CHAPTER 3

REVIEW OF LITERATURE

3.1 Studies on Working Capital Management in India and Abroad

3.2 Studies on components of Working Capital in India and Abroad
Working capital management is the key area of financial management and plays an important role in any industry. A number of researchers have conducted research on the subject and its various components. This Chapter is an overview of the research that has been carried out on the subject. Some of the most relevant articles have been reviewed here as a part of my research work.

As the title of the thesis broadly deals with working capital management of the selected pharmaceutical units of Gujarat, the need arises to carry out literature review under two major headings:

3.1 Working Capital Management
3.2 Components of Working Capital

3.1 Working Capital Management

It deals with all the aspects of working capital of which in depth study has been carried out as discussed below.

1. Bhatt V. V. (1972) widely touches upon a method of appraising working capital finance applications of large manufacturing concerns. It states that similar methods need to be devised for other sectors such as agriculture, trade etc. The author is of the view that banks while providing short-term finance, concentrate their attention on adequacy of security and repayment capacity. On being satisfied with these two criteria they do not generally carry out any detail appraisal of the working of the concerns.

2. Smith Keith V. (1973) believes that Research which concerns shorter range or working capital decision making would appear to have been less productive. The inability of financial managers to plan and control properly the current assets and current liabilities of their respective firms has been the probable cause of business failure in recent years. Current assets collectively represent the single largest investment for many firms, while current liabilities account for a major part of total financing in many instances. This paper covers eight distinct approaches to working capital management. The first three - aggregate guidelines, constraints set and cost balancing are partial models; two other approaches - probability models and portfolio theory, emphasize future
uncertainty and dependencies while the remaining three approaches - mathematical programming, multiple goals and financial simulation have a wider systematic focus.

3. Chakraborthy S. K. (1974) tries to distinguish cash working capital v/s balance sheet working capital. The analysis is based on the following dimensions:
   a) Working capital in common parlance
   b) Operating cycle concept
   Computation of operating cycle period in all the four cases. The purpose of the analysis is to demonstrate operating cycle concepts based on published annual reports of the firms.

4. Natarajan Sundar (1980) is of the opinion that working capital is important at both, the national and the corporate level. Control on working capital at the national level is exercised primarily through credit controls. The Tandon Study Group has provided a comprehensive operational framework for the same. In operational terms, efficient working capital consists of determining the optimum level of working capital, financing it imaginatively and exercising control over it. He concludes that at the corporate level investment in working capital is as important as investment in fixed assets. And especially for a company which is not growing, survival will be possible only so long as it can match increase in operational cost with improved operational efficiency, one of the most important aspects of which is management of working capital.

5. Kaveri V. S. (1985) has based his writing on the RBI’s studies on finances of large public limited companies. This review of working capital finance refers to two points of time i.e., the accounting years ending in 1979 and 1983 and is based on the data as given in the Reserve Bank of India on studies of these companies for the respective dates. He observes that the Indian industry has by and large failed to change its pattern of working capital financing in keeping with the norms suggested by the Chore Committee. While the position of working capital management showed some investment between 1975-79 and 1979-83, industries have not succeeded in widening the base of long-term funds to the desired extent. The author concludes with the observation that despite giving sufficient time to the industries to readjust the capital structure so as to shift from the first method to the second method, progress achieved towards this end fell short of what was desired under the second method of working capital finance.
6. Bhattacharyya Hrishikes (1987) tries to develop a comprehensive theory and tool of working capital management from the system’s point of view. According to this study, capital is often used to refer to capital goods consisting of a great variety of things, namely, machines of various kinds, plants, houses, tools, raw materials and goods-in-process. A finance manager of a firm looks for these things on the assets side of the balance sheet. For capital he turns his attention to the other side of the balance sheet and never commits a mistake. His purpose is to balance the two sides in such a way that net worth of the firm increases without increasing the riskiness of the business. This balancing is financing, i.e., financing the assets of the firm by generating streams of liabilities continuously to match with the dynamism of the former. The study is an improvement of the concept of Park and Gladson who were not able to capture the entire technofinancial operating structure of a firm.

7. Rao K.V. and Rao Chinta (1991) observe the strong and weak points of conventional techniques of working capital analysis. The result has been obviously mixed while some of the conventional techniques which could comprehend the working capital behavior well; others failed in doing the job properly. The authors have attempted to evaluate the efficiency of working capital management with the help of conventional techniques i.e., ratio analysis. The article concludes prodding future scholars to search for a comprehensive and decisive yardstick in evaluating the working capital efficiency.

8. Hamlin Alan P. and Heathfield David F. (1991) opine that working capital is necessary input to the production process and yet is ignored in most economic models of production. The implications of modeling the time dimension of production, and hence, the working capital requirements of firms are explored, with the particular stress placed on the competitive advantage gained by firms that retained flexibility in the time structure of their production. In this article they have attempted to explore only this most basic role of time in the production process and so focus is on the implications of explicitly recognizing the need for working capital.

9. Zaman M. (1991) studies the working capital management practices of Public Sector Jute Enterprises in Bangladesh which have been found to be seriously affected. This has been attributed to several factors like low demand for jute goods and serious competition in the international market, insufficient inventory
management policy, poor collection policy and inefficient cash policy. The author has formulated a long term flexible and operational working capital management model. In conclusion he has suggested the model which would certainly help improve the working capital management practices of the jute industry in particular and other public enterprises as well in Bangladesh.

10. Fazzari Steven M. and Petersen Bruce C. (1993) throws light on new tests for finance constraints on investment by emphasising the often neglected role of working capital as both a use and a source of funds. The authors believe that working capital is also a source of liquidity that should be used to smooth fixed investment relative to cash-flow shocks if firms face finance constraints. They have found that working capital investment is “excessively sensitive” to cash-flow fluctuations. Besides, when working capital investment is included in a fixed-investment regression as a use or source of funds, it has a negative coefficient. They conclude that controlling for the smoothing role of working capital results in a much larger estimate of the long-run impact of finance constraints than reported in other studies.

11. Hossain Saiyed Zabid and Akon Md. Habibur Rahman (1997) emphasise the basic objective of working capital management i.e., to arrange the needed working capital funds at the right time, at right cost and from right source with a view to achieving a trade-off between liquidity and profitability. The analysis reveals that BTMC had followed an aggressive working capital financing policy taking the risk of liquidity. There was uninterrupted increasing trend in negative net working capital throughout the period of the study which suggested that BTMC had exploited the entire short-term sources available to it without considering the actual needs.

12. Ahmed Habib (1998) points out that when the interest rate is included; money loses its predictive power on output. The study explicates this finding by using a rational expectations model where production decisions of firm required debt finance working capital. Working capital is an important factor and its cost, the rate of interest, affects the supply of goods by firms. Monetary policy shocks, thus, affect the interest rate and the supply side, and as a result price and output produced by firms. The model indicates that this can cause the predictive power of monetary shocks on output to diminish when the interest rate is used in
empirical analysis. The model also alludes to the effects of monetary policy on the price level through the supply side (cost push) factors.

13. Prof. Mallick Amit and Sur Debasish (1998) attempt to make an empirical study of AFT Industries Ltd, a tea producing company in Assam for assessing the impact of working capital on its profitability during the period 1986-87 to 1995-96. The author has explored the co-relation between ROI and several ratios relating to working capital management. On the whole, this study of the co-relation between the selected ratios in the area of working capital management and profitability of the company revealed both negative and positive effects. Moreover, the WCL of the company recorded a fluctuating trend during the period under study.

14. Hossain, Syed Zabid (1999) throws light on the various aspects of working capital position. He has evaluated working capital and its components through the use of ratio analysis. For each aspect of analysis certain ratios are computed and then results are compared with the standard ratio or industry average.

15. Singaravel, P. (1999) focuses on the interdependency among working capital, liquidity and profitability, of which sufficiency of liquidity comes in the first preference followed by sufficiency of working capital and profitability. The article is an in-depth analysis of liquidity and its interrelationship with working capital and profitability. As the working capital, liquidity and profitability are in triangular position, none is dispensable at the satisfaction of the other. Excess of stock-in-trade over bank over-draft and excess of liquid assets over current liabilities other than bank over-draft generate working capital for the business. Alternatively working capital requirements are made for long-term funds which affect the profitability.

16. Garg Pawan Kumar (1999) focuses on the study of working capital trend and liquidity analysis in the selected public sector enterprises of Haryana. The study suggests forecasting of working capital requirement confined mainly to various components of working capital. After considering the facts the author realized the need for proper assessment and forecasting of working capital in the public sector undertaking. For this purpose, he has suggested the analysis of production schedule, sales trend, labour cost etc., should be taken into consideration. He further suggested the need for better management of components of working capital.
17. Batra G. S. and Sharma A. K. (1999) analyze the working capital position of Goetze (I) Ltd. with the help of various ratios. They are of the view that the working capital position in the company is quite satisfactory although they have suggested a few measures for further improvement in management of working capital, like necessity of greater attention in the inventory control; active sales department, speedy dispatch of orders and reduction of dependency on trade creditors.

18. Batra Gurdeep Singh (1999) gives an overview of working capital and its determinants. According to the author working capital management involves deciding upon the amount and composition of current assets and how to finance them. He emphasizes on the hedging approach to finance current assets. He also adds that a management can use ratio analysis of working capital as a means of checking upon the efficiency with which working capital is being used in the enterprises.

19. Bansal S. P. (1999) observes that due to the conservative policy of the corporation i ) Short-term creditors position regarding their claim is threatened due to lack of funds, ii ) The company was not following uniform policy regarding the collection of debtors, and iii ) Inefficiency on the part of the management causes over investment in inventories. As a result a serious situation arose due to shortage of working capital. The author warns the corporation that if it did not plan its cash needs properly, it would be lead to bankruptcy.

20. Bansal S. P. (1999) opines that working capital management refers to the management of current assets and current liabilities for maintaining the optimum levels of various components and increasing the profitability of an enterprise. The author has insisted on application of various techniques for management of working capital and its three main components cash, receivables and inventories.

21. Pathania Kulwant Singh (1999) advocates for the bank to concentrate to maximize profitability and make optimum utilization of cash resources available, while at the same time taking care to economize cash holding without impairing the overall liquidity requirements of the bank. For strengthening the financial base of the bank, permanent working capital should be financed by equity capital or other long-term sources, whereas temporary working capital
should generally be financed by short-term sources. The author is satisfied with the working capital management of the bank, but sees scope for further improvement.

22. Chalam G. V. and Manohar Babu B. V. (1999) observe that liquidity performance is very low as compared to the ideal norms. It is suggested that for managing working capital effectively the operating and other required budgets should be prepared by the respective levels of the management on short-term as well as long-term basis. It is further suggested that these are the people concerned who can really influence the process of production activity to such an extent that there should be optimum utilization of the investment in working capital.

23. Rao Govinda D. (1999) believes that changes in quantum of working capital are ascertained and analyzed. The author has attempted to find out the causes of the changes in the size of working capital in the sample companies during the period under study. He found several causes of changes in working capital, mainly (a) sources of funds and (b) applications of funds. In the end, the changes in working capital are analyzed with the help of the changes in working capital and funds flow statement.

24. Garg Pawan Kumar (1999) suggests that working capital should be financed with both the sources – long-term as well as short-term sources of funds. He further suggests that permanent working capital should be obtained with the help of long-term sources of finance while variable/ fluctuating working capital should be collected through short-term sources of finance. Efficient utilization of working capital enhances operating efficiency as well as income of the units.

25. Singh O. N. (1999) discusses the credit needs of farmers / agriculture sector and then emphasizes on the need for having a system of working capital finance in agriculture on the lines of the industry and commerce finance, of course with some changes. He advocates a system which is equally equipped and appropriate to meet the needs of both the farmers as well as the bankers. His basic purpose is to strengthen the capital base of the farmers.

26. Rao Govinda D. and Rao P. M. (1999) believes that management of working capital is a continuous process requiring proper monitoring and studying of the relationship of all variables with constant, and drawing inferences. This provides proper direction to the managers.
27. Jain P. K. and Yadav Surendra S. (2001) study the corporate practices related to management of working capital in India, Singapore and Thailand. In this paper the authors have tried to understand the working capital management and current assets and current liabilities, and their inter-relationship. Further the authors have shown an aggregative analysis of current assets and current liabilities in terms of major liquidity ratios. It also states working capital position in terms of these ratios pertaining to various industries. From the paper one can infer that the available data in respect of the sample companies from the three countries confirm the wide inter-industry variations in liquidity ratios. Towards the end, the authors suggest that serious consideration needs to be given by the respective governments as well as industry groups in these three countries in order to take corrective measures to take care of and rectify the areas of concern.

28. Deloof Marc. (2003) presents a picture of how working capital management affects the profitability of Belgium firms. The writer has made use of empirical analysis for the sample firms. It was observed that most of the firms have a large amount of cash invested in working capital. It can, therefore, be deduced that the way in which working capital is managed will have a significant impact on the profitability of the firms.

29. Howorth Carole and Westhead Paul (2003) have tried to find out the working capital management routines of a large random sample of small companies in the UK. Considerable variability in the take-up of eleven working capital management routines was detected. Principal components analysis and cluster analysis confirmed the identification of four distinct “types” of companies with regard to the patents of working capital management. While the first three ‘types’ of companies focused upon cash management, stock or debtors routines respectively, the fourth ‘type’ was less likely to take-up any working capital management routines. The objective of the study is to encourage additional research rather than to provide an exhaustive overview of all the factors associated with the take-up of working capital management routines by small companies. The results suggest that small companies focus only on areas of working capital management where they expect to improve marginal returns.

The study has the following major objectives:

1. To find the trend and tendency of working capital
2. To analyse and evaluate working capital management
3. To suggest an effective way for management of working capital.

The study attributes the losses or low level of profits of the public enterprises in Nepal to ineffective and inefficient utilization of working capital. The failure of an enterprise is due to shortage of working capital.

31. Filbeck Greg and Krueger Thomas M. (2005) base their study on the ratings of working capital management published in CFO magazines. The findings of the study provides insight into working capital performance and working capital management, which is explained by macro economic factors, interest rates, competition, etc., and their impact on working capital management. The article further studies the impact of working capital management on stock prices.

32. Meszek Wieslaw and Polewski Marcin (2006) examine the profiles of selected construction companies from the viewpoint of working capital formation and their management strategies applied to working capital. The analysis is based on the financial ratios. The authors conclude with the observation that complex working capital management requires controlling methodology to be developed. A specific character of the construction industry, including operational factors and market requirements make working capital management a task exceeding the financial sphere, as it embraces the issues of organization of investment processes, the organization of production processes and logistics.

33. Chowdhury Anup and Amin Md. Muntasir (2007) examine the working capital management practice in pharmaceutical companies listed in Dhaka Stock Exchange. Among all the problems of financial management, the problems of working capital management have been recognized as the most crucial one. It is because of the fact that working capital always helps a business concern to gain vitality and life strength.

The objective of the study is to critically evaluate the working capital management practices in the selected firms of the pharmaceutical industry. To achieve this goal, the study also examines the policies and practices of cash management and evaluates the principles, procedures and techniques of inventory management, receivables management and payable management. From the analysis, the authors conclude that the pharmaceutical firms operated
in Bangladesh efficiently deal with their liquidity preferences and investment criteria. And this is due to the competitive nature of this industry.

34. Jain P. K. and Yadav Surendra S. (2007) study the different facets of working capital management. The issues addressed include relationship between CAs and CLs, the financing of working capital, and ways of dealing with excess or shortage of working capital. The study is based on an analysis of a thirteen year period data from 1991 to 2003 covering 137 public sector enterprises. In a nutshell, it is reasonable to contend that the sample PSEs (Public Sector Enterprises) are faced with long duration of net working capital cycle (time necessary to complete the following three events:

1. Conversion of cash into inventory
2. Conversion of inventory into debtors and
3. Conversion of debtors into cash less credit available from creditors) necessitating substantial working capital to be carried by them, eventually affecting their profitability in adverse manner.

35. Thappa Sankar (2007) focuses on the importance of proper working capital management of Sun Pharmaceutical Company. The paper throws light on the concepts of working capital, working capital policy, components of working capital and factors affecting working capital in the Sun Pharma Industries Ltd during the last five years, and identifies certain factors which are responsible for the improvement of working capital of the company. The article concludes with a warning to the Company that if satisfactory level of working capital is not maintained, the company would become bankrupt.

36. Ganesan Vedavinayagam (2007) studies the impact of working capital management on profitability through ANOVA test where the financial statements of 349 telecom units or enterprises are analyzed. The relationship between working capital management efficiency and profitability and the impact of working capital management on the same has been tested. At the end of the study the author has minutely observed that the working capital management efficiency in telecommunication industry is poor. And he suggests that the telecommunication industry should improve working capital management efficiency.

37. Appuhami Ranjith B. A. (2008) investigates the impact of firms’ capital expenditure on their working capital management. The data used in this article
was collected from listed companies in the Thailand Stock Exchange. In this work the writer has used Shulman and Cox’s (1985) net liquidity balance and working capital requirement as a proxy for working capital measurement and developed multiple regression models. At the end it is derived that the firms’ capital expenditure has a significant impact on working capital management, and that the firms operating cash flow which was recognized as a control variable, has a significant relationship with working capital management.

38. Samiloglu F. and Demirgunes K. (2008) intend to analyse the effect of working capital management on firm’s profitability. To consider statistically significant relationship between the firm’s profitability and the components of cash conversion cycle at length, a sample consisting of Istanbul Stock Exchange (ISE) listed manufacturing firms for the period from 1989 to 2007 has been analysed under a multiple regression model. Empirical findings of the study show that accounts receivable period, inventory period and leverage affect firm’s profitability negatively, while growth (in sales) affects firm’s profitability positively.

39. Virani Varsha (2008) has conducted a comparative analysis of CADILA healthcare with the following objectives:
   1. To evaluate the financial performance
   2. To examine the profitability trend
   3. To ascertain the assets utilization pattern and evaluate liquidity position of the company.

The author has used two sophisticated analytical tools for the analysis i.e. ratio analysis and correlation analysis. The correlation between various ratios is depicted in the study. It is observed that in most of the cases, correlation coefficient is near to 1. Hence, it can be said that there is a high degree of positive and negative correlation between most of the ratios.

40. Ramudu Janaki P. and Rao Durga S. (2008) attempt to analyze both concept and research based studies. Working capital may be regarded as the lifeblood of any business unit. Its effective management can do much more to the success of the business while its ineffective management will undoubtedly lead to failure of the business. It is in this context that the management of working capital assumes paramount importance. In the present scenario of competition, the business does not have any other option than reducing the cost of its operations in order to
survive and continue to be financially healthy. It is in this connection effective management of working capital forms an absolute part of cost reduction. As it is quite vivid and evident in many researches in any manufacturing unit, barring knowledge industry, the proportion of raw material in total cost of the product will be the highest and hence, if the organization wants to minimize the cost of production it has to tackle the cost of raw material first. So the authors have tried to analyze both the concept and research based studies on working capital management in a business unit.

41. Dinesh M. (2008) explicates the concepts of working capital, the different challenges being faced by the business firms in managing working capital and the strategies to be adopted for its prudent management. The author concludes with the view that most of the businesses failed not for want of profit but for lack of cash. The fast growth in production and sales may cause the business to utilize all of the financial resources seeking growth and making assets such as inventories, accounts receivable and other assets as more illiquid.

42. Narender Vunyale, Menon Shrijit and Shwetha V. (2008) examine the determinants of working capital management in cement industry in India. In this article, net liquid balance and working capital requirements were used by the authors as measures of investing working capital management of the industry. The factors like size, business indicator, firm performance, growth of the firm, debt-equity ratio and operating cash flow are taken into consideration. Overall, the paper concludes with the observation that only size of firm affects both net liquid balance and working capital ratio in a company’s working capital management. The results suggest that there is a lack of consistent evidence of the factors influencing working capital management in the cement industry.

43. Dr.Khatik S. K. and Jain Rashmi (2009) state that the management of working capital is one of the most important and key resources of an organization for its day-to-day operations. Working capital can be taken as funding resources for routine activities of business. It is the most vital and important part of fund management and profitability for business. The writer has analyzed the working capital position of MPSEB (Madhya Pradesh State Electricity Board) by ratio analysis technique and it was found that the position of current ratio, quick ratio, acid-test ratio, working capital ratio, inventory turnover ratio are not up to the standard benchmark.
44. Sen Mehmet and Oruc Eda (2009) want to determine the relationship between efficiency level of firms being traded in Istanbul Stock Exchange (ISE) in working capital management and their return on total assets. In this article they have made an attempt to explain the relationship between different indicators relating to efficiency in working capital management and their return on total assets through two models.

The study concludes with the observation that according to the results in terms of both, all the firms involved in the study and sectors, there is a significant negative relationship between cash conversion cycle, net working capital level, current ratio, accounts receivable period, inventory period and returns on total assets.

45. Ramachandran Azhagaiah and Janakiraman Muralidharan (2009) have attempted to analyze the relationship between working capital management efficiency (WCME) and earnings before interest and taxes (EBIT) of the paper industry in India during 1997-98 to 2005-06. To measure the working capital management efficiency three index values i.e., performance index, utilization index and efficiency index, and EBIT have been used for all the firms over the period of the study. At the end of the study it was noted that Indian paper firms performed remarkably well during the period. Industry overall efficiency index was >1 in 3 out of 9 years for the study period. Though some of the sample units had successfully improved efficiency during the three years, the existence of a very high degree of inconsistency in this matter clearly points out the need for adopting sound WCM (working capital management) policy in these firms.

46. Baig Viqar Ali (2009) aims at reporting comparative findings of a survey of working capital management practices of selected agribusiness firms from diary co-operatives, private and MNC diary firms as a part of the research thesis completed in July 2008. Besides, an attempt has been made to know the effect of the ownership, government regulations, managerial empowerment and cultural factor on the working capital decision making.

47. Uyar Ali (2009) examines the relationship of cash conversion cycle with firm size and profitability of the corporations listed in the Istanbul Stock Exchange (ISE) for the year 2007. The following are the objectives of the study:

1. To set industry benchmarks for cash conversion cycle (CCC) of merchandising and manufacturing companies,
2. To examine the relationship between the length of the CCC and the size of the firms, and
3. To study the length of the CCC and profitability.
4. It was observed that the retail/wholesale industry showed shorter CCC than the manufacturing industries.

Another important finding of the study was that the textile industry had the longest CCC, which explains the liquidity problems in the industry. Moreover, the findings indicated a significant negative correlation between the length of CCC and the firm size, in terms of both net sales and total assets. Lastly, the significant negative correlation between the length of CCC and profitability is another important finding of the study.

48. Bhunia Amalendu (2010) shows how Indian Pharmaceutical Industry has played a key role in promoting and sustaining development in the vital field of medicines. Financial analysis often assesses a firm’s production and productivity performance, profitability performance, liquidity performance, working capital performance, fixed assets performance, fund flow performance and social performance. The study concludes with the observation that the financial performance of the selected pharmaceuticals’ liquidity position was strong in case of KAPL and RDPL, thereby reflecting the ability of companies to pay short term obligations on due dates. Long-term solvency in case of KAPL and RDPL in all the years shows that companies relied more on external funds in terms of long-term borrowings, thereby providing a lower degree of protection to the creditors. Debtors turnover ratio of RDPL needs to be improved as the solvency of the firm depends upon the sales income generated from the use of various assets.

49. Singh Swaran and Dr Bansal S. K. (2010) has carried out a study of the structure of working capital, the management of inventory, accounts receivable, accounts payable and cash. The authors have used the data from the published annual reports of IFFCO and KRIBHCO starting from the year 1999-00 to 2006-07. The main objective of the present study is to examine and evaluate the working capital management in IFFCO and KRIBHCO. The analysis has been done with the help of various ratios to derive conclusions. It may be concluded that as far as management of working capital is concerned, IFFCO was performing better than KRIBHCO.
50. Arunkumar O. N. and Jayakumar S. (2010) explain how working capital is considered to be the lifeblood and controlling nerve centre of the business. Profitability and solvency are two vital aspects of working capital management. The survival and growth of the company depends upon the ability to meet profitability and solvency. Here the authors have concentrated on the analysis of liquidity and solvency position of the major Public Sector Electrical Industries in Kerala such as Kerala Electrical and Allied Engineering Company Ltd (KEL) and Transformers and Electrical Kerala Ltd (TELK) for the financial years 1997-98 to 2007-08 and 1997-98 to 2005-06 respectively. In conclusion the authors have made a few important observations with regard to the companies. Both the companies show a trend of very low level of solvency position. The liquidity position of the companies is below the normal value. KEL has a lower level of net profit compared to TELK for the stated period. In comparison with KEL, the sensitivity of changes in the level of current assets is high in case of TELK.

51. Gill Amarjit, Biger Nahum and Mathur Neil (2010) examine the relationship between working capital management and profitability. For the study, 88 American firms listed on New York Stock Exchange for a period of three years from 2005 to 2007 were selected as a sample. They found statistically significant relationship between the cash conversion cycle and profitability, measured through gross operating profits. It also showed that managers could create profits for their companies by handling correctly the cash conversion cycle and by keeping accounts receivable at an optimal level. The study concludes with the observation that profitability can be enhanced if firms manage their working capital in a more efficient way.

52. Mohamad Nor Edi Azhar Binti and Saad Noriza Binti Mohd, (2010) attempt to bridge the gap in the related literature by offering empirical evidence about working capital management and its effects on the performance of Malaysian listed companies from the perspective of market valuation and profitability. The objective of the study is to examine the effects of working capital components. The authors have made an in depth empirical research on the association between working capital management and the firm’s performance. On the basis of the findings, it can be concluded that working capital components and performance in Malaysia disclose both positive and negative association. The
study reveals that out of the five components selected for the study, CATAR shows positive significant relationships with Tobin Q, ROA and ROIC. On the other hand, three components CCC, CACLR and CLTAR illustrate negative significant relations with Tobin Q, ROA and ROIC. DR is negatively significant with ROA only but significant with ROIC, while positively significant with Tobin Q.

53. Rosenbluth Frances (2010) makes a close study of the role that networks can play in boosting women's representation in the personal, professional and political arenas. It has been found that women lag behind men in their access to professional networks. At the end of the study the author concludes with the observation that gender equality will remain out of reach until women and men have a statistically equal shot at being productive, which at the top of the career ladder invariably includes the difficult-to-quantify but real value of network power.

54. Rahman Mohammad M. (2011) focuses on the co-relation between working capital and profitability. An effective working capital management has a positive impact on profitability of firms. From the study it is seen that in the textile industry profitability and working capital management position are found to be up to the mark.

55. Haq Ikram Ul, Sohail Muhammad, Zaman Khalid and Alam Zaheer, (2011) examine the relationship between working capital management and profitability by using data of 14 companies in the Cement Industry in the Khyber Pakhtonkhuwa Province (KPK) (2004-09). The main purpose of the study was to find out whether financial ratios affect the performance of the firms in the special context of the cement industry in Pakistan. For the purpose of analyzing the data, the techniques of co-relation, co-efficient and multiple regression analysis were used. We can deduce from the result that there is a moderate relationship between working capital management and the firm’s profitability.

56. Dr Arbab Ahmed and Dr Matarneh Bashar (2011) are of the view that the registration technique is a very useful statistical technique of working capital forecasting. In the sphere of working capital management, it helps in making projection after establishing the average relationship in the past between sales
and working capital, and its various components. The analysis can be done with the help of graphic portrayals or mathematical formula.

57. Sunday Kehinde James (2011) focuses on effective working capital management within small and medium scale enterprises (SMEs). Most of the SMEs have little regard for their working capital position and they don’t even have standard credit policy. They have very weak financial position, and rely on credit facility to finance their operations. This credit facility is available from accounts payable most of the time. In conclusion the authors recommend that for SMEs to survive within the Nigeria economy they must design a standard credit policy and ensure good financial report and control system. Besides, they must give adequate cognizance to the management of working capital. All this requires systematic planning for the management of working capital to ensure continuity, growth and solvency.

58. Ahmadi Mosa, Saie Iraj and Garajafary Maryam (2012) examine the relationship between working capital management and profitability in 33 companies of food industry group member at Tehran stock Exchange for the period from 2006 to 2011, and the effects of various variables of working capital management including average accounts collection cycle, inventory turnover, medium term debt payment and the cash conversion cycle on operational net profit of the companies. The findings of the research proved that managers can create a positive value for stock holders by decreasing collection cycle, debt payment period, inventory turnover, and cash conversion cycle to the lowest possible level.

59. Dr Kaddumi Thair A. and Dr Ramadan Imad Z. (2012) assess the effect of working capital management on the profitability in a sample of 49 Jordanian Industrial corporations listed at Amman Stock Exchange (2005 to 2009). And using two alternative measures of profitability as proxy for the performance and five proxies for the working capital management, estimation of 20 models panel data cross- sectional time series have been tested employing two regression models- the fixed effects model and the ordinary least model. The findings of the study were found to be significantly consistent with the view of the traditional working capital theory.

60. Quayyaum Sayeda Tahmina (2012) tries to investigate if there is any relationship between working capital management and profitability in
manufacturing corporations. For this study corporations enlisted with the Dhaka Stock Exchange were selected covering the period between 2005 and 2009. The purpose of the study is to examine whether there is statistically significant relationship between the profitability and working capital management and also help to explain the necessity of firms optimizing the level of working capital management efficiency and in that way management taking productive actions to maximize their profitability. It is proved that except for food industry all other selected industries have a significant level of relationship between profitability indices and various working capital components. This paper also shows that the significant level of relationship varies from industry to industry.

61. Singh D. P. (2012) presents the relationship between the working capital management and profitability in the IT and Telecom industry in India. The purpose of the study is to investigate the relation between components of working capital ratios and profitability. To attain the above objective the author theories the relationship between different components of working capital management and profitability. The study shows that the telecom industry is operating below average so far as working capital management is concerned. The profitability was 40% when compared with the all India all manufacturing average. In the IT and the Telecom industry, working capital turnover, current ratio, sales to total asset ratio were positively related to profitability. However, days inventory was negatively related to profitability.

62. Banos-Caballero Sonia, Garcia-Teruel Pedro J. and Martinez-Solano Pedro (2012) present the relationship between working capital management and profitability for Spanish small and medium size enterprises (SMEs) by controlling for unobservable heterogeneity and possible endogeneity. For the purpose of this study, standard working capital ratios were used to measure the effectiveness of working capital in the selected firms. This paper offers new evidence on the relationship between working capital management and profitability by controlling for unobservable heterogeneity and possible endogeneity and, unlike previous studies, given the competing hypotheses of effect of an increase in working capital on firm’s profitability, it analyses a possible quadratic relation between these variables. At the end it has been observed that most SMEs do not care about their working capital position, most have only little regard for their working capital position and most do not even
have standard credit policy. Many do not care about their financial position, they only run business, and they mostly focus on cash receipt and what their bank account position is.

63. Ramadu Janaki P. and Parasuraman N. R. (2012) focus on the growth and sales compared with the changes in profitability and in working capital of Indian Pharmaceutical Industries. The study revealed that the growth rate in profits was disproportional to the sales and working capital components like inventory and debtors. The study ends with the view that there was no rationale or relationship between the sales growth and other components like net working capital, inventory turnover and debtors turnover. Further, it can be deduced that growth rate in sales need not reflect the growth rate in profitability and inventory turnover, and debtors turnover also need not exercise any impact on profitability of the firms.

64. Matarneh, Bashar (2012) is about small scale industries and its important role in the Indian economy. This paper analyses the problem of working capital management of Small Scale Industries (SSI) in Rajasthan for a period of five years. As we know the small scale industries have to decide about the sources of funds which can be availed to make investment in the current assets. From the study, it has been found that the working capital management is to decide the pattern of financing of the current assets, which is one of the biggest problems of working capital management. The problem of working capital management of small scale industries is not new, it prevails all over India. The SSI units have low capital base where investment on fixed assets is found to be less. Without the help of government support and cooperation from financial institutions, it was found to be very difficult to solve the problem of working capital management of SSIs of Rajasthan in particular and of India in general.

65. Akino Olayinka Olufisayo (2012) carries out a detailed study of the determinants of working capital requirements – both internal and external of 66 firms in Nigeria. The study covers the period from 1997 to 2007. On the basis of the results it was found that sales growth, firm’s operating cycle, economic activity, size and permanent working capital are the firms’ specific characteristics that positively drive working capital policy. Leverage, however, is inversely related to working capital requirements. The results conclude that traditional valuation methods used to quantify the efficiency of corporate
working capital policy may be suspect as increased investments in operating working capital may be necessitated by increase in business uncertainties.

66. Bagchi B. and Khamrul B. (2012) investigate the relationship between working capital management and the companies’ profitability, and identify the variables that most affect profitability. It is also an empirical study where the authors have investigated the effect of working capital management on the companies’ profitability by using a sample of Indian FMCG companies. The study concludes with the observation that both CCC and debt used by the firm are negatively associated with the companies’ profitability. This result can be further strengthened if the companies manage their working capital in more efficient ways which will ultimately increase their profitability.

67. Chandra Bihas, Chouhan Vineet and Goswami Shubham Chandra Bihas, (2012), analyse the trends and profitability vis-à-vis working capital of some selected information technology organizations in India. The author concludes with the observation that the increased requirement of working capital in IT companies is significantly established. He further observes that there exists a positive relationship between working capital and profitability of all the selected companies, with the exception of Patni Computer Systems. The positive direction of relationship indicates that increase in working capital leads to increase in profitability.

68. Manjhi Rakesh Kumar and Kulkarni S. R. (2012) carry out a study of the working capital structure and liquidity analysis of Gujarat Textiles Manufacturing Industry. The following are the objectives of the study:
   1. To analyze working capital structure of Gujarat Textiles Manufacturing Industry
   2. To analyze the liquidity position of the Industry
   3. To analyze the working capital turnover position of the Industry.

It was found that the variation between current assets turnover and working capital turnover was quite high across the industry. The study concludes with the observation that Arvind Ltd. and Shri Dinesh mills Ltd. achieved lower sales over their working capital and current assets as compared to the other companies. However, the sample companies had good current ratio, which also implies their sound liquidity position.
Chandra H. and Selvaraj A. (2012) analyses the working capital management of selected Steel Companies in India for the period from 2000-01 to 2009-10. To measure the effective utilization of working capital, operating cycle and cash conversion cycle were used. Besides, to measure the determinants of cash conversion cycle, the Kieschnick model was used. The study concludes with the observation that the size of a company plays a vital role in determining the efficiency of its working capital management. The working capital ratios across the small, medium and large sized steel companies have played a vital role in determining the working capital management of the selected Indian steel companies.

Dr Panigrahi Ashok Kumar (2012) studies the relationship between working capital management and profitability of ACC Cement Company, the leading cement manufacturer of the country for assessing the impact of working capital management on profitability during the period 1999-2000 to 2009-10. The study is based on secondary data. The main objective of the study was to find whether the working capital management affects the performance of the firm. It can be deduced that there is a moderate relationship between working capital management and the firm’s profitability.

Scholleova Hana (2012) highlights the impact of economic crisis in the economy at the micro economic level. The crisis that began in 2007 as a financial crisis has naturally grown into an economic one. The article is elaborated as one of the outputs of researching project new theory of economy and organizations’ management and their adaptation processes registered at MSMT of the Czech Republic under registration number MSM 6138439905. The paper concludes with the view that the companies that survived during the recession have optimized the assets and increased the efficiency of financing through active management.

Bei Zhao and Wijewardana W. P. (2012) examine the working capital policy (WCP) practices in Srilankan context. They utilize multiple regression analysis (MRA) to empirically formulate the industries best practices limit and measure firm efficiency as the detachment from that limit. The objective of the study was to pursue additional research rather than to reveal all the factors associated with WCP in the Srilankan context. The authors believe that the resource constraint may be a major barrier to utilization of working capital MCM by firms. Firms
may invest resources into managing a particular area of working capital where they are performing badly because the returns from controlling the problem area are perceived to be high. If the direction of working capital management (WCM) is not understood, the investment of more resource into an area leads to worse performance.

73. Nakamura Palombini Nathalle Vicente and Nakamura Wilson Toshiro (2012) focus on the key factors of working capital management by exploring the internal variables of a number of companies. 2976 Brazilian Public Companies data from 2001 to 2008 were used for the study. And it was found that debt level, size in growth rate could affect the working capital management of the companies. The study aimed at contributing to the understanding of the short term financial decisions by investigating the key factors of working capital management. At the end of the study, it was found that companies with a high level of working capital were consistent with previous studies (CHIOU, CHENG and WU, 2006; NAZIR and AFZA, 2008). These findings corroborate the Pecking Order Theory and suggest that as companies increase their financial leverage, they tend to assume a more restrictive policy in working capital management in order to prevent capital consumption in accounts receivable and inventory and to avoid issuing new bonds and shares.

74. Song Zhen, Liu Duan and Chen Shou (2012) study the two aspects - turnover capacity and liquidity, and have analyzed the effects of working capital on engineering product market completion performance in the manufacture industry. The study discovers that enterprise working capital turnover ability has positive effect on product market competition performance while enterprise working capital liquidity has a negative relationship with market competition performance. But according to regression equation to predict the competition effects of working capital, exists larger error because the actual impact of working capital on competition performance may be non-linear so the authors have used B P Neural Network Model to predict the competition performance and the results show that the overall prediction effect is good.

75. Ding Sai, Guariglia Alessandra and Knight John (2012) have used a panel of over 1,16,000 Chinese firms of different ownership types over the period 2000 to 2007 to analyze the linkages between investment in fixed and working capital and financing constraints. It was observed that those firms characterized by high
working capital, display high sensitivities of investment in working capital to cash flow and low sensitivities of investment in fixed capital to cash flow. Further the authors constructed and analyzed firm level FKS and WKS measures and it was found that despite severe external financing constraints, those firms with low FKS and high WKS exhibited the highest fixed investment rates. It is thereby concluded that an active management of working capital may help firms to alleviate the effects of financing constraints on fixed investment.

76. Ray Sarbapriya (2012) studies the relationship between liquidity and profitability in the manufacturing industry. The writer has taken as a sample 311 manufacturing firms for a period of 14 years, and studied the effect of different variables of working capital management. In this study strong adverse relationship between measures of working capital management and corporate profitability have been observed. In the end insignificant negative relationship between firm size and its net operating profit ratio was detected.

77. Joshi Lalitkumar and Ghosh Sudipta (2012) study the working capital performance of Cipla Ltd during the period 2004-05 to 2008-09. Financial ratios have been applied in measuring the working capital performance, and statistical as well as econometric techniques have been used. It was observed that the selected ratios show satisfactory performance, and significant negative relationship between liquidity and profitability is found to exist.

78. Kushalappa S.and Kunder Sharmila (2012) closely study the relationship between working capital management policies and profitability of the thirteen listed manufacturing firms in Ghana. At the end of the study, a significantly negative relationship between profitability and accounts receivable days is found to exist. Profitability is significantly positively influenced by the firm’s cash conversion cycle (CCC), current assets ratio and current asset turnover. It is also suggested that managers can create value for the shareholders by creating incentives to reduce their accounts receivable to 30 days.

79. Samson Adediran A, Mary Josiah, Yemisi Bosun-Fakunle and Erekpitan Imuzeze O (2012) hope to empirically investigate the impact of working capital management on the profitability of a sample of 30 SME’s of Nigeria during 2009. In conclusion the writer points out that, managers can create value by reducing their firm’s number of day’s accounts receivable and inventories. At
the same time the firm’s profitability could also be improved by reducing the cash conversion cycle.

80. Turan M. S., Bamal Sucheta, Vashist Babita and Turan Nidhi (2013) attempt to examine the relationship between working capital management and profitability by making an inter sector comparison of two manufacturing industries i.e. Chemical industries and Pharmaceutical industries. 50 companies from each sector based on market capitalization and listed on BSE and 500 indices were selected for the research for the period from 2002 to 2011. At the end of the analysis it was concluded that in spite of similar nature of both the industries in the manufacturing sector, working capital management variables affect profitability indices more strongly in the chemical industry than in the pharmaceutical industry. It was also observed that both the industries have a significant relationship between profitability and working capital management variables. Besides, working capital management variables affect more strongly the profitability indices of chemical industry than those of pharmaceutical industry.

81. Kaur Harsh V. and Singh Sukhdev (2013) analyse empirically BSE 200 manufacturing companies spread over 19 industries for the period 2000 to 2010. The study explores scope to increase the efficiency and profitability of 145 companies by improving the parameters of analysis. The study tests the relationship between the working capital score and profitability measured by income to current assets and income to average total assets. This article concentrates on cash conversion efficiency and planning the operating cycle days. At the end, the study emphasizes that efficient management of working capital significantly affects profitability.

82. Singh Moirangthem B. and Singh Tejmani N. (2013) emphasize on the efficient management of working capital. According to them it means proper management of various components of working capital due to which adequate amount of working capital and liquidity is maintained in the larger interest of successful running of an enterprise.

At the end he offers the following suggestions:

1. The industry should try to maintain proper level of net working capital by trying to control the growth rate of current assets as compared to current liabilities to some extent
2. The industry should also try to maintain balance between liquidity and profitability position by improving current ratio and quick ratio.

83. Akoto Richard K., Vitor Dadson A. and Angmor Peter L. (2013) closely study the relationship between working capital management policies and profitability of the thirteen listed manufacturing firms in Ghana. At the end of the study, a significantly negative relationship between profitability and accounts receivable days is found to exist. Profitability is significantly positively influenced by the firm’s cash conversion cycle (CCC), current assets ratio and current asset turnover. It is also suggested that managers can create value for the shareholders by creating incentives to reduce their accounts receivable to 30 days.

84. Joseph Jisha (2014) closely examines the study of working capital management in Ashok Leyland and points out that the liquidity and profitability position of the company is not satisfactory, and needed to be strengthened in order to be able to meet its obligations in time.

85. Madhavi K. (2014) makes an empirical study of the co-relation between liquidity position and profitability of the paper mills in Andhra Pradesh. It has been observed that inefficient working capital management makes a negative impact on profitability and liquidity position of the paper mills.

86. Gurumurthy N. and Reddy Jayachandra K. (2014) have conducted a study on the working capital management of four pharmaceutical companies APSPDCL, APEPDCL, APNPDCL and APCPDCL and have come to the conclusion that the existing system of working capital management was not up to the mark and needed to be improved.

3.2 Components of Working Capital

It deals with all the major areas of working capital management, i.e. management of cash and bank, management of receivables and management of inventory which have been discussed below:

3.2.1 Cash and Bank Management

1. Ansari M. N. A. and Keyvani S. M A. (1995) examine the efficiency and effectiveness of liquidity management in Indian Petrochemicals Corporation Ltd. (IPCL). The study has been conducted with the aid of an analysis of both
the absolute amount of net working capital and the liquidity ratios for a period from 1983-84 to 1993-94. The liquidity position of the unit under the study has also been compared with that of the chemicals and petrochemicals industry in India. The study concluded that IPCL had increasingly followed a tight control over the working capital. It was also observed that liquidity ratios in IPCL fell below their standard norms and also their industry averages. Further, IPCL’s liquidity was marked with frequent fluctuations, while the same in the case of the industry remained constant throughout the period of the study.

2. Datta Tanmoy (1995) describes various thoughts on management of liquidity. The major objective indicators of the problem of liquidity always remain in the background, obtainable only through inquiry from various internal and external sources. The author concludes with the observation that while revisiting along the foregoing winding path of liquidity, it can be reminded, as a passing remark, that managing of liquidity, more specifically of illiquidity, is a labyrinthine process and, therefore, deserves a contingency approach. The underlying idea is that there cannot be one best way to do anything. Everything is contingent upon the situational factors, internal (controllable) and external (non-controllable).

3. Laitinen Ekkki K. and Laitinen Teija (1998) aim to evaluate the information contained in inventory cash management models to predict failure. The management model was presented both in a static and dynamic form. The study concludes with the observations that although the static cash management model provides important information for failure prediction in the first year prior to bankruptcy, this information is not incremental over traditional financial variables. The dynamic model clearly outperformed the static model in failure prediction. The estimate for the scale elasticity of cash in the dynamic model provided information which had incremental value over the traditional financial variables. This information also remarkably increased the classification accuracy based on traditional financial variables in the first year before bankruptcy.

4. Hyderabad R. L. (1999) focuses on current assets financing policies. He further states that a proper evaluation of the assets - liquidity and financial structure liquidity is ‘quiet essence’ for sound working capital. The author firmly believes that the considerations of working capital investment and financing are very crucial and should be given due significance by the management for framing the overall working capital policy.
5. Coughenour Jay F. and Deli Daniel N., (2002) closely examine the influence of NYSE specialist firm organizational form on the nature of liquidity provision. A comparison is made between closely held firms whose specialists provide liquidity with their own capital and widely held firms whose specialists provide liquidity with diffusely owned capital. The authors further argue that specialists using their own capital have a greater incentive and ability to reduce adverse selection cost, but face a greater cost of capital.

6. Patra Santimoy (2005) analyses the impact of liquidity on profitability considering the case of Tata Iron and Steel Company Ltd liquidity and profitability are two important dimensions in determining the soundness of an enterprise. The paper has covered the following objectives:
   1. To examine the impact of liquidity on profitability between ROI and each of the selected ratios
   2. To assess the joint effect of the above ratios upon the profitability.

   The study of the impact of liquidity ratios on profitability showed both positive and negative association. The hypothesis that there is an adverse effect of liquidity on profitability is true in case of TISCO Ltd. Now regarding profitability of the company under the study, though there is no standard norm of profitability which depends upon the management policy of the company, still it appears to be too little.

7. Bhunia Amalendu (2007) analyses the working capital management of public sector iron and steel enterprises. The level of working capital is found to be lower. Liquidity position was poor and the management of inventory and accounts receivable was found to be inefficient. It has been suggested that steps should be taken for the improvement of the same.

8. Das P. K. (2008) has shown that the overall liquidity position of Ranbaxy Laboratories Ltd was satisfactory. Although the behavior pattern of the different indices indicate the sound liquidity management of the company, the author offers suggestions to improve certain factors like reduction in current assets through maintaining its optimum level, prompt recovery of debts through the preparation of periodical reports of the overdue, maintaining a definite proportion among the various components of working capital on the basis of past experience and strengthening the cash position to reducing the level of investment in inventory and collecting what is outstanding properly.
9. Ghosh Sudipta (2008) makes an attempt to analyze the liquidity management of TISCO Ltd., one of the leading Iron and Steel manufacturing companies in India for the period from 1996-97 to 2000-2001. Basically this paper examines the following main objectives:

1. To examine the liquidity position of the company on the basis of liquidity ratios
2. To measure the closeness of association between liquidity and profitability
3. To offer some suggestions for improvement in the efficiency of liquidity management of the company.

The analysis sums up with the observation that in case of debtors to current assets ratio, cash and bank to current assets ratio, and loans and advances and other current assets ratio, a high value indicates relatively favorable position. On the other hand, a low inventory to current assets ratio shows a more favorable position.

10. Bhunia Amalendu (2010) has made an attempt to study the liquidity position of the private sector steel companies in India. Working capital determining the short-term liquidity position and short-term solvency of the firm and at the same time proper plan of profitability is also required for the business enterprises.

11. Tibor Tarnoczi and Veronika Fenyves (2012) have attempted to show the relationship between liquidity and corporate risk. According to them the consequence of the economic crisis and the excess of the external financing resources were narrowed significantly and lenders became more cautious. The authors conclude with the view that working capital management almost always shows the ability of a firm to earn profit. The more the firm is capable to handle working capital, prosperity is ensured. On the other hand neglect in doing so would be dangerous for the survival of the firm. Managerial decision-making is needed for accurate ratios that describe the current situation of the firm and they are also suitable for forecasting.

12. Sasikala D. (2012) has conducted an empirical study of Dr. Reddy’s liquidity management and trade-off between liquidity, risk and profitability. The author concludes with the observations that the investment in current assets was much higher and the debtors’ contribution was the highest in the gross working capital. Besides, negative association between liquidity and profitability was found.
13. Manjhi Rakeshkumar and Kulkarni S. R. (2012) focus on working capital structure and liquidity of Gujarat Textile Manufacturing Industry (GTMI). From the study, it was observed that of all the current assets across the industry, inventories formed the highest percentage, followed by loans and advances and trade receivables; whereas cash and bank balance formed a very negligible part. In conclusion it was found that Arvind Ltd. and Shri Dinesh Mills Ltd. achieved lower sales over their working capital and current assets as compared to the other companies. However, the sample companies had good current ratios, which also imply sound liquidity position of the sample companies.

14. Reddy Viswanatha C. (2012) attempts to study the association between liquidity, profitability and risk factor. A study of liquidity, profitability and their association with risk, assessing the financial position (financial distress / bankruptcy) is very much necessary to evaluate the financial strength of a company. A firm in financial distress may face bankruptcy or liquidation leading to delay in meeting its liabilities. The results indicate that the liquidity and solvency position of the company have been satisfactory. Further the analysis reveals that the company was not suffering from financial distress and there are indications of turnaround activities already undertaken by the company.

15. Cetorelli Nicola and Goldberg Linda S. (2012) study the liquidity management of US global banks - internal capital markets in the great recession. The recent crisis highlighted the importance of globally active banks in linking markets. One channel for this linkage is through how these banks manage liquidity across their entire banking organization. Marginally significant effects for the core investment interaction were found. The coefficient on shock, is positive (although not significant), and consistent with internal funding flows toward the parent organization. However, and interestingly, the fixed effect specification generates coefficients smaller in magnitude than with the basic OLS.

### 3.2.2 Receivables Management

1. Milan Shehzad L. and Smith Clifford W. (1992) develop and test hypothesis that explains the choice of accounts receivable management policies. The test focuses on both cross sectional expansions of policy choice determinants as well
as incentives to establish captives. The authors find that the size, concentration and credit standing of the firm’s traded debts and commercial papers are each important in explaining the use of factoring, accounts receivable, secured debt, captive finance subsidiaries and general corporate credit. They also offered evidence that captive formation allows more flexible financial contracting. But they found no evidence that captive formation expropriates bondholder wealth.

2. Hossain Syed Zabid (1996) attempts to analyze receivables management in public sector TIB. The study covers all the 40 Textile units working under the BTMC.

In this article the writer has found that it is the most neglected area in the public sector Textile Industry of Bangladesh. According to the author there is hardly any study in this area, and it is an attempt to fill this gap. As the tool of analysis various ratios are calculated. The paper concludes with these observations: Receivables management has been found to be in a poor shape in BTMC and the turnover of accounts receivable was very high, while the turnover of total receivables was low and unsatisfactory. The opposite of this was true in the case of average collection period.

3. Asselbergh Greet (1999) studies the organizational behavior in managing accounts receivable. It is based on the recent surge of interest and trade credit management from both academics and practitioners emphasizing the rather permanent character of this short term but continuously renewed investment, and their strategic potential due to the existence of financial, tax-based, operating, transactions and pricing motives. This paper is a close study of sources of such a strategic value and for determinants of its risk. At the end of the study it is proved that organizing accounts receivables management is actually driven by two different factors. First, the strategic value of accounts receivable management merits more careful attention. Indeed, both pricing and transaction motives seem to be valuable reasons to extend longer credit terms, although no evidence is found for the operating, finance and tax-based motives. Second, an efficient design of both planning and portfolio structuring might relieve the moral hazard created by extending trade credit. Thus the efficiency of accounts receivable management cannot be judged by relying solely on the traditional DSO-rate anymore.
4. Shukla Hitesh (2007) analyzes the formation of the receivables in selected units and assesses the effectiveness of receivables management in these units. This industry has gained significant drive after liberalization. As this industry is capital intensive and has several players who are listed companies, it is worth asking if these companies are efficiently managing their receivables. The study reveals that the level of receivables to current assets ratio of the industry was found to be 55%. It shows that high amount of current assets was blocked in receivables. While looking at the receivables to total assets in this industry it was found to be 39%. While the data of receivables turnover of the industry was about 3.4 times. The study divulges that the level of investment in receivables as a percentage of sales was 3.37 only. Average collection period of the industry was higher than the prescribed norms of the Tandon Committee.

3.2.3 Inventory Management

1. Lingaraj B. P., Balasubramanian, R. and Krishnamurthy T. V. (1983) focus their study on an inventory management system and material information system which were developed for an aircraft plant in India. The authors have included an inventory classification scheme based on value and importance, and a vendor rating system. In conclusion the authors have cited several intangible benefits from the new system. It was also observed that the new system resulted in reduction of inventory by 10% and overall delivery time by 3 months for the year.

2. Banday Shabir Hassan (1996) tries to explain how Maruti Ltd started to manufacture the first high quality, low cost and fuel efficient car in India, and how the company was in search of a foreign partner whosoever be willing to accept Maruti Udyog Ltd. requirements in terms of product mix, technology transfer, equity participation and others. The paper also discusses at length ABC classification, determination of inventory norms and inventory control of inventory management. Besides gearing up the control over the inventory, the company should take cognizance of certain points as suggested by the researcher.

3. Sikidar Sujit (1996) focuses on the nature and significance of some sophisticated tools of inventory control. The article also examines the inventory management
practices of some Indian companies. The main objective of this paper is to ascertain the impact of time lag involved between the placing of an order and receipt of inventory so that it becomes available just in time. At the end of the study the author finds that the internal control system of JIT has not been found satisfactory over the companies under the study. But on the other hand, the maintenance of cost records and valuation of inventory was done properly as per Generally Accepted Accounting Principles (GAAP) and followed consistency over the years.

4. Jain Arvind and Jain Nisha (1997) study the importance of inventory management in scooter manufacturing companies in India. The main objective of this paper is to examine the position of inventory control techniques in scooter manufacturing companies in India. And to suggest tools and techniques for overcoming the present problems in inventory management. At the end of the study the authors suggest that if the units make an honest effort to implement the techniques as suggested by them, present problems in inventory management can certainly be overcome.

5. Luciano Elisa and Peccati Lorenzo (1999) make a detailed study of the use of adjusted present value techniques in a problem of inventory management, the temporary sale price problem, in the presence of equity or debt financing. While traditional net present value approaches produced results very similar to those of the average cost approach, their consideration of capital structure of the firm opens the way to theoretically and numerically different inventory policies. The authors intend to discuss some financial implications of inventory management. At the end of the study the writers observe that the optimum conditions that they obtain depend on the financial variables characterizing the problem. A fundamental role is played by the two interest rates \( \rho \) and \( \delta \) which are, respectively, the opportunity cost of equity and the cost of debt. The second one was neglected by the NPV approach, while it enters their approach through the APV.

6. Sharma M R (1999) emphasizes on the application of certain inventory control techniques for optimizing investment in inventories without adversely affecting the smooth functioning of production and sales. In conclusion he stresses upon the need for further improvement in inventory management systems in the enterprises. This would lead to the industry becoming profit making.
7. Aravanan S. (1999) focuses on the methods and techniques of inventory management and control. On the basis of the analysis, he has observed that inventory is that component of working capital that is not at all properly managed. He opines that compared to general inventory control techniques, selective inventory control methods have a better role to play. He has keenly observed that of all the selective inventory control techniques, ABC analysis with its several advantages is the most widely used.

8. Aravanan S. (1999) focuses on a good inventory control system which has several advantages. Overall it deals with theft of materials and persuades the people to handle the material carefully as a result of which losses are minimized.

9. Anitha H. S. (1999) emphasizes on the role of the finance manager to frame appropriate policies with regard to working capital management in respect of its various components, like cash, receivables and inventory. This would be highly beneficial to the profitability, liquidity and structural health of the organisation.

10. Pramanik Alok Kumar and Roa Mohana P. (1999) focus on the role of different operational research techniques in the inventory control functions. According to them the major operational research techniques developed and applied so far to the business decision-making and control are linear programming, game theory, decision theory, etc.

11. Parmar S. J. (2003) has made an earnest attempt to evaluate the performance with respect to inventory management of two selected units GSFC and GNFC. He has used various ratios as a tool of analysis. From the study it is concluded that the overall performance regarding inventory management at GNFC was better in terms of efficient utilization of inventories whereas GSFC was not able to do so during the study period. GSFC maintained a larger amount of idle funds throughout the study period through the investment in inventories in relation to total current assets as compared to GNFC. The analysis of inventory management of selected units showed that the overall performance of GNFC was encouraging while that of GSFC was not alarming.

12. Santhanam S. P. (2008) discusses how to value inventories and present this in the financial statements. Inventories normally constitute a significant portion of the total assets, particularly in case of manufacturing and trading entities as well as the service renderings entities. Valuation of inventories, therefore, assumes
special importance. A primary issue in accounting for inventories is the determination of the value at which inventories are carried in the financial statements.

13. Singh Pradeep (2008) attempts to evaluate the effect of the size of inventory and the impact on working capital through inventory ratios, working capital ratios, trends, computation of inventory and working capital and liquidity ranking.

At the end of the study the researcher observed that the size of the inventory directly affects working capital and its management. Size of the inventory and working capital of Indian Farmers Fertilizer Cooperative Ltd (IFFCO) is properly managed and controlled compared to National Fertilizer Ltd (NFL)

14. Shrotriya Vikas (2008) discusses some aspects of effective inventory management. Organizations maintain inventories to achieve effectiveness in business operations. Though the quantum of inventories depends on the nature of business, these engage sizable portion of the organization’s total current assets. These two reasons compel the organization to manage inventories effectively and efficiently.

15. Sieke Margarita Protopappa and Seifert Ralf W. (2010) discuss at length the benefits of equally considering both operational and financial aspects in decision making for the physical and financial supply chain. They develop a mathematical model that determines the optimal purchasing under working capital restrictions and payment delays. They analyze the trade-off between the most commonly used financial and operational measurements, such as service level, return on investment, profit margin and inventory level. Their results demonstrate the significance of payment delays. Increases/decreases in the upstream/downstream payment delays favor the system’s operations by decreasing operational costs. Besides increases in the working capital employed in the system decrease the total operational cost, increase the total financial cost and lower the return on working capital investment.

16. Tanwar S. K. and Shah C. K. (2012) have made an in-depth study of the inventory management of selected companies in India. In order to project a clear picture of the profitability of the industry as a whole, the analysis of profitability of individual firm would be helpful. In conclusion the author is of the opinion that the profitability analysis today is of paramount significance in the context of overall performance of the business concern. In the analytical frame work
constructed for this purpose, the analyst should have both microscopic and macroscopic views of profitability.
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