Working Capital Management and Firms' Performance: An Analysis of Sri Lankan Manufacturing Companies

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Abstract:-

A managerial accounting strategy focuses on maintaining efficient levels of both components of working capital, current assets and current liabilities. Implementing an effective working capital management system is an excellent way to improve earnings. Prier evidence has determined relation between working capital and performance. This study extends the literature. The working capital is determined by the cash conversion cycle and position of working capital, indicated by the current ratio, quick ratio, stock to current assets and debtors to current assets. The performance is measured by return on total assets, and relation between working capital management and profitability is investigated by using panel data analysis for a sample of 50 manufacturing companies for the period of 2003 – 2007. The regression results show that high investment in inventories and receivables lead to lower profitability and current assets to total assets lead to higher profitability. The results conclude that a strong relationship between working capital management and performance.

Key words:- Working capital management, performance, current assets, current liabilities

1. Introduction

Working capital is a financial matrix which represents operating liquidity available to a business. Working capital management is to financing, investment and controlling of net current assets within the policy guide lines. It is the only investment a company makes on which it does not expect a defined return. The investment is needed in order to oil the wheels' of business rather than to produce something itself. Because of this, many companies have over – invested in working capital leading to cash flow problems and to diminution of share holders' value. On the other hand working capital management is a very important component of corporate finance because it directly affects the liquidity and profitability of the company.

The level of working capital in a business has a direct effect on the amount of growth of the company which can sustain organically from its own internal resources (Teruel and Solano, 2007) Growth of sales requires that the business takes on additional stocks and incurs additional debtors. These currents assets of manufacturing firms accounts for over half of its total assets. Excessive levels of current assets can easily result in a firm's realizing a substandard return on investment. However, firms with too few current assets may incur shortage and difficulties in maintaining smooth operations (Van Horne and Wachowicz, 2000). Companies' inventory management policy, debtors' management policy and creditors' management policy have an important role in its profitability performance (Vishanani and Shah, 2007).

The decision making related to working capital requires a wide knowledge of financial management. Most of the chief financial officer's time and efforts are devoted to working capital management. Still, a large number of business failures have been attributed to inability of financial managers to plan and control properly the current assets and current liabilities of their respective firms (Smith, 1973).

Most of the text books pertaining to financial management and working capital management apparently stress on the inverse relationship between liquidity and profitability. The most common use of liquidity is current ratio and profitability is Return on Investment (ROI): a high current ratio indicates a large investment in current assets which means a low rate of return on investment in current assets. It will not gross enough return. That means low level of current assets lead to high rate of return and as no idle investment is tied up in current assets. However, a low current ratio could also mean interrupted production and sales, because of frequent stock – out and inability to pay to creditors in time due to restrictive policy. Thus, it can be said that the inverse relationship between profitability and liquidity is not function forever, rather up to a certain level of liquidity; this theory holds good; beyond that level decline in liquidity will cause decline in profitability.

If a company is to grow without borrowing or issuing further capital, it needs either to increase its profitability or to make better use of its assets. But investment in working capital will differ across industries. In Sri Lanka most of the manufacturing companies' informal working capital policy and company profitability has an influence on the methods of working capital planning and control (Pandey and Parera, 1997). It is imperative to identify the impact of working capital management on profitability. Therefore the research problem is how working capital management affects manufacturing companies' performance. It examines the inter-relationship between profitability and liquidity in manufacturing companies. This study has following objectives:

- To identify the influences of liquidity management (current ratio and quick ratio) on profitability.
- To measure the relationship between Cash Conversion cycle (ccc) and performance.
- To find out relationship between working capital management and performance among different type of manufacturing companies.
- To find out the effect of current assets component of stock and debts on profitability.

The rest of the paper is organized as Section 2 describes the related literature which explains the relationship between working capital management, liquidity management and performance; Section 3 deals with the methodology and this part identifies variables related to working capital liquidity and performance and control variables; Section 4 includes data analysis and the empirical findings and Section 5 concludes the analysis

2. Literature Review

The relation between Working Capital Management and performance has been measured by many researchers from different views and different environment.

Firms may have an optimal level of working capital that maximizes their value. Large inventory and a generous trade credit policy may lead to high sales. Lager inventory reduces the risk of stock out. Trade credit may stimulate sales because it allows customers to assess product quality before paying (Long, Maltiz and David, 1993; Deloof and Jegers, 1996). Another component of working capital is accounts payables. Delaying payment to suppliers allows a firm to asses the quality of product and can be an inexpensive and flexible source of financing for the firm. On the other hand, late payment of invoices can be very costly if the firm is offered a discount for early payment. A popular measure of working capital cycle is the cash conversion cycle. The longer this time lag, the larger investment in working capital is (Deloof, 2003) found that there is a significant negative relation between

Gross operating income and the days of accounts receivable, inventories and account payable of Belgian firm.

Amit, Sur and Rakshit (2005) studied the relationship between working capital and profitability in the context of Indian pharmaceutical industries and concluded that no definite relationship can be established between liquidity and profitability. Further, Narware (2004) conducted a study of working capital management and profitability by using Fertilizer Company which disclosed both negative and positive association.

Mukhopadhyay (2004) conducted a case study on working capital management in heavy engineering firms and indicated that loans and advances, and other current assets hardly had only role to contribute in sales / business generation of the firm during the period of, 1993-94 to 2002-03. S.C. Bardia (2004) in his study on steel giant SAIL for the period from 1991-92 to 2001-02 concluded that there is a positive relationship between liquidity and profitability.

Ghosh and Maji (2004) concluded a study on working capital management efficiency from the view point of Indian cement industries and indicated that there is a relationship between effective utilization of current assets and profitability of the companies under study, although there seemed to be a wide range in the degrees of such relationship between company to company

Sur, Biswas and Ganguly (2001) revealed in their study of Indian aluminium producing industry, a very significant positive association between liquidity and profitability.

Govind Rao and Rao (1999) studied the impact of working capital on profitability in Indian cement industry and found both positive as well as negative correlations between working capital related ratios and profitability.

Vijaykumar and Venkatachalam (1995) in their study on Tamilnadu sugar industry with regard to relationship between working management and profitability concluded that liquidity was negatively associated with profitability.

Vishmani *at el.,* (2007) explained that the company's inventory management policy, debtors' management policy and creditors' management policy play an important role in its profitability performance.

Eljelly (2004) elucidates that efficient liquidity management involves planning and controlling current assets and current liabilities in such a manner that eliminates risk of inability to meet due short term obligations and avoids excessive investment in these assets. The relation between profitability and liquidity was examined; as measured by current ratios and cash conversion cycle on a sample of joint stock companies in Saudi Arabia using correlation and regression analysis. The study found that cash conversion cycle was of more importance as a measure of liquidity than the current ratio that affects profitability. The size variable was found to have significant effect on profitability at the industry level. The results were stable and had important implications for liquidity management in various Saudi companies. First it was clear that there was a negative relationship between liquidity and profitability and liquidity indicators such as current ratio and cash conversion cycle. Second, the study also revealed that theme was great variables among industries with respect to the significant measure of liquidity.

Smith and Begemann (1997) emphasized that profitability and liquidity comprised the salient goals of working capital management. The problem arose because maximization of the firm's return could seriously threaten its liquidity. Pursuit of liquidity had a tendency to dilute returns. They evaluate traditional and alternatives working capital measures and the return on investment (ROI). The problem under investigation was to establish whether the more recently developed alternative working capital concepts show improvee association with the return on investment to that of traditional working capital ratio or not. The result shows that a traditional working capital beverage ratio, current liability divided

by funds flow, displayed the greatest association with return on investment. Current assets quick ratios registered insignificant association whilst one of the never working capital concepts, the comprehensive liquidity index, indicated significant association with return on investment.

Shin and Soeven (1998) measured the relationship between the lengths of net trading cycle; corporative profitability and risk adjusted stock return was examined using correlation and regression by industry and capital intensity. The results showed that strong negative relationship between the length of the firm's net trading cycle and its profitability. In addition, shorter net trading cycles were associated with high risk adjusted stock returns.

Raheman and Nasar (2007) indicated that strong negative relationship between variables of working capital management and profitability. Cash conversion cycle increase will lead to decreasing profitability.

Additionally Padachi (2006) analyzed working capital management and performance and trend of the working capital management in different sectors in small manufacturing firms by using key variables of inventory days, account receivable days, account payable days and cash conversion cycle. He concluded that different industries' operational efficiency shows significant changes and the paper and printing industry has been able to achieve high scores on the various components of working capital and this has positively impacted on its profitability.

3. Methodology

This paper analyses the impact of working capital management on firms' performance with special reference to Sri Lankan manufacturing companies with the period of 2003 to 2007.

3.1 Population And Sample

The data used in the study was from the hand book of listed companies 2007 of Colombo Stock Exchange (CSE). The population consisted of 235 listed companies including 62 manufacturing companies in various sectors. 50 sample companies were selected from manufacturing companies according to the data availability. From each sample firm the working capital data and other information is gathered.

The following sub sectors included in the sample: Beverage Food & Tobacco (15), Chemicals & Pharmaceuticals (7), Footwear & Textiles (4), Tiles Electrical & Tyres (17) and Cement Machinery & Printing (7).

3.2 Variables

Working capital managements' effect on performance is calculated by using explanatory variables and control variables. Explanatory variables are liquidity ratios, working capital cycle and components of current assets.

Profitability is measured by Return on Total Assets (ROTA), which is defined as profit before interest and tax divided by total assets.

3.3 Explanary Variables

Liquidity ratio of current ratio (cr) is defined as current assets divided by current liabilities and quick ratio (qar) defined as current assets other than inventories divided by current liabilities. Working capital cycle is the cash conversion cycle (ccc), which is used as a comprehensive measure of working capital as it shows the time lag between expenditure for the purchase of raw materials and the collection of sales of finished goods.

ccc = IN_days + AR_daya – AP_days

Where:
IN_days = Number of inventory days is (Stock *365)/cost of sales
AR_days = Number of days account receivables is (Account receivable *365)/ Sales

AP_days = Number of days account payable is (Account payable *365)/ cost of sales

Working capital component of inventory and debtors are defined as inventory to total current assets (skca) and debtors to total current assets (tdca).

3.4 Control Variables

Control variables include assets management system and financial policies. In order to include the firm size as a control variable sales, a proxy for size (The natural logarithm of sales – (lnsales)), the gearing ratio (financial debt to total assets – (gear)), the gross working capital turnover (sales to current assets – (ca_turn)), current assets to total assets (cata) and current liability to total assets (clta) are included as control variables.

3.5 Hypotheses

The working capital management have great important of financial management system. To maximize the profit and smooth run of the business, working capital management is the vital factor. Increasing profits need more liquidity and it can bring liquidity cost to the firms. Therefore, there must be a trade off between these two objectives of the firms. For this reason working capital management should be given proper consideration and will ultimately affect the profitability of the firm. In this concept the hypotheses are:

H_{01}: There is no relation between liquidity (current ratio and quick ratio) and profitability of manufacturing companies.

H_{02}: There is no relation between cash conversion cycle (ccc) and profitability of manufacturing companies.

H_{03}: There is no difference among different type of manufacturing companies' working capital management and performance.

H_{04}: There is no relation between current assets component of stock and debtors and profitability of manufacturing companies.

Model Specification and Data Analysis

The analyses include panel data analysis and the models estimate using the regression – based framework (Fixed Effects Model (FEM) and pooled ordinary least square). The relationship between working capital management and performance is examined by regressing by Return on Total Assets against Cash Conversion Cycle (Model 1), current ratio (Model 2), quick ratio (Model 3), stock to current assets (Model 4) and debtors to current assets (Model 5). The coefficient on the Return on Total Assets reflects the relationship between working capital management and performance.

Descriptive statistics is the first step in the analysis; it describes relevant aspect of phenomena of each variables. The second step is the correlation analysis; the correlation models, specifically Pearson correlation to measure the degree of association between different variables under consideration. The third step provides the Regression analysis; this analysis to estimate the casual relationship between profitability variable (ROTA), other working capital variables (ccc, cr, qar, skca and tdca). The Pooled ordinary least square and Fixed effects frame work are used for the regression analysis.

4 Result And Discussion

Descriptive statistics of variables are presented in Table 1. The mean value of ROTA is 9.91% with the standard deviation of 0.114004 and

$$\text{Model}_{(1)}: \text{ROTA} = \beta_0 + \beta_1 \ln sales_{it} + \beta_2 gear_{it} + \beta_3 cata_{it} + \beta_4 clta_{it} + \beta_5 ca\_turn_{it} + \beta_6 ccc_{it}$$

$$\text{Model}_{(2)}: \text{ROTA} = \beta_0 + \beta_1 \ln sales_{it} + \beta_2 gear_{it} + \beta_3 cata_{it} + \beta_4 clta_{it} + \beta_5 ca\_turn_{it} + \beta_6 cr_{it}$$

$$\text{Model}_{(3)}: \text{ROTA} = \beta_0 + \beta_1 \ln sales_{it} + \beta_2 gear_{it} + \beta_3 cata_{it} + \beta_4 clta_{it} + \beta_5 ca\_turn_{it} + \beta_6 qar_{it}$$

$$\text{Model}_{(4)}: \text{ROTA} = \beta_0 + \beta_1 \ln sales_{it} + \beta_2 gear_{it} + \beta_3 cata_{it} + \beta_4 clta_{it} + \beta_5 ca\_turn_{it} + \beta_6 skca_{it}$$

$$\text{Model}_{(5)}: \text{ROTA} = \beta_0 + \beta_1 \ln sales_{it} + \beta_2 gear_{it} + \beta_3 cata_{it} + \beta_4 clta_{it} + \beta_5 ca\_turn_{it} + \beta_6 tdca_{it}$$

the mean value of explanatory variables of cash conversion cycle is 86.68 days, current ratio 1.9124, quick ratio 1.2163, stock to current assets 42.69% and debtors to current assets 33.62%. Cement Machinery & Printing has the higher value of ROTA of 12.82% and Footwear & Textiles has lower value of ROTA of 5.89%. Tiles Electrical & Tyres has the higher cash conversion cycle of 141 days and Beverage Food & Tobacco has the lower cash conversion cycle of 35 days. Tiles Electrical & Tyres has the higher value of current ratio (2.3149) and quick ratio (1.4635) but Cement Machinery & Printing has the lower value of current ratio (1.244) and quick ratio (0.7028). Footwear & Textiles has the more inventories to current assets (49%) and Beverage Food & Tobacco has lower inventory (37%) on current assets. Chemicals & Pharmaceuticals have more debtors (42%) to current assets and Footwear & Textiles have lower debtors amount (32%). The F value indicates that other than ROTA are significant.

These results indicate that to achieve the average level of ROTA different sectors need different level of working capital and proved by F values. These results supported to the working capital theories.

Table 1- Descriptive statistics and ANOVA

Variable - Statistics	All (n=250)	Beverage Food & Tobacco (n=75)	Chemicals & Pharmaceuticals (n=35)	Footwear & Textiles (n=20)	Tiles Electrical & Tyres (n=85)	Cement Machinery & Printing (n=35)	F Value
ROTA – Mean	0.0991	0.0969	0.0846	0.058867	0.108274	0.1282	1.41
S. D	0.1140	0.0980	0.0356	0.171404	0.134006	0.1148	
lnsales – Mean	6.1009	6.3473	6.0859	5.458071	6.046167	6.087772	4.78***
S.D	0.8509	0.6147	0.7205	1.943995	0.676273	0.577672	
gear – Mean	0.5435	0.4988	0.6281	0.644696	0.490092	0.62627	3.35**
S.D	0.2939	0.2049	0.5549	0.204038	0.224458	0.23098	
clta – Mean	0.3670	0.3187	0.4162	0.472549	0.330871	0.44907	6.92***
S.D	0.1860	0.1972	0.1947	0.120880	0.171731	0.15976	
cata – Mean	0.5001	0.4636	0.5145	0.436068	0.542446	0.49797	2.40*
S.D	0.1836	0.2039	0.1603	0.125293	0.162690	0.2153	
ca_turn– Mean	2.7199	3.8573	2.4903	2.291449	1.853351	2.8616	21.15**
S.D	1.5783	1.9677	1.0267	1.117856	0.656730	1.4436	
ccc – Mean	86.680	35.305	73.282	103.8816	140.9010	68.658	17.29***
S.D	91.840	85.974	62.487	52.49367	91.61416	75.080	
cr – Mean	1.9124	2.0978	1.5583	1.295238	2.314930	1.2440	4.14***
S.D	1.6354	1.5024	0.8261	1.286817	2.134835	0.7162	
qar – Mean	1.2163	1.4121	0.9654	0.768957	1.463465	0.7028	3.13**
S.D	1.3611	1.2279	0.6348	1.362333	1.781749	0.5577	
skca – Mean	0.4269	0.3735	0.4313	0.490903	0.436092	0.4783	3.45***
S.D	0.1706	0.1448	0.1588	0.224542	0.173059	0.1686	
tdca – Mean	0.3363	0.3216	0.4206	0.318532	0.319063	0.33499	2.68**
S.D	0.1681	0.1586	0.1734	0.136120	0.171763	0.1736	

*** Significant at 0.01 level
** Significant at 0.05 level
* Significant at 0.1 level

Table 2 – Pearson correlation Matrix

	ROTA	lnsales	gear	cata	clta	ca_turn	ccc	cr	qar	skca
lnsales	0.02741	1								
gear	-0.2143**	0.0494	1							
cata	0.37918**	0.1535*	-0.2731**	1						
clta	0.03724	0.0060	0.6791**	0.0930	1					
Ca_turn	0.0432	0.3268**	0.2322**	-0.3124**	0.2401**	1				
ccc	-0.0771	-0.1229	-0.2321**	0.2246**	-0.2582**	-0.5826**	1			
cr	0.1333*	-0.2330**	-0.5317**	0.2887**	-0.6128**	-0.3182**	0.2888**	1		
qar	0.1479*	-0.2765**	-0.4984**	0.2837**	-0.5380**	-0.3325**	0.2321**	0.9711**	1	
skca	-0.1656**	0.1602*	0.41760**	-0.2585**	0.3673**	0.2865**	0.0840	-0.4332**	-0.5552**	1
tdca	-0.0445	0.0998	-0.2053**	0.03645	-0.1550*	-0.1035	0.2388**	-0.1129	-0.1169	-0.1968**

** Correlation is significant at the 0.01 level (2 – tailed)

* Correlation is significant at the 0.05 level (2 – tailed)

Table 2 presents Pearson correlation coefficient for the variables to assess the effect of working capital management on performance of ROTA. ROTA is significantly positively correlated with current ratio, quick ratio and current assets to total assets, but negatively correlated with stock to current assets and gear. Current ratio is significantly positively correlated with quick ratio, current assets to total assets and cash conversion cycle, and significantly negatively correlated with stock to current assets, debtors to current assets, gross working capital turnover, size of the firm, gear and current liability to total assets.

Quick ratio is also correlated with the variables like current ratio. Stock to current assets is positively correlated with gross working capital turnover, size of the firm and current liability to total assets. Current assets to total assets are negatively correlated with total debtors to current assets. Debtors to current assets are significantly positively correlated with cash conversion cycle and negatively correlated with gear, current liability to total assets and stock to current assets. Cash conversion cycle is significantly negatively correlated with gross working capital cycle turnover, firm size, gear and current liability to total assets. Gross working capital turnover is significantly positively correlated with firm size, gear and current liability to total assets.

The correlation coefficient supports to the results of Narwara *at el.,* (2004); Mukhopadhyay *at el.,* (2004). But Padachi *at el.,* 2006 indicated that cash conversion cycle positively correlated with ROTA.

The regression analysis is to be derived from appropriate multivariate models, estimated using fixed effect framework and Pooled OLS. A comprehensive measure of profitability is measured by ROTA and the model includes control variables of assets management and financial policies. The data set used for the analysis is pooled across firms and years, given balanced panel data set of 250 firms – year observations. The OLS regressions were run with industry dummies and year dummies.

Table 3 - regressions of ROTA on working capital variables
50 manufacturing companies, 2003 – 2008: 250 firm – year observation

Dependent Variables	Return on Total Assets									
Regression Model	Fixed Effects					Pooled OLS				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Intercept	0.2983 (0.086)	0.2412 (0.093)	0.2438 (0.0926)	0.2591 (0.085)	0.3353 (0.096)	0.0568 (0.052)	0.0259 (0.061)	0.0152 (0.059)	0.0449 (0.051)	0.0468 (0.051)
lnsales	-0.075 (0.017)	-0.0677 (0.018)	-0.0681 (0.018)	-0.0690 (0.017)	-0.0720 (0.017)	-0.0123 (0.009)	-0.0119 (0.010)	-0.0105 (0.010)	-0.0112 (0.009)	-0.0116 (0.009)
gear	-0.077 (0.040)	-0.0952 (0.040)	-0.0941 (0.040)	-0.0901 (0.040)	-0.0901 (0.040)	-0.0848 (0.036)	-0.0855 (0.035)	-0.0855 (0.035)	-0.0809 (0.035)	-0.0905 (0.035)
cata	0.6161 (0.123)	0.5411 (0.132)	0.5476 (0.130)	0.5701 (0.122)	0.5329 (0.123)	0.2509 (0.046	0.2392 (0.052)	0.2323 (0.051)	0.2337 (0.047)	0.2421 (0.046)
clta	-0.083 (0.088)	0.0131 (0.092)	0.0046 2 (0.087)	-0.0126 (0.081)	-0.0189 (0.080)	0.0490 (0.055)	0.0692 (0.068)	0.0781 (0.063)	0.0718 (0.056)	0.0603 (0.055)
ca_turn	0.0170 (0.012)	0.0148 (0.012)	0.0153 (0.012)	0.0192 (0.013)	0.0164 (0.012)	0.0119 (0.006)	0.0162 (0.005)	0.0162 (0.005)	0.0166 (0.005)	0.0157 (0.005)
ccc	-0.0003 (0.001)					-0.0001 (0.001)				
cr		0.0037 (0.007)					0.0017 (0.006)			
car			0.0037 (0.0079)					0.0045 (0.007)		
skca				-0.0536 (0.070)					-0.0514 (0.045)	
tdca					-0.1553 (0.095)					-0.0408 (0.040)
R^2	41.36	40.18	40.16	40.27	40.93	19.66	18.85	18.97	19.27	19.17

Table 3 presents the regression results of every model. The result of the Model 1 is expressed by regression (1) and (6). The results of the regression indicate that coefficient of cash conversion cycle is negatively related and significant α = 5% level. It implies that the increase of cash conversion cycle will significantly affect the ROTA of the firms. The size of the firm and gear also has negative affect on dependent variable. It shows that size of the firm and financial debt has negative influence on ROTA. The current liability to total assets shows positive relation with ROTA in the pooled regression method, but fixed effect models shows the negative influence. The adjusted R^2 also called as the coefficient of multiple determinations, is the percent of the variance in the dependent. It explained uniquely or jointly by the independent variables and is 0.1966 (pooled regression) and 0.4136 (FEM). The F statistics is used to test the significance of R. Overall; the model represented by regression (1) and (6) 3.98 and 11.15 of F value and significant. The results indicate that null hypothesis is rejected and there is a relationship between cash conversion cycle and Return on Total Assets.

The Model 2 is represented by regression (2) and (7). The regression result of the current ratio is positively related with ROTA and size of the firm and gear negatively related, and current assets to total assets positively related and significant at α = 1% level. Current liability to total assets and gross working capital turnover also positively determine the

ROTA. The adjusted R^2 of the regression of (2) and (7) is 0.4018 and 0.1885 and the F value of regression is 3.835 and 11.154 respectively and significance. These results prove that the ROTA strongly determines the model variables.

The regression Model 3 is represented by regression of (3) and (8). These two regression models identify the relation with quick ratio to ROTA and control variables. The size of the firm and gear are negatively related with ROTA and significant at $\alpha = 1\%$ and $\alpha = 5\%$. Current assets to total assets are positively related ($\alpha = 1\%$). Current liability to total assets, gross working capital turnover and quick ratios also positively determine the ROTA. Adjusted R^2 of regression (3) and (8) are 0.4016 and 0.1897, and the F values are 3.8323 and 10.7128. The results of these regressions of (3) and (8) also confirm that there is a well-built relation between ROTA and quick ration.

The Model 2 and 3 proved and rejected the null hypothesis H_{02}, and accepted that the liquidity of the firm, current ratio and quick ratio as well determine the profitability of the firms.

The Model 4 stated by regression of (4) and (9). These regressions recognize the relation with ROTA and stock to current assets. The size of the firm is significant at $\alpha = 1\%$ and gear is significant at $\alpha = 5\%$ and these results provide the evidence that the negative relation with these variables and ROTA. Current assets to total assets as well prove the strong positive relation with depended variable and are significant at $\alpha = 1\%$ level. The adjusted R^2 of the regression of (4) and (9) are 0.4027 and 0.1927. The F values of the models are 3.8458 and 10.9032, this F value supported to prove the relationship with dependent variables and independent variables.

The Model 5 is represented by regression results of (5) and (10) and describes the relation with ROTA and independent variable of debtors to current assets with control variables. The size of the firm and gear are negatively related and significant at $\alpha = 1\%$ and 5% levels. Current assets to total assets are positively related and significant at $\alpha = 1\%$ level. Adjusted R^2 for regression (5) and (10) are 0.4093 and 0.1917. The F values for the models are 3.9238 and 10.8407. These results of R^2 and F values provide great support to the model. It proves that there is a strong relation between ROTA and independent variables.

The Models 4 and 5 are proved by the regressions of (4), (5), (9) and (10). And these results reject the null hypothesis of H_{03} and accept that there is a strong relation ROTA and debtors to current assets.

"Thus the regression models explain a much higher proportion of the variation in profitability within firms than between firms" (Padachi *at el.*, 2006 pp: 55). This study also proves these results.

5 Conclusion

This study included different analysis and identified some critical working management factors to assist the finance managers of the manufacturing companies. It identified that how different sectors have different level of current assets and liabilities to achieve the average level of profitability.

This study has shown that the Beverage, Food & Tobacco sectors have been able to achieve high level of correlation with ROTA and various working capital management components and this positively impact on the profitability. At the same time, the Cement, Machinery & printing sectors have the high return with the mean level of working capital cycle.

The study concludes that the working capital management very much influences on profitability of manufacturing companies and increase of the cash conversion cycle leads to less profitability. Current ratio and Quick ratio are positively related to the profitability, but high investment in inventories and account receivables lead to less profitability. Having the more current assets to total assets is the good decision to get the more profit.

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