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Working Capital Management – A Review of Research

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Abstract

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 ensured failure of the business. It is in this context that management of working capital assumes paramount importance. In the present scenario of cutthroat competition, the business does not have any other option than cutting 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 evidenced by many researches, in any manufacturing unit barring knowledge industry, the proportion of raw material in the 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. The present article makes an attempt to analyse both concept and research based studies.

I. Introduction

LITERATURE SURVEY IS a process of developing an insight into both conceptual and research based studies available on the area and the topic chosen. The objective of such review is to understand the importance of the topic and find out research gaps, if any in the chosen area. Thus the review of literature in the present study does consist of both published and unpublished research based and conceptual based studies available in India as well as abroad. The organization of the review was done on the basis of sequential arrangement of the studies related to working capital management and its components. The studies related to working capital management as a whole would necessarily discuss the individual components of working capital

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and hence exclusive studies on individual components of current assets and current liabilities were found to be very few. Though there were innumerable studies available on the topic, the researcher discussed the most important studies on choice basis. A deeper look into the survey indicates that there were only a few studies available abroad and plentiful of studies in India. The survey also revealed that, though a few case studies on individual automobile companies were available, no attempt was made in India to study the working capital management in any specific industry. Thus review of literature in the present study does comprise the following studies and observations.

The first and foremost formal study conducted and compiled on working capital management in India was by National Council of Applied Economic Research (NCAER) in 1966. The Council published a report on "Structure of Working Capital" which confined to the analysis of the composition of working capital with special reference to Fertilisers, Cement and Sugar industries. The prime objective of the study was to examine as to what extent these three industries controlled and utilized the components of working capital. The study revealed that working capital management practices were highly unplanned and hence the establishment of suitable accounting policies, costing systems and inventory controlling techniques in the above-mentioned industries. This study highlights the significance of suitable and appropriate working capital management policies in the success of the business.

Shanmugam and Poornima (2001) study of 28 medium and large scale spinning mills in Coimbatore industrial area (Tamil Nadu) revealed that effective working capital management is still most crucial in organisation's success. The study revealed that most of the industries (10 mills) depended on production plans in working capital planning leaving all norms aside. The budgetary control was found to be the widely applied criterion of working capital control. When the researchers interviewed the CEO of the sample companies, it has come out that every CEO spent majority of the time on working capital management, which in turn highlights the importance of working capital management.

Swamy (1997) study of 19 primary agricultural societies in the area of Dakshina Kannada district in Karnataka has revealed that the balancing of liquidity and profitability was the major problem of working capital management in the sample units. Having been safe in terms of liquidity the sample companies were found to be suffering from low profitability due to heavy interest burden. The units were found to be financing their working capital requirement through borrowings in the form of deposits. The study stressed the importance and utmost priority to be given to the effective working capital management in the societies, so that they did well in future.

Rao and Rao (1991) in their study among a few public sector enterprises belonging to manufacturing sector in the state of Karnataka, have attempted to probe into the capacity of the various techniques in evaluating working capital efficiency of business enterprises. The study revealed that the investment in working capital was considerably high when compared to the total investment. The Tandon Committee norms were found to be yielding better results among the surveyed companies. However, the study also revealed that the working capital planning and control was found to be disorderly and ineffective and hence, the urgent need for full focus on working capital management.

Parasuraman (2004) study attempts to understand the relationship between credit period given by companies and their actual performance in terms of sales and profitability. He has also attempted to find average level of other key financial parameters connected to working capital management. Having laid the emphasis on Indian pharmaceutical companies, he found out that leading companies have employed greater working capital for enhancing profitability. The study also revealed that Days Sales Outstanding had gone up in the sample companies. Though the rise was marginal, it played an important role in the management of working capital. The study inferred that the top pharmacy companies strategise on their working capital policy to relax the credit policy to achieve greater sales and greater profits.

Sarma and Chary (1999) study on VST Industries Ltd. revealed that working capital management in the sample unit was inefficient. A disproportionate investment in current asset in relation to sales resulted in declining working capital turnover ratio. The company did not follow any consistent policy with respect to investment and financing of working capital. Though there existed many opportunities to make use of trading on equity and hedging for appropriate management of working capital, the company never made use of the same. Having analyzed working capital in terms of current ratio, quick ratio, working capital turnover ratio, inventory turnover ratio, debtor's turnover ratio and average collection period, the study revealed that the company failed to manage inventory efficiently which in turn has resulted in lower profitability.

Siddharth and Das, (1994) in his study on "Working Capital Turnover in Pharmaceutical Companies" attempted to ascertain efficient or otherwise use of working capital in selected pharmaceutical firms in India. Having studied the data of 10 years he concluded that the overall working capital turnover ratio was 9.03 times. The overall analysis of the data indicated that the selected companies did very well in terms of employment of working capital. The study also revealed that working capital turnover ratio declined gradually over the period from 1981 to 1990.

Gangadhar (1981) study examined the statistical trends in working capital position among medium, large and small public private limited companies in the Indian corporate sector during 1961-76. The application of second parabola revealed that the current assets formed relatively higher proportion of total net assets in private limited companies than that of public limited companies. The study also revealed that in the case of medium and large public limited companies there appeared to be a lead-lag relationship between gross fixed assets and current assets over the study period.

Singh (2004) study on working capital in Lupin Laboratories Ltd. attemptd to assess the significance of management of working capital through working capital ratios and operating cycle. Having analysed seven years data (1995-2002), he concluded that the liquidity position of the company was good, mean percentage of current assets was very high when compared to the percentage of net fixed assets and the operating cycle showed declining trend. The element-wise analysis of working capital also revealed that trade debtors constituted the highest percentage of current assets followed by loans and advances, inventories and cash and bank balances. The study brought out the need for efficient management of debtors, the percentage of which was the highest.

Chander and Kumar (2004) study on small scale textile industry in Punjab found that the selected units by and large had used percentage method, need based method and sales percentage methods of working capital determination. However, among all the three methods, need based method was the most popular method in determining the working capital requirements. The study also revealed that bank finance was the most widely used method next to own funds. The study also brought out that while financing working capital requirements the banks heavily depended on periodical financial performance statements.

Ghosh (1983) study proves into the existing practices of working capital in crane manufacture industry in India. The study findings indicate that the management of individual components of working capital was erratic. The collection mechanism followed by the sample companies was very unplanned and the companies took more time than allowed in collecting the cash from the customers. The study also revealed that payments to the suppliers were equally delayed keeping highest portion of payables pending for more than allowed period. The study recommended the immediate need for streamlining the working capital management practices.

Banerjee (1979) in his study established the relationship between liquid ratio, debtors' turnover ratio, creditors' turnover ratio and the movement of overdraft. The study found out that when the liquid ratio was below the norm, debtors' turnover ratio and creditors turnover ratios were high while the movement of overdraft showed declining trend. Banerjee demonstrated how turnover ratios would affect the financial performance of a given company. The study concluded that the management of working capital was not satisfactory.

Sur (1997) study on management of working capital in Colgate Palmolive (India) Ltd. attempted to assess the efficiency of working capital management in terms of working capital ratio, acid test ratio, ratio of current assets to total assets, ratio of current assets to sales, ratio of inventory to sales, ratio of debtors to sales and composition of working capital. The study revealed that the working capital management was inefficient during the study period. Sur recommended for special attention to the management of inventories which constituted the highest part of current assets.

Indrasena and Someswar (1996) conducted a study in Hindustan Cables Ltd for the period from 1989-1994. Having studied current ratio, quick ratio, working capital turnover ratio, inventory turnover ratio, debtors turnover ratio, current assets turnover ratio and average collection period, the authors concluded that liquidity position of the company was unsatisfactory. However, the study revealed that there was a sign of improvement in the management of inventory and ineffectiveness in the management of debtors. The study recommended for effective utilisation and control of current assets.

Akkihal (1984) study of 94 small scale industries in Hubli Dharwad Municipal Corporation (HDMC) in the state of Karnataka revealed that the management of working capital in sample industries was found to be highly unplanned. The study concentrated on the ratios like current ratio, inventory turnover ratio, fixed assets turnover ratio, total assets turnover ratio, earnings power and gross profit margin. The application of ratio analysis has revealed that the mismanagement of working capital had adverse effect on the performance of the industries.

In her study on Working Capital Management - A Comparative Study of Fertilizer Industry attempted to make a comparative analysis of working capital management practices between six large scale public sector undertakings and six private sector undertakings and one co-operative firm. Time period of the study was from 1980-1990. The study primarily focused on identifying the factors leading to abnormal growth of working capital as against growth in sales. The study revealed that there were no proper methods and controlling techniques of working capital management in the selected industries. However, the results showed that management of working capital was found to be relatively better in private sector than in public sector. The application of ratio analysis, funds flow analysis revealed that the financial performance of the private sector companies was better than that of public sector which in turn indicates inefficient management of working capital in public sector companies.

Khan (1998) conducted a study on working capital management at Escorts limited with a thrust on analysing financing of working capital, management of cash, management of accounts receivables and management of inventory. The study revealed that the company did not use real professional assistance and expertise, which in turn impaired the overall performance of the company. Financial decisions taken were found to be short-term perspective ignoring the effect in the long run. The cash planning was found to be very ineffective and hence the company found it to be very difficult to procure the cash from operations even though there was enough cash generated from operations. It was also found out that apart from following hedging approach the company depended on ordinary share capital, preference share capital and debentures as the long-term sources of working capital. The management of inventory in the company was found to be very effective and hence no stock was found to be lying idle.

Sivarama (1999) study on working capital management in Indian paper industry laying emphasis on individual current assets like cash, receivables and inventory. The study revealed that the working capital formed 47.2% of the total net assets during 1984-93. The rate of return on current assets was negative or insignificant in all selected mills indicating inefficient management of working capital. The results of correlation analysis indicated a close relationship between profitability and working capital efficiency emphasizing the need to exercise better control over working capital. The study also attempted to assess the perceptions of chief executives on management of working capital. Fifty per cent of the executives favoured budgetary method as the tool to plan working capital. Even though majority of the executives felt that the funds meant for working capital should not be diverted to any other applications, it was found in majority of the cases that funds were diverted to other uses. The survey revealed that collection of receivables and inadequate working capital were serious problems in running the business.

Dutta (2000) study on "Working Capital Management of Horticulture Industry in Himachal Pradesh" - a case study of Himachal Pradesh Horticulture Produce Marketing and Processing Corporation (HPMC), for the period from 1990-1991 to 1997-98. It also attempted to analyse and evaluate working capital management by throwing light on financing pattern of working capital. The study revealed that the working capital position worsened drastically during the study period. It was also found out that, despite suffering huge losses, the firm was holding huge idle inventories and hence miserably failed to trade off between liquidity and profitability. The regression results of the study have revealed that there was no significant correlation between gross working capital and sales.

Harinath (2000) in his study on working capital management in small scale industries - a study of Cuddapah district, Andhra Pradesh in 2000 S.Harinath Reddy attempted to examine the working capital structure in 30 small scale industries. The study revealed that 50% of the sample industries did have very close watch on working capital and one third of sample units controlled working capital by preparing production and sales budget. Excess investment was noticed in debtors and it was due to ineffective collection mechanism. In all sample industries the cash working capital needed was in excess of the average balance sheet working capital. The existence of wide gap between cash working capital and balance sheet working capital led to insufficient working finance. The overall profitability of all sample units was found to be satisfactory during the observed period. He suggested the industries to enhance the profitability by adopting effective working capital management practices envisaged in the study.

Vijaya (1977) study conducted on working capital management in six co-operatives and seven private sector companies in the sugar industry of Tamil Nadu found that the growth in current assets had registered more than that of sales indicating poor working capital management. The application of correlation analysis revealed that there was negative correlation between return on investment and working capital. The study revealed that majority of the investment was in inventory (63.16%) followed by receivables (22.53%). On overall basis the working capital management in private sector was found to be better than that of public sector.

Mishra (1975) study among six public sector units in India revealed that there were fundamentally four basic problem areas concerned with cash, debtors, inventory and financing of working capital in the sample companies. It was due to these chronic problems that the sample companies failed miserably in achieving the effective management of working capital. The study has addressed the dire need for efficient and effective usage of funds in order to achieve efficient working capital management.

Panda (1986) study of small scale units in the state of Orissa, examines the issues like optimum investment of funds in current assets, relationship between sales growth and working capital needs, the role of banks in meeting working capital requirements. The study revealed that management of working capital was neglected by majority of sample units, which lead to incurrence of loss. It was found that long-term funds were highly limited to the firms and hence majority of small scale industries depended on short-term credit in meeting working capital requirements.

Khandelwal (1985) carried on half-complete empirical research initiated by late N.M.Agarwal, among 40 small scale industires in Jodhpur industrial estate. The study attempted to investigate into working capital management process and practices among the selected units between the years 1975-1980. The study revealed that the sample firms held more investments in inventories than required and management of receivable was found to be highly disorderly. It was found that bills receivables constituted as much as 50% of total current assets. Highlighting the sickness in Jodhpur Industrial estate the study attributed the main reason to inefficient management of working capital. Based on findings the study suggested that the entrepreneurs need to be educated about the basic concepts and efficient way of working capital management.

Jain (1993) studied seven paper companies in India to analyse the basic components of working capital. The study revealed that the current ratio in public sector undertakings during the study period was found to be highly erratic while the same in private sector undertakings registered continuous decrease. As far as the inventory was concerned the study revealed that it was highly unplanned in public sector undertaking units when compared to private sector units. The study contributed much in terms of realizing the importance of effective management of working capital.

Mohan (1995) study examines various issues related to working capital management among selected (six companies) private large-scale companies in the state of Andhra Pradesh during the period from 1977 to 1986. The study revealed that investment in current assets in sample companies was more than that of fixed assets and inventories constituted highest percentage of total current assets in the sample companies. Analysis revealed that the liquidity and solvency position of sample units was found to be highly unsatisfactory because the companies carried with lesser balance sheet working capital than cash working capital. He based on his findings, suggested the dire need for improvement of liquidity and solvency position of sample companies failing which the situation would lead to serious liquidity crunch.

Rajeswara (1985) in his study among a few selected public enterprises in India, tried to examine the working capital policies adopted by the sample units. He attempted to assess the degree of effective management of working capital components with a special emphasis on inventories. The study revealed that no sample company clearly defined working capital policies and hence majority of them could not achieve efficiency in working capital management. The study also revealed that the investment in inventories in sample units soared up from 63% in 1971-72 to 66% in 1976-77. It was further found out that majority of such investment was made in finished goods inventory which indicated that the units did not manage the working capital in a planned way. The study recommended to recognize prudent management of working capital as a vital part of financial management.

Sinha, Sinha and Singh (1988) study on analysis of working capital management in Fertiliser Corporation of India and Gujarath State Fertiliser Corporation. The analysis revealed that a huge portion of funds was tied up as working capital especially in inventories and receivables. The study revealed that the sample companies failed to manage working capital efficiently by the usage of latest techniques and hence the funds were locked up at various levels during the course of business operations. The study recommended for urgent need for streamlining working capital management practices failing which the firms would get affected.

Jain (1988) in his study among ten manufacturing, trading and service industries in the state of Rajasthan, brought out various working capital management practices followed by the select companies. The study found out that the companies had both over investment and under investment problems. The study strongly recommended for the release of excess funds in working capital and to invest the same in short-term or long-term assets. On the other hand, the study recommended that the companies should avoid under investment in working capital if they wanted higher profit margins.

Cecilia and Nino (2000) study among 88 UK based companies addressed the gap between academic research and practitioners views with respect to working capital management practices. The study revealed that though factoring services was the prime method in UK, the same was not used prominently in the sample companies. The study also revealed that 50 per cent of the respondents were using letter of credit major source of working capital financing.

Colina and Juan (2002) study on working capital optimization at Georgia Pacific Corporation, a paper industry, Colina and Juan discussed the advantages of optimizing working capital for pulp and paper industry. The study revealed that when there exists credit crunch, relying on outside sources for working capital requirements would result in further hazards. Speaking on the occasion, Jim Terrell, the then Vice President of the corporation has stressed the need and importance of tuning the working capital in any business.

Discussions among bankers, vendors and owner managers on European cash management in 2002-03 revealed that the banks have a key role to play in improving the effective working capital management. It also came out that the change in focus of the businesses to working capital management was key ingredient factor in enhancing the effective working capital management. Speaking on this occasion, the members have stressed the need for value chain analysis in order to benefit in terms of infrastructure with efficiencies and massive opportunities of integrated working capital management. The members in the panel included Jack Large, Ed Krawitt from Memec, John Gorrie from Hitachi, Richard Martin from ABN Amro, Michael Cannon from JP Morgan, Peter Hazou from HSBC, Michael Mueller from Deutsche Bank and Claudia Colic from Citigroup.

Oppedahl and Richard (1990) essay expressed capital budgeting projects consume much of the time of a firm's management group to the detriment of the quality of the working capital decisions. It emphasized that the business executives must become more cognizant of the working capital decisions that their firms face every day. The stress in this essay has been laid on two most important components of working capital called accounts receivables and marketable securities. The essay revealed that the managers have to be very cautious in accounts receivables and marketable securities decisions.

Romero (1995) in their work express their experience and survey based opinions. They have felt that the investment in working capital has to be capitalized. They said that the goals of investment in working capital were threefold: to find income producing opportunities for cash that is temporarily idle, to maximize yields and to maintain the liquidity of the investments. With his experience as associate financial consultant with Merrill Lynch's Private Client Group in Arlington Mr. Romero felt that the firms have to have concrete formula of optimum investment in working capital.

Balls (2003) in his research as strategic planning consultant at Co-Jones, New Zealand opined that effective working capital management practices results in efficiency in a firm. Writing on the dynamics of the working capital, he revealed that failure to understand the dynamics of working capital was the largest single cause of business failure. He pointed out that failure to grasp all the implications of best practice in applying effective working capital management was the main factor that frustrates Small and Medium

Enterprises (SMEs). The article has revealed that not many business professionals has understood working capital dynamics and warranted for immediate action on the same.

Suk, Seung and Rowland (1992) survey conducted on 94 Japanese companies in U.S revealed that the Japanese companies differed in working capital management practices from U.S companies in terms of lower levels of inventory and higher levels of accounts receivables. The survey revealed that more than 70% of the time, Japanese investors use outside financing as a major sources of short term financing.

Sathyamoorthi (2002) in his work attempted to ascertain how the current assets were financed and also attempted to discover the relative importance of various current asset components. The study covered four years data of selected co-operative organizations in Botswana. The study revealed that the liquidity ratios played a vital role to evaluate the short-term efficiency of the organization. The study showed that the co-operatives had low liquidity resulting their week position to pay short-term debts. The survey also revealed that co-operatives were in action working towards a break-through to be achieved.

Rafuse (1996) proposed that enhancing working capital by halting payment to creditors was an effective strategy. The article revealed that the apparent intention of many U K companies was to defer payments as long as possible well beyond the agreed arrangements. Very astonishingly a report issued in 1994 by the Forum for Private Business (FPB), a UK small-business trade association, stated that on an average the debtors accounts were paid more than 50 days beyond the agreed due date. The article also stressed the need for lean value systems. Close supplier-customer relationship was found to be the core characteristic feature of such value system. The survey warranted the firms to reduce the inventory levels immediately in order to maximize the profits of the firms. The survey also revealed that the responsibility of such control rests with the finance managers.

Smith (1997) on the industrial firms listed on the Johannesburg Stock Exchange (JSE) focused on measuring the associations between traditional and alternative methods of working capital measures and the return on investment (ROI). The study revealed some empirical findings on associations between traditional and alternative working capital measures of liquidity and ROI. The application of chi-square test and step-wise forward regression for association indicated that the traditional working capital leverage measure of total current liabilities divided by gross funds flow displayed the greatest associations with ROI. The study also indicated that a decrease in the total current liabilities divided by gross funds flow lead towards an improvement in ROI and vice versa.

John (2000) research findings indicate that offering online treasury functions to small business is of paramount importance in effective working capital management. In an article published in Small Business Banker it has been found out that the online service is of great use from both the industry and bankers point of view.

As a strategy to fight back, the Bank Rhode Island launched business max, a checking account tied to a money market yielding 6% for accounts with balances of at least $ 50,000. These competitive strategies adopted by the major bankers highlight the importance of optimum use of money. The article emphasises indirectly that effective management of working capital depends on proper utilization of cash resource (Lynch, 2001).

While speaking on the importance of integrating information technology and working capital management, Harczak (2001) said that it benefits a lot, if organizations integrate information technology with decision making and working capital management.

The optimisation of working capital management even in difficult times is highly important. In an article published in treasury and risk management in 2001 the need for optimum utilization of working capital during turbulent times has been emphasized. The article revealed that establishment of proper relationship between safety and liquidity in asset management would yield high return. This is possible only through optimum utilization of working capital.

Novneon (2002) survey on a chemical based company in US, found that the prudent in working capital management resulted in increase in cash inflows. The increase in cash inflows due to improved working capital management was almost double which indicates the tangible benefits of effective working capital management.

In a conference held by Chartered Institute of Management Accountants at its Lahore Chapter's 75th anniversary, the importance of effective working capital management was discussed in detail. Speaking on the occasion Dr.Khwaja Amijad Saeed, the then Pro-Vice Chancellor of Punjab University reiterated that the economic viability and financial success of any organization primarily depends on effective management of working capital (CIMA, 1995).

A very comprehensive survey conducted by Nabil, Smith, and MacKay (1999) among 57 Smaller firms in Canada (in1994), 105 largest firms in U.S (in 1998) and 39 largest firms in Australia (in 1989) revealed very interesting relationship among various working capital practices. The authors attempted to make international comparison of working capital practices among three nations. The major aspects of the study were working capital policy, cash and equivalents, accounts receivables, Inventory, accounts and notes payable and managing working capital itself. The study revealed that 7% of the Canadian firms have formal working capital policies, which is found to be very negligible. This is attributed to the fact that the surveyed firms are smaller ones. It was found that 28.5% of Canadian firms had a cautious working capital policy. The study revealed that as far as the criterion for evaluating changes in credit terms was concerned the Canadian firms were found to lean more on the effect on sales whereas the Australian and U.S companies were found to have focussed more on the impact on the effect on firms profit. Very interestingly, the study revealed that the Canadian firms used ad-hoc decisions in replenishing the inventory while the Australian and U.S companies used computerised control systems.

Keating and Gates (2002) in their study in Defense Finance and Accounting Service (DFAS) of Washington, analysed how service-providing government agencies should set the prices they charge to other governmental customers. While setting the price, Defense Working Capital Fund (DWCF) was used as the expected average cost transfer pricing. The study presented an analysis of the costs and performance of the defense financing and accounting service. The study strongly recommended simple non-linear pricing structure in pricing the products of one service department to another service department. The study is indicative of sub-optimisation.

Kibria, Lee and Olvera (2003) have produced innovative work on working capital management. They conducted face to face interactions and discussions among members of the peer-lending group: a system in which small groups of unrelated individuals work to support and enforce loan giving and repayment. The analysis draws on a case study of working capital. They helped the members of the above said group in meeting short-term funds requirements for their small and diversified businesses.

Joshi (1999) in his article emphasized the importance of maintaining a fair degree on the levels of inventory based on sound management practices and principles. He concluded that it was worthwhile to make inventory control a part of production control in order to maintain a flow of materials needed for the efficient and continuous operation of the production line. In this connection, the author recommended for coherence and coordination with the production programmes.

Chadda (1964) conducted a study on inventory management practices of Indian companies and found that the management of individual components of inventory very scattered. The study recommended for the usage of modern tools like operations research in ensuring the efficient management of working capital.

Lal (1981) in his study on Modi Steels Ltd. as a case study, with an objective of analysing inventory management. Having found that the company did not take into account the price variable in inventory management whereas Mr.Lal developed a model which included the price variable. The study strongly recommended concrete policies, which should take care of both internal and external factors into account, for efficient management of working capital.

Swami (1987) in his study on "Materials Management in Public Sector Undertakings" took five central public sector enterprises in the state of Rajasthan. The study revealed that the inventory alone constituted by 61% of total current assets during the study period (1977-82). The growth of inventories during the period found to be very high indicating no control. The study concluded that the materials management in select companies was not satisfactory and recommended for improvement through continuous monitoring and necessary action.

Throwing the light on management of trade credit as a source of finance, Hyderabad (1996) found out that the management of accounts payables and trade credit were the neglected areas. The author concluded that the techniques predominantly used to control trade credit were ratio of trade credit to total current assets, ratio of trade credit to total current liabilities, ratio of trade credit to sales and ratio of percentage change in trade credit to percentage change in sales.

In an paper published by Banerjee (2003) it was found that the factoring services in India showed phenomenal growth and contributed to the growth and development of Small Scale industries. The factoring companies were found to be adhering to the prudent norms of RBI for Non-Banking Finance Corporations (NBFCs). The capital adequacy ratio of two factoring services (SBI and Can bank) during the study period (1992-99) was found to be much higher than the stipulated. The study indicated the importance of factoring services in industrial growth. The study indeed was an eye opener for both the industries and factoring services to understand the importance of effective working capital management.

Vijayasaradhi and Rao (1978) study on Indian public enterprises revealed that the management of working capital played a key role in the success of the business. The study has indicated that increasing trend in the investment of current assets, unlike in fixed assets, has resulted in higher carrying costs which in turn has negatively affected the profitability position of the company.

Shankar (1996) developed a new concept of working capital called zero working capital which means the current ratio of one and quick ratio of below one. As per the observations made by the author zero working capital would ensure a smooth and uninterrupted working capital cycle and it would pressurise the finance manager to improve the quality of current assets at all times to keep them 100 per cent reliable.

Concentrating exclusively on borrowing as a source of financing working capital requirements in the corporate sector in India. Manjumdar (1994) has carried out an empirical analysis among 20 corporate companies in India (10 from private sector and 10 from public sector) for the period from 1981 to 1990. The study revealed that the share of public deposits to total borrowings on an average was only 6% in public limited companies and this was only 0.08% in private sector companies. The results indicated that the public deposit was not a significant source of working capital finance among the selected sample companies during the study period. The study revealed that current ratio in private corporate limited companies was 1.38, which indicated aggressive policy. In government companies the current ratio was

4.32 indicating conservative policy adopted by them which in turn resulted in higher debt equity ratio. On overall basis, this comparative study indicated that working capital management in public sector companies was better than that of private sector companies.

Rao (1997) conducted a study among six paper mills in the state of Andhra Pradesh to ascertain the working capital condition. The study revealed that the sample companies overtraded with insufficient working capital and the system of cash forecasting and planning and control was haphazard. The sample units were compelled to under-stock raw material for want of adequate working capital. It was also found that even though liberal credit policy of the sample companies boosted up the sales, the companies failed to ensure effective collection mechanism. The current ratio and liquid ratio of sample companies were found to be very low indicating liquidity crunch.

Applegate (2001), a syndicated columnist, expressed that the banks play a key role in effective working capital management in small businesses. Merrill Lynch, a US based financial institution focusing on deposits revealed that due focus to improve the working capital management account is the pivot through which small business can manage their assets. It also indicates that banks play a vital role in achieving the efficient working capital management.

In Bank of America 2003 global survey, conducted by the Bank of America a number of respondents have expressed that lack of top management's/ senior management's commitment was the key barrier to effective working capital management. It also revealed that if the boardroom approval was lacking making any appreciable headway on liquidity issues would always be an uphill struggle. Half of the respondents felt that a lack of coordination across working capital management was the main barrier to achieving the liquidity (Pink 2003).

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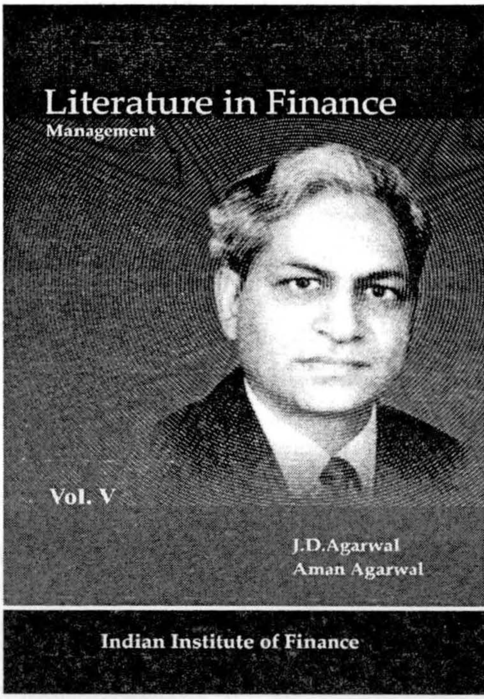

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