Management of corporate cash: A Study on retail sector

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C H R O N I C L E	A B S T R A C T
	Cash is the life blood of the organizations and cash management is the important aspect of any organization. Corporate cash management boosts the companies from small to giant in the competitive environment. In this study we highlight three factors of a good cash management practices. Such factors are Cash Conversion Cycle (CCC), cash holding and credit score. Influence of one factor to other helps organizations manage their corporate cash in better way. In this study, we collect data from Capitaline corporate database of Mumbai, India over the period 2002-2011. Using some regression techniques, we observe that due to higher credit score companies forced to minimize their CCC and it helped to maintain lower level of working capital.

1. Introduction

Generally, cash is a specific form of money. From financial point of view, it refers to all money items and sources that are immediately available to help pay a firm's bills. It is the most common purchasing power or medium of exchange. Cash is one of the most important elements of working capital. In modern business world, cash performs various functions. It makes it possible to pay bills by cheque, it acts as a storage for earmarked funds. It is a reservoir from which money may be used to meet emergencies. Nowadays, business uses credit instead of cash in its routine work. The use of bills, draft, credit cards, debit cards, ECS, fund transfer through internet etc. replaces the use of coin and paper currency. Cash management is the art and increasingly the science of managing a company's short-term resources to sustain its ongoing activities, mobilize funds and optimize liquidity. The most important elements of cash management are – (a) efficient utilization of current assets and current liabilities of a firm throughout each phase of business operating cycle; (b) the systematic planning, monitoring and management of the company's collections, disbursements and account balances; (c) the gathering and management of information to use available funds effectively and identify risk.

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In the present study we discuss another very important parameter of cash management i.e. Cash Conversion Cycle (CCC). The term Cash Conversion Cycle can be considered as a length of time between purchase of raw-materials and collection of cash from debtors (Padachi, 2006, p. 49). In liquidity management, CCC is an important parameter for measuring its efficiency (Jordan, 2003, p. 643). Cash Conversion Cycle of a company indicates the efficiency of managing working capital (Keown et al., 2003; Bodie & Merton, 2000). Such measure can be used in benchmarking competitors or comparing companies. Cash Conversion Cycle is constructed by deducting the payable deferral period from the addition of inventory conversion period and receivable collection period (Bodie & Merton, 2000, p. 89).

The CCC of a manufacturing organization may not be the same with the retail or wholesale organization even for a service organization (Hutchison et al., 2007, p. 42). Cash Conversion Cycle of the organization is associated with several factors like internal resources cost of external financing, conditions in the capital market and the bargaining power of debtors and creditors (Jose et al., 1996). Cash holding is one of the most important financial decisions that the manager of the concern organization has to make within the organization. Some organizations hold more cash and some organizations hold less. But, how much to hold is the question. For this different policies are framed.

Modigliani Miller also opined for holding less amount of cash. Holding cash requires good cash planning (Keynes, 1936). Prediction of cash is the process of estimating the probable sources and application of cash over a fixed future period (Dittmar & Mahrt-Smith, 2007). It is a process through which, first of all, overall financial status of a company is identified and then determines probable financial needs with the help of budget (Jensen, 1986). For example, Kalcheva and Lins (2007), find that companies hold on an average of their total assets in cash or cash equivalents, Ferreira and Vilela (2004) find an average cash ratio of 15% and Guney et al. (2003) observe that the average cash ratio of the company is 14%. Generally, fundamental accounting techniques for cash planning are (1) Proforma Balance Sheet, (2) Break-Even Analysis, (3) Cash forecast and (4) Cash Budget. Cash Budget can be prepared in two ways. They are (1) Receipts and Disbursement Method and (2) Adjusted Income Method. Appropriate cash holding is the result of good cash planning. A good cash management system must have an organizational framework, which controls the cash flow. Such framework identifies who is responsible for particular function viz. collecting cash, payment authorization, making payments, bank accounts and funds transfer between accounts, arranging overdraft facilities and loans, investing cash surpluses and foreign currency transaction.

Another important topic of cash management is cash cycle. In business it is observed that cash received from selling goods should exceed the cash paid for preparing such goods. In business organization cash payments are made in the expectation of receiving higher amount in future. A certain part of the cash receipts are utilized to prepare more goods or to provide more services for sale. Therefore, such activities generate the business cycle of purchasing/selling and paying for purchases and receiving from sales. Such concept gives birth of cash cycle. In organization cash cycle is associated with the trading cycle. Trading cycle begins with the purchase of stock for resale and closed with sales of the stock. The cash cycle starts with payment of stock and closed with receipts of cash from customer for sales. Both the trading cycle and cash flow cycle are measured by time. Earlier it is discussed that the trading cycle starts with purchasing of raw materials and ends with selling the goods. So, the trading cycle time would be the time from purchasing of raw materials to sales of finished goods whereas cash flow cycle time would be the time from first cash expenditures receipts of payments from sales of goods. A credit availability can solves both of these problems. When the "real economy" falls into recession, businesses face the additional risk of customers running into financial difficulty and they are unable to pay invoices, which insists the organization to use non-operational sources such as bank loans, can push a company over the edge. Use of credit is a complex phenomenon. However, common people or even like us have wrong conception or negative idea about uses and application of credit. "Buy now-pay later" or promise to pay in future for immediate goods are existed in the earlier agricultural societies.

Giving credit means you are taking risk. Credit analysis is actually the risk analysis (Das, 2014, p.37). The credit analyst must consider the nature and type of the business as well as the applicant in his personal judgment.

2. Review of literature

San-Jose et al. (2008) conducted a study on approximately 501 Spanish firms with more than 10 employees. In this study confirmatory factor analysis was used and it was observed that the P-value of the chi-square did not attain the recommended figure because of the size of the sample. But the rest of the indices determined the validity of the model. They opined that cash management was a culture that forms part of the strategy of firms and dependent more on managers themselves than the characteristics of companies. Farris et al. (2011) made a study on cash to cash metric. For this they initially used the information of 21608 companies but latter such firms were reduced to 5884 firms. This study presented an overview of cash to cash and its calculation, comparisons between product and service industries etc. The study also revealed that cash-to-cash knowledge of managers helped the service industries improve their liquidity position and overall value.

Deloof and Jegers (1996) undertook a study on working capital management. The study was based on CCC and used different measures relating to the time lag between expenditure for the purchase of raw materials and collection of sales of finished goods. They argued that the longer the time lag, the larger the investment in working capital. Kim et al. (1998) made a study on corporate liquidity by using the logarithmic growth rate in the index of leading economic indicators as a proxy for the extent of profitable investment opportunities. They found that a firm's cash holdings increase with the level of investment opportunities and uncertainty in future cash flows. Similar type of study was conducted by Opler et al. (1999) and found the same results. Baskin et al. (1999) in their study argued that firms with abundant investment opportunities also had an incentive to hold more cash to maintain their competitive positions. They also showed that holding excess cash might deter competition in a firm's product markets.

Bathory (1987) developed ratio based models of credit analysis and stated that the greater the quality and quantity of data at the analyst's disposal, the better the credit opinion. For credit analysis he also suggested eight different ratios. These ratios are profitability, capital adequacy, liquidity, comfort margin, debt capacity, and priority debt service ability. He developed the model in such a way that the accuracy and relevance of the model's findings are directly proportional to the age and quality of the historical data. He argued that the model is also intended as a general diagnostic tool and it can be used by any commercial or industrial sector with the exception of banks, insurance companies or finance sectors. Basu (2011) made a study on eight cement companies using the Bathory's risk description model. The model is developed using four years data. In this study data have been collected from secondary sources i.e. The Stock Exchange official Directory of Bombay Stock Exchange and Capitaline data base. In this study the main focus is given to the liquidity, profitability and capital adequacy. The model also showed that these three ratios influenced the score of individual companies. He also showed that where these factors are good they obtained high score. Das (2014) made a study on IT sector, selected five companies from IT sector and used Bathory's Risk Description Model to measure Credit Scores. For data analysis has been collected from Capitaline Corporate Database of Capital Market Publishers (I) Ltd. Mumbai. He pointed out that the companies having higher credit score increases their profitability.

3. Objectives of the Study

The present study is prepared to make an in-depth analysis of the selected companies of retail sector in respect of their Cash Conversion Cycle, Cash Holding and Credit Score over the period 2002-2011. Cash conversion cycle is one of the dynamic measures of liquidity of the organization. Holding

sufficient cash enables the organization to take the risk of borrowed capital, enlarge their assets position and investment to some profitable projects. Holding cash is an indicator of sound liquidity. It helps the organization in meeting their contractual obligation when they are due. Credit score is also one of the popular measures of liquidity and credit evaluation, which helps the company get more credit so that receivables are converted into cash in a minimum period of time, the company maintained the liquidity position property and maintained the growth opportunity. For determining credit analysis we always have to consider the nature and type of business as well as the judgment of the manager.

More specifically the objectives of our study as a whole are as under,

1. To design an effective Cash Management policy for smooth cash procurement and disbursement without endangering the operating capability and productivity of the firm,

2. To ensure adequate cash balance for payment of expenditures when they are due and at the same time maximizes the return on idle cash,

3. To determine the exact working cash balance in conformity with the nature of the firm and how the temporarily unused fund be invested in interest earning assets,

4. To make a comparative analysis of the Liquidity position of selected companies from five different sectors in India during the period covered in the study, i.e. 2002 to 2011,

5. To find out the Cash Conversion Cycle with help of RCP, ICP and PDP of the Selected Companies through the technique of ratio analysis and other statistical tools,

6. To set policies for reducing the cash conversion cycle as much as possible without affecting its operation process so that it leads to increase the profits of the firm,

7. To measure the Cash Flow from Operating activity, Investing activity and Financing activity and net increase / decrease in cash flow and try to establish the relationship between these activities with Cash Conversion Cycle and Cash Holding,

8. To measure the Credit Score (CS) and try to establish a relationship among Cash Conversion Cycle, Cash Holding and Creditworthiness,

9. Finally, to examine whether there is any relation among CCC, Cash Holding and Credit Score.

4. Research Methodology used in this study

Five companies from Retail Sector have been selected in this study. The data of the selected companies for the period 2002 to 2011 used in this study have been taken from the secondary sources i.e. Capitaline Corporate Database of Capital Market Publishers (I) Ltd. Mumbai. For the purpose of our study different companies from Retail sector are selected following the purposive sampling procedure.

4.1. Cash Conversion Cycle (CCC)

Receivable conversion period, inventory conversion period and payment of deferral period are used to measure the cash conversion cycle. Shorter cash conversion cycle means better liquidity position of the organization. Here, we established the relationship between CCC and debtors more than six months, CCC and CR, CCC and inventory turnover ratio, CCC and debtors turnover ratio and CCC and creditors turnover ratio. Debtors more than six months mean debtors from whom money is collected after six months. It is riskier to the organization and also blocks cash for long periods and reduces the liquidity position. Liquidity of the organization has been represented by the current ratio which is obtained by dividing the current assets to current liabilities. Efficiency of the inventory management has been

measured by inventory turnover ratio (ITR) which is the ratio between cost of goods sold and average stock. Debtors' turnover ratio (DTR) is the ratio of credit sales to average receivables. Organization's ability to avail credit facility from suppliers has been measured by creditors' turnover ratio (CTR) which is the ratio of credit purchase to average payables. Profitability, size of the organization and cumulative profitability can influence the cash conversion cycle of the organization. In this study profitability has been measured by return on net worth (RONW), size of the organization has been represented through the amount equal to the log value of total assets. Shareholders fund has been selected in this study as cumulative profitability which consists of equity share capital and reserve surpluses. The log value of shareholders' fund represents the cumulative profitability.

4.2. Average Cash Holding

Opening balance and closing balance of cash are used to determine the average cash balance of each year and again such cash balances are used to get the average cash holding. Large cash holding is preferable for better liquidity of the organization. In this study, companies are ranked on the basis of average cash holding and consistency of cash holding sector wise and then ranking has been done as whole taking all twenty five companies considering the average cash holding and coefficients of variation (consistency) of average cash holding. In this study we examined the relationship between average cash holding and DFL, average cash holding and Investment and average cash holding and profitability (RONW). Degree of financial leverage (DFL) is computed with the help of the following formula,

DFL = Operating Profit (EBIT) / (Operating Profit – Interest)

Financial leverage arises due to use of fixed charges bearing capital in the capital structure like debt capital.

Higher debt capital means higher financial leverage. DFL measures the financial risk of the business. DFL affect the cash holding of the organization. More external borrowing means more cash holding. It can also be said that external borrowing replaces cash holding. Size of the organization has been represented through the amount equal to the log value of total assets. Size of the organization can affect the corporate cash holding. Generally, small firms hold more cash not only for higher costs of use of external funds but also for borrowing constraints. But large organization means too many expenses and for that purpose need large cash holding. Investment of the organization has been represented through the figure equal to the log value of total amount of Investment. Organization with numerous investment opportunities but uncertain internal cash flow hold more cash otherwise borrowing external funds for profitable investment opportunity is costly. In this study profitability has been measured by the return on net worth (RONW). General principle is that higher the liquidity lowers the profitability. Holding more cash increases the short-term debt paying capacity of the organization, but decreases the profitability by not using the excess or unused fund in some other profitable projects.

4.3. Credit Score

To develop a credit evaluation model from the financial statement of the selected companies, we used Bathory's – 'risk description model' with small changes. In actual model the main influencing factors are accumulated profitability and inventory but for our purpose we use the cash flow instead of Inventory. Eight different ratios are calculated from the financial statement as stated above. In determination of ratios, emphasis has been given on the firms' liquidity, profitability and capital adequacy. For the purpose of our study five companies from Retail sector has been selected, as stated earlier, with the help of purposive sampling procedure. The model is prepared on the basis of ten years data; it will be more predictive and reveals the appropriate creditworthiness of the companies. For analyzing the date statistical tools like arithmetic mean, percentage etc. and statistical technique like Pearson's simple correlation analysis and statistical test like 't' test have been applied at appropriate places.

4.4. Risk Description Model

1. Net Profit / Capital Employed = Profitability (Annual)
2. Net Tangible assets (Shareholders Fund) / Total Liabilities (Long term + Short term debt) = Profitability (Cumulative)
3. Net Profit / Current Liabilities = Liquidity
4. Normalized working capital / Credit Exposure = Capital Adequacy.
5. Equity / Current Liability + Credit exposure = Capital Adequacy
6. Net Assets / Credit exposure = Comfort Margin
7. Total assets / Total liability + Credit exposure = Debt Capacity
8. Net Profit + Depreciation/ Current Debt = Priority debt service ability.

In our model eight ratios are taken into consideration by giving equal weight to them. The resulting formula would be denoted as

$CS = L \times \sum x_i$
CS = Credit Scores
X_i = Variables (I = 1 to 8)
L = Constant Multiplier = 100/800 = 0.125

The developed model is thus = $0.125 \times \sum x_i$

Risk Description Model

Here, NWC = Normalised Working Capital
NTA = Net Tangible Assets
E = Equity Shareholders fund
CL = Current Liabilities
TL = Total Liabilities
CR. EXPOSU = Credit Exposure (0.25% of CA)
CD = Current Debt
D = Depreciation
NP = Net Profit
NA = Net Assets
CE = Capital Employed.

For analyzing the data statistical tools like arithmetic mean, standard deviation coefficient of variation etc. and statistical techniques like Pearson's simple correlation analysis and multiple regression analysis and statistical test like 't' test have been applied at appropriate places.

4.5. Findings of the Study

From Table 1 it has been observed that in case of Bata India Ltd. (Bata) the CCC is highest in the year 2004 (118.56 days) and smallest in the year 2011 (61.352 days). On an average it is 98.5 days. A mixed trend in CCC is observed during the study period. The liquidity position of the company is not at all satisfactory. In case of Siyaram Silk Mills (Siyaram), the CCC is highest in the year 2003(145.33 days) and lowest in the year 2011 (69 days). On an average it is 110 days. It follows a mixed trend of CCC during the study period. During the first half of the study period the CCC of the company is very high whereas the company improved its liquidity condition in the second half.

Table 1
Analysis of Cash Conversion Cycle of Selected Companies of Retail sector

COMPANIES	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	AVG
BATA	105.16	114.89	118.56	105.69	109.5	107.71	96.44	87.92	78.05	61.52	98.5
SIYARAM	140.67	145.33	138.98	123.21	100.71	101.6	110.93	103.90	70.38	69	110
GINI	70.05	37.78	34.78	43.17	37.26	68.60	76.98	61.41	48.81	57.68	53.7
RAYMOND	163.79	176.42	163.43	138.67	118.73	120.41	116.75	109.53	114.95	103.99	133
TITAN	127.15	105.37	79.15	60.26	49.32	52.81	57.03	56.94	49.53	27.52	66.5

Source: Compiled and computed from 'Capitaline Corporate Database' of Capital Market Publishers (I) Ltd., Mumbai.

Gini Fabrics follows a moderate CCC during the study period. Table 1 shows that the CCC of Gini Fabrics is highest in the year 2008 (76.98 days) and lowest in the year 2004 (34.78 days). On an average it is 53.7 days. It followed a mixed trend during the study period. The liquidity position of the company is moderate. From Table 1 it has been found that the CCC of Raymond is highest in the year 2003 (176.42 days) and smallest in the year 2011. On an average it is 133 days. The CCC trend is fluctuated during the study period. The company's liquidity position is not satisfactory throughout the study period. It may be due to lower debtors and inventory turnover. Table 1 shows that the CCC of Titan Industries Ltd. (Titan) is highest in 2002 (127.15 days) and lowest in 2011 (27.52 days). On an average it is 66.5 days. A mixed trend in CCC is noticed during the study period but it decreases in the last part of the study period. The Titan Ltd followed a moderate liquidity position throughout the study period. Therefore, among the five retail companies the average CCC of Gini Fabrics is lowest. It signifies that the short term liquidity position of Gini Fabrics is good.

Table 2
Ranking on the basis of Average and Consistency of Cash conversion Cycle of the Selected Companies of Retail Sector

COMPANIES	AVG.	SD	RANK OF AVG.	COEFFICIENT OF VARIATION	RANK OF COEFFICIENT	TOTAL RANK	OVER ALL RANK
BATA	98.5	17.8724	3	18.136	1	4	1
SIYARAM	110	27.1761	4	24.599	3	7	3
GINI	53.7	15.3588	1	28.627	4	5	2
RAYMOND	133	26.1083	5	19.68	2	7	3
TITAN	66.5	29.5509	2	44.432	5	7	3

Source: Compiled and computed from 'Capitaline Corporate Database' of Capital Market Publishers (I) Ltd., MMumbai.

In Table 2, the values of average Cash Conversion Cycle (CCC) of the companies under study have been ascertained by applying arithmetic mean and consistency of CCC have also been measured by using the coefficient of variation (CV) of their cash conversion cycle. The industry wise ranks have been assigned to the selected companies both in respect of average and consistency. Among the companies of Indian Retail sector selected in this study the average CCC of Gini Fabrics is the lowest, followed by Titan, Bata, Siyaram and Raymond respectively. The table also reveals that in respect of consistency of designing CCC, Bata captured the top position and followed by Raymond, Siyaram, Gini Fabrics and Titan. Considering both average and consistency aspects together Bata occupied the first position whereas Gini Fabrics is in second place and rest three companies i.e. Siyaram, Raymond and Titan are in same rank. Coefficient of Correlation is the measurement of degree of association between two variables. A positive value of 'r' indicated high values of one variable are generally associated with the high values of other variables and low values with low values. In Table 3 an effort has been made to measure the degree of relationship between Cash Conversion Cycle (CCC) and each of the factors related with CCC such as inventory turnover ratio (ITR), current ratio (CR), debtors turnover ratio (DTR), debtors more than six months (Debt > 6 Months) and creditors turnover ratio(CTR). To test the significance of such coefficient, 't' test has been applied.

In retail sector the companies selected under study, Table 3 shows that the correlation coefficient between CCC and ITR of Bata, Siyaram, Gini Fabrics, Raymond are 0.859, 0.979, 0.746 and 0.853

respectively, which are statistically significant both at 5% and 1% level of significance. But the same in case of Titan it is (-) 0.582, which is statistically insignificant. It implies that the sound inventory management in Bata, Siyaram, Gini Fabrics, Raymond helped to minimize CCC. But, in case Titan the inventory management system is not sound enough.

Table 3
Karl Pearson's Simple Correlation Analysis between CCC and ITR, CR, DTR, Debt > 6 Months and CTR of the Selected Companies of Retail Sector

COMPANY	CCC & ITR		CCC & CR		CCC & DTR		CCC & DEBT > 6 MONTHS		CCC & CTR	
	(r)	't' Value	(r)	't' Value	(r)	't' Value	(r)	't' Value	(r)	't' Value
BATA	0.859**	4.746	0.100	0.284	0.778**	3.503	-0.711*	-2.86	0.040	0.1132
SIYARAM	0.979**	13.58	-0.673*	-2.57	0.965**	10.41	-0.816**	-3.99	-0.623	-2.253
GINI	0.746*	3.168	-0.357	-1.08	0.531	1.772	-0.007	-0.02	0.549	1.8578
RAYMOND	0.853**	4.623	-0.047	-0.13	0.759*	3.297	-0.733*	-3.05	0.089	0.2527
TITAN	-0.582	-2.02	0.134	0.382	0.866**	4.898	-0.204	-0.59	-0.807**	-3.865

Note: Figures in the parentheses indicate 't' values.
* Correlation is significant at the 5% level (2tailed).
**Correlation is significant at the 1% level (2tailed).
Source: Compiled and computed from 'Capitaline Corporate Database' of Capital Market Publishers (I) Ltd., Mumbai.

Table 3 exhibits that in case of Retail sector the low positive correlation coefficient between CCC and CR is noticed in case of Bata and Titan, which are 0.100 and 0.134, respectively. It implies positive association between CCC and CR in these companies. On the other hand, the correlation coefficients between CCC and CR in Siyaram, Gini Fabrics and Raymond are (-) 0.673, (-) 0.357 and (-) 0.047 respectively. Out of which the same in case of Siyaram is statistically significant at 5% level. It implies in efficient liquidity management. Table 3 shows that in case of Retail sector the correlation coefficients between CCC and DTR are positive for all the selected firms. The correlation coefficients between CCC and DTR in Bata, Siyaram, Gini Fabrics, Raymond and Titan are 0.778, 0.965, 0.531, 0.759 and 0.866, respectively. Out of which the same in case of Bata, Siyaram, Raymond and Titan are statistically significant at 5% level of significance. It indicates a positive association between CCC and DTR among these five companies. Hence the sound debtors management of all the companies of retail sector selected under the study helped to minimizes the CCC. It has been found from Table 3 that in Retail sector the correlation coefficient between CCC and debtors more than six months of all the companies are negative. The same in case of Bata, Siyaram, Gini Fabrics, Raymond and Titan are (-) 0.711, (-) 0.816, (-) 0.007, (-) 0.733 and (-) 0.204, respectively. Out of which the same in case of Bata, Siyaram and Raymond is statistically significant at 5% level of significance. The correlation coefficient of CCC and debtors more than six months is also statistically significant at 1% level. It implies a negative association between CCC and debtors more than six month of all the companies in retail sector selected under this study. It is due to the sound debtors' management. More specifically quick debt collection policy helps the companies to shorten their cash conversion cycle. It helps to improve the liquidity position.

It has been viewed from Table 3 that in case of Retail sector the correlation coefficient between CCC and CTR in Siyaram and Titan are (-) 0.623 and (-) 0.807. Out of which the correlation coefficient between CCC and CTR in Titan is statistically significant both at 5% and 1% level of significance. It implies the high negative relationship between CCC and CTR. It indirectly helps the above mentioned companies to shorten their CCC. On the other hand, the correlation coefficient between CCC and CTR in Bata, Gini Fabrics and Raymond registered a positive relationship and they are 0.040, 0.549 and 0.089 respectively and which are not statistically significant. It indicates positive relationship between CCC and CTR among the companies which is not desirable at all.

In Table 4 an attempt has been made to assess the influence of profitability, size of the organization and cumulative profitability on Cash Conversion Cycle. In this study, return on net-worth (RONW) has been taken as the measure of owners' profitability, log value of total assets has been taken as the measure of size of the Organization and shareholder's fund has been taken as the measure of cumulative

profitability. The linear regression equation has been fitted in this study is CCC = b_0 + b_1 RONW + b_2 Size of Org. + b_3 Shareholders' fund, where b_0 is the value of intercept term (constant) and b_1, b_2 and b_3 are the slopes of the line i.e. the regression coefficient of CCC on RONW, size of org. and Shareholders' fund. This regression equation has been tested by 't' test. In case of Retail sector, the Table 4 shows that for one unit increase in RONW the CCC of Bata is increased by only 0.045 units but it is statistically significant at 1% level. From Table 4 it is clear that for one unit increase in size of the organization the CCC of Bata increased by 10.55 units which is statistically in significant. On the other hand, Table 4 shows that for one unit increase in cumulative profitability, the CCC of Bata decreased by 1.44 units which is also statistically insignificant. It implies that both profitability and size of the organization positively influenced the CCC of Bata while cumulative profitability negatively influenced the CCC of the company. The coefficient of determination (R^2) makes it clear that 83.6 % of the variation of the company's CCC is accounted for by the variation in RONW, Size of Org and Shareholders' fund.

Table 4
Analysis of Multiple Regression of CCC on RONW, Size of Org. and shareholders' Fund of the Selected Companies of Retail Sector
Regression Equation is CCC = a_0+a_1RONW+a_2Size of Org.+a_3Shareholders' Fund

COMPANY	PARTIAL REGRESSION COEFFICIENT			CONSTANT	R^2_{ED}
	RONW	SIZE OF THE ORGANIZATION	SHAREHOLDERS' FUND		
BATA	0.045	10.554	-1.443	-19.799	0.836
	(4.001)***	(1.559)	(-0.383)	(-2.065)	
SIYARAM	0.032	-3.184	9.328	-8.607	0.955
	(0.966)	(-1.156)	(2.131)*	(-2.806)	
GINI	-0.032	-34.482	28.635	15.361	0.550
	(-0.340)	(-1.802)	(1.931)*	(1.703)	
RAYMOND	0.023	6.088	-1.004	-14.238	0.961
	(2.372)**	(9.057)***	(-1.046)	(-6.594)	
TITAN	0.162	27.892	-5.195	-64.630	0.924
	(4.644)***	(3.192)**	(-1.455)	(-3.720)	

Note: Figures in the parentheses indicate 't' values. * Correlation is significant at the 10% level (2tailed).
**Correlation is significant at the 5% level (2tailed).   ***Correlation is significant at the 1% level (2tailed).
Source: Compiled and computed from 'Capitaline Corporate Database' of Capital Market Publishers (I) Ltd., Mumbai.

It is found from Table 4 that for one unit increase in RONW, the CCC of Siyaram goes up only 0.032 units which is statistically insignificant. The Table 4 also shows that for one unit increase in size of the organization, the CCC of Siyaram is decreased by 3.184 units which is statistically insignificant. Table 4 shows that for one unit increase in cumulative profitability the CCC of the company is stepped up by 9.328 units, which is statistically significant at 5% level. It implies that profitability and cumulative profitability positively influenced the CCC of the company while size of the organization negatively influenced the CCC of the company. The coefficient of determination (R^2) makes it clear that 95.5 % of the variation of the company's CCC is accounted for by the variation in RONW, Size of Org and Shareholders' fund. It has been observed from Table 4 that for one unit increase in RONW the CCC of the Gini Fabrics is decreased by 0.032 units, which is statistically insignificant. The table depicts that for one unit change in size of the organization, the CCC of the company is decreased by 34.482 units, which is statistically insignificant. Table 4 also shows that for one unit increase in cumulative profitability, the CCC of Gini Fabrics is increased by 28.635 units, which is statistically significant at 5% level. It indicates that only cumulative profitability positively influenced the CCC of the company while RONW and size of the company negatively influenced the CCC of the company. The coefficient of determination (R^2) makes it clear that 55.0 % of the variation of the company's CCC is accounted for by the variation in RONW, Size of Org and Shareholders' fund.

It is found from Table 4 that for one unit increase in RONW and size of the organization the CCC of Raymond is increased by 0.023 units and 6.088 units, respectively and they are statistically significant

at 5% and 1% level of significance. On the other hand Table 4 shows that for one unit increase in cumulative profitability the CCC of the company decreased by 1.004 units which is statistically insignificant at 5% level. It indicates that both RONW and size of the organization influenced the CCC of the Raymond positively whereas the influence of cumulative profitability on CCC of the company is negative. The coefficient of determination (R^2) makes it clear that 96.1 % of the variation of the company's CCC is accounted for by the variation in RONW, Size of Org and Shareholders' fund. It has been found from Table 4 that for one unit increase in RONW and size of the organization, the CCC of Titan goes up 0.162 unit and 27.892 units respectively, out of which previous one is statistically significant at 1% level and the later one is statistically significant at 5% level. On the other hand, Table 4 shows that for one unit increase in cumulative profitability the CCC of the organization is decreased by 5.195 units. It indicates that both RONW and size of the organization positively influenced the CCC of the company while cumulative profitability negatively influenced the CCC of the organization. The coefficient of determination (R^2) makes it clear that 92.4 % of the variation of the company's CCC is accounted for by the variation in RONW, Size of Org and Shareholders' fund. Therefore, under Retail sector all the influencing factors such as RONW, size of the organization and cumulative profitability more or less, positively or negatively affect the CCC of each company selected under study. Out of which the effect of RONW in Bata, size of the organization in Raymond and Titan is significant than others.

4.6 Cash Holding

From Table 5 it is observed that the average Cash Holding (ACH) in Bata India Ltd. (Bata) is highest in the year 2006 (Rs.17.505 Crore) and lowest in the year 2004(Rs.3.23 Crore). On an average it is Rs.10.1Crore. The ACH of the company is fluctuated throughout the study period. In the year 2006 the average cash holding as percentage of total assets is the highest which is 5.10%. The company maintained low level of cash which also decreases the liquidity position of the company. It has been revealed from Table 5 that the ACH of Siyaram Silk Mills (Siyaram) is highest in the year 2011(Rs.2.905 Crore) and lowest in the year 2002(Rs.0.845 Crore). On an average it is Rs.1.55 Crore. The ACH of the company fluctuated in the first half of the study period whereas an increasing trend is noticed during the second half of the study period. The average cash holding as percentage of total assets is highest in the year 2004 which is 0.75 %. The company maintained very low level of cash in the entire study period. It indicates that the liquidity position of the company is very poor.

Table 5
Analysis of Average Cash Holding (Avg. Cash Holding as percentage of total assets) of Selected Companies of Retail sector

Rs. in crore (also in % of total assets)

COMPANIES	Years										AVG.
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	
BATA	3.85 (1.62)	3.52 (0.95)	3.23 (0.95)	8.95 (2.89)	17.51 (5.10)	9.62 (3.53)	13.01 (4.28)	11.31 (3.36)	13.12 (3.65)	16.55 (4.020)	10.1 (2.98)
SIYARAM	0.85 (0.38)	1.17 (0.54)	1.64 (0.75)	1.36 (0.58)	0.92 (0.37)	1.23 (0.37)	1.26 (1.30)	1.63 (0.43)	2.54 (0.70)	2.91 (0.57)	1.55 (0.5)
GINI	0.14 (1.04)	0.44 (3.94)	0.88 (7.94)	0.78 (7.42)	0.4 (3.83)	1.3 (11.05)	1.23 (9.36)	0.14 (0.91)	0.09 (0.48)	0.10 (0.42)	0.55 (4.64)
RAYMOND	21.70 (1.52)	24.68 (1.72)	20.85 (1.37)	20.01 (1.19)	19.14 (0.97)	25.32 (1.18)	23.72 (1.03)	34.31 (1.38)	36.68 (1.51)	29.16 (1.26)	25.6 (1.31)
TITAN	22.43 (3.69)	20.63 (3.28)	25.87 (4.52)	35.69 (7.2)	41.09 (8.2)	44.39 (7.72)	51.25 (7.38)	53.33 (7.33)	120.71 (15.14)	640.81 (58.62)	106 (12.3)

Source: Compiled and computed from 'Capitaline Corporate Database' of Capital Market Publishers (I) Ltd., Mumbai

In case of Gini Fabrics Table 5 depicts that the ACH of the company is highest in the year 2007 (Rs.1.295 Crore) and lowest in the year 2010(Rs.0.09 Crore). On an average it is Rs.0.55Crore. The ACH of the company has fluctuated throughout the study period. The table shows that Gini Fabrics maintained very low level of cash during the study period. From the point of view of average cash holding as percentage of total assets, highest percentage is noticed in the year 2007 (11.05%). It implies

that the liquidity position of the company from the point of view of ACH is very poor. It is revealed from Table 5 that the ACH of Raymond is highest in the year 2010 (Rs.36.68Crore) and lowest in the year 2006(Rs.19.14 Crore). On an average it is Rs.25.6 Crore. The ACH of the company fluctuated throughout the study period. In the year 2003 the average cash holding as percentage of total assets is highest which is only 1.72%. The company maintained a standard cash level during the study period. It implies that the company followed a moderate liquidity position during the study period. From Table 5 it is observed that the ACH of Titan Industries Ltd. (Titan) is highest in the year 2011 (Rs.640.805 Crore) and lowest in the year 2003(Rs.20.63 Crore). On an average it is Rs.106 Crore. The company followed an increasing trend in ACH throughout the study period except in the year 2003. The average cash holding as compared to total assets is highest in the year 2011 which is 58.62%. It implies that the company has improved its liquidity position from year after year. Therefore, in Retail sector, Titan holds higher level of cash as compared to other companies. In consequence with we can say that the liquidity condition of Titan is far better than other companies in respect of cash holding.

From Table 6 it is clear that among the companies of Retail sector selected in this study, the Average Cash Holding as % of Total Assets, Titan is the highest, followed by Gini Fabrics, Bata, Raymond and Siyaram respectively. The table also reveals that according to consistency of constructing ACH, Raymond captured the top most position and it followed by Siyaram, Bata, Gini Fabrics and Titan. Considering both average and consistency point of view Raymond occupied the first place and it followed by Bata, Gini Fabrics, Titan and Siyram.

Table 6
Ranking on the basis of Average and Consistency of Average Cash Holding of the Selected Companies of Retail Sector

Companies	Avg. Cash as%of Total Assets	SD	Rank of Avg.	Coefficients of variation	Rank of Coefficients	Total Rank	Over all Rank
BATA	2.98	4.966	3	49.35	3	6	2
SIYARAM	0.5	0.639	5	41.29	2	7	5
GINI	4.64	0.444	2	81.17	4	6	2
RAYMOND	1.31	5.715	4	22.36	1	5	1
TITAN	12.3	180.5	1	170.9	5	6	2

Source: Compiled and computed from 'Capitaline Corporate Database' of Capital Market Publishers (I) Ltd., Mumbai

Coefficient of correlation is the measurement of degree of association between two variables. A positive value of 'r' indicated high values of one variable are generally associated with the high values of other variables and low values with low values. In Table 7 an effort has been made to measure the degree of relationship between ACH and each of the factors related with cash holding such as degree of financial risk (DFL), size of the organization, Investment of the organization and lastly profitability (RONW). To test the significance of such coefficient 't' test has been applied.

Table 7 shows that in Retail sector the correlation coefficient between ACH and DFL in Bata, Siyaram, Raymond and Titan are (-) 0.368, (-) 0.210, (-) 0.206 and (-) 0.679, respectively. All the correlation coefficients are negative out of which the coefficient of Titan is statistically significant at 5% level. Only the correlation coefficient between ACH and DFL in Gini Fabrics is 0.358, positive. It implies that incase of Gini Fabrics it is positive.

It has been depicted from Table 7 that in Retail sector, the correlation coefficient between ACH and Size of the organization in Bata, Siyaram, Gini Fabrics, Raymond and Titan are (-) 0.118, 0.657, (-) 0.740, 0.684 and 0.846, respectively. Out of which the correlation coefficient between ACH and Size of the organization in Siyaram, Raymond and Titan are positive and are statistically significant either at 5% or 1% or both at 5% and 1% level of significance. It indicates that in Siyaram, Raymond and Titan the ACH and Size of the organization are positively related. On the other hand, the correlation coefficients between ACH and Size of the organization in Bata and Gini Fabrics, ACH is negatively associated with size of the organization.

Table 7

Karl Pearson's Simple Correlation Analysis between AVG Cash Holding and DFL, Size of Org., Investment and RONW of the Selected Companies of Retail Sector

COMPANY	AVG CASH HOLDING & DFL		AVG CASH HOLDING & SIZE OF ORG.		AVG CASH HOLDING & INVESTMENT		AVG CASH HOLDING & RONW	
	(r)	't' Value	(r)	't' Value	(r)	't' Value	(r)	't' Value
BATA	-0.368	-1.1	-0.118	-0.336	0.626	2.271	0.831**	4.225
SIYARAM	-0.210	-0.6	0.657*	2.4649	0.884**	5.348	0.725*	2.977
GINI	0.358	1.08	-0.740*	-3.112	-0.749*	-3.197	-0.736*	-3.08
RAYMOND	-0.206	-0.6	0.684*	2.6521	0.414	1.286	-0.591	-2.07
TITAN	-0.679*	-2.6	0.846**	4.4879	-0.660*	-2.485	0.568	1.952

Note: Figures in the parentheses indicate 't' values.* Correlation is significant at the 5% level (2tailed).**Correlation is significant at the 1% level (2tailed)

Source: Compiled and computed from 'Capitaline Corporate Database' of Capital Market Publishers (I) Ltd., Mumbai.

From Table 7 it is depicted that in Retail sector the correlation coefficient between ACH and Investment in Bata, Siyaram, Gini Fabrics, Raymond and Titan are 0.626, 0.884, (-) 0.749, 0.414 and (-) 0.660, respectively. Out of which the correlation coefficient between ACH and Investment in Bata, Siyaram and Raymond is positive and the coefficient of Siyaram is statistically significant both at 5% and 1% level of significance. It signifies that in Bata, Siyaram and Raymond the association between ACH and Investment is positive. On the other hand, the correlation coefficients between ACH and Investment in Gini Fabrics and Titan are negative and both are statistically significant at 5% level. It implies that in Gini Fabrics and Titan, ACH is negatively related with Investment. At last in Retail sector table reveals that the correlation coefficient between ACH and RONW in Bata, Siyaram, GiniFabrics, Raymond and Titan are 0.831, 0.725, (-) 0.736, (-) 0.591 and 0.568, respectively. Out of which the coefficients in Bata, Siyaram and Titan are positive. The coefficients of Bata and Siyaram are also significant at 1% and 5% level of significance respectively. It implies that in Bata, Siyaram and Titan the strength of relationship between ACH and RONW in Gini Fabrics and Raymond are negative. Out of which the coefficient of Gini Fabrics is statistically significant at 5% level. It implies that in Gini Fabrics and Raymond ACH is negatively associated with RONW. It follows the principle.

Table 8

Analysis of Multiple Regression of Avg. Cash Holding on DFL, Size of Org. and Investment of the Selected Companies of retail sector

Regression Equation is Avg. Cash Holding = $a_0 + a_1 DFL + a_2 Size of Org. + a_3 Investment$

COMPANIES	PARTIAL REGRESSION COEFFICIENT			CONSTANT	R^2_{ED}
	DFL	SIZE OF THE ORGANISTION	INVESTMENT		
BATA	-0.031	0.215	0.557	-0.096	0.434
	(-0.667)	(0.124)	(1.775)	(-0.022)	
SIYARAM	-0.156	0.079	0.150	0.208	0.793
	(-0.580)	(0.205)	(2.776)**	(0.232)	
GINI	-0.416	-1.780	-0.350	2.079	0.636
	(-0.133)	(-1.036)	(-1.174)	(0.461)	
RAYMOND	0.028	1.284	-0.763	-0.642	0.560
	(0.631)	(2.116)*	(-1.123)	(-0.672)	
TITAN	-0.272	2.808	-0.068	-5.664	0.842
	(-1.998)*	(3.032)**	(-0.199)	(-1.947)	

Note: Figures in the parentheses indicate 't' values.   * Correlation is significant at the 10% level (2tailed).
**Correlation is significant at the 5% level (2tailed). ***Correlation is significant at the 1% level (2tailed)
Source: Compiled and computed from 'Capitaline Corporate Database' of Capital Market Publishers (I) Ltd., Mumbai.

In Table 8 an attempt has been made to assess the influence of DFL, Size of the organization and Investment on Average Cash Holding. In this study DFL has been taken as the measure of financial risk, log value of total assets has been taken as the measure of size of the Organization and log value of total investment has been taken as the measure of Investment. The linear regression equation has been fitted in this study ACH = $b_0 + b_1$ DFL + b_2 Size of the org. + b_3 Investment, b_0 is the value of intercept term (constant) and b_1, b_2 and b_3 are the slopes of the line, i.e. the regression coefficient of ACH on DFL, Size of the organization and Investment. This regression equation has been tested by 't'

test. Now, in Retail sector, Table 8 exhibits that for one unit increase in DFL the ACH of Bata is decreased by only 0.031 units which is insignificant. Table 8 also reveals that for one unit increase in size of the organization the ACH of Bata is increased by 0.215 units, which is insignificant. Table 8 shows that for one unit increase in Investment the ACH of Bata is increased by 0.557 units, which is statistically not significant. It signifies that both the size of the organization and Investment are positively influenced the ACH of Bata whereas DFL has negative influence on ACH. The coefficient of determination (R^2) makes it clear that only 43.4% of the variation of the company's ACH is accounted for by the variation in DFL, Size of Org and Investment.

It has been observed from Table 8 that for one unit increase in DFL the ACH of Siyaram goes down by 0.156 units, which is insignificant. Table 8 also portrays that for one unit increase in size of the organization the ACH of Siyaram goes up by 0.079 units, which is insignificant. Table 8 also reveals that for one unit increase in Investment the ACH of Siyaram is increased by 0.150 units which is statistically significant at 5% level. It implies that size of the organization and Investment influenced the ACH positively which is also significant whereas DFL, negatively influences the ACH of Siyaram. The coefficient of determination (R^2) makes it clear that only 79.3% of the variation of the company's ACH is accounted for by the variation in DFL, Size of Org and Investment. Table 8 exhibits that for one unit increase in all the factors like DFL, Size of the Organization and Investment the ACH of Gini Fabrics go down by 0.416 units, 1.780units and 0.350 units,respectively and none of them is significant. It indicates that all factors have negatively influenced the ACH of Gini Fabrics. The coefficient of determination (R^2) makes it clear that only 63.6% of the variation of the company's ACH is accounted by the variation in DFL, Size of Org and Investment. Now, Table 8 exhibits that for one unit increase in DFL and Size of the organization, the ACH of Raymond stepped up by 0.028 units and 1.284 units respectively, out of which the last one is statistically significant at 10% level. Table 8 also shows that for one unit increase in Investment the ACH of Raymond goes down by 0.763 units which is insignificant. It indicates that DFL and Size of the organization in Raymond influenced the ACH positively whereas Investment influenced the ACH, negatively. The coefficient of determination (R^2) makes it clear that only 56% of the variation of the company's ACH is accounted by the variation in DFL, Size of Organization and Investment. Table 8 shows that for one unit increase in DFL and Investment, the ACH of Titan goes down by 0.272 units and 0.068 units, respectively and out of which, first one is statistically significant at 10% level. Table also reveals that for one unit increase in size of the organization, the ACH goes up by 2.808 units, which is statistically significant at 5% level. It implies that DFL and Investment influence the ACH in Titan negatively while Size of the organization positively influenced the ACH of Titan. The coefficient of determination (R^2) makes it clear that only 84.2% of the variation of the company's ACH is accounted for by the variation in DFL, Size of Organization and Investment. Therefore, it is clear that only in case of Gini Fabrics all the factors influenced the ACH negatively. In most of the cases Size of the organization influenced the ACH positively with high level of significance.

4.7 Risk description Model

The main purpose of calculating ratios is to judge the firm's liquidity, profitability and capital adequacy. From the 'risk description model', scores are calculated individually for each of the selected companies under study. Tables are prepared consisting of different ratios to calculate scores. The model clearly showed how the liquidity, profitability and capital adequacy factors influenced the scores of individual companies. In case of all the companies from five different sectors, where all the factors are good, they obtained high scores. Now, in Retail sector Table 9 reveals that the average scores of ratio x_1, x_2, x_3, x_4, x_5, x_6, x_7 and x_8 in Bata India Ltd. (Bata) are 0.101, 1.26, 0.167, 44.37, 1.53, 276.24, 2.52 and 1.28, respectively. The highest score is deserved by ratio x_6 (276.24) and the lowest score is registered by ratio x_1 (0.101). Total average score of Bata is 327.5. The credit score of Bata is 40.93.

Table 9

Risk description model-Ratio measurement (Beta)

RATIOS	DESCRIPTION	AVG. SCORES
X1	NP/CE	0.10162
X2	NTA/TL	1.26403
X3	NP/CL	0.16771
X4	NWC/CR.EXPOSU	44.376
X5	E/CL+CR.EXPOSU	1.53644
X6	NA/CR.EXPOSU	276.247
X7	TA/TL+CR.EXPOSU	2.52218
X8	NP+D/CD	1.28619
TOTAL AVG SCORES		327.501
CREDIT SCORES(CS)		40.9377

Table 10 shows that the average score of ratio x_1, x_2, x_3, x_4, x_5, x_6, x_7 and x_8 in Siyaram Silk Mills (Siyaram) are 0.074, 2.735, 0.58, 225.117, 3.435, 241.62, 7.34 and 4.88, respectively. Out of which ratio x_6 is the highest which is 241.626 and the ratio x_1 is the lowest which is 0.074. Total average score of Siyaram is 485.811. The credit score of Siyaram is 60.726.

Table 10

Risk description model – Ratio Measurement(Siyaram)

RATIOS	DESCRIPTION	AVG SCORES
X1	NP/CE	0.0747
X2	NTA/TL	2.73559
X3	NP/CL	0.58786
X4	NWC/CR.EXPOSU	225.117
X5	E/CL+CR.EXPOSU	3.43528
X6	NA/CR.EXPOSU	241.626
X7	TA/TL+CR.EXPOSU	7.34629
X8	NP+D/CD	4.88841
TOTAL AVG SCORES		485.811
CREDIT SCORES(CS)		60.7264

From Table 11 it is found that the average score of ratio x_1, x_2, x_3, x_4, x_5, x_6, x_7 and x_8 in Gini Fabrics are 0.110, 4.916, 0.540, 179.071, 5.929, 659.039, 6.179 and 5.166, respectively. The highest score is represented by ratio x_6 which is 659.039 and lowest score is represented by ratio x_1 which is 0.110. The total average score of Gini Fabrics is 860.954. The credit score of Gini Fabrics is 107.619.

Table 11

Risk description model –Ratio measurement (Gini Fabrics)

RATIOS	DESCRIPTION	AVG SCORES
X1	NP/CE	0.11099
X2	NTA/TL	4.91676
X3	NP/CL	0.54067
X4	NWC/CR.EXPOSU	179.071
X5	E/CL+CR.EXPOSU	5.92911
X6	NA/CR.EXPOSU	659.039
X7	TA/TL+CR.EXPOSU	6.17993
X8	NP+D/CD	5.16641
TOTAL AVG SCORES		860.954
CREDIT SCORES(CS)		107.619

Table 12 exhibits that the average score of ratio x_1, x_2, x_3, x_4, x_5, x_6, x_7 and x_8 in Raymond are 0.057, 3.469, 0.459, 166.565, 4.399, 548.32, 6.852 and 0.746, respectively. Out of which ratio x_6 (548.329) is the highest and ratio x_1 (0.057) is the lowest. The total average score is 730.879. The credit score of Raymond is 91.35.

Table 12

Risk description model – Ratio measurement (Raymond)

RATIOS	DESCRIPTION	AVG SCORES
X1	NP/CE	0.05714
X2	NTA/TL	3.46922
X3	NP/CL	0.45976
X4	NWC/CR.EXPOSU	166.565
X5	E/CL+CR.EXPOSU	4.39973
X6	NA/CR.EXPOSU	548.329
X7	TA/TL+CR.EXPOSU	6.8527
X8	NP+D/CD	0.74688
TOTAL AVG SCORES		730.879
CREDIT SCORES(CS)		91.3599

Table 13 reveals the average score of ratio x_1, x_2, x_3, x_4, x_5, x_6, x_7 and x_8 in Titan Industries Ltd. (Titan) are 0.205, 0.708, 0.292, 72.20, 0.771, 134.306, 2.84, and 1.869, respectively. Out of which ratio x_6 is the highest, which is 134.306, and ratio x_1 is the lowest, which is 0.205. The total average score of Titan is 213.208. The credit score of Titan is 26.65. Therefore, in Retail sector tables 9, 10, 11, 12, 13 reveal that the current profitability condition is the best in Titan Ltd. whereas in respect of cumulative profitability Gini Fabrics is the best. On the other hand, regarding debt paying capacity Siyaram is the best. In retail sector highest credit score captured by Gini Fabrics and it followed by Raymond, Siyaram, Bata and Titan in that order.

Table 13

Measurement description model – Ratio measurement (Titan)

RATIOS	DESCRIPTION	AVG SCORES
X1	NP/CE	0.20595
X2	NTA/TL	0.70893
X3	NP/CL	0.29252
X4	NWC/CR.EXPOSU	72.2065
X5	E/CL+CR.EXPOSU	0.77137
X6	NA/CR.EXPOSU	134.306
X7	TA/TL+CR.EXPOSU	2.84694
X8	NP+D/CD	1.8691
TOTAL AVG SCORES		213.208
CREDIT SCORES(CS)		26.6509

Source: Compiled and computed from 'Capitaline Corporate Database' of Capital Market Publishers (I) Ltd., Mumbai.

Table 14

Ranking on the basis of Credit Scores of the Selected Companies of Retail Sector

RATIO/ COMPANIES	BATA	SIYARAM	GINI	RAYMOND	TITAN
X1	0.102	0.075	0.111	0.057	0.206
X2	1.264	2.736	4.917	3.469	0.709
X3	0.168	0.588	0.541	0.46	0.293
X4	44.38	225.1	179.1	166.6	72.21
X5	1.536	3.435	5.929	4.4	0.771
X6	276.2	241.6	659	548.3	134.3
X7	2.522	7.346	6.18	6.853	2.847
X8	1.286	4.888	5.166	0.747	1.869
TOTAL AVG SCORES	327.5	485.8	861	730.9	213.2
CREDIT SCORES(CS)	40.94	60.73	107.6	91.36	26.65
RANKING	4	3	1	2	5

Source: Compiled and computed from 'Capitaline Corporate Database' of Capital Market Publishers (I) Ltd., Mumbai.

In Table 14, sector wise ranking on the basis of companies as a whole have been accomplished regarding their credit scores. In sector wise ranking Gini Fabrics captured the top most position in retail sector. Table 14 depicts that in Retail sector the ratio x_4 in Bata, Siyaram, Gini Fabrics, Raymond and Titan are 44.38, 225.31, 179.1, 166.6 and 72.21, respectively. On the other hand, the ratio x_6 in Bata, Siyaram, Gini Fabrics, Raymond and Titan are 276.2, 241.6, 659, 548.3 and 134.3, respectively. Ratio x_4 is highest in Siyaram while ratio x_6 is highest in Gini Fabrics. Ratio x_6 of Gini Fabrics and high positive ratio x_4 helped the Gini Fabrics capture the top most position in Retail sector as well as all the companies taken together. Table 15 shows that in Retail sector, the liquidity ratio (x_4) as per our model in Bata is 44.37 whereas its current liabilities consist of 46.27 % of current assets and at the same time cash occupied 2.38% of current assets. The liquidity ratio (x_4) as per our model in Siyaram is 225.11

whereas its current liabilities consist of 18.40 % of current assets and at the same time cash occupied 0.71% of current assets. Similarly, the liquidity ratio (x_4) as per our model in Gini Fabrics is 179.07 whereas its current liabilities consist of 30.66 % of current assets and at the same time cash occupied 7.68% of current assets. In Raymond the liquidity ratio (x_4) as per our model is 166.56 whereas its current liabilities consist of 31.72 % of current assets and at the same time cash occupied 3.04% of current assets. The liquidity ratio (x_4) as per our model in Titan is 72.20 whereas its current liabilities consist of 49.42 % of current assets and at the same time cash occupied 6.33% of current assets. Therefore, from Table 15 we can conclude that lower portion of current liabilities consist in current assets and low cash balance in current assets help to increase the liquidity ratio of Siyaram. In general, all the companies under study in retail sector maintained moderate portion of current liabilities in current assets. Coefficient of Correlation is the measurement of degree of association between two variables. A positive value of 'r' indicated high values of one variable are generally associated with the high values of other variables and low values with low values. In this study multiple correlation technique among Cash as a % of CA, CL as a % of CA and NWC/Credit Exposure has been applied. To test the significance of such coefficient, 't' test has been used.

Table 15

Analysis of Liquidity position of Retail Sector

COMPANIES	CA	CL	AVG CASH as % OF CA	CL % OF CA	NWC/CREDIT EXPOSURE
BATA	414.247	193.32	0.023863	0.462715798	44.37602971
SIYARAM	221.557	42.903	0.007143	0.184097076	225.1171739
GINI	8.212	2.607	0.076895	0.306699549	179.0710795
RAYMOND	838.962	270.72	0.030401	0.317251487	166.5645674
TITAN	1171.812	685.21	0.063327	0.494203443	72.20645628

Source: Compiled and computed from 'Capitaline Corporate Database' of Capital Market Publishers (I) Ltd., Mumbai.

Table 16 shows that in Retail sector the correlation analysis between cash as a percent of current assets is negatively related with liquidity (x_4). The correlation coefficient is statistically not significant. On the other hand, the correlation coefficient between current liabilities as a percent of current assets and liquidity ratio (x_4) is negative. The correlation coefficient is (-) 0.966 and it is statistically significant at 1% level. Here also the correlation coefficient between current liabilities as a percent of current assets and liquidity ratio (x_4) supported the theoretical principle that higher the current liabilities as percent of current assets lower the liquidity. The other correlation coefficient in between cash as a percent of current assets and current liabilities as a percent of current assets is positive, which is 0.391 and it is not statistically significant. From the table it is seen that in Asian, Wipro, Videocon in IT sector; Khaitan in Consumer Durable sector, all the Pharmaceuticals companies selected under study, Britannia in FMCG sector, Siyaram, Gini Fabrics and Raymond in Retail Sector, credit score are above standard (58.32).In these companies current liabilities as a percent of current assets is very low except in case Alchemist and Khaitan. In these two companies strong equity base leads to high comfort margin and helps to increase their credit rating. But in other companies, whose credit scores are above standard, the low proportion of current liabilities helps to achieve very high liquidity score of the companies as well as strong equity base of those companies leads to very high comfort margin and ultimately increase their credit rating.

Table 16

Correlation analysis of retail sector

		Cash of CA	CL of CA	NWC of CR EXP
Cash of CA	Pearson correlation	1	0.391	-0.187
	Sig. (2-tailed)		0.515	0.763
	N	5	5	5
CL of CA	Pearson correlation	0.391	1	-0.966**
	Sig. (2-tailed)	0.515		0.007
	N	5	5	5
NWC of CR EXP	Pearson correlation	-0.187	-0.966**	1
	Sig. (2-tailed)	0.763	0.007	
	N	5	5	5

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

5. Conclusion

Management of current assets and current liabilities is popularly known as liquidity management. It emphasizes to maintain current assets in such a way to meet the current liabilities timely. For meeting the short term debt timely, many firms take the opportunity of external funding. But, some firms cannot collect such external financing easily, particularly in case of small firms. External financing is very costly for small firms. So, the efficient liquidity management of the company helps its long-term prosperity and healthy bottom lines and more specifically to make the company remain solvent. Cash Conversion Cycle (CCC) is a useful technique in which we can easily and quickly assess the liquidity of the firm. It invariably measures the time lag between cash payments for purchasing inventories and collecting receivables from customers. CCC is a dynamic measure of continuous liquidity management, which comprises both balance sheet and income statement data with time dimension. An individual firm's CCC is helpful but from industries' stand point it is crucial for a company to evaluate its performance regarding CCC and assess opportunities for improvement because the length of CCC may differ from one industry to another one. In terms of the liquidity, Gini Fabrics is the best. But, the relationship between CCC and ITR, CCC and CR, CCC and DTR, CCC and Debtors more than six months and CCC and CTR were not theoretically sound. Some factors positively and some factors negatively influenced the CCC of all the companies selected in this study. The survey on the five companies from Retail sector indicates that Gini Fabrics maintained higher level of cash as % of total assets throughout the study period and it helped the company improve its liquidity position. In terms of average and consistency aspect, Raymond occupied the first rank. The correlation coefficients between ACH and Size of the Organization as well as ACH and Investment of most of the companies were detected to be positive. The impact of DFL on ACH and Investment on ACH of most of the companies were negative, whereas the impact of Size of the organization on ACH for most companies was positive. Only Raymond supported most of the theoretical propositions among the companies selected in this study.

Credit Score signifies the creditworthiness of the company. Higher CS signifies better creditworthiness and vice-versa. Higher creditworthiness gives the opportunity to the company for late payment and late payment increases the deferral period. It again decreases the cash conversion cycle. Lower CCC represents less requirement of working capital. So liquid cashes are not blocked in other types of current assets, it can be invested in some profitable projects to enhance profit. Hence good creditworthiness indirectly increases the profitability of the organization. From another point of view, creditworthiness helps the company achieve higher debtors' turnover. As the credit manager takes the decision of granting credit before the commencement of sales then it helps the organization make decision regarding its future investment projects. It helps the management learn how and when money should be collected and such information protect the company to borrow funds for investing future profitable projects. It also minimizes the CCC of the organization which indirectly increases the profit of the organization. In this study, we observed that from the view point of average and consistency of CCC, Bata was the best followed by Gini Fabrics whereas in consistency of cash as a % of total assets, Raymond was ranked first followed by Gini Fabrics, Titan and Bata. In terms of the credit score, Gini Fabrics was the best followed by Raymond, Siyaram and Bata. It signifies that due to higher credit score, the said companies managed to decrease their CCCs.

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