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Working Capital Management and Solvency of the Industries in Bangladesh

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Abstract
The goal of a firm is to maximize its wealth maximization and it is important for the financial manager to take the right decision to utilize its investment efficiently and effectively. One of the crucial decisions is the working capital management which is made by the financial manager. The challenge is that every firm should maintain the optimum working capital management by which the shareholders' wealth can be maximized. This study focused on the working capital management of different types of industries in Bangladesh and covers the difference between the solvencies of different industries. Moreover, it also represents the profitability of different industries in compare with the working capital management. It is important to manage the working capital management; otherwise, the firm may suffer in insolvency which may result in bankruptcy.
Keywords: Working Capital Management, Liquidity, Solvency, Profitability, Cash Conversion Cycle.

1. Introduction

The goal of the organization is the shareholders' wealth organization which also influences the decisions of financial managers. Among the three most important financial decisions, working capital management has significant role in wealth maximization of the firm. The reason is that the optimum working capital management is essential as excess current asset results in unutilized cash. On contrary, lower liquidity can raise the problem of insolvency which ultimately results in insolvency. The objective of this study is to assess the solvency ratios of the industries in Bangladesh and compare them with profitability ratios of those industries.

2. Review of Working Capital Management

Working capital management is the one of the most important decision made by the financial manager of any organization. Working capital management involves the decision of using the current assets and current liability which has a significant part in day to day operating activities of that particular organization. The main goal of working capital management is to optimize the balance between each components of working capital and the business performance essentially depends on the ability of financial manager's effective management of accounts' receivables, inventory and accounts' payables (Filbeck and Krueger, 2005). Moreover, working capital components can be divided into two groups, financial and non financial items. According to Shulman and Cox (1985), financial items are net liquidity balances (NBL) and non financial items are working capital requirement (WCR). There are different levels of liquidity. Some components of working capital such as, cash investment in marketable securities and treasury bills have high liquidity. On contrary, other components such as, receivables, payable accounts and inventory have low liquidity.

Different factors like firm scale, the effect of industry, operating cash flow, growth opportunities, firm size and firm performance can have affect on working capital management. Moreover, Lazaridis and Tryfonidis (2006) claimed that there is statistically significant relationship between profitability measured by gross operating profit and the Cash Conversion Cycle. Cash conversion period reflects the time span between disbursement and collection of cash. It is measured by estimating the inventory conversion period and the receivable conversion period, less the payables conversion period. Using correlation and regression analysis, Eljelly (2004) found significant negative relationship between the firm's profitability and its liquidity level, as measured by current ratio. This relationship is more pronounced for firms with high current ratios and long cash conversion cycles. At the industry level, however, he found that the cash conversion cycle or the cash gap is of more importance as a measure of liquidity than current ratio that affects profitability. According to Padachi (2006), high investment in inventories and receivables is associated with low profitability. Rai (2011) examined 311 Indian manufacturing firms and studied the impacts of working capital management on profitability where debtors turnover ratio, inventory turnover ratio, debt ratio and many other ratios for measuring working capital and return on assets and others for measuring profitability. The study concluded that there is a positive relationship between working capital management and profitability of the company. According to Muhammad, Jan and Ullah (2006), there is a strong positive relationship between profitability and cash, accounts receivable and inventory; however, there is a negative relationship between profitability and accounts payable. Moreover, Napompech (2012) claimed that there is an inverse relationship between the operating profits and inventory conversion period and the receivables collection period. However, there are no effects on profitability by

extending the payables deferral period. Irene and Lee (2007) examined some well performed Malaysian public firms listed on Malaysia and concluded their study with findings that there is a linearly related positive relationship to a extent between the profitability and the level of working capital. Moreover, Afza and Nazir (2007) have used Tobin's Q to represents stock market performance of Karachi Stock Exchange and they claimed that efficient management of working capital is associated to the stock market performance.
According to Chowdhury and Amin (2007), there is a positive correlation between working capital management with financial performance of the Pharmaceutical industry in Bangladesh.

3. Research Methodology

In this study, the secondary data has been used which is the annual reports of the companies in Bangladesh. To analyze the secondary data, Microsoft Excel has been used and line chart has been used to conduct the study where each industry represents five companies from Bangladesh which are randomly selected. In this study, different solvency ratios have been used which are given below:

Average Collection Period (ACP)=	Accounts Receivable/ Net Sales*365
Inventory Turnover (ITD)=	Inventory/Costs of Goods Sold*365
Gross Working Capital Turnover Ratio=	Net sales/Current Assets
Current Asset to Total Asset Ratio=	Current Asset/Total Asset
Current Liabilities to Total Asset Ratio=	Current Liability/Total asset
Current Ratio=	Current Asset/Current Liability
Return on Assets=	Net Income/Total asset
Return on Equity=	Net Income/Total Shareholders' Equity

4. Industry-Base Working Capital Management in Bangladesh

Bangladesh is a developing country where the industries are booming; however, some of the industries are representing few companies which are still to develop such as, IT sector and Real Estate and Services.

Table 1: Industry-Base Components of Working Capital Management

Industry	Average Collection Period (days)	Inventory Turnover (days)	Current Asset to Total Asset Ratio (times)	Current Liabilities to Total Asset Ratio (times)	Current Ratio (times)
Insurance	281.28	NA	0.48	0.11	4.83
Bank	520.63	NA	0.20	0.11	2.14
Cement	216.90	54.95	0.45	0.43	1.32
Engineering Sector	497.52	319.74	0.58	0.43	2.08
Financial Institution	NA	NA	0.10	0.24	0.58
Food and Allies	303.51	91.97	0.60	0.34	3.92
Fuel & Power	1684.43	NA	0.78	0.51	1.79
IT Sector	361.01	NA	0.63	0.30	3.66
Pharmaceutical & Chemical	170.94	174.13	0.54	0.42	1.57
Real Estate & Services	127.34	1084.99	0.39	0.37	0.92
Tannery	497.45	213.74	0.72	0.34	8.63
Textile	407.17	136.83	0.71	0.45	2.02

From Table 1, it has found that the real estate and service sector has the lowest average collection period which is 127 days approximately. Moreover, among the manufacturing industries, the Cement Industry has the lowest average collection period which represents good performance by that particular industry. On contrary, Fuel and Power sector has the highest average collection period which indicates that this industry takes longer time period to collect its' receivables. In case of inventory turnover, Real Estate and Service sector has highest inventory turnover compare to other industries which is 1085 days. Among the manufacturing sector, Engineering Sector has highest inventory turnover which is approximately 320 days; however, Cement industry has lowest inventory turnover which is about 55 days.

It is evident from Figure 1 that Fuel and Power sector is using highest current asset in proportion to total asset compare to other industry. In addition, among the manufacturing sector Tannery Industry has highest current asset to total asset ratio. However, among all the industries, Financial Institutions have lowest current asset to total asset ratio where the Banking sector is the second lowest. In case of current liability to total asset ratio, Fuel and Power sector has highest ratio which is 0.51 times whereas both Banking Sector and Insurance sector has lowest ratio of 0.11 times. Moreover, among the manufacturing industries, Textile has the highest

current liability to total asset ratio which is 0.45 times and both Tannery and Food and Allies have lowest current liability to total asset ratio which is 0.34 times.

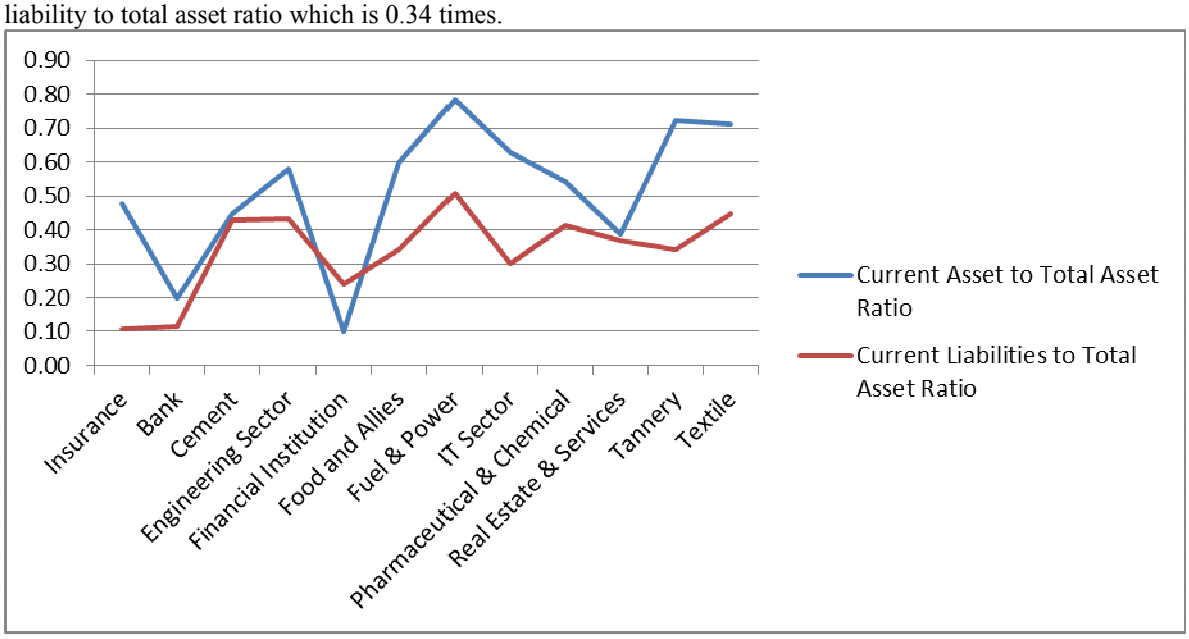

Figure 1: Current Asset to Total Asset Ratio and Current Liabilities to Total Asset Ratio

From the Table 1, it has shown that Tannery industry has highest current ratio which is 8.63 times among all the industry. On contrary, Financial Institution has lowest current ratio which is 0.58 times compare to other industries.

Table 2: The Working Capital Management and Profitability Ratios

Industry	Gross Working Capital Turnover Ratio	Return on Assets	Return on Equity
Insurance	0.31	13.20%	24.01%
Bank	0.22	1.22%	16.40%
Cement	0.45	8.74%	21.62%
Engineering Sector	0.23	4.72%	13.82%
Financial Institution	0.59	1.57%	10.24%
Food and Allies	0.42	6.94%	15.93%
Fuel & Power	0.12	8.47%	28.05%
IT Sector	0.40	11.77%	7.85%
Pharmaceutical & Chemical	0.53	5.82%	10.90%
Real Estate & Services	1.30	2.93%	7.75%
Tannery	0.99	7.00%	14.37%
Textile	0.25	8.16%	5.22%

It is evident from the previous researches that there is a relationship between Gross Working Capital Turnover and Profitability. In this study, profitability is represented by return on assets and return on equity. From Table 2, it is found that Real Estate and Service sector has highest gross working capital turnover which is 1.30 times and Fuel and Power Industry has lowest gross working capital turnover which is 0.12 times.

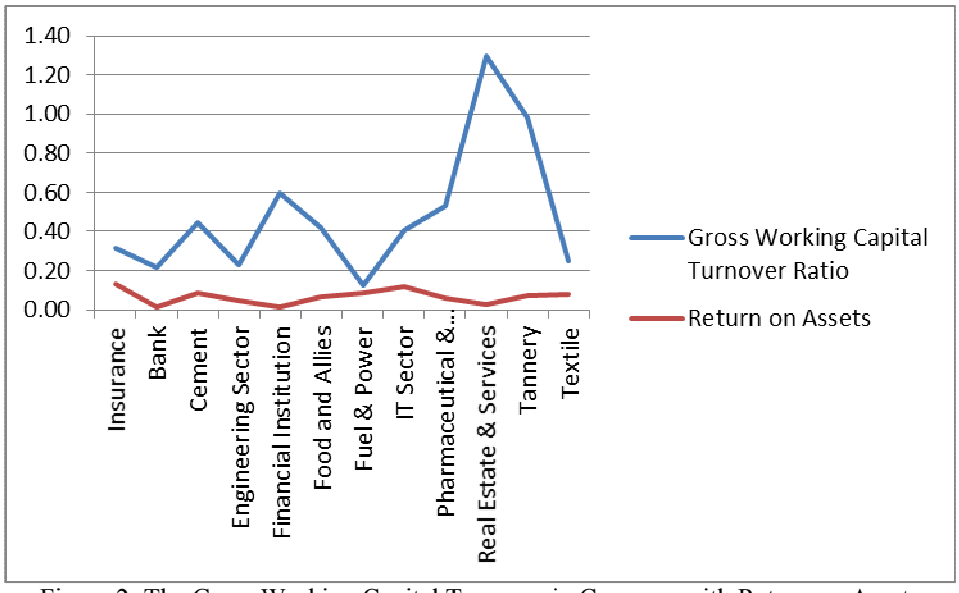

Figure 2: The Gross Working Capital Turnover in Compare with Return on Assets

In addition, it has been found from the analysis that Insurance Industry has highest return on assets which is 13.20% whereas its gross working capital turnover is 0.31 times. However, among the manufacturing sectors, Engineering Sector has lowest return on asset which is 4.72% whereas the gross working capital turnover is 0.23 times, shown in Figure 2. Moreover, it has been shown from Figure 2 that most of the industry has positive relationship between the return on assets and gross working capital turnover found by observing the line chart. On the other hand, Cement Industry has the highest return on asset which is 8.47% whereas its gross working capital turnover is 0.45 times.

From Table 2, Fuel and Power sector has highest return on equity which is 28.05% whereas the gross working capital turnover is 0.12 times. On contrary, Textile industry of Bangladesh has the lowest return on equity which is 5.22% whereas its gross working capital turnover is 0.25 times. Moreover, among the manufacturing industries, Cement Industry has the highest return on asset whereas the gross working capital turnover is 0.45 times.

5. Conclusion

The optimum working capital management is essential for any organization to become solvent and at the same time to maximize the shareholders' wealth. The dilemma that financial manager face is that excess current asset may decrease the default-risk but it may increase the unutilized asset in the firm. On contrary, less current asset may increase the default-risk but on the other hand, it can increase the scope of investment. So, the finance manger must have to manage the working capital in such a way that the firm reduces its default-risk and in the same time, it can utilize its current assets. In this study, it is evident that the working capital management varies among the industries in Bangladesh because of the nature of business. Moreover, there is a relationship between working capital management and profitability of the industry.

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