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## **Working Capital Management and Its Impact on Profitability: A Study of Selected Listed Beverage, Food and Tobacco Companies in Colombo Stock Exchange, Sri Lanka**

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### **Abstract:**

*The main purposes of this study are to identify significant impact on Working Capital Management (WCM) on profitability and find out the relationship between WCM and profitability of selected listed Beverage, Food and Tobacco Companies in Colombo Stock Exchange (CSE) from the financial year 2008 to 2012. Regression and Correlation analysis were performed in this study. According to the correlation results of this study stated that there is no significant relationship between WCM and profitability of Beverage, Food and Tobacco companies in Sri Lanka. Debtor's, Creditor's and inventory conversion period have a negative relationship on return on assets as well Creditor Conversion Period (CCP) has a negative relationship with Gross Profit (GP), it means if the CCP arise or increase that will reduce GP of the company. Regression analysis results revealed that there is no significant impact of WCM on profitability of the selected listed Beverage, Food and Tobacco Companies in Colombo Stock Exchange (CSE). The findings show that WCM has a negative relationship Return on Assets (ROA) of the companies, it is concluded to the managers need to maintain or keep their working capital components at an optimum level to achieve their expecting profitability of the firm and competitive advantage in the market.*

**Key words:** Working Capital Management (WCM); Profitability; Listed Companies; Beverage Food & Tobacco

### **1. Background of the Study**

Firms have an optimal level of working capital that leads to high level of profitability of the firm. Most firms have invested a large amount of cash in working capital and also substantial amounts of short term payables as a course of financing. WCM is very difficult in the practical environment. A large period collection of trade credit policy as well as large inventory may lead to higher sales also large stock holding reduces the risk of a stock out. The major decision relating to working capital and short term financing are referred to as WCM. WCM ensures a company has sufficient cash flow in order to meet its short term debt obligation and operating expenses. These involve managing the relationship between firm's current assets and its current liabilities. The objective of WCM is to ensure that the firm has the ability to continue its operation and that it has sufficient cash flow to satisfy both maturing short term debt and upcoming operational expenses. The management of working capital involves managing current assets and current liabilities such as inventories, account receivable, account payable, and cash. Implementing an effective working capital management system is an excellent way for companies to improve their earning. The two main aspects of WCM are management of individual components of working capital and ratio analysis. A few key performance indicators of a working capital management system are the Debtors' Conversion Period (DCP), Creditors Conversion Period (CCP), Inventory Conversion Period (ICP) and Cash Conversion Cycle (CCC) Ratio analysis will lead management to identify areas, they have to focus in future such as inventory management, cash management, account receivable and payable management. Guthmann and Dougall (1948) defined working capital as excess of current assets over current liabilities. This view was elaborated by park and gladson (1963) when they defined working capital as the excess of current assets of the business (for example, cash, accounts receivables, inventories).

### **2. Literature Review**

WCM is a major task of each big and small level of companies especially management of working capital is vital issue and activity of corporate business than others. Many researchers have been conducted many researches related with working capital management and their effect and impact on profitability. Deloof (2003) stated that lot of organizations had a big amount of cash invested in working capital from this statement it can be seen that WCM is very needed part of the organization because huge amount of money are related with working capital of the firm. He has found that a significant negative relationship between gross

operating profit and the account receivables days, account payable and inventories conversion period days of Belgian firms through using test of correlation and regression. The researcher suggested to the managers that the managers should create value for their shareholders by the way of reducing the account payable, inventories and account receivable days to reasonable level based on researcher's above results. The less profitable firms wait a longer time to pay their bills, it make the negative relationship between accounts payable and profitability of the firm. Nimalathasan (2010) found that, cash conversion cycle and return on assets are negatively correlated also he stated that when cash conversion cycle increases that cause for decrease return on assets. He pointed in his study that an increase in number of days in cash conversion cycle even by one day that is associated with a decrease by 5.03% in return on assets of selected listed manufacturing companies in Sri Lanka. Also he has suggested that to managers of selected companies to his study, they can increase their company's profitability by reducing the number of days on inventories conversion cycle and accounts receivable, through his results.

Muhammad and Syed (2011) stated that WCM of non financial institution listed in Karachi Stock Exchange has significant impact on its performance through his Canonical Correlation Analysis. They have suggested to above listed company's manager that, they can increase return on assets (ROA) and value of their stock holder by reducing cash conversion cycle, inventories' size and net trading cycle also they have suggested that firm's overall performance is depending on increase in liquidity and creditor conversion period. According to Ahsen, Faisal Mehmood and Muhammad (2011), it can be seen that, there is negative significance between return on assets (ROA) and cash conversion cycle of textile companies listed in Karachi Stock Exchange (KSE) through their results. They have advised to the selected sector company's managers that, the managers can obtain good margin of profits through proper and excellent managing their company's cash conversion period, accounts or debtors' conversion period, accounts payables days and number of day's inventory conversion to a required industry's optimum level.

### 3. Research Model

Based upon related literatures, the research model is shown, which outlines the way in which examining WCM and its impact on profitability in listed Beverage, Food and Tobacco companies have provided the basis of study.

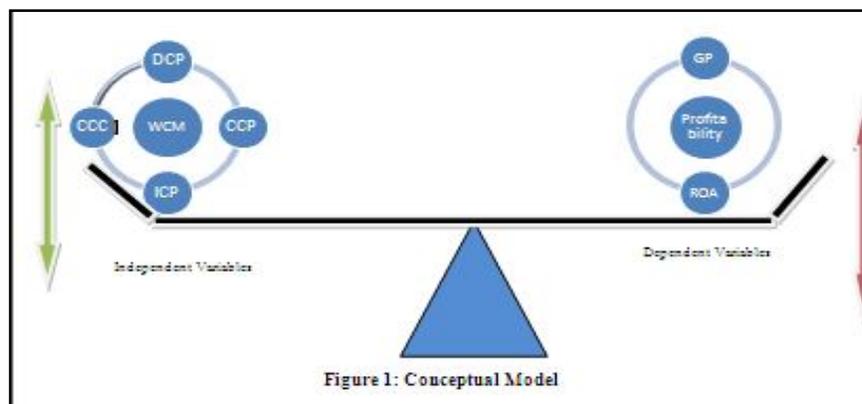


Figure 1: Conceptual Model

### 4. Objectives

Main objective of the study is to identify the impact of Working Capital Management (WCM) on profitability of selected listed Beverage, Food and Tobacco Companies in Colombo Stock Exchange (CSE) and specific objectives are,

- To find out the relationship between WCM and profitability of selected listed Beverage, Food and Tobacco Colombo Companies in Colombo Stock Exchange (CSE)
- To suggest the companies to keep profitability

### 5. Hypotheses

- **H<sub>1</sub>**: The WCM significantly impact on profitability of the selected listed Beverage, Food and Tobacco Companies in Colombo Stock Exchange (CSE).
- **H<sub>1a</sub>**: DCP has impact on GP of the selected listed Beverage, Food and Tobacco Companies in Colombo Stock Exchange (CSE).
- **H<sub>1b</sub>**: CCP has impact on GP of the selected listed Beverage, Food and Tobacco Companies in Colombo Stock Exchange (CSE).
- **H<sub>1c</sub>**: ICP has impact on GP of the selected listed Beverage, Food and Tobacco Companies in Colombo Stock Exchange (CSE).
- **H<sub>1d</sub>**: CCC has impact on ROA of the selected listed Beverage, Food and Tobacco Companies in Colombo Stock Exchange (CSE).
- **H<sub>2</sub>**: There is significant relationship between WCM and profitability of selected listed Beverage, Food and Tobacco companies in Colombo Stock Exchange (CSE).

- **H<sub>1a</sub>**: There is a significant relationship between DCP and GP of selected listed Beverage, Food and Tobacco Companies in Colombo Stock Exchange (CSE).
- **H<sub>2b</sub>**: There is a significant relationship between CCP and GP of selected listed Beverage, Food and Tobacco Companies in Colombo Stock Exchange (CSE).
- **H<sub>2c</sub>**: There is a significant relationship between ICP and GP of selected listed Beverage, Food and Tobacco Companies in Colombo Stock Exchange.
- **H<sub>2d</sub>**: There is a significant relationship between CCP and ROA of selected listed Beverage, Food and Tobacco Companies in Colombo Stock Exchange.

## 6. Methodology

### 6.1. Scope

The scope of the studies is listed Beverage, Food and Tobacco companies in Sri Lanka. Twenty companies are listed under Beverage, Food and Tobacco sectors in Colombo Stock Exchange (CSE) up to May of 2013. Hence, out of twenty, only nine companies were selected for the studies purpose. These companies include (1) Cargills (Ceylon) Limited (2) Ceylon Cold Stores PLC (3) Ceylon Tobacco Company PLC (4) Distilleries Company Of Sri Lanka PLC (5) Keells Food Products PLC (6) Kotmale Holding PLC (7) Lanka Milk Foods (CWE) PLC (8) Lion Brewery (Ceylon) PLC (9) Nestlé Lanka PLC.

### 6.2. Data Sources

In order to meet the objectives and the hypotheses of the study, data were collected from secondary sources mainly from the financial reports/annual reports of the selected Companies, which were published by CSE also all the financial reports/annual reports have independent audit report.

### 6.3. Sample

This study was conducted in Sri Lanka. Researchers selected nine companies from listed Beverage, Food and Tobacco companies in Sri Lanka, the researchers have used convenience sampling technique to select the company. Data of this study purpose were collected from 2008 to 2012 financial year.

### 6.4. Reliability and validity

Secondary data for the study was drawn from audited accounts (for example income statement and statement of financial position) of the concerned companies as fairly accurate and reliable. Therefore, these data may be considered reliable for the study. Necessary checking and cross checking were done while scanning information and data from the secondary data sources. All these efforts were made in order to generate validity data for the present study. Hence, researcher satisfied content validity.

### 6.5. Mode of Analysis

In the present study, we analyze our data by employing correlation and Regression. For the study, entire analysis is done by personal computer. A well known statistical package 'Statistical Package for Social Sciences' (SPSS) 16.0 Version was used in order to analyze the data especially correlation and regression analysis have done to accept or reject the developed hypotheses. There are several tools to measure the efficiency of the company in managing working capital. The powerful indices, most commonly used, are ratio of inventory conversion period, debtors' conversion period, creditors' conversion period and cash conversion cycles which are discussed briefly below in table 1 and profitability ratios such as gross, operating, net profit, return on capital employed and return on assets which are discussed briefly below in table 2.

Working Capital Ratios		
Name of Ratios	Interpretation	Calculation
Debtors' Conversion Period (DCP)	DCP is the time required to collect the cash from debtors.	Average Debtors X 365 Net Credit Sales
Creditors Conversion Period (CCP)	CCP reflects the number of days required by a firm to settle its bills.	Average Creditors X 365 Net Credit Purchase
Inventory Conversion Period (ICP)	ICP is the time required to convert inventory into cash	Average Stock Value X 365 Cost of Sales
Cash Conversion Cycle (CCC)	CCC is the length of time between a firm's purchase of inventory and the receipt of cash from accounts receivable	CCC= DCP+ICP-CCP

Table 1: Working Capital Ratios

Profitability Ratios		
Name of Ratios	Interpretation	Calculation
Gross Profit	Reflects gross profit margin made on sales.	$\frac{\text{Gross Profit}}{\text{Sales Revenue}} \times 100$
Return on Assets	Reflects relationship between profits earned and total assets.	$\frac{\text{Operating Profit}}{\text{Total Assets}} \times 100$

Table 2: Profitability Ratios

7. Results and Interpretation

7.1. Regression Analysis

The purpose of the regression analysis is to find out the significant impact of WCM on profitability. Table 3.2 shows the result of regression analysis regarding to the DCP, CCP, ICP and GP. Here DCP, CCP, ICP are considered as independent variable and GP as dependent variable. Table 3.4 shows the result of regression analysis regarding to the CCC and ROA. Here CCC is considered as dependent variable and ROA as dependent variable.

Table 3.1: Predictors of GP - Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.640316577	0.410005	0.056009	10.51423731

Predictors: (Constant), ICP, DCP and CCP

Table 3.2: Coefficients for Predictors of GP

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	23.8938	9.221926		2.59097	0.04877
	Debtors Conversion Period	0.09525	0.262486	0.142574553	0.36287	0.73153
	Creditors Conversion Period	-0.3451	0.230449	-0.60333614	-1.49751	0.19452
	Inventory Conversion Period	0.13370	0.155837	0.359986485	0.85795	0.43011
Source: Survey data						

Table 3.3: Predictors of ROA - Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.262833652	0.069082	-0.06391	14.8673

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	23.51357	8.50086		2.766021	0.027853
	Cash Conversion Cycle	-0.09888	0.13719	-0.26283	-0.72073	0.494434
Source: Survey data						

Table 3.4: Coefficients for Predictors of ROA

Table 3: Regression Analyses  
a. Predictors: (Constant), Cash Conversion Cycle

Based on the regression analysis, from the table 3.2 it can be seen that, there is no significant impact of DCP on GP of selected listed Beverage, Food and Tobacco companies in Sri Lanka ( $P > 0.05$ ), also there is no significant impact of DCP on GP of selected listed Beverage, Food and Tobacco companies ( $P > 0.05$ ) and there is no significant impact of ICP on GP of selected listed Beverage, Food and Tobacco companies in Sri Lanka. From the above results, it can be said that, by any other factors can impact gross profit because the constant significant value shows significant value which is 0.048779 ( $P < 0.05$ ) then H1a, H1b, H1c are also rejected.

It can be seen from the table 3.4, there is no significant impact of CCC on ROA of selected listed Beverage, Food and Tobacco companies in Sri Lanka ( $P > 0.05$ ), from the above results, it can be said that, by any other factors can impact return on assets because the constant significant value shows significant value which is 0.027853 ( $P < 0.05$ ) then H1d is also rejected. From above two results H1 is also rejected so it can be stated finally, there is no significant impact of WCM on profitability of the selected listed Beverage, Food and Tobacco companies in Sri Lanka.

## 7.2. Correlation Analysis

The objective of correlation analysis is to find out the relationship between WCM and profitability of the selected listed Beverage, Food and Tobacco companies in Sri Lanka. Table 3 shows the results of correlation analysis.

		Gross Profit	Return on Assets
<b>Debtors Conversion Period</b>	Pearson Correlation	0.38	(0.42)
	Sig. (2-tailed)	0.32	0.26
<b>Creditors Conversion Period</b>	Pearson Correlation	(0.49)	(0.25)
	Sig. (2-tailed)	0.18	0.51
<b>Inventory Conversion Period</b>	Pearson Correlation	0.17	(0.27)
	Sig. (2-tailed)	0.66	0.48
<b>Cash Conversion Cycle</b>	Pearson Correlation	0.53	(0.26)
	Sig. (2-tailed)	0.14	0.49

Table 4: Correlation Analysis

According to the table 4 it can be seen that, correlation value between DCP and GP employed is as 0.38 which is not significant at 0.05 levels so it can be clearly stated that there is no significant relationship between DCP and GP because  $P > 0.05$ , also correlation value between CCP and GP employed is as -0.49 which has significant value 0.18 so it can be clearly stated that there is no significant relationship between CCP and GP employed ( $P > 0.05$ ) and correlation value between ICP and GP is as 0.17 which has significant value 0.66 from the results it can be said that there is no significant relationship between ICP and GP employed ( $P > 0.05$ ). Then the  $H_{2a}$ ,  $H_{2b}$  and  $H_{2c}$  are rejected.

From the table 3.4, it can be seen that the correlation value between CCC and ROA is -0.26 with significant value 0.49 from this result it can be clearly revealed that there is no significant relationship between CCC and ROA ( $P > 0.05$ ), then the  $H_{2d}$  is rejected. Finally it can be concluded that from above results  $H_2$  is also rejected that means there is no significant relationship between WCM and profitability.

## 8. Conclusion and Recommendation

Generally profitability of the firm is depending on working capital management of the firm. Also theoretically everyone is studying working capital management is key important components in determining the profitability of the firm. Practically impact of the working capital management on profitability is differing from companies to company actually it is related to business types of the companies. According to the findings of this study, researchers are able to conclude that, there is no significant relationship between working capital management (debtor's conversion period, creditor's conversion period, inventory conversion period and cash conversion period and profitability of selected listed Beverage, Food and Tobacco Companies in Sri Lanka. The DCP, CCP, ICP and CCC have a negative relationship with ROA also CCP has a negative relationship with GP. Above results can be supported by the way, the beverage, food and tobacco companies do not maintain large amount of account receivables, accounts payables and inventories, it can be seen through their statement of financial position, the researchers also note that beverage, food and tobacco products are very fast moving product due to this reason the companies do not need to maintain a huge amount of accounts receivables, accounts payables and inventories. Based on the findings from regression analysis, it can be clearly concluded that there is no significant impact of WCM on profitability of the listed Beverage, Food and Tobacco Companies in Sri Lanka this conclusion can be supported by Nimalathasan (2010) found that cash conversion cycle and return on assets are negatively correlated also he stated that when cash conversion cycle increases that cause for decrease return on assets. This study also conducted in Sri Lanka so it is more support to our conclusion. Based on this study the researchers suggest to managers of listed Beverage, Food and Tobacco companies in Sri Lanka to consider that DCP, CCP and ICP has negative relationship with ROA as well CCP has negative relationship with GP. From above statements the managers are able to understand that, working capital management has negative relationship with profitability of the firm so they have to maintain their working capital

management components such as debtor's, creditor's, inventory and cash conversion period at an optimum level to obtain significant or more profit of the firm.

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