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WORKING CAPITAL MANAGEMENT AND FIRM PERFORMANCE: EVIDENCE FROM FOOD AND BEVERAGE SECTOR OF COLOMBO STOCK EXCHANGE

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ABSTRACT

This study investigates the impact of working capital management on firm performance of public listed companies in food and beverages in the Colombo Stock Exchange. Working capital is an important element that should be concerned by the managers, since negligence of it leads to a bankruptcy of the firm. Therefore, it is vital to identify a proper working capital policy for a firm before it creates troublesome situation to the company. In this study, a sample of 20 public listed companies from Food and Beverage sector were selected. Data is taken from annual reports of listed companies during the period of 2013 to 2017. Descriptive statistics method, Pearson correlation method and Panel regression method were used to analyse data. Descriptive statistics revealed current statistics on working capital management of Food and Beverage industry. Pearson correlation test results revealed that accounts collection period (ACP), inventory turnover period (ITD), gross working capital (GTA), current assets to total assets ratio (CATA) and Current liabilities to total assets ratio (CLTA) have significant correlation with firm performance. As per the panel regression results, It is found that, gross working capital (GTA) and current assets to total assets ratio (CATA) have positive significant relationship with return on assets (ROA).Current liabilities to total assets ratio (CLTA) has a significant negative relationship with return on assets (ROA).None of the independent variables have significant relationship with return on equity (ROE).
Key Words: Working Capital Management, Firm Performance, Return on Assets, Return on Equity

1. Introduction

Working Capital Management (WCM) means management of current assets and current liabilities (Ogundipe Idowu & Ogundipe, 2012). The term working capital refers to the amount of capital which is readily available to a company to conduct the day to day operations of a business, that is the difference between resources in cash or readily convertible into cash (Current Assets) and organisational commitments for which cash will soon be required (Current Liabilities). This paper investigated current situation of working capital management of listed food and beverages companies in Sri Lanka and whether there is a relationship between working capital management and firm performance with special reference to the food and beverage sector of Sri Lanka. If a firm can manage working capital efficiently, high profitability can be achieved (Shin & Soenen, 1999).

In this paper, the researcher highlights this debate by studying how working capital management influence the profitability of a listed company using a sample of listed companies in Colombo stock exchange. Several working capital management ratios were used as independent variables and return on assets (ROA) and return on equity (ROE) used as dependent variables. Descriptive statistics analysis, Pearson correlation analysis and Panel regression analysis were carried out to archive research objectives.

Descriptive statistics analysis provided important statistics regarding working of Food and Beverages industry. It was found that there are significant relationships between working capital management ratios and return on equity (ROE) and there was no relationship between working capital management and return on assets (ROA).

2. Literature Review

Haider and Azam (2011) studied the impact of working capital management on firm's profitability using data from listed companies in Pakistan. He found that profit has significant negative relationship with inventory turnover period, cash conversion cycle and net trading cycle. He suggested proper inventory management system will avoid over stock and to engage in relationship with those suppliers who allow long credit time period and customers who allows short payment period to increase profitability of the firm.

According to Ikram, Sohail and Alam (2011) whose study was based on cement industry in Pakistan found that current assets to sales ratio and cash turnover ratio has a negative impact on profitability. However, debtors turnover ratio, inventory turnover ratio is positively related to firm's profitability; also current ratio, liquidity ratio and creditor turnover ratio positively affected to the profitability. This is a special study where the researcher has studied the relationship only on cement industry in Pakistan.

Alipour (2011) found a negative significant relationship between gross operating profit and independent variables of cash conversion cycle, average collection period and Inventory turnover period. On the other hand, significant positive relationship between average payable period and profitability was found.

Balasundaram N. (2010) found that managers can increase profitability of manufacturing firms by reducing the number of day's inventories and accounts receivable in Sri Lanka. A study on value added, productivity and performance of few selected companies in Sri Lanka reveals that, profit before tax per employee and value added per rupee of fixed asset is positively correlated and labour cost to sales and gross profit is also positively correlated. Further the labour cost to value added is correlated with gross profit and value added per rupee of fixed asset and no relationship was found between the rest of the productivity and performance measures (Velnampy, 2011). Niresh (2012) investigated the relationship between working capital management and financial performance of listed manufacturing firms in Sri Lanka. Findings reveal that, there is no significant relationship between cash conversion cycle and performance measures.

Based on empirical studies, author can conclude that there are no sufficient studies on working capital management in listed companies in Sri Lanka. Especially acute during recent years. Hence, the present study is initiated on working capital management and firm performance in listed manufacturing companies in Sri Lanka. Researcher contributes to the existing literature by providing new evidence to identify the relationship between working capital management and firm performance. Apart from that author reveals the present status of working capital management in manufacturing sector of Colombo stock exchange.

3. Methodology

For this investigation, researcher has applied Quantitative Research Approach. Three analytical strategies have been used namely, Descriptive statistics analysis, Pearson correlation analysis and Panel regression analysis. Secondary data was used from 20 Food and Beverage sector companies registered in Colombo stock exchange during the time span of 2013 -2017.Initially, ten variables applied for the study as eight independent variables and two dependent variables. According to the Pearson correlation analysis, only 5 independent variables were significantly correlated with firm performance. Hence, Panel regression models were developed using selected 5 independent variables.

4. Data Analysis Results and Discussion

4.1 Descriptive Statistics

Table 4.1 describe the descriptive statistics for the study variables related to 1000 firm year observations of 20 companies listed on Colombo Stock Exchange for the

period of 2013 to 2017. Table 4.1 shows Food and Beverage industry Average Collection Period (ACP) is only 45 days. That means in that particular industry to collect their creditor's debt at least they are taking one and half month. Also, average collection period varies between 35 days to 161 days.

Table 3.1 Variable Description

Variable	Abbreviation	Type of the variable
Accounts Collection Period (in days)	ACP	Independent
Inventory Turnover Period (in days)	ITD	Independent
Accounts Payment Period (in days)	APP	Independent
Gross Working Capital Turnover Ratio	GTA	Independent
Current Assets to Total Assets Ratio	CATA	Independent
Current Liabilities to Total Asset Ratio	CLTA	Independent
Quick Ratio	QR	Independent
Current Ratio	CR	Independent
Return On Assets	ROA	Dependent
Return On Equity	ROE	Dependent

Table 4.1 Descriptive Statistics

	ACP	ITD	APP	GTA	CATA	CLTL	CR	QR	ROA	ROE
Mean	45.19429	47.62777	51.56371	3.733118	0.432765	0.297353	2.354661	1.801414	0.105526	0.2825
Median	34.9468	41.58822	45.19631	3.311613	0.365073	0.243688	1.520289	0.961314	0.069945	0.111076
Maximum	160.9863	140.9635	251.9401	16.05512	0.876826	0.841557	16.17264	13.65103	0.60264	3.685455
Minimum	2.926656	8.405842	9.530865	0.808607	0.060799	0.041794	0.116268	0.064128	-0.05692	-0.18853
Std. Dev.	38.30975	26.53104	45.55631	2.324905	0.197555	0.200996	2.66273	2.30151	0.134466	0.662673
Observations	100	100	100	100	100	100	100	100	100	100

Mean value of the Average Payment Period (APP) is 52 days. When we are comparing Average Accounts Collection Period with the Average Accounts Payable period in Sri Lankan food and beverage sector ACP is higher than the APP. It means that particular industry takes more days to pay the debts rather than the collect the debts.

The findings of this study show the number of days of inventory turnover ratio for food and beverage firms is on average 48 days.

In food and beverage firms sample average current assets to total assets (CATA) ratio is 43.2% and current liabilities to total assets (CLTA) ratio is 29.7% as demonstrated by table 4.1. Mean value of return on assets is around 10% and return on equity is 28.2%. Other important statistics can be observed from table 4.1.

4.2. Pearson's Correlation Results

Table 4.2 – Pearson Correlation

Probability	ACP	ITD	APP	GTA	CATA	CLTA	CR	QR	ROA	ROE
ACP	1									
Probability	-----									
ITD	0.4861	1								
Probability	0	-----								
APP	-0.0102	0.53632	1							
Probability	0.9196	0	-----							
GTA	-0.6349	-0.3899	0.01707	1						
Probability	0	0.0001	0.8661	-----						
CTR	0.28289	-0.1413	-0.133	-0.291	1					
Probability	0.0043	0.1609	0.1871	0.0033	-----					
CLT	-0.2453	-0.2295	0.06574	0.37903	0.3207	1				
Probability	0.0139	0.0216	0.5158	0.0001	0.0011	-----				
CR	0.4917	0.22744	-0.1323	-0.4075	0.36173	-0.5047	1			
Probability	0	0.0229	0.1895	0	0.0002	0	-----			
QR	0.52167	0.19512	-0.1093	-0.4364	0.40528	-0.466	0.99036	1		
Probability	0	0.0517	0.2791	0	0	0	0	-----		
ROA	-0.3188	-0.3303	-0.0079	0.38827	0.50561	0.43596	-0.0301	-0.0097	1	
Probability	**0.0012**	**0.0008**	**0.9382**	**0.0001**	**0**	**0**	**0.7662**	**0.9241**	-----	
ROE	-0.2947	-0.3136	-0.0279	0.34473	0.50221	0.57587	-0.1154	-0.0983	0.90018	1
Probability	0.0029	**0.0015**	0.7825	0.0004	0	0	0.253	0.3307	0	-----

Pearson correlation was applied to check the correlation between selected independent variables and dependent variables used in the study. It was found that ACP, ITD, GTA, CATA and CLTA are significantly correlated with ROA and ROE. Hence, panel regression model has been developed using aforementioned variables.

Model 1- ROA

$DD_{it} = \alpha^{\circ} + \beta_1 ACP + \beta_2 ITD + \beta_3 GTA + \beta_4 CATA + \beta_5 CLTA + \varepsilon_{it}$

Model 2 - ROE

$DD_{it} = \alpha^{\circ} + \beta_1 ACP + \beta_2 ITD + \beta_3 GTA + \beta_4 CATA + \beta_5 CLTA + \varepsilon_{it}$

Where; DD is main dependent variable and ACP, ITD, GTA, CATA, CLTA are independent variables

4.3. Panel regression results

Table 4.3.1 – Panel regression (ROA model)

Dependent Variable: ROA				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
ACP	-0.000172	0.00039	-0.440499	0.6608
ITD	0.000124	0.000397	0.311904	0.756
GTA	0.008326	0.003416	2.437176	0.0172
CATA	0.159832	0.065338	2.44624	0.0168
CLTL	-0.241024	0.044814	-5.378294	0
C	0.078811	0.046836	1.68271	0.0966
R-squared	0.948072	Mean dependent var		0.105526
Adjusted R-squared	**0.931455**	S.D. dependent var		0.134466

As per the results it was found that gross working capital turn over and current asset to total asset rations have significant positive relationship with return on assets ratio. At the same time current liabilities to total liabilities ratio has significant negative relationship with return on asset. These results indicate that higher the current assets in the asset base higher the ROA while higher the current liabilities within the liabilities lower the ROA in food and beverage sector in Sri Lanka.

Table 4.3.2 – Panel regression (ROE model)

Dependent Variable: ROE				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
ACP	-0.000661	0.002095	-0.315425	0.7533
ITD	-0.000672	0.002133	-0.315148	0.7535
GTA	0.004348	0.018362	0.236762	0.8135
CATA	0.093914	0.351198	0.267411	0.7899
CLTL	-0.023441	0.240883	-0.097312	0.9227
C	0.294479	0.251748	1.169737	0.2458
R-squared	0.938225	Mean dependent var		0.2825
Adjusted R-squared	**0.918457**	S.D. dependent var		0.662673

As you can observe in the above table, none of the independent variables have significant relationship with return on equity of food and beverage sector of Sri Lanka.

5. Conclusion

Working Capital Management is considered to be an important factor to smoothly run company operations. This study conducted a quantitative analysis to test impact of working capital management of firm's performance in 20 listed food beverages companies in Sri Lanka which are registered in Colombo Stock Exchange.

Firm performance was measured by using two dependent variables, namely, Return on Assets (ROA) and Return on Equity (ROE). Initially eight independent variables were selected to the study. Based on the results of Pearson correlation, ultimately five independent variables retained for panel regression analysis.

Descriptive statistics presented statistical insights of working capital management in food and beverage industry in Sri Lanka. Pearson's correlation was used to find out the independent variables which are significantly correlated with the dependent variables.

Finally, Panel regression models were applied to investigate the impact of Working Capital Management on Firm Performance on Food and Beverages industry. ROA model revealed that that gross working capital turn over and current asset to total asset rations have significant positive relationship with return on assets ratio. At the same time current liabilities to total liabilities ratio has significant negative relationship with return on asset. ROE model revealed that none of the independent variables have significant relationship with return on equity of food and beverage sector of Sri Lanka.

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