Earlier we discussed that cash management of the organization depends upon the nature of Receipts and Payments pattern of the organization. It also reduces the cost of management of effect on the development of the working capital. But, the management of working capital does not always depend on the cash transactions. Liquidity, cost of capital, inventories, debtors etc. play an important role in working capital management. However, in a given pattern of receipts and payments of cash and a particular form of working capital, it is difficult to understand which the reason is and which the result is.

We know that the prime aim of working capital management is to obtain high liquidity. Further liquidity makes the working capital management efficient and also reduces the cost of cash management as well. Different measures have been used to judge the efficiency of working capital management. Such measures are current ratio, acid-test ratio, inventory turnover ratio, debtors’ turnover ratio and so on. But, it is not possible to judge the efficiency of working capital by applying one ratio. For that purpose it is necessary to apply a combination of ratios. Therefore, in chapter 4 of our study we computed the cash conversion cycle with the help of inventory turnover ratio, debtors’ turnover ratio, creditors’ turnover ratio. After that establishes the relationship of CCC with current ratio, debtors’ turnover ratio, inventory turnover ratio, debtors more than six months and creditors’ turnover ratio.

**Cash Conversion Cycle:**

Among five companies from IT sectors the liquidity position of CMC Ltd. is good as compared to others. It portrays that the liquidity management system of CMC Ltd. is sound, than other five companies in that sector. The CCC of Siemens Ltd. is good among other companies of consumer Durable sector. The liquidity position of Siemens Ltd. is good as compared to other companies in that group. It emphasizes the efficient liquidity management system of Siemens Ltd. among five companies of Pharmaceuticals sector the short-term debt paying capacity of Alchemist is good as compared to other companies. Among five FMCG companies HUL is exceptional regarding the impact of CCC on its liquidity position. Though, all the companies under this sector registered steady liquidity position.
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It proves that in all the companies the liquidity management is efficient. 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.

Among the companies of IT sector selected in this study the average CCC of CMC Ltd. is the lowest and considering the consistency in designing CCC, Philips captured the top position. In case of both average and consistency of CCC Philips occupied the first position in IT sector. In Consumer Durable sector the average CCC of Siemens Ltd. is the lowest and in respect of consistency of designing CCC Khaitan occupied the first position. From both average and consistency point of view Hawkins and Khaitan captured the top most position in Consumer Durable sector.

Among the companies of Pharmaceuticals sector selected in this study the average CCC in Alchemist Ltd is the lowest and in respect consistency of constructing CCC, Lupin captured the top most position. Considering both average and consistency aspects together Dr. Reddy’s Laboratory and Lupin occupied the ultimate position. In the FMCG sector, companies selected in this study, HUL occupied the first position in respect of average CCC and consistency in designing CCC. Among the companies of Indian retail sector selected in this study the average CCC of Gini Fabrics is the lowest and in respect of consistency of designing CCC, Bata captured the top position. Therefore, among all the companies from five different sectors, in respect of average CCC and consistency in designing CCC, HUL is exceptional.

The study of interrelationship between Inventory Turnover Ratio (ITR), Current Ratio (CR), Debtors Turnover Ratio (DTR), debtors more than six months (Debtors > Six months), Creditors Turnover Ratio (CTR) and Average Cash Conversion Cycle (CCC) as revealed in the correlation analysis mostly conforms to the theoretical inference that higher the ITR and DTR lower the CCC and contrary lower the Debtors more than six months and CTR, lower the CCC and except in the case of correlation between CCC and CR.
In most of the companies under study the correlation coefficients between CCC and ITR are positive which signifies the efficient inventory management of the companies. Sound inventory management helps the companies to minimize the CCC. On the other hand, the correlation coefficients between CCC and DTR are also positive in majority of the companies selected under study. It implies the sound debtors’ management of the companies. Sound debtors management influences the companies to reduce their CCC.

The correlation coefficients between CCC and Debtors more than six months also supported the theoretical argument. The correlation coefficients between CCC and Debtors more than six month in most of the companies are negative. It also be the result of efficient debtors control. Now from the point of view of creditors’ turnover ratio the correlation coefficients between CCC and CTR are negative in most of the companies under study. It implies that the creditors’ management system of the companies is efficient in regards to the minimisation of their Cash Conversion Cycles. But, the correlation coefficients between CCC and CR in most of the companies are negative which does not conform to their theoretical argument. It might be due to holding cash or elements of current liabilities.

The influence profitability, size of the organization and cumulative profitability on Cash Conversion Cycle is measured through the regression equation of CCC on RONW, Size of the Org. and Shareholders’ fund. Among IT sector in case of Philips the influence of RONW, size of the organization and cumulative profitability on CCC is positive. In Consumer Durable sector cumulative profitability of Khaitan Ltd. is negatively influenced the CCC, which is very high. On the other hand, in case of Siemens Ltd., the size of the organization is also negatively influenced the CCC and which is also very high. Under Pharmaceutical sector, only in case of Alchemist Ltd. all the influencing factors like RONW, Size of the organization and Cumulative profitability influenced the CCC of the company positively. But, in other cases one or two such factors influenced the CCC of the company negatively. In FMCG sector, in case of HUL the negative influence of size of the organization and cumulative profitability is very much noticeable.
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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 Ltd., size of the organization in Raymond and Titan significant than others. Considering all the companies, the effect of RONW and Shareholders’ fund on CCC in most of the companies is positive. It implies that most of the companies maintained the liquidity position in such a way that it increases their profitability also. But, the impact of Size of the organization on the CCC is negative in almost half of the companies selected under study, out of which some are statistically significant. It signifies that higher the size of the organization, higher the CCC which does not conform to the theoretical proposition. Combining all the companies, the effect of Shareholders’ fund on CCC in most of the companies is positive. It implies that lower cash conversion cycle increases the profitability of the companies. It signifies that the liquidity management of the companies is efficient.

From the above discussion we suggest the following criteria regarding the cash conversion cycle.

(i) Cash conversion cycle minimizes due to higher debtors turnover ratio, inventory turnover ratio, current ratio and lower creditors turnover ratio and debtors more than six months.
(ii) Cash conversion cycle increases due to higher creditor’s turnover ratio, debtors more than six months and lower debtor’s turnover ratio, inventory turnover ratio and current ratio.
(iii) Cash conversion cycle remain unaffected if the debtors turnover, inventory turnover and creditors turnover are more or less equal. It signifies the application of moderate management or control over inventory debtors and creditors.

Lower cash conversion cycle means easy collection, excess cash balance and on the other hand higher cash conversion cycle leads to locking cash, deficiency of cash etc.
Therefore, for surplus or deficiency of cash balances following guide-line may be suggested.

<table>
<thead>
<tr>
<th>Situations</th>
<th>Probable Suggested Actions</th>
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| (i) Deficit of cash balance | (i) Minimisation of cash conversion cycle by either (a) higher turnover of debtors and (b) lower turnover of creditors  
|(ii) Borrowing funds from outside (it may reduces the liquid ratio) |
| (ii) Surplus cash balance | (i) Increases the cash conversion cycle by (a) increasing creditors’ turnover ratio, (b) decreasing debtors’ turnover ratio.  
|(ii) Early payment of short-term loan.  
|(iii) Investment in profitable projects |

In Chapter 5 we discussed the cash holding, centralization and controlling of cash. Holding more cash can give the company more liquidity as well as opportunity for investment in profitable projects. But, holding more cash can affect the profitability of the organization because idle cash earning nothing. For that we establish the relationship between cash holding and profitability, size of the organization and cumulative profitability.

In this chapter we also measure the effect of DFL, Size of the organization, and Investment. These factors are closely related with the cash holding. Optimum cash balance is the prime function in cash management. It also refers to the synchronization of receipts and payments of cash. In practical, due to lack of proper management of working capital and more specifically lack of control over various turnover optimum cash balance cannot be reached. But, it should be remembered that optimum cash balance may vary from time to time and organization to organization.
For measuring the efficiency in managing the cash conversion cycle we made the Sandler ‘A’ test and it signifies that all the companies selected under this study, except Siemens and HUL maintained efficient cash management system in relation to Cash Conversion Cycle.

**Cash Holding:**

Among five companies from IT sector, Wipro maintained higher level of cash throughout the study period it helps the company to improve their liquidity position. Under Consumer Durable sector Siemens Ltd. maintained higher level of cash during the study period as compare to other companies. It helps the company to improve its liquidity position. Under Pharmaceutical sector, Dr. Reddy’s Laboratory managed to maintain high level of cash during the study period as its average is higher than other companies in this sector. The average level of cash in Alchemist is very low. In FMCG sector, the average cash holding of HUL is best. It signifies its greater liquidity. On the other hand Marico registered poorer liquidity for it lower cash holding. Lastly, in Retail sector, Titan Ltd. 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.

Among IT sector the ACH of Asian Electronics Ltd. is the highest and in respect of consistency of designing average cash holding, Videocon Ltd., captured the top most position. Combining both average and consistency aspect together Videocon Ltd. occupied the first place. Under consumer Durable sector the ACH of Khaitan Ltd is the highest and in respect of consistency of formulating ACH again Khaitan Ltd holds the first position. Considering both average and consistency aspects together Khaitan is the best. In the Pharmaceutical sector the average cash holding and consistency of designing ACH of Alchemist is the best. Among FMCG sector the ACH and consistency in constructing ACH of Marico is the optimum. Among the companies of retail sector selected in this study the average cash holding of Gini Fabrics is the highest and according to consistency of constructing ACH, Raymond captured the top most position.
Considering all the companies together the average cash holding of Wipro is highest and in respect of consistency of designing average cash holding as a whole Videocon Ltd. captured the top most position.

An analysis of interrelationship between Degree of financial risk (DFL), size of the organization, Investment of the organization profitability and Average Cash Holding as worked out in correlation mostly conform to the theoretical proposition that higher the size of the greater is the cash holding, higher the Investment of the organization, higher is the cash holding and higher the DFL and profit earning capability of the organization lower the cash holding.

The major portion of the companies selected under study, the correlation coefficients between ACH and DFL is negatively associated. It strengthen the theoretical principle of higher the DFL lower the cash holding. It also portrays that funds are used to pay off the external borrowings. On the other hand, the correlation coefficients between ACH and size of the organization are positive in most of the companies under study. It also supported the theoretical arguments. Most of the companies might use the funds from outsides and it indirectly increases the average cash balance. It can also be said that due to high credit rating the companies which are in large size avail the benefit of credit from the market, which reduces the need of cash and the cash balance of the companies increases.

The correlation coefficients between ACH and Investment in most of the companies are positive. It implies that most of the companies avail the benefit of investing in profitable projects. It also implies that majority of the companies holding cash for future uncertainty of cash flows. It is due to overcome the competition in the companies’ product market. Lastly, in most of the companies the correlation coefficients are positive, out of which some are statistically significant. It signifies that ACH is positively associated with profitability. It fails to provide any clear indication in favour of the generally accepted principle that higher the cash holding lower the profitability.
The influence DFL, Size of the organization and Investment on Cash Holding is measured through the regression equation of ACH on DFL, Size of the Org. and Investment. In IT sector, both in case of Philips and Videocon the influence of DFL, Size of the organization and Investment on ACH are positive. In IT sector, the three factors influenced the ACH of companies either positively or negatively during the study period. The most interesting fact is that out of five Consumers Durable companies the size of the organization in four cases positively influenced the ACH and out of which three are statistically significant. All the factors influenced the ACH of the companies either positively or negatively in Pharmaceutical sector. Only in two cases the influence of DFL and Size of the organization the multiple regression coefficient are statistically significant at 1% level of significance.

Here also, all the factors are influenced the ACH of each company in FMCG sector, either positively or negatively depending upon the situation. But, the most interesting factor is that in most of the cases only size of the organization influence the ACH of each company positively, are highly statistically significant. In Retail sector, in case of Gini Fabrics all the factors influenced the ACH negatively. In most of the cases under Retail sector, the Size of the organization influenced the ACH positively with high level of significance. Considering all the companies together the effect of DFL on ACH in most of the companies is negative, which signifies that the companies are less depended on corporate cash holding rather on external borrowings.

It supported the theoretical principle. In case of size of the organization, combining all the companies selected under study majority of the companies showed that the effect of size of the organization on ACH is positive, which also strengthen the theoretical proposition. Considering all the companies together, the effect of Investment in less than half of the companies selected under study is positive and out of which three are statistically significant. It also supported the principle that higher cash holding means higher opportunity for profitable investment. In our study it is also observed that some companies are maintaining less cash. It does not always signify weaker liquidity position. It may be due to investment in derivative markets or stock market and required fund can be easily converted into cash as and when it is necessary.
Cash Flow and Creditworthiness:

In chapter 6 we discussed the Cash flow and creditworthiness of the companies. Cash flow analysis consists of three activities, operating, investing and financing. From the analysis of cash flow from operating activity it is observed that all the companies selected in this study have positive value. This may be the result of shorter cash conversion cycle which might help the companies to collect money from debtors quickly and clear the stock quickly and it also help the companies to increase the payment deferral period. From other point of view we can say that the need of working capital is less of these companies. It is also the sign of efficient cash management system. The analysis of cash flow from investing activity shows that except HUL, all the companies selected in this study have negative value in regards with average cash flow from investing activity. It signifies that all the companies in this study engaged their funds in assets or income generating assets. From the point of view of cash as % of total assets, same conclusion can be drawn. Large investment probably decreases the cash holding of these companies. From the analysis of cash flow from financing activity it is realized that most of the companies selected in this study have negative average cash flow from financing activity. It implies that these companies probably paid their Long-term outsiders’ liability (Debentures, Pref. Share Capital, and Long-term Loan etc.) frequently throughout the study period.

From the correlation analysis it is seen that average cash conversion cycles of most of the companies are positively related with average net cash flow from operating activity. It implies that lower cash conversion cycle help the companies to increase their collection from debtors and stock realized and also increases the period of credit payment. On the other hand, the average cash holding of most of the companies in this study are negatively related with the average net cash flow from investing activity. It signifies that large portion of the companies selected in this study invested their unused funds to some income generating assets.

It probably increases the profitability of these companies. Again the average cash holding of most of the companies are negatively related with the average net cash flow from financing activity. It implies the negative relationship between these two variables. It follows the principle. It also signifies that excess cash has been utilized for payment of long-term loan, redemption of debentures, pref. share capital, payment of interest, dividend etc.
Analysis of credit from financial statement is a complex process. It helps in any credit decision. Absolute data presented in the financial statement provides the credit manager in valuable information that can be helpfully combined with the information derived from other sources. Use of financial statement for the purpose of credit extension is not a recent phenomenon. To develop a credit evaluation model from the financial statement of the selected companies, we use 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.

The cumulative profitability condition is good in Asian Electronic Ltd whereas regarding current profitability condition, Wipro is the best in IT sector. On the other hand from the point of view of debt paying capacity Asian Electronic Ltd is the best. The score revealed that under IT sector highest credit score obtained by Wipro. In Consumer Durable sector, from the current profitability point of view, Hawkins is the best whereas from cumulative profitability’s view point Havells is the best. On the other hand, in respect of debt paying capacity, Khaitan is the best. The score shows that under consumer durables sector the highest credit scores obtained by Khaitan. Under Pharmaceuticals sector, the current profitability condition is the best in Cipla whereas in respect of cumulative profitability Dr. Reddys’ Laboratories is the best.

On the other hand, in respect of debt paying capacity Alchemist is the best. The highest credit score obtained by Alchemist. In FMCG sector, from current profitability point of view HUL is the best, whereas in respect cumulative profitability Nestle is the best. On the other hand, in respect of debt paying capacity Britannia is the best. In FMCG sector highest credit score obtained by Britannia. In Retail sector, 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 Fabric. From overall point of view ratio \( x_4 \) is highest in Asian Electronics Ltd. whereas ratio \( x_6 \) is highest in Alchemist Ltd. in IT sector.
The liquidity ratio of Asian Electronics Ltd. and Videocon Ltd. is good due to the reason that in these companies current liabilities consist less proportion of current assets and also cash occupied very nominal portion. In Consumer Durable sector, the liquidity ratio of Voltas is the minimum. It is because in Voltas Ltd. current liabilities consists higher portion of current assets and lower portion of cash. In other companies of Consumer Durables sector where liquidity ratio is sound but higher portion of current liabilities on current assets is compensated by moderate cash balance. Under Pharmaceutical sector, the reason behind the negative liquidity ratio of Alchemist is due to higher portion of current liabilities, consist of current assets.

On the other hand, other companies in Pharmaceuticals sector under study revealed very high liquidity ratio. It is also the reason of lower portion of current liabilities consist of current assets and moderate portion of cash in current assets. In FMCG sector most of the companies the liquidity ratio is negative. The reason behind such negative liquidity ratio is that such companies’ current liabilities occupied higher portion in current assets and also these companies holding moderate cash balance. In Retail sector, due to lower portion of current liabilities consist in current assets and low cash balance in current assets help to increase the liquidity ratio of Siyaram Ltd. In general, all the companies under study in retail sector maintained moderate portion of current liabilities in current assets.

In this study multiple correlations among Cash as a % of CA, CL as a % of CA and NWC/Credit Exposure has been done. Most of the correlations of the companies conforms the theoretical inference. In IT sector, the correlation coefficient between current liabilities as a percent of current assets and liquidity ratio ($x_4$) signified very high negative relations and it is statistically significant at 1% level. It follows the theoretical proposition that higher the portion of current liabilities consist of current assets lower the liquidity position of the concern and vice-versa. Among the companies of Consumer Durable Sector, the correlation coefficient between current liabilities as a percent of current assets and liquidity ($x_4$) revealed a high degree of negative correlation, which is also statistically insignificant. It also supported the theoretical principle that higher the current liabilities as a percent of current assets lower the liquidity. In Pharmaceutical sector, the correlation coefficient between current liabilities as a percent of current assets and liquidity ($x_4$) showed a high degree of negative correlation and it is statistically significant at 1% level. It also proved the theoretical principle that higher the current liabilities as a percent of current assets lower the liquidity.
In FMCG sector, the correlation coefficient between current liabilities as percent of current assets and liquidity is negative and statistically insignificant. It strengthens the theoretical proposition that higher the current assets lower the liquidity ratio. In Retail sector, 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. All the companies under study followed the same theoretical principle that higher the current liabilities as a percent of current assets lower the liquidity ratio.

Taking all the companies together, the correlation coefficient between cash as a percent of current assets and current liabilities as percent of current assets is positive and which is statistically significant at 5% level. It proves that cash as percent of current assets and current liabilities as percent of current assets has a positive relationship. It also revealed that holding moderate cash balance does not affect the current liabilities of the companies under study.

Credit worthiness indicates the positive and negative acceptance of granting credit to the applicant. Generally, Creditors companies are very much interested to know the liquidity position of the applicant and also the short term debt paying capability of the company. Therefore, risk description model is developed in such a way that profitability, capital adequacy, liquidity are taken together with credit exposure from different stands point.

Credit score signifies the credit worthiness of the company. Higher CS signifies better credit worthiness and vice-versa. Higher credit worthiness 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 cash are not blocked in other types of current assets, it can invest in some profitable project to enhance profit. Hence good credit worthiness indirectly increases the profitability of the organization. From another point of view credit worthiness helps the company for achieving higher debtors’ turnover. As the credit manager takes the decision of granting credit before the commencement of sales then it helps the organization to take decision regarding its future investment projects.
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It helps the management to know 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.

From the analysis of credit score of all the companies selected under study shows that higher credit worthiness gives the opportunity to the companies for late payment and late payment increases the payable deferral period. It again decreases the cash conversion cycle. Lower CCC represents less requirement of working capital.

From Figure-13 it has been observed that the credit score of Philips, Wipro and CMC Ltd. is comparatively higher than their average Cash Conversion Cycle. On the other hand, Average Cash Conversion Cycle of Asian Electronics Ltd. and Videocon are higher than credit score. It implies that higher creditworthiness of Philips, Wipro and CMC Ltd. minimizes cash conversion cycle i.e. the need of working capital and also holding less cash.

In Consumer Durable sector, Figure-14 shows that only in case of Khaitan the credit score is higher than its cash conversion cycle. Contrary, in case of other companies, the CCC is higher than their CS. Therefore, higher credit worthiness of Khaitan reduces the CCC and also cash holding. But, due to lower creditworthiness most of the companies in Consumer Durable sector hold more cash and the CCCs are larger.

From Figure-15 it is seen that the credit score of Alchemist, Dr. Reddy’s laboratory is higher than their CCC. In other cases the picture is quite opposite. It signifies that in these two companies due to higher credit worthiness not to hold large cash balances and their CCC is comparatively shorter. The other Pharmaceuticals companies selected in this study like Cipla, Lupin and Ranbaxy engaged more working capital as they are not opted the opportunity of credit worthiness.

In FMCG sector, figure-16 shows that Britannia, Dabur, Marico and HUL also registered higher credit score as compared their cash conversion cycle. In case of Nestle the picture is totally different. It also signifies that credit worthiness have given the opportunity to the companies to hold less cash and also minimises their CCC.
From Figure-17, it has been observed that only in case of Gini Fabrics credit score is higher than its cash conversion cycle. In case of other companies selected under Retail sector cash conversion cycle is higher than their cash holding. It also portrays that higher creditworthiness suppress the CCC and cash holding of the companies and vice-versa.

It is also seen from our study that the companies with higher credit score hold less cash and the unused fund might invested in profitable projects which increases their profitability. Companies like Gini Fabrics, Alchimist, Dr. Reddys’ laboratory, Wipro, Khaitan, Videocon, Britannia, Lupin, Marico, Dabur, CMC Ltd., Philips, Bata etc. follows it whereas in case of HUL, Nestle, Asian Electronics Ltd. the picture is to some extent different.

Sometimes it is observed that the companies holding fewer amounts of cash or the working capital of the organization are negative. If it is happened in ten or fifteen years ago then it is a matter of great concern. But, at present it is not alarming situation. It is often observed that companies engaged their liquid funds in Derivative markets or Stock markets. Such invested funds can be easily converted into cash as and when it is required. But, in our study we are not considered it due to lack of time and information. Future studies can also be developed on the basis of such information in Cash Management.
Figure- 19
Comparative Analysis of CCC, Cash Holding and CS in IT sector

Figure- 20
Comparative Analysis of CCC, Cash Holding and CS in Consumer Durable Sector

Figure- 21
Comparative Analysis of CCC, Cash Holding and CS in Pharmaceuticals sector
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Figure- 22
Comparative Analysis of CCC, Cash Holding and CS in FMCG sector

Figure- 23
Comparative Analysis of CCC, Cash Holding and CS in Retail sector