

## Effect of Working Capital Management on Firm Profitability: Empirical Evidence from Textiles Industry of Bangladesh.

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### Abstract

The main aim of this article is to examine the effect of working capital on profitability of Bangladeshi Textiles Companies. We collected data about a sample of 21 Bangladeshi Textiles Companies listed at the Chittagong Stock Exchange (CSE) from 2008 to 2012 and evaluated the data using multiple regression. The results reveal that working capital management and profitability is positively correlated in Bangladeshi Textiles Companies. The study further reveals that inventory of number of days, number of day's accounts receivables, and cash conversion period are positively correlated with a firm's profitability but the numbers of days accounts payable are negatively correlated. The present study contributes to the existing stock of knowledge by examining the effect of working capital management on profitability in the context of an emerging capital market such as Bangladesh.

**Keywords:** Working capital management, Returns on assets, Accounts payable, Current ratio, Leverage. Cash Conversion Cycle.

### Introduction:

Working capital management deals with managing short-term financing and investment decisions of the firm. However, working capital management also directly affects the liquidity of the company that is essential for the smooth running of a business unit (Sharma & Kumar, 2011). Efficiency in working capital management is vital, especially for production firms as it accounts for over half of its total assets and thereby directly affects the profitability and liquidity of the company (Raheman & Nasr, 2007). Sometimes, insufficient working capital management procedures may also lead to bankruptcy, even though their profitability may constantly be positive (Samiloglu & Demirgunes, 2008). Excessive levels of current assets can easily result in a firm's realizing a substandard return on investment (Raheman & Nasr, 2007). Therefore, the working capital management plays an important role in a firm's profitability and risk as well as its value. Efficient management of working capital is very essential in the overall corporate strategy in creating shareholder value. Firms try to maintain an optimum level of working capital that maximizes that value (Deloof, 2003; Howorth & Westhead, 2003; Afza & Nazir, 2007).

An important goal of managing working capital is to control the liquidity to ensure smooth running of operation and meeting its obligations (Eljelly, 2004). The cash conversion cycle (CCC) is the popular measure of working capital management (WCM), that is, the time lag between the expected cash disbursement of materials and the expected cash collection from sales. The longer cash conversion cycle might increase profitability because it leads to higher sales but the longer cash conversation cycle required larger the investment in working capital. On the other hand, corporate profitability might also decrease with the cash conversion cycle, if the costs of higher investment in working capital rise faster than the benefits of holding inventory or granting more trade credit to customers. Many researchers like Shin and Soenen (1998) have underlined the significance of shortening the cash conversion cycle (CCC), as managers can create value for their shareholders by reducing the cycle to a reasonable minimum.

A firm may adopt an aggressive working capital management policy with a low level of current assets or it may use working capital to finance decisions of the firm in the form of high level of current liabilities as a percentage of total liabilities. Wang (2002) points out that if a firm follows aggressive policies and the inventory levels are reduced too much, the firm may undertake the risk of stock out. Also, a significant reduction in trade credit granted may provoke a reduction in sales from customers requiring credit. In fact, the opportunity cost may exceed 20 per cent, depending on the discount percentage and discount period granted (Ng et al., 1999; Wilner, 2000). On the other hand, investing heavily in working capital or using conservative policies may also result in higher profitability. Maintaining high inventory levels reduces the cost of possible interruptions and loss of business due to scarcity of products, reduced supply costs and can protect against price fluctuations (Garcia-Teruel and Martinez-Solano, 2007). However, such benefits have to offset the reduction in profitability due to the increase of investment in current assets.

Most pragmatic studies relating to working capital management and profitability support the fact that aggressive working capital policies boost a firm's profitability. Researchers like Jose et al. (1996), Shin and Soenen (1998),

Deloof (2003) and Wang (2002) supported the fact that reducing net credit period may enhance the profitability of firms, allowing managers to create value for shareholders by reducing the investment in current assets to an optimal level. There is, however, no empirical evidence available regarding the relationship of working capital management and profitability of Bangladeshi companies. In this context, the objective of the current study is to provide empirical evidences about the effect of working capital management on profitability for a sample of 21 Bangladeshi textile industries during the period 2008–2012. This study is believed to be among the first few to trace the relationship between WCM and profitability of Bangladeshi companies. The results of the study reveal that working capital management and profitability is positively correlated in Bangladeshi companies. The study further reveals that number of day's inventory and number of day's accounts payable are negatively correlated with a firm's profitability, whereas number of days accounts receivables and cash conversion period are positively related with corporate profitability.

### **Literature Review**

Efficient working capital management involves managing short-term assets and short-term liabilities in a way that provides balance between eliminating potential inability to cope with short-term debts and avoiding unnecessary holdings in these assets. Vijasaradhi and Rao (1978) found that increasing trend in the investment of current assets, unlike in fixed assets, resulted in higher carrying costs which in turn negatively affected the profitability of the sector by studying Indian public enterprise. In an empirical study on the interrelationship between working capital management and profitability of 31 sugar companies in Tamil Nadu, Vijayakumar and Venkatachalam (1995) showed negative influence of liquidity and positive influence of inventory turnover and debtor turnover on profitability. Mallik and Sur (1998) carried out research in the Indian tea industry to assess the influence of working capital management on profitability. In this research, they measured the interrelation between the nine selected ratios regarding working capital management and the selected profitability measure which revealed both negative and positive associations.

Shin and Soenen (1998) examined the relationship between a firm's profitability and net trade cycle by looking into 58,985 firm year data for the period of 1975-94, where they concluded a strong negative relationship between the two variables. Sivarama (1999) derived a close association between profitability and working capital efficiency in the study of working capital management in the Indian paper industry. By using cash conversion cycle as a liquidity indicator in Greek food industry, Lyroudi & Lazaridis (2000) studied significant positive relationship between cash conversion cycle and the traditional liquidity measures of current and quick ratios. Concurrently negative relationship between the current and quick ratios and debt to equity ratio and positive relationship with the times interest earned ratio. In an empirical study regarding the relationship between utilization of current assets and operating profitability in the Indian cement and tea industries, Ghosh and Maji (2003) indicates positive association between utilization of current assets and operating profitability of all the companies under study. The study conducted by Bardia (2004) by taking into account Navaratna steel manufacturing public sector enterprise to detect relationship between working capital management and profitability, concluded a favorable influence of the liquidity of the company on its profitability.

The research using a set of 58 small manufacturing firms in Mauritius with 340 firm year observations from 1998 to 2003 conducted by Padachi (2006) explored that higher the receivables and levels of inventory, the lower the profitability. Through a comparative analysis of five major industry groups, the researcher found a negative correlation with ROA. This study revealed that profitability will be increased if there is an efficient working capital management. Through correlation and regression analyses, Ganesan (2007) showed in one hand that there is a negative association between day's working capital and profitability and other hand, no impact of working capital on profitability of telecommunication firms in the equipment industry. Raheman and Nasr (2007) conducted a study of a sample of 94 Pakistani firms listed on Karachi Stock Exchange for a period of 6 years to measure the effect of working capital management on the net operating profitability and liquidity. This study explored that there is a strong negative relationship between variables of working capital management and profitability of the firms. A Significant negative relationship between liquidity and profitability, and a positive relationship between size of the firm and its profitability is also evident from this study.

Anand and Malhotra (2007), after using data on 339 Indian companies from 2001/02 to 2003/04, explored that firm's operating cycle and CCC are both decreased but failed to show positive relationship between profitability and efficient management of working capital. Deloof (2003) conducted a research from a sample of 1009 large Belgian nonfinancial firms from 1992 to 1996 to reveal the relations between WCM and corporate profitability. By using DSO, inventories and accounts payable cash conversion cycle as a measurement tool for trade creditor, inventory policies and WCM respectively, he revealed that corporate profitability will be increased if number of day's accounts receivables and inventories will be reduced.

**Research ambiguity:**

The conclusive sum of this retrospective review of relevant literature produced till date on the offered subject reveals wide room for the validity and originates of this work and reflects some decisive evidences that affirm its viability, as may be marked here it. Nor has any previous research examined the relationship between working capital management and profitability of textile industries in Bangladesh.

**Objectives of the study:**

To analyze the problem statement as mentioned earlier, researchers have developed objectives of the study. This research is focusing on working capital management and its effects on profitability for a sample of 21 Bangladeshi textile industries a period of 5 years (2008 to 2012). The main objectives are:

- to determine the nature and extent of the relationship between working capital management and profitability.
- to explore the joint impact of different components of working capital management on profitability.

**Methodology:**

Since the main objective of this study is determine the nature and extent of the relationship between working capital management and profitability as well as to explore the joint impact of different components of working capital management on profitability, therefore the nature of the study is descriptive. Based on the research approach deductive approach has been chosen for this study. Quantitative analysis has been chosen for this study to analyze the data.

**Data and Variables:**

Our sample consists of 21 companies from textiles industry listed in Chittagong Stock Exchange (CSE) in Bangladesh. The sample was constructed as follows. Firms must be available during the study period of year 2008 to year 2012. Thus the samples size consists of a balanced panel set of 105 firm year observations of 21 firms. Return on assets (ROA), the dependent variable, is taken as a proxy for profitability. The return on assets is a better measure since it relates the profitability of the company to the asset base (Padachi, 2006). ROA is computed as Profit before depreciation tax accounts divided by total assets. Table I presents the independent variables, notations and its calculation methods used in the analysis.

Table 1. Variables Used in the Analysis

No	Variable	Notations	Calculation Method
1	Account receivables in days	AR	$365 \times [\text{account receivables} / \text{sales}]$
2	Inventory turnover in days	INV	$365 \times [\text{inventories} / \text{purchase}]$
3	Accounts payable in days	AP	$365 \times [\text{account payables} / \text{purchase}]$
4	Cash conversion cycle in days	CCC	$[\text{AR} + \text{INV} - \text{AP}]$
5	Size	SIZE	$\text{Ln}_{\text{total assets}}$
6	Growth	GROWTH	$[\text{sales}_1 - \text{Sales}_0] / \text{Sales}_0$
7	Leverage	LEV	Total debt/Total assets
8	Current Ratio	CR	Current Assets / Current liabilities

**Specification of Regression Models:**

The primary aim of this study is to investigate the impact of WCM on corporate profitability of Bangladeshi textile firms. This is achieved by developing a methodology and empirical framework as used by Nazir and Afza (2009), Samiloglu and Demirgunes (2008) and Shorma and Kumar (2010). The following regression equations were used to obtain the estimates:

$$\text{ROA}_{it} = \beta_0 + \beta_1 \text{GROWTH}_{it} + \beta_2 \text{LEV}_{it} + \beta_3 \text{CR}_{it} + \beta_4 \text{SIZE}_{it} + \beta_5 \text{INV}_{it} + e_{it} \dots \quad (1)$$

$$\text{ROA}_{it} = \beta_0 + \beta_1 \text{GROWTH}_{it} + \beta_2 \text{LEV}_{it} + \beta_3 \text{CR}_{it} + \beta_4 \text{SIZE}_{it} + \beta_5 \text{AR}_{it} + e_{it} \quad (2)$$

$$\text{ROA}_{it} = \beta_0 + \beta_1 \text{GROWTH}_{it} + \beta_2 \text{LEV}_{it} + \beta_3 \text{CR}_{it} + \beta_4 \text{SIZE}_{it} + \beta_5 \text{AP}_{it} + e_{it} \quad (3)$$

$$\text{ROA}_{it} = \beta_0 + \beta_1 \text{GROWTH}_{it} + \beta_2 \text{LEV}_{it} + \beta_3 \text{CR}_{it} + \beta_4 \text{SIZE}_{it} + \beta_5 \text{CCC}_{it} + e_{it} \quad (4)$$

Notes: Where ROA measures the return on assets, GROWTH, the sales growth, LEV, the leverage, SIZE, the company size as measured by natural logarithm of sales, INV, the number of days inventories, AR, the number of days accounts receivables, AP, the number of days account payables, CR, the current ratio and CCC measures the cash conversion cycle. The subscript i denotes firms (cross section dimensions) ranging from 1–21 and t denoting years (time-series dimension) ranging from 2008-2012.SPSS software has been used to test research hypothesis. SPSS automatically calculates the significance value (or p-value). Hence the level of probability of 5% or less is commonly taken as an appropriate level for most general research including this study.

**Result and Analysis:**

**Table 2: Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
ROA	21	-.95	19.89	4.6844	4.35
AR	21	2.18	491.86	129.7613	108.68
INV	21	26.45	633.67	267.6277	179.19
AP	21	2.63	508.02	138.0475	148.80
CCC	21	-260.52	576.08	256.5506	199.10
SIZE	21	3.40	10.03	8.9887	1.32
Growth	21	-.21	7.73	.8220	1.79
Lev	21	-8.35	1.23	.1407	1.96
CR	21	.24	9.76	2.2654	2.24
Valid N (listwise)	21				

Source: SPSS output

**Descriptive statistics:**

Table 1: shows descriptive statistics about the variables used in the study. The mean value of return on (ROA) assets is around 5 per cent with a standard deviation of 4 per cent; the number of accounts receivables are 130 days and number of accounts payable are 138 days. The table further shows that mean value of cash conversion cycle of all the firms taken together is 256 days. Together with this, the firms have seen their sales growth by almost 82 per cent annually on an average, while the mean value of current ratio is 2.26 during the study period (2012-2008).

From the table 3 it is evident that there is a negative correlation of ROA and days of inventory as well as leverage and current ratio while positive correlation with the number of days of accounts receivable, the number of days of accounts payable, the cash conversion cycle and GROWTH and SIZE. With regard to correlations between the independent or control variables, maximum values are found only between the INV and CCC (0.737) and the number of days of Accounts payable (AP) and the number of days of Accounts receivables (0.407). Since there is one high value of correlation coefficient among the variables used in the study, there is high chance of potential multicollinearity problem, which was further analyzed with variance inflation factor (VIF) values.

Table 3: Correlation matrix

	ROA	AR	INV	AP	CCC	SIZE	Growth	Lev	CR
ROA	1								
AR	.733**	1							
INV	-.169	.086	1						
AP	.167	.407	.239	1					
CCC	.136	.335	.737**	-.264	1				
SIZE	.033	-.063	-.170	-.367	.092	1			
Growth	.113	.317	.300	.402	.156	.158	1		
Lev	-.801**	-.769**	.206	-.196	-.090	-.044	-.313	1	
CR	-.488*	-.295	.090	-.136	.031	.235	.225	.192	1

Source: SPSS output

**Notes:** \*Significant at 95 per cent level of significance; \*\*Significant at 90 per cent level of significance

**Regression Models 1: Firm Profitability and Number of Days Inventory**

**Table 4: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.878 <sup>a</sup>	.771	.695	2.40231	2.005

a. Predictors: (Constant), INV, CR, Lev, SIZE, Growth

b. Dependent Variable: ROA

The adjusted R-square value of the table 4 is 77.1 %, which obviously shows that 77.1% variation of the dependent variable (ROA) is due to the independent variables, which in fact, is a strong explanatory power of regression.

**Table 5: ANOVA**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	291.277	5	58.255	10.094	.000 <sup>a</sup>
	Residual	86.566	15	5.771		
	Total	377.844	20			

a. Predictors: (Constant), INV, CR, Lev, SIZE, Growth

b. Dependent Variable: ROA

From the table 5 above the value of F-stat is found to be 10.094 and is significant as the level of significance is less than 5%. Hence it was found that Inventory turnover in days, Current ratio, Leverage, Size of the firm and Growth of the firm have impact on return on assets of Bangladeshi textile industries.

**Table 6: Coefficients**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	3.075	4.086		.752	.463		
Growth	-.204	.367	-.084	-.558	.585	.669	1.494
Lev	-1.701	.319	-.768	-5.326	.000	.734	1.362
CR	-.685	.263	-.353	-2.604	.020	.832	1.201
SIZE	.351	.433	.107	.810	.430	.879	1.138
INV	.002	.003	.064	.454	.657	.761	1.314

a. Dependent Variable: ROA

Thus, the ROA is predicted with about 77.1% explanatory power by the following model:

$$ROA = 3.075 - 0.204 \text{ GROWTH} - 1.701 \text{ LEV} - 0.685 \text{ CR} + 0.351 \text{ SIZE} + .002 \text{ INV} + e$$

To assess the significance of each independent variable on the dependent variable ROA, it has been found that only leverage and current ratio affect ROA as their t-sig are less than 5%. However, growth, size and inventory have insignificant effect on ROA as the t-sig is >5%. Regression results reveal that there is a positive relationship between Sizes, Inventory with dependent variable, that is, returns on assets. But Growth, Leverage and Current Ratio are negatively correlated with return on asset. Therefore, higher the Inventory more will be the profitability and greater the size of company, greater will be the profitability of a concern. ROA and current ratio (CR) have a negative relationship. The regression coefficient of number of days of inventory (INV) was found to be positive (0.283) which implies that an increase in the number of days inventory by one day is associated with a increase in profitability (measured by return on assets) by 0.002 per cent. As per corporate finance theory, lesser the number of days of inventory holding, higher will be profitability of the company. This implies that the firm's profitability can be increased by increasing the number of days of inventory held in the firm. The results of our study are similar to the results of the studies conducted by Padachi (2006), Garcia-Teruel and Martinez-Solano (2007), Deloof (2003) and Raheman and Nasr (2007) in their respective analysis of the relationship between

profitability and number of days of inventory. Another important observation that can be made from Table 6 is that the conventional measure of liquidity, i.e., current ratio, is negatively related with the return on assets, which is a negative situation for Bangladeshi textile companies, and the results are consistent with earlier studies of Shin and Soenen (1998).

**Regression Models 2: Firm Profitability and Number of Days Accounts Receivables**

**Table 7: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.886 <sup>a</sup>	.784	.712	2.33096	2.134

a. Predictors: (Constant), ART, SIZE, Growth, CR, Lev

b. Dependent Variable: ROA

The adjusted R-square value of the model is 71.2 %, which obviously shows that 71.2% variation of the dependent variable (ROA) is due to the independent variables, which in fact, is a strong explanatory power of regression.

**Table 8: ANOVA**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	296.343	5	59.269	10.908	.000 <sup>a</sup>
	Residual	81.501	15	5.433		
	Total	377.844	20			

a. Predictors: (Constant), ART, SIZE, Growth, CR, Lev

b. Dependent Variable: ROA

From the table 8 above the value of F-stat is found to be 10.908 and is significant as the level of significance is less than 5%. Hence it was found that Account receivables in days, Current ratio, Leverage, Size of the firm and Growth of the firm have impact on return on assets of Bangladeshi textile industries.

**Table 9: Coefficients**

Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta				Tolerance	VIF
1 (Constant)	2.118	3.946			.537	.599		
Growth	-.214	.331	-.088	-.646	.528		.771	1.297
Lev	-1.326	.422	-.599	-3.145	.007		.397	2.522
CR	-.613	.264	-.316	-2.320	.035		.775	1.290
SIZE	.357	.411	.109	.869	.399		.917	1.091
AR	.009	.008	.214	1.073	.300		.363	2.756

a. Dependent Variable: ROA

Thus, the ROA is predicted with about 71.2% explanatory power by the following model:

$$ROA = 2.118 - 0.214 \text{ GROWTH} - 1.326 \text{ LEV} - 0.613 \text{ CR} + 0.357 \text{ SIZE} + .009 \text{ AR} + e$$

To assess the significance of each independent variable on the dependent variable ROA, it has been found that only leverage and current ratio affect ROA as their t-sig are less than 5%. However, growth, size and account receivables in days have insignificant effect on ROA as the t-sig is >5%. A positive relationship is found between profitability and number of days of accounts receivables. In corporate finance theory, lesser the number of days of accounts receivables, more it will add to the profitability of the company. But looking at the coefficient value of number of days of accounts receivables (AR) by Bangladeshi Textile 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 (ROA) by 0.9 per cent. This contradicts the theory of efficient management of working capital. The results of our study significantly differ from those conducted by Deloof (2003), Lazaridis and Tryfonidis (2006), Raheman and Nasr (2007) and Garcia-Teruel and Martinez-Solano (2007). This reveals that in Bangladeshi Textile companies, managers can improve profitability by increasing the credit period granted to their customers. Leverage shows a significant negative relationship with the dependent variable (ROA), which means that when leverage of the firm increases, it will adversely affect the profitability of the company, which is contrary to the theoretical framework. Size and growth is negatively related with ROA. Further, the table 9 reveals a negative relationship between current ratio and profitability of the firms. The lower current ratio of the company will add to its profitability. This is consistent with theory that lesser the money blocked in current assets more will be profitability of the firm

### Regression Models 3: Firm Profitability and Number of Days Accounts Payables

**Table 10: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.877 <sup>a</sup>	.769	.692	2.41161	1.916

a. Predictors: (Constant), AP, CR, Lev, SIZE, Growth

b. Dependent Variable: ROA

The adjusted R-square value of the model is 76.9 %, which obviously shows that 76.9 % variation of the dependent variable (ROA) is due to the independent variables, which in fact, is a strong explanatory power of regression.

**Table 11: ANOVA**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	290.606	5	58.121	9.994	.000 <sup>a</sup>
	Residual	87.238	15	5.816		
	Total	377.844	20			

a. Predictors: (Constant), AP, CR, Lev, SIZE, Growth

b. Dependent Variable: ROA

From the table 11 above the value of F-stat is found to be 9.994 and is significant as the level of significance is less than 5%. Hence it was found that Account Payable in days, Current ratio, Leverage, Size of the firm and Growth of the firm have impact on return on assets (ROA) of Bangladeshi textile industries.

**Table 12: Coefficients**

Model	Un standardized Coefficients		Standardized Coefficients		t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta				Tolerance	VIF
1 (Constant)	3.111	4.477			.695	.498		
Growth	-.190	.382	-.078		-.497	.626	.620	1.613
Lev	-1.649	.302	-.745		-5.455	.000	.826	1.211
CR	-.675	.267	-.348		-2.524	.023	.811	1.233
SIZE	.367	.472	.112		.778	.449	.743	1.346
AP	-.001	.005	.047		.298	.770	.627	1.596

a. Dependent Variable: ROA

Thus, the ROA is predicted with about 76.9% explanatory power by the following model:

$$ROA = 3.111 - 0.190 \text{ GROWTH} - 1.649 \text{ LEV} - 0.675 \text{ CR} + 0.369 \text{ SIZE} - .001 \text{ AP} + e$$

To assess the significance of each independent variable on the dependent variable ROA, it has been found that only leverage and current ratio affect ROA as their t-sig are less than 5%. However, growth, size and account

payables in days have insignificant effect on ROA as the t-sig is >5%. Table 12 reveals results of regression equation (3) after replacing number of days of accounts receivables with number of days of accounts payables. The number of days a firm takes to pay its suppliers (creditors) depends upon its profitability. More profitable firms pay their creditors early as compared to less profitable ones, which in turn affect the profitability of the firm. The regression results show a negative relationship between number of days of accounts payables (AP) and firm profitability as measured by return on assets. Descriptive statistics as presented in Table 2 confirm the same results indicating that Bangladeshi Textile companies on an average take a short time (138 days) to pay their suppliers. When profitability decreases, less cash is generated from operations and companies are able to survive by delaying payment to creditors (Padachi, 2006). The results make economic sense since the longer the payment period used by the firm, more amounts of fund can be reserved and used for other operations in order to carry on its operations and earn reasonable profits.

**Regression Models 4: Firm Profitability and Cash Conversion Cycle**

**Table 13: Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.880 <sup>a</sup>	.774	.699	2.38416	2.056

a. Predictors: (Constant), CCC, CR, Lev, SIZE, Growth

b. Dependent Variable: ROA

The adjusted R-square value of the model is 69.9 %, which obviously shows that 69.9 % variation of the dependent variable (ROA) is due to the independent variables, which in fact, is a strong explanatory power of regression.

**Table 14: ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	292.581	5	58.516	10.295	.000 <sup>a</sup>
	Residual	85.263	15	5.684		
	Total	377.844	20			

a. Predictors: (Constant), CCC, CR, Lev, SIZE, Growth

b. Dependent

From the table 14 above the value of F-stat is found to be 10.295 and is significant as the level of significance is less than 5%. Hence it was found that cash conversion cycle in days, Current ratio, Leverage, Size of the firm and Growth of the firm have impact on return on assets (ROA) of Bangladeshi textile industries.

**Table 15: Coefficients<sup>a</sup>**

Model	Un standardized Coefficients		Standardized Coefficients		t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta				Tolerance	VIF
1 (Constant)	3.579	3.705			.966	.349		
Growth	-.161	.333	-.066		-.485	.635	.800	1.250
Lev	-1.644	.299	-.743		-5.501	.000	.825	1.212
CR	-.687	.261	-.354		-2.633	.019	.833	1.201
SIZE	.285	.418	.087		.682	.506	.926	1.080
CCC	.002	.003	.082		.662	.518	.969	1.032

a. Dependent Variable: ROA

Thus, the ROA is predicted with about 69.9% explanatory power by the following model:

$$ROA = 3.579 - 0.161 \text{ GROWTH} - 1.644 \text{ LEV} - 0.687 \text{ CR} + 0.285 \text{ SIZE} + .002 \text{ CCC} + e$$

To assess the significance of each independent variable on the dependent variable ROA, it has been found that only leverage and current ratio affect ROA as their t-sig are less than 5%. However, growth, size and cash conversion cycle in days have insignificant effect on ROA as the t-sig is >5%. The combined effect of all the



three variables used in equations (1), (2) and (3) was analyzed using the relationship between profitability and cash conversion cycle. The coefficient value of CCC was found to be positive (0.002). This implies that a decrease in the cash conversion cycle will generate lesser profits for a company, which is in contrast with the theory that states a lower CCC will generate more profits for a company. In theory, shortening of cash conversion cycle adds to the profitability of the company whereas longer cash conversion cycle negatively affects the profitability of the company. But in case of Bangladeshi Textile firms, regression result exhibit contrary revealing that longer the duration of CCC, more profitable the firms will be. . The results are not significant at given level of significance with p-value (0.518). Further negative relationship is proved by Samiloglu and Demirgunes (2008), Lazaridis and Tryfonidis (2006) and Raheman and Nasr (2007), concluding that the increase or decrease in the cash conversion period, significantly affects profitability of the firm. But like in our study, positive relationship between CCC and profitability is concluded by Padachi (2006) with correlation coefficient value of 0.159. Further, the regression model, like in all other equations is not significant.

#### **Conclusion:**

Firms can achieve optimal management of working capital by making the trade-off between profitability and liquidity. The present study investigates the relationship between the working capital management and profitability of 21 Bangladeshi Textile companies for the period 2008–12. The impact of working capital management has been analyzed using multiple regression models between WCM and profitability. The study finds a positive relationship between profitability with number of days of inventory and number of days accounts receivables, in contrast negative relationship with number of days accounts payables. With regard to integrated analysis of the number of days accounts receivables, days of inventory and days of accounts payable as measured by cash conversion period, our study conveys different results as compared to many studies conducted in different countries in the past. The WCM and profitability show a positive relationship [as measured by cash conversion cycle, a comprehensive measure of working capital] as against the theoretical foundation. The present study reveals that shortening of the cash conversion cycle negatively affects the profitability of Textile companies. Our results related to relationship between a firm's profitability and number of days of accounts payables and numbers of days of inventory are differ to those found in previous studies (Deloof, 2003; Jose et al., 1996; Lazaridis and Tryfonidis, 2006; Raheman and Nasr, 2007; Samiloglu and Demirgunes, 2008). However, analysis related to relationship between CCC and profitability significantly depart from the studies of Shin and Soenen (1998), Deloof (2003), Padachi (2006), Samiloglu and Demirgunes (2008) and Nazir and Afza (2009). Further, the study prompts the researchers to investigate the relationship between working capital management and the firm's profitability with a broader set of companies operating in Bangladesh.

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