plan and control liquidity. It includes all the items shown on a company’s balance sheet as current assets. Whereas net working capital ignores current liabilities. Working capital management is a vital component of corporate finance since it directly affects towards liquidity and profitability of the company which deals with the current assets and current liabilities (Raheman & Nasr, 2007). According to Subramaniyam & Wild (2009), “working capital is a double-edged sword-companies need working capital to effectively operate, yet working capital is costly because it must be financed and can entail other operating costs, such as credit losses on account receivable and storage and logistics cost of inventories”. Simply, it states the excess of current assets over current liabilities. The working capital management concept has been prioritised to ensure the meeting of daily operations of the business satisfactory after the financial crisis in 2008

and the collapse of massive organisations (Charitou, Elfani, & Lois, 2010). Autukaite & Molay (2011) state that if working capital management is effective, companies can reduce the requirement for outside funds and release cash for future investments, and therefore it leads to more flexibility.

The cash conversion cycle is a comprehensive measure of working capital management (Deloof, 2003). The step at which a firm converts its raw materials into goods and ultimately to cash is reflected through the cash conversion cycle. When shorter the cash conversion cycle, firms may need lesser of external financing (Singhania & Mehta, 2017). Shrivastava, Kumar, & Kumar (2017), states that the cash conversion cycle is a standard measure utilised in the literature to explain working capital.

The aim of Accounts receivable days is to reduce the time gap between the accomplishment of sales and receiving payments (Hassan, Imran, Amjad, & Hussain, 2014). According to Baveld (2012) accounts receivable identifies as short-term loans given by the company to customers. As a result of accounts receivable keeps growing, funds are unavailable, and therefore opportunity cost also occurs. However, keeping accounts receivable to a minimum will also increase the profitability of the company because funds that are not tied up in an account receivable can be left in the bank earning interest or invested elsewhere (Tauringana & Afrifa, 2013).

The number of inventory days is essential for effective production, reducing the stock-out cost, and purchasing cost by buying accurate amounts of materials (Basu & Wang, 2011). There is a trade-off between sales and cost in inventory management. Therefore, a company wants to determine the optimal level of the amount of inventory. Pass & Pike (1987) reveal that inventory concerns about raw materials, work in progress, and finished goods awaiting sales and delivery. Mengesha (2014), states that minimising raw materials is good but it should be offset by the economic order quantities (EOQ) from suppliers. According to Pass & Pike (1987), the company has to

maintain a proper balance in inventory because that would be beneficial for the firm.

Deloof (2003) states that most firms have a considerable amount of cash invested in accounts payable as a source of financing. As well as, the demand side of trade credit and indicate that payables are openly linked to financing deficit. Therefore, the attention on Accounts payable days is important. Tauringana & Afrifa (2013) state that related equipment and technology are needed to keep track of when accounts payable are due. Otherwise, the firm will miss out on discounts for the early settlement and in some cases sustain charges for late payments. Similarly, Gill & Biger (2013) reveals that when paying accounts payable after the due date hurts the firm due to the penalty charged by suppliers. Therefore, the company has to maintain an optimal level of the number of accounts payable days that is necessary for the firm.

Policies of Working Capital Management

Working Capital Management Policy

Working capital management policy is one of the important guidelines to manage current assets and current liabilities without increasing uncertain situations (Nazir & Afza, 2009). Working capital management expresses policies to manage and handle capably. Because management establishes three policies based on the relationship between working capital and sales. The literature of finance classifies working capital policy into three categories as defensive, aggressive, and conservative working capital policy (Mengesha, 2014).

On the other hand, the working capital management policy can be seen from two perspectives, such as investment and financing. An investment perspective can be seen as the process of making a decision that is based on the overall investment in current assets. The financial perspective can be seen as how the company finances its current assets from short-term debt (Sharma, 2009).

Working Capital Investment Policy

According to Rasyid, Lukman, Husni, & Adri (2018), an aggressive investment policy affects firm value through profitability. That means profitability has an intervening role in the influence of aggressive policy on firm value. When implementing an aggressive investment policy that encourages profitability, therefore, increases the firm value through profitability.

A conservative investment policy focuses on low-risk investments to make stable returns (Odhiambo, 2014). According to Mengesha (2014), states that this policy not only reduces the risk of default but it also reduces the opportunity cost of extra investments in the short-term assets. But, if the short-term assets are poorly managed then the opportunity cost would be high. Therefore, a sufficient level of short-term assets needs to satisfy the payments and obligations of current liabilities.

Working Capital Financing Policy

Sharma & Kumar (2011) reveal that the firm adopts an aggressive financing policy with a lesser level of current liabilities. Otherwise, the firm may use working capital for financial decisions in the form of a high portion of short-term liabilities as a percentage of total liabilities. Conservative financing policy that uses more long-term funds to finance working capital that requires for the firm. The advantages of a conservative financing policy are protection against inflation and unexpected financial problems (Odhiambo, 2014). However, Murdock (2010) reveals that the cost of this policy is more than an aggressive policy that employs a mixture of short- and long-term funds.

Firm's Profitability

Working capital management is a significant component of corporate finance because it directly affects the profitability of the company (Deloof, 2003 and Raheman & Nasr, 2007). The profitability can be measured through operating profit margin, return on assets, return on equity, and return on investments (Subramaniam & Wild, 2009). However, investors and managers are usually interested

in the profits earned on the capital invested than the level of profits as a percentage of sales. To improve the comparisons between other firms, and over time, it is useful to use earnings before interest and tax (EBIT). This allows one to focus on the profitability of operations without any of the effects of how the assets are financed (Mengesha, 2014).

Deloof (2003) studies the relationship between working capital management and the firm's profitability. It gathers data from 1009 Belgian companies from the period of 1992 to 1996. This study uses the cash conversion cycle as a measurement of working capital management. Lazaridis and Tryfonidis, 2006 investigate the relationship between corporate profitability and working capital management on 131 listed companies in the Athens Stock Exchange (ASE) during the period of 2001-2004. Raheman & Nasr, (2007) investigate the impact of working capital management on the profitability of 94 Pakistan firms listed on the Karachi stock exchange (KSE) between 1999 and 2004. Baveld (2012) inspects the impact of working capital management on the profitability of the listed firms in the Netherlands during the financial crisis. All the above researches find that a shorten cash conversion cycle leads to higher profitability for the firm. Further, there is a negative relationship between accounts payable and profitability. It means, less profitability leads to large amounts of accounts payable. As well as, there is a negative relationship between the number of days of accounts receivable, inventories, and the firm's profitability. If companies try to reduce the number of days of accounts receivable and payable, then firms can create value for their shareholders.

On the other hand, contradictory evidence has been found by a few types of research. Gill, Biger, & Mathur (2010), analyse the relationship between working capital management of U.S manufacturing companies and profitability during the period from 2005 – 2007. The study uses gross operating profit as a measurement of profitability. The findings reveal that there is a negative relationship between the accounts receivable period and the

gross operating profit. As well as, the study denotes that there is no significant relationship between both accounts payable period and inventory conversion period towards profitability. But finally, the study shows that there is a positive relationship between the cash conversion cycle and profitability.

Sharma & Kumar (2011), examine the impact of working capital management of 263 non-financial companies listed at the Bombay stock (BSE) and profitability between 2000 and 2008. The results of the study suggest that both the inventory conversion period and the accounts payable period negatively related to firm profitability, whereas, both the accounts receivable period and cash conversion period exhibit a positive relationship with profitability. This study concludes that working capital management is positively related to profitability in Indian companies.

The hypotheses were formed to examine the impact of working capital management on a firm's profitability. Based on the literature it can be summarised into six (6) hypotheses to investigate the impact of working capital management on a firm's profitability of listed Sri Lankan companies.

Firm's Value

The literature on working capital management has indicated that efficient management can enhance profitability and increase firm value. The present value of its expected free cash flow (FCF) is the one measure of firm value. Whatever, the efficient WCM can increase FCF and also ultimately enhance the firm value (Le, 2019). According to Carini, Comincioli, Poddi, & Vergalli (2017), the firm value can be measured through the market measure, accounting measure, and mixed measure. However, market measure and accounting measures are lacking to evaluate future profit potential therefore, market value added is used to overcome these limitations (Konar & Cohen, 2001).

According to the literature on firm value, a better designed and implemented working capital management is expected to contribute positively to the creation of the firm's value.

As well as MVA is the best external measure of a company's performance and it can be calculated as the difference between market capitalisation and the shareholder's equity (O'Byrne, 1996) (Wet, 2005) (Joibary, 2012). Lai (2012), examines the effect of working capital management on the firm value of 47 companies from the airline industry from 2003 through 2011. The working capital management and firm value are measured by cash conversion cycle and market value respectively.

Sudiyatno, Puspitasari, & Sudarsi (2017) study the impact of working capital policy on the firm value of listed manufacturing companies in the Indonesia Stock Exchange from 2010-2013. The findings of the study state that there is a significant positive impact between working capital investment policy on firm value and there is a significant positive impact between working capital financing policy and firm value.

Arachchi, Perera, & Vijayakumaran (2017) investigate the impact of working capital management on the firm value of 44 listed companies on CSE from the period of 2011-2015. The WCM is measured using the cash conversion cycle and firm value is measured by the Tobin Q ratio. The study finds that CCC is inversely related to Tobin's Q. Further, it suggests that managers can create value for shareholders by managing investment in the working capital of firms.

DATA AND METHOD

Data

This study selects 50 listed companies randomly from 19 business sectors. The proportionate stratified random sampling method is applied to select the 50 listed companies as a sample for this study. However, this study selects 19 business sectors out of 20 business sectors since the banking and finance sector is ignored due to the government has imposed many regulations to meet ideal working capital requirements (Bandara, 2015). 9 listed companies are rejected due to the lack of data from annual

reports. Among the 9 listed companies, companies fall into diversified holdings sector, investment trust sector, land and property sector and oil palms sector. Therefore, data gathered from 41 companies covering 16 sectors during the period 2014-2018 were selected. The statistical package of STATA is used to analyse the following two panel regression models.

Model 1: The impact of WCM on firms' profitability

$$ROA_{i,t} = \beta_0 + \beta_1 DOI_{i,t} + \beta_2 DOR_{i,t} + \beta_3 DOP_{i,t} + \beta_4 CCC_{i,t} + \beta_5 WCIP_{i,t} + \beta_6 WCFP_{i,t} + \beta_7 CR_{i,t} + \beta_8 SIZE_{i,t} + \beta_9 GROWTH_{i,t} + \beta_{10} DR_{i,t} + \varepsilon_{i,t}$$

Model 2: The impact of WCM on firms' value

$$MVA_{i,t} = \beta_0 + \beta_1 DOI_{i,t} + \beta_2 DOR_{i,t} + \beta_3 DOP_{i,t} + \beta_4 CCC_{i,t} + \beta_5 WCIP_{i,t} + \beta_6 WCFP_{i,t} + \beta_7 CR_{i,t} + \beta_8 SIZE_{i,t} + \beta_9 GROWTH_{i,t} + \beta_{10} DR_{i,t} + \varepsilon_{i,t}$$

Variables are denoted as follows:

$ROA_{i,t}$ is the return on assets of the company i at time t, $MVA_{i,t}$ is the market value addition of company i at time t, $DOR_{i,t}$ is the number of days of account receivable of the company i at time t, $DOI_{i,t}$ is the number of days of inventory of company i at time t, $DOP_{i,t}$ is the number of days of account payables of the company i at time t, $CCC_{i,t}$ is the cash conversion cycle of the company i at time t, $WCIP_{i,t}$ is the working capital investment policy of company i at time t, $WCFP_{i,t}$ is the working capital financing policy of company i at time t, $CR_{i,t}$ is the current ratio of the company i at time t, $SIZE_{i,t}$ is the firm size of the company i at time t, $GROWTH_{i,t}$ is the sales growth of company i at time t, $DR_{i,t}$ is the debt ratio of the company i at time t.

Measures of the Variables

Measures of the variables are given in the following table.

Table 01: Measures of Variables

Variables	Measure of the variable
Independent Variables	
Number of Days of Inventory	(Average Inventory /Cost of Sales) x 365 days
Number of Days of Account Receivables	(Average Account Receivables /Sales) × 365 days
Number of Days of Account Payables	(Average Account Payables / Cost of Sales) × 365 days
Cash Conversion Cycle	Number of Days of Account Receivables + Number of days of Inventories – Number of Days of Account Payables
Working Capital Investment Policy	(Total Current Assets /Total Assets) × 100
Working Capital Financing Policy	(Total Current Liabilities /Total Assets) × 100
Control Variables	
Current ratio	Current assets/ Current liabilities
Firm size	Logarithm of sales
Sales Growth	(Sales1- Sales 0)/ Sales 0
Dependent variables	
Return on Assets (ROA)	Net Income/ Total Assets
Market Value Added (MVA)	Total shares outstanding * Current market price) – Total common equity.

ANALYSIS AND DISCUSSION

The impact of working capital management on a firm's profitability and the firm's value of listed companies in Sri Lanka is analysed using balanced panel data. The summary of descriptive statistics for working capital management components, working capital management policies, and control variables, firm's profitability, and firm's value represents descriptive statistics given in the table 02 below.

Table 02: Summary of Descriptive Statistic

Variable	N	Mean	Maximum	Minimum	Standard Deviation
DOI	205	60	164	1	41.62829
DOR	205	72	180	7	47.2274
DOP	205	96	269	10	79.93102
CCC	205	37	210	-166	86.63958
WCIP	205	0.38	0.93	0.04	0.2366
WCFP	205	0.26	1.23	0.002	0.1733
CR	205	2.48	31.20	0.26	3.89
SIZE	205	9.25	10.55	7.24	0.699
GROWTH	205	0.128	9.94	-0.558	0.7257
DR	205	0.20	0.655	0	0.1632
ROA	205	0.038	0.2317	-0.25	0.067
MVA	205	8.80	10.892	5.862	0.814

In the working capital management components, the mean value period of inventory conversion to sales is 60 days, the average collection period from account receivable is 72 days, and the average period of firms pay to the account payables is 96 days which results in that CCC average of 37 days. When considering the WCIP, the average value is indicated as 38% of total assets, while WCFP is indicated as 26% of total assets.

Normality and multicollinearity

The dependent variables; ROA and MVA were moderately normally distributed. It was identified that density curve is approximately bell-shaped with the normal density curve. Thus, can conclude as normally distributed. Therefore, it can be concluded that the model 1 - ROA and model 2 - MVA data sets are normal (Appendix 01).

To identify the multicollinearity, a correlation test can be used. This depicts the association between working capital management components, working capital management policies, and control variables. The correlation coefficient between the variables shown in the table is less than 0.6. Thus, it can be concluded that the relationship between each variable is not strongly correlated and no multicollinearity issue had been detected.

Table 03: Test for Multicollinearity

	DOI	DOR	DOP	CCC	WCIP	WCFP	CR	SIZE	GROWTH	DR
DOI	1.000									
DOR	-0.020	1.000								
DOP	0.018	0.570	1.000							
CCC	0.059	0.089	-0.477	1.000						
WCIP	0.473	0.122	-0.082	0.137	1.000					
WCFP	0.159	0.063	-0.031	0.065	0.422	1.000				
CR	0.033	-0.014	0.295	-0.235	0.124	-0.411	1.000			
FZ	-0.349	-0.215	-0.284	0.065	-0.013	0.177	-0.245	1.000		
SG	-0.077	-0.050	-0.049	0.004	-0.067	-0.053	-0.008	0.023	1.000	
DR	-0.159	-0.136	-0.151	-0.012	-0.103	0.465	-0.336	0.329	0.146	1.000

Random effect or fixed effect

Both models were tested for the existence of random effect or fixed effect. F-test was ran to select between Pooled OLS & fixed effect in both models. F-test value come to 4.15 & 1.47 with a probability of $P = 0.0000$ and $P = 0.1558$ respectively. Model 01 leads to rejecting the null hypothesis due to P-value is significant. Therefore, when considering the result of the F - test, it indicated that there is a fixed effect in model 1. Therefore, it can be concluded that the fixed effect model is better than the pooled OLS model. model 2, F-test value comes to with a probability of that fails to reject null hypothesis due to $P\text{-value} > 0.05$ (insignificant). Therefore, when considering the result of the F - test, it indicated that there is no fixed effect in model 2. Therefore, can be concluded, pooled OLS is better than the fixed effect for model 2-(MVA).

Table 04: Results of F-Test

	Model 1 – ROA	Model - MVA
F (10, 154)	4.15	1.47
Prob > F	0.0000	0.1558

Based on the above F-test results, it needs to select a suitable method between Pooled OLS and Random-effect model. Therefore, LM test is used.

According to model 1 -ROA result shows that LM test value comes to 73.21 with a probability of $P = 0.0000$ and model 2- MVA statistic results of the LM Test value come to 65.57 with a probability of $P=0.0000$, thus that leads to rejecting the null hypothesis due to P-value is significant ($P\text{-value} < 0.05$). Therefore, it can be concluded that there is a random effect in both models 1- ROA and model 2- MVA. Hence, data cannot be pooled OLS. The random effect model is preferred than the pooled OLS model.

Table 05: Results of Breusch and Pagan Lagrangian multiplier test for random effect test (LM test)

	Model 1 - ROA	Model 2- MVA
chibar2(01)	73.21	65.57
Prob > chibar2	0.0000	0.0000

In the result shown in table 06, the null hypothesis of the Hausman test is differences in coefficients not systematic. According to Hausman test of the model 1 result, it fails to reject the null hypothesis as the p-value ($\text{Prob}>\text{Chi}^2$) is more than 0.05. Owing to this result, the random effect model would be the most appropriate model in performing the panel regression for model 1- ROA also.

Table 06: Result of Hausman Test

	Model 1 - ROA
Prob>chi2	0.8103

Random Effect Model Regression

The results of the Random effect model regression are given in the following table. According to model 1 and 2, both p-values is indicated as 0.0000, which indicates that the overall model is significant. According to model 1 all the independent variables and control variables together explain 47% variation in dependent variables. For model 2, all the independent variables and control variables together explain 40% variation in dependent variables.

According to the table 07 in model 01 - ROA, the days of inventory variable is found a positive relationship between ROA but insignificant with a value of 0.227 which is more than 0.05. The insignificant of the independent variable determines that inventory days are not a factor that determines the WCM. However, the positive relationship shows that firms reduce their cost of possible risk in production high inventory (Makori, 2013) and relevant accordance to Economic Order Theory. The result shows an insignificant because the sample size is not appropriate for this study. Similar findings from the past research such (Safiah & Nizam, 2015) also concluded that days of inventory conversion period is insignificant with ROA.

Table 07: Coefficient estimates under Random-effect model

Independent Variables	Model 01-ROA			Model 02-MVA		
	Estimates	z-value	p-value	Estimates	z-value	p-value
DOI	0.0001688	1.21	0.227	0.001506*	1.84	0.066
DOR	0.0002956***	3.95	0.000	0.0008707	1.34	0.181
DOP	-0.0002994***	-4.07	0.000	-0.000943	-1.60	0.109
CCC	-0.0002959***	-3.93	0.000	-0.000959	-1.48	0.139
WCIP	0.0411032	1.49	0.136	-0.302998	-1.00	0.319
WCFP	-0.0984776**	-2.32	0.020	-0.358917	-1.04	0.299
CR	-0.002756**	-2.40	0.016	0.0281336	0.88	0.380
SIZE	0.0485757***	4.44	0.000	0.669886***	4.79	0.000
GROWTH	-0.001317	-0.72	0.471	-0.012187	-0.77	0.439
DR	-0.1587649***	-4.33	0.000	0.2456644	0.55	0.586
CONS	-0.349808	-3.53	0.000	2.669469	2.10	0.035
Time fixed effect	No			No		
No. of groups	41			41		
No. of observations	205			205		
P-value	0.000			0.000		
R-squared within	0.2041			0.0388		
R-squared between	0.5782			0.5164		
R-squared overall	0.4669			0.3956		

*(This table reports coefficient, robust standard errors and z-values from the estimation of the equation in columns (1), (2) and (3) respectively. *, **, *** denote significance at the 10%, 5% and 1% level, respectively.)*

A positive significant relationship is found between ROA and the number of days of accounts receivables. In corporate finance theory, the lesser the number of days of accounts receivables, the more it will add to the profitability of the company. But looking at the coefficient value of the number of days of accounts receivables in Sri Lankan listed companies shows that an increase in the number of days of accounts receivables by one day is associated with an increase in return on assets by 0.02%. This contradicts the theory of efficient management of working capital. Similar findings from the past research such (Sharma & Kumar, 2011) also concluded that days of accounts receivables is positively significant with ROA. The results of our study

significantly differ from those conducted by Deloof (2003), Lazaridis and Tryfonidis (2006), Raheman and Nasr (2007). This reveals that in Sri Lankan companies, managers can improve profitability by increasing the credit period granted to their customers.

The regression results show a negative significant relationship between the number of days of accounts payables and firm profitability as measured by return on assets. The coefficient for days of accounts payables is -0.002993 at a significant level of 0.05 (p-value < 0.05) and confirms the negative significant impact between profitability and the number of days of accounts payable. The increase in the number of days of accounts

payable by a day has decreased the firm's profitability (ROA) by 0.02%. Deloof (2003) justifies similar results by arguing that less profitable firms tend to delay payments. The result is consistent with the prior study of Raheman and Nasr, 2007. On the contrary, the finding is opposed to the prior research of Lazaridis and Tryfonidis (2006). A negative significant relationship between the accounts payable period and profitability can be explained by the benefits of early payment discounts. On the other hand, a positive significant relationship between the accounts payable period and profitability can be explained by the increased availability of funds caused by the delayed payment of accounts payable. Such funds can thus be used for productive purposes that can increase the profitability of the company.

Table 07, in model 1 – (ROA), depicts that the cash conversion cycle of listed companies shows that there is a statistically significant negative relationship between CCC and ROA by a negative coefficient of -0.0002958 at a significant level of 0.01 (p-value $0.000 < 0.01$). It indicates that an increase in the number of days of the cash conversion cycle by a day has decreased the firm's profitability (ROA) by 0.02%. Similar findings from the past research such as Deloof (2003) conclude that there is a negative relationship between the cash conversion cycle and the profitability of the firm. A further negative relationship is proved by Samiloglu and Demirgunes (2008), Lazaridis and Tryfonidis (2006), Zariyawati et al. (2009) and Raheman and Nasr (2007), concluding that the increase or decrease in the cash conversion period, significantly affects the profitability of the firm.

According to table 07, in the model – 1 ROA shows the working capital investment policy (TCA/TA) was insignificant at a 95% confidence level (p-value > 0.05). This result is consistent with the studies by Irene & Ondigo (2018). The positive coefficient of TCA/TA indicates a negative relationship between the degree of aggressiveness of investment policy and return on assets. As the TCA/TA increases, the degree of

aggressiveness decreases and return on assets increases. However, according to the results, it shows that the working capital investment policy is not a factor that determines WCM. Thus, it is failed to reject the null hypothesis.

According to table 07, in model 1 – ROA reports regression results for working capital financing policy and the return on assets. The negative value of the coefficient for total current liabilities to total assets (TCL/TA) also points out the negative relationship between the aggressiveness of working capital financing policy and return on assets at a significant level of 0.05 (p-value $0.0000 < 0.05$). The value of the coefficient was -0.0984782 implying that for every unit increase in the ratio of WCFP, the level of aggressiveness increases and the return on assets of the company decreases by 9.84%. The higher the TCL/TL it means that the more aggressive the financing policy that yields a negative return on assets. The result is consistent with the prior study of (Mian & Afza, 2009).

According to table 07, model 2 – (MVA) shows there is a significant positive relationship between the number of days of inventory and market value added by a positive coefficient of 0.0015 at 10% of significant level. According to the regression results number of days accounts payable (DOP) and cash conversion cycle are negative but not statistically significant at the 95% confidence levels. Therefore, it can be concluded that days of accounts payable and cash conversion cycle also not factors that impact on firm's value. The result is consistent with the prior study of Arachchi, Perera, & Vijayakumaran, 2017. The regression model shows a negative relationship between working capital investment policy and market value-added of listed companies in Sri Lanka which is supported by Bandara R. (2015), Vahid, Mohsen, Mohammadreza (2012). But the relationship was not statistically significant at the 5% level. Therefore, working capital investment policy also not a factor that impacts on firm's value of a company. The regression model shows a negative relationship between

working capital financing policy and market value-added of the firm but the relationship was not statistically significant at 95% confidence level. So, it concludes that working capital financing policy is not a factor that impacts on firm's value. According to Bandara R.(2015), there is no universally acceptable pattern in the financing policy and the firm's value. And also, the financial policy is influenced by environmental conditions which are prevailing in different countries in different periods.

CONCLUSION AND IMPLICATIONS

This paper examined how working capital management impact on firm's profitability and firm's value from 2014 to 2018. Working capital management plays an important role in organisational operations and it is required for efficient management.

According to the results, it concludes that working capital management has an impact on a firm's profitability. The days of accounts receivable positively impact on firm's profitability. The days of accounts payables and cash conversion cycle negatively impact on firm's profitability. When considering the working capital management policies, the working capital financing policy negatively impacts on firm's profitability. The current ratio and debt ratio negatively and firm size positively impact on firm's profitability. According to the results, it concludes that working capital management has no much impact on a firm's value. Because even though the overall model is significant all working capital management variables except days of inventories are insignificant with the firm's value. The control variable of firm size positively impacts the firm's value.

This paper used not only working capital management components but also used the working capital management policies to measure working capital management. This paper provides a significant impact of working capital management on firms' profitability. So, this can be useful to policymakers and

stakeholders to make decisions regarding the firms' profitability and firms' value.

This paper examines the impact of working capital management on firms' profitability and firms' value of listed companies in Sri Lanka. The findings are useful to investors, managers and shareholders when making decisions regarding the firm's profitability and firm's value. However, in the results, the working capital management on firm's value was not statistically significant. This can be mainly due to the lack of data. Therefore, it can be recommended the followings for future research.

This paper is limited to the analysis of data obtained for five years by forty-one companies only. The time period and sample can further be increased in order to broaden up the scope of the present study. This study only takes the Return On Assets and market value added to measure the profitability and the firm's value respectively. But various other measurements can be used to measure those variables. Therefore, future researches can be carried out using those other measurements. Further, future researches can be carried out to find the impact of working capital management sector-wise to examine whether any difference occurs or not.

REFERENCES

- Arachchi , H., Perera , W., & Vijayakumaran , R. (2017). The impact of working capital management on firm value: evidence from a frontier market. *asian journal of finance & accounting* , 399-413.
- Aktas, N., Croci, E., & Petmezas, D. (2015). Is working capital management value-enhancing? Evidence from firm performance and investments. *Journal of Corporate Finance*, 30, 98-113.
- Autukaite, R., & Molay, E. (2011, May). Cash holdings, working capital and firm value: evidence from France. In *International conference of the French Finance association (AFFI)*.

- Azeema, A. S. F., & Jahfer, A. (2015). Working capital management and corporate performance of listed manufacturing companies in Sri Lanka.
- Baghiyan, F. (2013). The Impact of Working Capital Management on Management Performance. *Journal of Behavioural Economics Finance Entrepreneurship Accounting and Transport*, 1(1), 13-14.
- Bandara, R. (2015). Impact of working capital management policy on market value addition. *Global Journal of Contemporary Research in Accounting, Auditing and Business Ethics (GJCRA)*, 1(2), 354-373.
- Basu, N., & Wang, X. (2011). Evidence on the relation between inventory changes, earnings and firm value. *The International Journal of Business and Finance Research*, 5(3), 1-14.
- Baveld, M. B. (2012). *Impact of working capital management on the profitability of public listed firms in The Netherlands during the financial crisis* (Master's thesis, University of Twente).
- Carini, C., Comincioli, N., Poddi, L., & Vergalli, S. (2017). Measure the performance with the market value added: Evidence from CSR companies. *Sustainability*, 9(12), 2171.
- Charitou, M. S., Elfani, M., & Lois, P. (2010). The effect of working capital management on firms profitability: Empirical evidence from an emerging market. *Journal of Business & Economics Research (JBER)*, 8(12).
- Deloof, M. (2003). Does working capital management affect profitability of Belgian firms?. *Journal of business finance & Accounting*, 30(3-4), 573-588
- Eljelly, A. M. (2004). Liquidity-profitability tradeoff: an empirical investigation in an emerging market. *International journal of commerce and management*, 14(2), 48-62.
- Gill, A., Biger, N., & Mathur, N. (2010). The relationship between working capital management and profitability: evidence from the united states. *business and economics journal*, 1-9.
- Hassan, N. U., Imran, M. M., Amjad, M., & Hussain, M. (2014). Effects of working capital management on firm performance: An empirical study of non-financial listed firms in Pakistan. *International Journal of Academic Research in Business and Social Sciences*, 4(6), 114-132.
- Irene, A. R., & Ondigo, H. (2018). The effect of working capital management policies on financial performance of commercial and services sector firms listed at the nairobi securities exchange. *international journal of economics*, 114-142.
- Joibary, A. R. (2012). External performance measurement based on market value added (mva): a study of tehran stock exchange (tse). *indian streams research journal*, 1-9.
- Kaur, J. (2010). Working capital management of indian tyre industry. *international research journal of finance and economics*, 7-32.
- Konar, S., & Cohen, M. A. (2001). Does the market value environmental performance?. *Review of economics and statistics*, 83(2), 281-289.
- Lai, L. (2012). *The Impact of Working Capital Management on Firm Value: Evidence from Airland Industry* (Doctoral dissertation, Thesis, Tilburg University).
- 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*, 19(1).
- Le, B. (2019). Working capital management and firm's valuation, profitability and risk. *International Journal of Managerial Finance*.
- Makori, D. M., & Jagongo, A. (2013). Working capital management and firm profitability: Empirical evidence from manufacturing and construction firms listed on Nairobi securities exchange,

- Kenya. *International journal of accounting and taxation*, 1(1), 1-14.
- Mengesha, W. (2014). *Impact of Working Capital Management on Firms' Performance: The Case of Selected Metal Manufacturing Companies in Addis Ababa, Ethiopia* (Doctoral dissertation, Jimma University).
- Mian, N. S., & Afza, T. (2009). Impact of aggressive working capital management policy on firms' profitability. *the iup journal of applied finance*, 19-30.
- Murdock, R. (2010). Aggressive financing strategy.
- Nazir, M. S., & Afza, T. (2009). Impact of aggressive working capital management policy on firms' profitability. *IUP Journal of Applied Finance*, 15(8), 19.
- Nimalathasan, B. (2010). Working capital management and its impact on profitability : A study of selected listed manufacturing companies in Sri Lanka. *Information Management*, 12, 76-83.
- Niresh, J. A. (2012). Working capital management & financial performance of manufacturing sector in Sri Lanka. *European journal of business and management*, 4(15), 23-30.
- O'Byrne, S. F. (1996). EVA® and market value. *Journal of applied corporate finance*, 9(1), 116-126.
- Odhambo, O. B. (2014). *The Effect of Working Capital Management and Profitability of Retail Stores in Migori County-Kenya* (Doctoral dissertation, Masters Dissertation) University of Nairobi, Kenya).
- Pass, C., & Pike, R. (1987). Management of working capital: a neglected subject. *Management Decision*.
- Raheman, A., & Nasr, M. (2007). Working capital management and profitability - case of pakistani firms. *international review of business research papers*, 279 - 300.
- Rasyid, R., Lukman, S., Husni, T., & Adri. (2018). The impact of aggressive working capital management policy on firm's value: a mediating effect of company's profitability. *journal of business and management sciences*, 16-21.
- Raheman, A., & Nasr, M. (2007). Working capital management and profitability-case of Pakistani firms. *International review of business research papers*, 3(1), 279-300.
- Safiah, F., & Nizam, I. (2015). The effects of working capital management on the. *international journal of accounting & business management*, 87-08.
- Samiloglu, F., & Demirgunes, K. (2008). The effect of working capital management on firm profitability: Evidence from Turkey. *The International journal of applied Economics and Finance*, 2(1), 44-50.
- Sharma, A. K., & Kumar, S. (2011). Effect of working capital management on firm profitability: Empirical evidence from India. *Global business review*, 12(1), 159-173.
- Sharma, D. (2009). *Working capital management: A conceptual approach*. Himalaya Publishing House.
- Shrivastava, A., Kumar, N., & Kumar, P. (2017). Bayesian analysis of working capital management on corporate profitability: evidence from India. *Journal of Economic Studies*.
- Singhania, M., & Mehta, P. (2017). Working capital management and firms' profitability: evidence from emerging Asian countries. *South Asian Journal of Business Studies*.
- Subramaniam, K., & Wild, J. K. (2009). Financial statement analysis.
- Sudiyatno, B., Puspitasari, E., & Sudarsi, S. (2017). Working capital, firm performance, and firm value: An empirical study in manufacturing industry on Indonesia stock exchange. *Economics World*, 5(5), 444-450.
- Tauringana, V., & Afrifa, G. A. (2013). The relative importance of working capital

management and its components to SMEs' profitability. *Journal of Small Business and Enterprise Development*.

Vahid, T. K., Mohsen, A. K., & Mohammadreza, E. (2012). The impact of working capital management policies on firm's profitability and value: Evidence from Iranian Companies. *International Research Journal of Finance and Economics*, 88(1), 155-162.

Zariyawati, M. A., Annuar, M. N., Taufiq, H., & Rahim, A. A. (2009). Working capital management and corporate performance: Case of Malaysia. *Journal of Modern Accounting and Auditing*, 5(11), 47.

Appendix 01

Normality test for Model 1 – ROA

Normality test for Model 2 - MVA