CHAPTER - III

THEORETICAL ASPECTS OF THE STUDY

C H A P T E R - III

THEORETICAL ASPECTS OF THE STUDY

This chapter deals with conceptual framework of the study and it is divided into following three sections.

1. WORKING CAPITAL CONCEPT.
2. WORKING CAPITAL MANAGEMENT.
3. INVENTORY MANAGEMENT.

The above sections have been explained in detail in the following manner.

1. WORKING CAPITAL CONCEPT.

Land, Labour, Organisation and Capital are the important factors for establishment of each and every enterprise. However Capital is the 'Governing Factor' among them. We hardly found that a enterprise which has no capital. So for every entriprise requires especially a working capital for its smooth working. Moreover working capital is 'life-blood' for itself.

1. MEANING OF WORKING CAPITAL.

In common terminology the term 'Working Capital' is generally related to the amount of funds required for smooth functioning of day to day business affairs. Working Capital is the part of total capital which circulates from one asset to another in the ordinary course of business. This idea indicates recurring transactions from cash to inventories, receivables to cash, that creates a continous chain of business operations.

2. DEFINITIONS OF WORKING CAPITAL.

The working capital has been defined by various authors in

many ways, Some of the well known definitions are stated below.

1. 'Working Capital means "Current Assets".[1]
   Mead Baker Malot.
2. 'Working Capital is the amount of funds necessary to cover the cost of operating the enterprise. Working Capital in a going concern is a revolving fund, it consists of Cash receipts from sales which are used to cover the cost of current operations'.[2] - Shubin.
3. 'Working Capital refers to a firm's investment in short term assets - Cash, Short-Term Securities, Account Receivable and Inventories'.[3] - Weston & Brigham.
4. 'Working Capital is the excess of current assets over current liabilities'.[4]
   - Harry G. Guthmann and Herbert E. Dougall.

After considerations of various above definitions of Working Capital, it can be said in brief that Working Capital is the part of total capital employed in short-term operations or day to day operations.

3. CONCEPTS OF WORKING CAPITAL.

Working Capital may also be defined in two ways or there are two concepts regarding working capital as follows.

a) GROSS CONCEPT :

" The sum of current assets is the working capital of a business".[5] - J. S. Mill.

Thus gross working capital refers to the total current assets.

Current Assets are those assets, which can be changed into cash within a short period not exceeding a year. The components of current assets are as follows.

1. Cash in hand and at Bank.
2. Stock of Raw Materials, Finished Goods, Work-In-Process and Consumable Spares.
3. Bills Receivablee.
4. Debtors for goods sold.
5. Pre-paid expenses etc.

b) NET CONCEPT :

Working Capital = Current Assets - Current Liabilities.

Net Working Capital refers to the excess of current assets over current liabilities and provisions. Current Liabilities are those which are intended to be paid within a short period (normally a year). The components of current liabilities are as follows.

1. Creditors for goods received.
2. Bills Payable.
3. Bank Overdraft.
4. Accrued Expenses.
5. Taxation etc.

Net Working Capital can be positive or negative. A positive net working capital will arise when current assets exceed current liabilities. A negative working capital occurs when current liabilities exceed current assets.

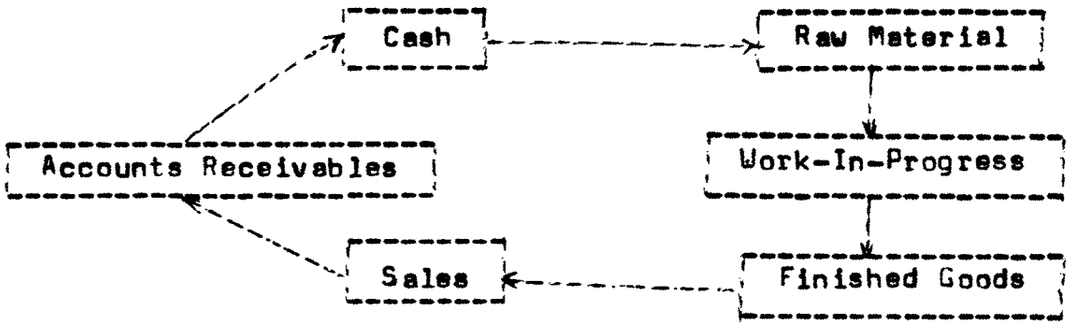
4. NEED OF WORKING CAPITAL.

The need of working capital arises because of time gaps in manufacturing and marketing cycle of business operations. It means the time gap between purchases and production, production and sales, sales and realisation of cash.

The figures 3.1 & 3.2 gave clear idea about need of working capital.

FIGURE 3.1

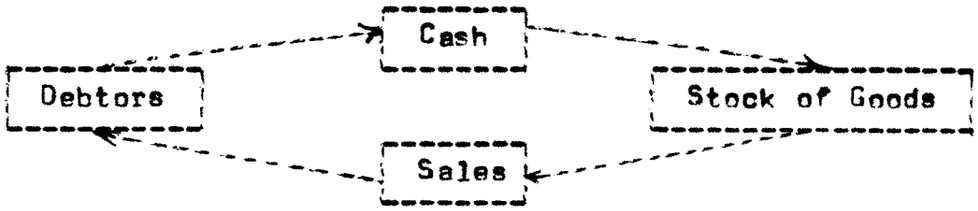
OPERATING CYCLE OF A MANUFACTURING FIRM.



Source - Bardia S. C. Working Capital Management. P.No. 7.

FIGURE 3.2

OPERATING CYCLE OF A TRADING CONCERN.



Source - Upadhyay K. M. Financial Management. P.No. 104.

The main difference in above figures is that in manufactuing firm,there is a point of working progress, where seme extent working capital may block. It shows that manufacturing companies requires more working capital than trading concern.

5. IMPORTANCE OF WORKING CAPITAL :

Working capital is just like the heart of business. If it becomes weak, the business can hardly prosper and survive. It is an index of the solvency of a concern. Its proper circulation provides to the business the right account of cash to maintain regular flow of its operations. The following are the some worth mentioning advantages of maintaining an ample working capital fund in the business.

1. CASH DISCOUNTS - If proper cash balance is maintained, the business can avail of the cash discount facilities offered to it by the suppliers.

2. LIQUIDITY AND SOLVENCY - The proper administration of working capital enhances the liquidity in funds and solvency and credit-worthiness of the concern.

3. MEETING UNSEEN CONTINGENCIES - It provides funds for unseen emergencies so that a business can sucessfully sail through the periods of crisis.

4. HIGH MORALE - The provision of adequate working capital improves the morale of the executives and their efficiency reaches its higher climax.

5. GOOD BANK RELATIONS - Good relation with Banks can also be maintained. The enterprise by maintaining an adequate amount of

working capital is able to maintain a sound Bank credit, trade Credit and can escape insolvency.

6. FIXED ASSETS EFFICIENCY INCREASED - Fixed Assets of the the firm can not work without proper amount of working capital. Without it, fixed assets are like guns, which can not shoot as there are no cartridges.

7. REASEARCH AND INNOVATION PROGRAMMES - No research programme, innovation and technical developments are possible to undertake without sufficient amount of working capital.

8. EXPANSION FACILITATED - The expansion programme of a firm is highly sucessful, if it is financed through own working capital.

9. PROFITABILITY INCREASED - The profitability of a concern also depends, in no small measure, on the right proporation of fixed assets and current assets. Every activity of the business directly or indirectly affects the current position of the enterprise. Hence its need should be properly estimated and calculated.

Thus, the need for maintaining an adequate working capital can hardly be questioned. Just as circulation of blood is very necessary in the human body to maintain life smooth, flow of funds is very necessary to maintain the health of the enterprise. The importance of working capital can be very well explained in the words of Husband and Dockery, " The prime object of management is to make a profit. Whether or not this accomplished in most business depends largely on the manner in which the working capital is administered."[6]

6. ADEQUACY OF WORKING CAPITAL.

Adequcy of working capital is an important part in the management of working capital. An adequacy of working capital means the required funds for day-to-day business operations must be sufficient. Thus, working capital should be adequate for the following reasons.

1. It protects a business from the adverse effects of shrinkage in the values of current assets.

2. It is possible to pay all the current obligations promptly and to take advantage of cash discounts.

3. It ensures to a great extent the maintenance of company's credit standing and provides for such emergencies as strikes, floods fires etc.

4. It permits the carrying of inventories at a level that would enable a business to serve satisfactorily the needs of its customers.

5. It enables a company to operate its business more efficiently as there would be no delay in obtaining materials, services and supplies etc. because of credit difficulties.

6. It enables a business to withstand periods of depression smoothly.

7. It enables a company to extend favourable credit terms to customers.

8. There may be operating losses or decreased retained earnings.

9. There may be excessive non-operating or extraordinary losses.

10. The management may fail to obtain funds from other sources for purposes of expansion.

11. There may be an unwise dividend policy.

12. Current funds may be invested in non-current assets.

13. The management may fail to accumulate funds necessary for meeting debentures on maturity.

14. There may be increasing price necessitating bigger investments in inventories and fixed assets.

From the above discussion, it is clear that business must posses an adequate amount of working capital and must see that, it should maintained throughout the period of operating cycle of business.

7. INADEQUACY OF WORKING CAPITAL.

Inadequacy of working capital is considered to be a disease which may turn into chronic disease affecting business position adversely in the sense that the business may not be able to meet current liabilities in time or on due dates.

Thus, when working capital is inadequate, a company has to face the following problems.

1. It is not possible for it to utilise production facilities fully for want of working capital.

2. A company may not be able to take advantage of cash discount facilities.

3. The credit-worthiness of the company is likely to be jeopardised because of lack of liquidity.

4. A company may not be able to take advantage of profitable business opportunities.

5. The modernisation of equipment and even routine repairs and maintenance facilities may be difficult to administer.

6. A company will not be able to pay its dividends because of the non-availability of funds.

7. A company can not afford to increase its cash sales and may have to restrict its activities to credit sales only.

8. A company may have to borrow funds at exorbitant rates of interest.

9. Its low liquidity may lead to low profitability in the same way as low profitability results in low liquidity.

10. Low liquidity would positively threaten the solvency of the business. "A company is considered insolvent when it is not able to pay its debts on maturity. It must be wound up under section 433 of the companies Act, 1956, upon its inability to pay its debts".[7]

In a way it will affect the reputation of business adversely and so it is essential that working capital should not fall below the level of meeting day-to-day liabilities of the business and management should take precautions to see that the working capital is always kept under reasonable level.

8. DANGERS OF EXCESSIVE WORKING CAPITAL.

Too much working capital is as dangerous as too little of it. Excessive working capital raises the following problems.

1. A company may be tempted to over trade and lose heavily.

2. A company may keep very big inventories and tie up its funds unnecessarily.

3. There may be an inbalance between liquidity and profitability.

4. A company may enjoy high liquidity and at the same time, suffer from low profitability.

5. High liquidity may induce a company to undertake greater production which may not a matching demand. It may find itself in an embarrassing position unless its marketing policies are properly adjusted to boost up the market for its goods.

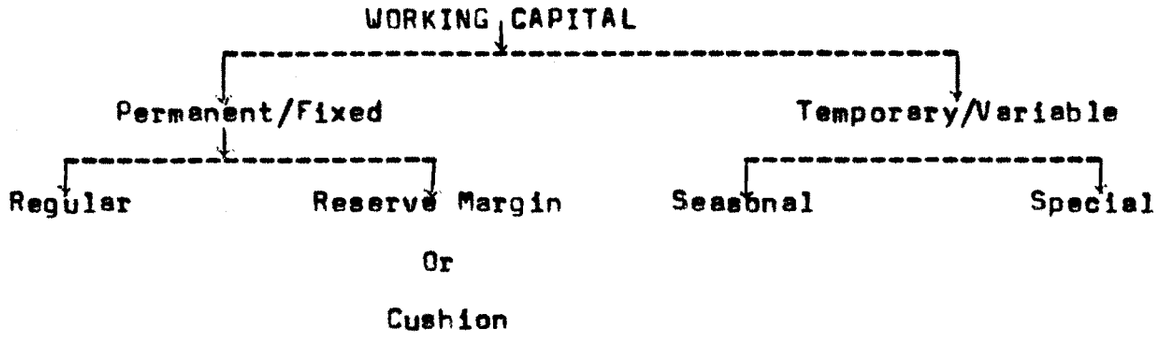
6. A company may invest heavily in its fixed equipment which may not be justified by actual sales or production. This may provide a fertile ground for later over-capitalisation.

7. Excessive working capital may be as unfavourable as inadequacy of working capital because of the large valume of funds not being used productively. "Ralph Kennedy and McMullen have observed that the availability of excess working capital may lead to carelessness about costs and therefore, to inefficiency of operations". [8]

6. TYPES OF WORKING CAPITAL.

Generally in every business, the amount of funds required for meeting current needs varies from time to time. However, the figure 3.3 shows the types of working capital.

FIGURE - 3.3



Source - Pardeshi, Godbole, Khan.: Management Accountancy. P.No.108

Different types are explained in short as follows.

1. PERMANENT OR FIXED WORKING CAPITAL - Permanent working capital is the minimum amount of current assets which is continuously required by the business to carry on its operations smoothly. This capital is permanently locked up in the circulation of current assets e.g. minimum stock of raw materials, work-in-progress, finished and semi-finished products, loose tools and equipments. This capital is again divided into two parts.

a) REGULAR WORKING CAPITAL - The minimum amount of liquid capital needed to keep up the circulation of capital from cash to inventory to receivables and again to cash, is known as regular working capital.

b) RESERVE MARGIN OR CUSHION WORKING CAPITAL - It is the excess working capital over the regular needs. It is kept in reserve for contingencies such as rising prices, depreciation, business depressions, strikes, special operations like research and experiment etc.

2. TEMPORARY OR VARIABLE WORKING CAPITAL - The amount of working capital over permanent working capital is known as variable working capital. It represents the additional assets which are required at different times during the operating year e.g. additional inventory, extra cash etc. In other words D. M. Jay observes that, 'Any amount over and above the permanent level of working capital is termporary, fluctuating or variable working capital.'[9] It may be sub-divided into seasonal and special working capital.

a) SEASONAL WORKING CAPITAL - It is the working capital which is required to meet the seasonal demands of busy periods occuring at stated intervals.

b) SPECIAL WORKING CAPITAL - It is the working capital which is required for financing special operations such as research experiments with new products, expansion, modernisation etc.

10. SOURCES OF WORKING CAPITAL.

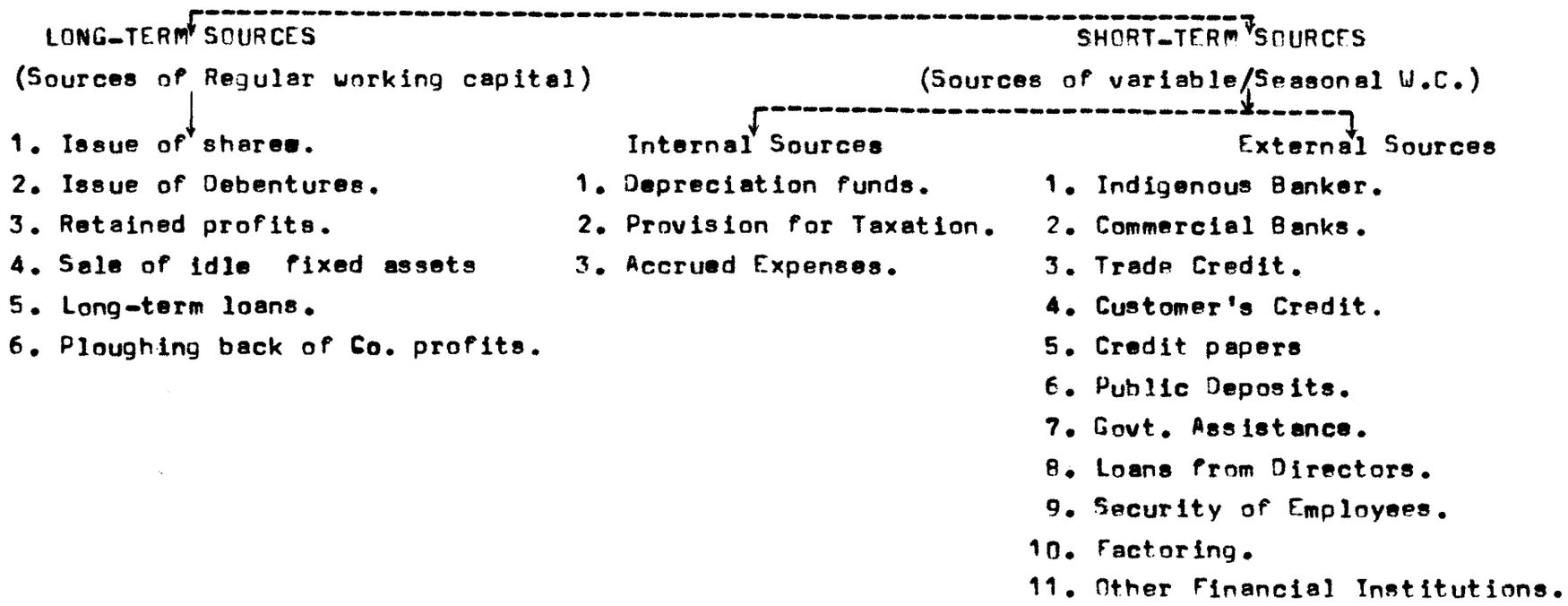
The following figure 3.4 gives us snapshort view of various sources of working capital available for a firm.

Various sources maintioned in figure are explained in short as follows.

1. LONG-TERM SOURCES OF WORKING CAPITAL - The long-term working capital requirements include the initial working capital and the regular working capital. The investment in the regular working capital is almost of the permanent nature and require long-term funds. Various sources providing long-term working capital requirements are summarised as follows.

FIGURE - 3.4

SOURCES OF WORKING CAPITAL



Source - Dr. Varma & Agarual : Financial Management. P.No. 165

a) ISSUE OF SHARES - It is the most important source of long-term regular working capital. As far as possible, efforts made to procure the maximum amount of regular working capital out of the proceeds of issue of shares. It creates no burden or the fixed change on the earning assets of the company. Moreover, the company is not under an obligation to return the capital.

b) ISSUE OF DEBENTURES - Regular working capital can also be procured by issue of debentures or bonds. The cost of capital is lower in this case. By issuing debentures, company may trade on equity in favourable circumstances. Rights debentures have also been very popular in India since 1978.

c) RETAINED PROFITS - Accumulated large profits are also considered to be a good source of financing working capital requirements. It is the best and the cheapest source of finance. It creates no charge on future profits.

d) SALE OF IDLE FIXED ASSETS - Any idle fixed asset can be sold out and sale proceeds can be utilized for financing the working capital requirements.

e) LONG-TERM LOANS - The loans raised for a period varying from 3 to 7 years are also important sources for working capital. This type of finance is ordinarily repayable capital of the enterprise.

f) PLOUGHING BACK OF COMPANY PROFITS - The process of creating corporate savings and their utilization in the business is technically termed as, 'Ploughing Back of Profits'. A part of the earned profits may be ploughed back by the firm in meeting their working capital requirements. It is an ideal, regular and cheapest source of

working capital as it does not involve any explicit cost of capital.

2. SHORT-TERM SOURCES OF WORKING CAPITAL - Short-term requirements of working capital involve financing of day-to-day business operations. Normally the duration of such requirement does not exceed a year. These sources may be classified into two heads. i. e. Internal and External.

a) INTERNAL SOURCES - Under this category, the sources of working capital are as follows.

1. DEPRECIATION FUNDS - Depreciation funds created out of profits of the company provide a good source of working capital.

2. PROVISION FOR TAXATION - There remains a time-lag between, making the provision for and payment of taxation. A company may utilise such provision during the intermittent period temporarily.

3. ACCRUED EXPENSES - The company sometimes postpone the payment of certain expenditures due on the date of finalisation of the accounts. There accrued expenses also constitute an important source of working capital.

b) EXTERNAL SOURCES - External sources means the sources providing finances for company's working capital other than those of internal sources. These may be enumerated as below.

1. INDIGENOUS BANKERS - With the development of organised Banks, indigenous bankers have been pushed into the background and their activities are usually confined to giving loans for personal consumption and trading purchases. Cottage and Small Scale Industries obtain their short-term credits from indigenous bankers.

2. COMMERCIAL BANKS - Commercial banks including the S.B.I. are also principal and most important source of working capital. They provide working capital in a number of ways such as overdrafts, cash credit, line of credit, short-term loans, through the discounts of commercial papers, Banks, as a rule, provide only the requirements of industries, principally on the security of floating assets and avoid long-term advances against fixed assets.

3. TRADE CREDIT - One of the most important forms of short-term finance is the trade credit, extended by a business enterprise to another on the purchase and sale of goods and equipments. The use of trade credit has increased in recent years due mainly perhaps to the credit squeeze.

4. CUSTOMER'S CREDIT - Advances may also be obtained on contracts entered by the enterprise. The customers are often asked to make some advance payment in cash in lieu of a contract to purchase. Such advance can be utilised in purchasing raw materials paying wages and so on.

5. CREDIT PAPERS - In the categary of credit papers, bills of exchange and promissory notes of short-term duration varing between a month and six months are used. These papers are discounted with a bank and capital can be arranged. Accommodation bills is an important method of such finance.

6. PUBLIC DEPOSITS - Public deposits are also an important source of short-term and medium-term finance. Due to shortage of bank credit in recent past, the importance of public deposits have increased. They have been very popular among Indian Companies during last

six years. " In Bombay and Ahmedabad, most of the Cotton Mills procure their working capital from this source. It should, however, be remembered that it is not a very dependable source of finance, because there is always the risk of withdrawal during the period of depression." [10]

7. GOVT. ASSISTANCE - Sometimes, Central and State Governments also provide short-term finance in easy terms. But recently this facility has been stoped by the Government.

8. LOANS FROM DIRECTORS. - An enterprise can also obtain loans from its officers, directors, managing directors etc. These loans are oftern obtained at almost negligible rates of interest. Sometimes, no interest is charged on them. Loans can also be obtained from other fellow companies working within the same group.

9. SECURITY OF EMPLOYEES. - If employees are required to make deposits with their employer companies, such companies can utilize those amounts in meeting their working capital needs.

10. FACTORING - Factoring involves raising funds on the security of the company's debts, so that cash is received earlier then if the company waited of the depositers to pay. Thus the factors help in imporving the company's liquidity position.

11. OTHER FINANCIAL INSTITUTIONS - Although funds can be procured from special finance corporations e.g. I.F.C.I., S.F.C., I.D.B.I., I.C.I.C.I. etc.) yet these sources should not be touched for satisfying the variable working capital requirements.

11. <u>DETERMINANTS OF WORKING CAPITAL</u> -

There is no definite formula by which the proper amount of

working capital is to be determined. The requirements of business are not always the same. They vary not only from year to year but also from month to month. However, in order to determine the proper amount of working capital careful consideration should be given to the number of factors. They are Nature of Business, Size of Business Unit, Manufacturing Cycle, Business Cycles, Cash requirement, Need of Stock pile raw materials, Need of Store finished goods, Valume of Sales, Cost and Time involved in the manufacturing process, Terms of Purchases & Sales, Inventory Turnover, Receivable Turnover, Turnover of circulating capital, value of current assets, variations in Sales, Credit Contral, Liquidity & Profitability, Inflation, Seasonal fluctuations, Profit planning and Control, Repayment Ability, Cash Reserves, Operational and Financial efficiency, Changes in Technology, Activities of the Firm, Attitude to Risk, Growth and Expansion of Business, Dividend policy of the Concern, Other factors etc.

12. ANALYSIS OF WORKING CAPITAL/ TECHNIQUES OF WORKING CAPITAL ANALYSIS.

The analysis of working capital is primarily a test of short-time solvency on the other hand, it may also be said to be a test of the effectiveness with which the business is being is conducted.

There are many reasons why the analysis of working capital is very essential. In analising the working capital of a firm, answers will be sought to the following questions.

1. Is the Management utilising working capital effectively ?

2. Is the amount of working capital adequate excessive or insufficient ?

3. Will the firm be able to pay in its short term debts promptly ?

4- Does the firm have a favourable credit rating ?

5. Is the current financing position improving ?

6. What sources of funds have been used to finance working capital ?

1. OBJECTS OF ANALYSIS : The main objectives of this analysis are as follows ;-

   a. To maintain adequate working capital at every time.

   b. To minimise the cost of short term financing.

   c- To plan the various sources of short term finance well in advance in case of the need.

   d. To study the trends in the working capital positions.

   e. To assess the effectiveness of the management of the current assets.

   f. To maximise the return on investment of equity share holders.

2. TOOLS OF WORKING CAPITAL ANALYSIS : There are several tools of financial analysis of working capital. The important of them are as follows ;-

   a. STATIC TOOLS:

      1. Working capital trend analysis by preparing a working capital statements. It is also known as a schedule of working capital.

      2. Working capital ratios.

      3. Movement of working capital statements.

      4. Net cash-flow computation.

   b. DYMAMIC TOOLS :

      1. Fund flow analysis.

      2. Cash flow analysis. / Working capital budget.

      3. Working capital reports.

The objective of the present study is to study and examine the nature of working capital position and analysis of working capital with some ratios. So only the above 1 & 2 two tools are explained in details.

1. WORKING CAPITAL TREND ANALYSIS : Such analysis presents a picture of current assets and current liabilities over a period of two years and enables the researcher to study the increase and decrease in the individual current assets, current liabilities and its effects on the working capital position.

2. WORKING CAPITAL RATIOS : The most important and commonly used technique of the analysis of working capital in modern times is the ' Ratio Analysis '. The ratio analysis of working capital can be used by management as a means of checking upon the efficiency with which working capital is being used in the enterprise. It is basic technique used in judging the liquidity position of a concern.

a. DEFINITIONS OF RATIOS :

1. " The relationship of one item to another expressed in a simple mathematical form is known as the ratio ".[11]
2. " A Ratio shows an arithmetical relationship between two figures. It is an assessment of the significance of one figure in relation to the other. It takes the form of quotient obtained by dividing are figure into the other."[12]
3. According to Robert N. Anthony " A ratio is simply one number expressed in terms of another. "[13]
4. According to pearson Huntetal, " Ratios are simply a means of high lighting in arithmetical terms the relationship between figures drawn from financial statements " .[14]

5. In the words of J. Batty, the term ' accounting ratios ' is used " to describe significant relationship which exists between - figures shown on the balance sheet, in a profit and loss account , in a budgetory control system or in any other part of the accounting organisation. " [15]

The ratio analysis is a device to diagnose the financial desease of the enterprise. It shall point out if the financial condition of the firm is very strong, good or partly good, questionable or poor. Often a ratio is known as a symptom like the blood pressure, the pluse or the temperature on an individual. The financial analyst can X-ray the financial condition of a firm by its use. If the condition is adverse suitable, steps can be taken to over come it timely.

A ratio is customarily expressed in three ways - ' times ', 'Proportion ' and ' percentage ' according to the convenience or suitably when one value is divided by the other the quotient obtained indicates 'times.' If the quotient is multiplied by 100,(One hundred) we get the percentage. If we take proportion between the two figures we get the proportion or ratio. It may also he depicted in the form of diagrams and graphs.

b. <u>ADVANTAGES OF RATIO ANALYSIS</u> : The use of ratio analysis as a financial tool has been considerably increased these days. The - practising accountants now honestly feel that comparison of figures gives them a deep insighy into the nature of financial problems of the enterprises. The following are the principle advantages claimed by it.

1. Ratios simplify the comprehension of financial statements. They tell the whole story as a heap of financial data is condensed in them.

2. They act as an index of the efficiency of enterprise,. As such they serve as an instrument of management control. The efficiency of the various individual units similarly situated can be judged through enter firm comparisons.

3. A study of the trend of strategic ratios may help the management in its task of planning and forecasting.

4. At times the investment decisions are based on the condition revealed by certain ratios. In this respect they render valuable aid to the management which is planning the investment of surplus cash, the bank and the creditors.

Thus, it is possible to assess the profitability, solvency and the efficiency of the enterprise through the technique of ratio analysis.

c. TYPES OF RATIOS : The following ratios are of much help in diagnosing the working capital position of the firm.

1.CURRENT RATIO OR WORKING CAPITAL RATIO: Current ratio is most particular and conventional ratio to analyse working capital position of the firm. Certain authorities have suggested that in order to ensure solvency of a concern current assets should be at liest twice the current liabilities and therefore this is known as 2 : 1 ratio. It is so important that some financial experts have called it as ' working capital ratio ' also " Donald Miller describes the current ratio as one which is generally recognised as the patriarch among ratios." [16]

This ratio can be calculated by the following formula :

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

COMMENTS -

1. Conventionally, a ratio of 2 : 1 is considered satisfactory.
2. It shows whether the short term digations are empty covered by the liquid assets.
3. It presents a general picture of the adequacy of the working capital position of a company.
4. It serves as a specific measure of liquidity and flexibility of a company.
5. It is most commonly used ratio.
6. It represents a magrin of safety i.e. a cushion protection against current creditios.
7. It indicates the extent to which a firm's most pressing claims can be met from assets.

2.QUICK RATIO/ ACID TEST RATIO/LIQUIDITY RATIO : The quick ratio is a more serve and stringent test of a firms's ability to m meet current obligations. It suppliments the current ratio. It is also known as acid-test ratio or liquidity ratio. The quick ratio indicates the relation of'quick assets ' with ' quick liabilities. Quick or liquid assets include all current assets, except stock and prepaid expenses, where as liquid liabilities include all current liabilities except overdraft and accured expenses.

This ratio may be calculated by the following formula.

$$\text{Quick Ratio} = \frac{\text{Quick Assets}}{\text{Quick Liabilities.}}$$

COMMENTS -

1. It is used to derive a picture of the capacity of a firm to meet its short-term obligations out of short-term resources.

2. It assesses how liquid the firm would be, if business operations come to an ahurpt halt.

3. It is the most meaningful and perhaps the only accurate measure of liquidity.

4. Satisfactory ratio 1:1 .

3. WORKING CAPITAL TURNOVER RATIO : Sometimes, working capital turnover ratio is also calculated. It is ratio of net working capital to net sales. Hence it also know as a Ratio of Net Sales to Working Capital.

This ratio can be calculated by the following formula.

$$\text{Working Capital Turnover Ratio} = \frac{\text{Net Sales}}{\text{Net Working Capital}}$$

COMMENTS :

1. Higher the ratio, better is the position.

2. It shows the over or under trading position in relation to the quantum of working capital.

4. CURRENT ASSETS TURNOVER RATION : This ratio of Sales revenue to total current assets measures how effective management is in controlling the liquid assets.

This ratio may be calculated by the following formula.

$$\text{Current Assets Turnover Ratio} = \frac{\text{Sales Revenue}}{\text{Current Assets.}}$$

COMMENTS :

1. Higher the value of this ratio, better is the position.

2. It shows the over or under trading position in relation to the quantum of working capital.

5. NET WORKING CAPTIAL RATIO : Net Working Captial is the excess of current assets over current liabilities.

This ratio may be calculated by the following formula.

Net Working Capital = Current Assets - Current Liabilities.

COMMENTS :

1. It gives an over all position of the liquidity and solvency position of the firm.
2. But it is not a sound measurement to working capital position.

6. DEBTORS TURNOVER RATION : It is a ratio of credit Sales to sundry debtors and bills receivables. This ratio signifies the average collection period. The total sundry debtors and bills receivables are divided by the net credit sales for one year and multiplied by 360 to calculate this ratio figure.

This ratio can be calculated by the following formula.

$$\text{Debtors Turnover Ratio} = \frac{\text{Accounts Receivables}}{\text{Net Sales}} \times 365 \text{ or } 360$$

OR

$$\text{Debtors Turnover Ratio} = \frac{\text{Average Debtors}}{\text{Average Daily Credit Sales.}}$$

Where,

$$\text{Average Debtors} = \frac{\text{Opening Debtors} + \text{Closing Debtors}}{2}$$

$$\text{Average Daily Credit Sales} = \frac{\text{Total Credit Sales}}{365}$$

COMMENTS :

1. Changes in the ratio indicate changes in the company's credit policy or changes in its ability to collect its receivables.
2. It is an enabling device to find out as to how many days average sales are tied up in the value of accounts owing by debtors according

7. CREDITORS TURNOVER RATIO : It is ratio of credit sales to sundry creditors. This ratio significes the average payment period.

This ratio can be calculated by the following formula.

$$\text{Creditors Turnover Ratio} = \frac{\text{Average Creditors}}{\text{Average Daily Credit Purchases.}}$$

Where,

$$\text{Average Creditors} = \frac{\text{Opening Creditors} + \text{Closing Creditors.}}{2}$$

$$\text{Average Daily Credit Purchases} = \frac{\text{Total Credit Purchases}}{365}$$

COMMENTS :

1. Changes in the ratio indicate changes in the Company's payment policy or change in its ability to paid its obligations.

2. It shows the time that will be taken to pay the short-term obligation from the business operations.

8. INVENTORY TO WORKING CAPITAL RATIO : The closing stock figure is divided by the working capital which depicts the proportion of working capital represented by the inventories.

This ratio may be calculated by the following formula.

$$\text{Inventory to Working Capital Ratio} = \frac{\text{Closing Inventory}}{\text{Net working capital}}$$

COMMENTS :

1. The ratio is an index of the position of over stocking. It shows what part of the working capital is represented by the closing stocks.

2. This size of closing stock must bear a proper proportion to the quantum of working capital.

9. INVENTORY OR STOCK TURNOVER RATIO : This ratio may be obtined by the follwing formula.

$$\text{Inventory Turnover Ratio} = \frac{\text{Net Sales}}{\text{Average Inventory}}$$

Where,

$$\text{Average Inventory} = \frac{\text{Opening Inventory} + \text{Closing Inventory}}{2}$$

COMMENTS :

1. It measures the operating efficiency of an enterprise.
2. It is an indication of the velocity with which mearchandize moves through the business.
3. This is a test of inventory to discover possible trouble in the form of over-stocking or over-valuation.
4. It is used for measuring profitability.
5. It assets the financial manager in evaluating inventory policy.
6. A low inventory turnover may reflect dull business, over investment in inventory or accumulation of absolute and unsalea-ble goods.

10. NET SALES TO INVENTORY RATIO : This ratio can be calculated by the following formula.

$$\text{Net Sales Inventory Ratio} = \frac{\text{Net Sales}}{\text{Closing Inventory}}$$

COMMENTS :

1. This ratio serves as an indicator of the inventory turnover and the merchandising of a company.
2. It speaks for the performance in the fields of schedules and plans of inventory control.
3. It is the best indicator of the manner in which a company's inventory is turning.

3.2 WORKING CAPITAL MANAGEMENT.

a. Meaning Working capital management has become a basic and broad measure of judging the performance of a business firm. Technically, working capital management is an integral part of the financial management. To a financial Manager, a working capital Sphere throws welcome challenge and opportunity. In view of the multiplicity of factors exerting varied degrees of influence on working capital studies, a management has to be alert internal,external and environmental developments, and constantly plan and review its working needs and strategy. The Financial Manager must determine the optimum level of working capital funds and also the optimum composition of current assets and current liabilities. He must ensure that the oppropriate sources of funds are used to finance working capital and should also see that short-term liabilities of the business are met well in time.

b. DEFINITION : The management of current assets and current liabilities and the inter relationship that exists between them may be termed as working capital management. Working Capital Management is also known as current assets management because it requires much of the financial manager's time. According to James C Van Horne, " Working Capital Management usually is considered to involve the administration of current assets - namely, cash, marketable securities, receivables and inventories and the administration of current liabilities."[17] Moreever management of working capital is a continuing function which involves control of the every day ebb and flow of financial resources circulating in the enterprise in one from or the other. There are certain special problems peculiar to management of working capital requiring operating and financial skills of a high order. The specific application of some of these skills in the mana-

management of working capital is a subject in itself.

Working capital management has been looked upon as the driving seat of a financial manager. Moves and actions in the operating fields of productions procourements marketing services are ultimately enterpreted and viewed in financial terms, hence the preoccupation with the financial implications of the management of working capital and segments. In this connection Lousis Brandt, observes, "We need to know about whither to look for W.C.funds, how to use them and how to measure, plan and control them."[18]

Thus, working capital management is an attempt to manage and control the current assets and the current liabilities in order to maximise profitability and proper liquidity in business. In fact W.C.M. answers the following questions.

1. What is the need to invest funds in working capital ?

2. What should be the optimal levels of investment in to different currents assets ?

3. What should be the optimal proportion between long-term sources of funds to finance working captial ?

4. What appropriate sources of financing should be used ?

5. What should be the relationship between current assets and current liabilities?

c. COMPONENTS OF MANAGEMENT OF WORKING CAPITAL : The Management of working capital contains the following problems.

1. To decide the optimal level of investment in various current assets viz., cash, account receivables and inventory etc., that is determining size of working capital.

2. To decide the optimal mix of short term funds in relation to long term capital.

3. To locate the appropriate means to short term finances.

d. NEED AND IMPROTANCE OF WORKING CAPITAL MANAGEMENT : Management of Working Capital is very important for the sucess of a business. It has been emphasised that a business should maintain a sound Working capital portion and also that there should not be an excessive, level of investment in working capital. It has been rightly said that " Working Capital Management has been looked upon as the driving seats of financial manager," The manner of management of working capital to a very large extent, determines the sucess of operations of a concern. " Constant management is required to maintain appropriate level in the various working capital accounts".

Working Capital management has acquired important portion and great significante in the recent past. Its reflected by the falt financial managers spend a great deal of time in managing current assets and current liabilities. Arranging short term financing negotiating favourable credit terms, controlling the movements of cash administering,accounts receivable, and monitoring the investment in inventoring consume a great deal of their time. It has been found that the largest portion of financial manager's time is utilized in the management of working capital.

There are many aspects of working capital management which make it an important function of the financial manager. On the one hand it maintains proper liquidity,while on the other, it help in increasing the profitability of the concern.

The following are the aspects of working capital management that make an important topic for study.

1. There is a positive co-relation between the sale of firm and

its current assets. So, to increase a sale a corresponding increase in current asset is required. Hence, their proper administration too, becomes significant.

2. Near about 50 to 70 % capital of a firm's invested in its current assets. In capital budgeting plans we discuss about Fixed Investment in very detail that is only 30 to 50% of the total funds. Hence, the management current assets also attracts, attention of the management.

3. Fixed assets can be often acquired even on lease but their is no alternative for current assets. There is no way of avoiding an investment in inventory and in receivable,

4. Working Capital needs are generally financed through outside sources, so a continuous cas is necessary to utilize then in the best way. Surveys indicate that the largest part of a financial manager's time is devoted to the management to the current liabilities and assets that is working capital management.

5. Working Capital Management is particularly important for small firms. Because, a small firm has relatively limited acess to the long term capital markets. Therefore it must necessarily relay, heavily on trade credit and short term Bank Loans which are current liabilities.

e. <u>OBJECTIVES OF THE MANAGEMENT OF WORKING CAPITAL :</u> The objects of working capital management are two-fold -

1. Maintaince of capital and
2. Availability of ample funds at the times of needs.

The basic goal of working capital management is to manage each of the firm's current assets and current liabilities. In such a way that an acceptable level of net working capital in always maintained in the business. Each current assets must be managed, effeci-

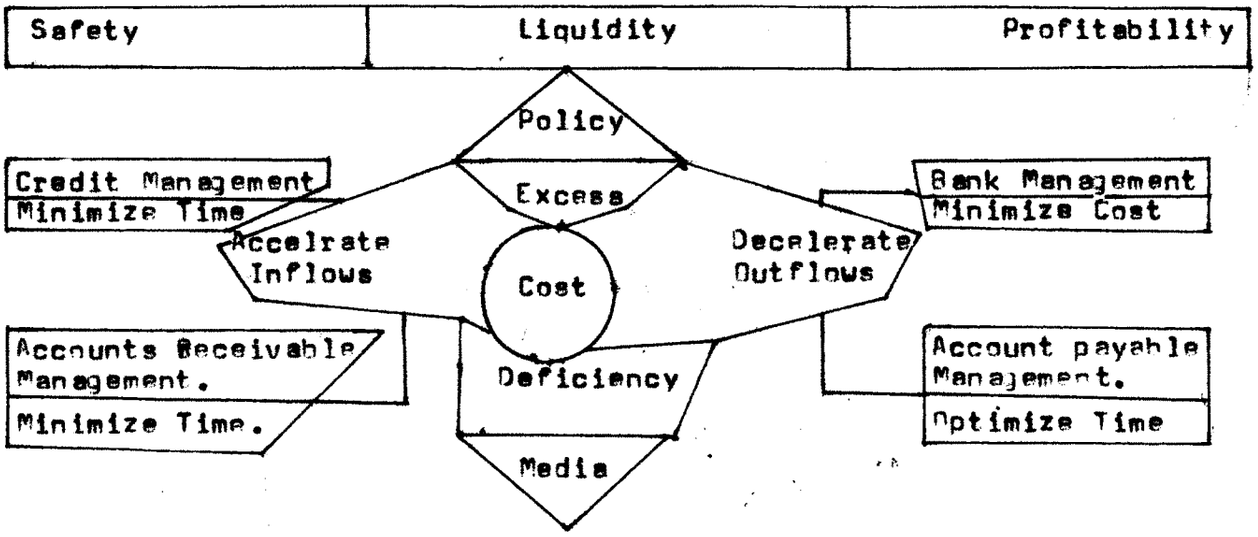
ently in order to maintain the firms liquidity while not keeping too high a level of any one of them. It altimately assets in increasing the profitability of the concern. Hence the problem of efficient management of working capital is to establish a trade of between liquilidity and profitability.

As a matter of fact, a business can not servive in the absence of a satisfactory ratio between its current assets and current liabilities. Furthermore, its ability to prosper is largely determined by the composition of current assets pool, management in settle policies with respect to general operations, purchasing, financing, expansion and divident must work within the limitations set by the working capital possion.

The goals and scope of the management of working capital are illustrated in the following figure.

FIGURE - 3.5

GOALS OF WORKING CAPITAL MANAGEMENT



Source : Pradeep Kumar - Elements of Financial Management P. 202.

3.3 INVENTORY MANAGEMENT.

The literary meaning of the word inventory is stock of goods In the sphere of working capital the efficient and effective management of inventory poses a challenging problem. Inventory constitues the largest component of current assets in many business organisation. The turnover of working capital is much more dependent upon its turnover. Thus, inventory management is of considerable significance to all business enterprises. L.R. Harvard observe that, " The proper management and control of inventory not only solves the acute problem of liquidity but also increase annual profits and causes substancial reduction in the working capital of a firm."[19] Inventory from a link between production and sale of a product. Therefore it is essential to have a sufficient level of investment in inventories. DSchell Lawrence and W.Haley Charles rightly remark," Managing the level of investment in inventory is like a maintaining the level of water in a bath-tube with an often drain. The water is flowing out continuously. If water is let in too slowly, the tub is soon empty. If water is let in too fast, the tub overflows. Like the water in the tub, the particular items of inventories keep changing, but the level may stay the same. The basic financial problems are to determine the proper level of investment in inventories and to decide how much inventory must be acquired during such period to maintain that level."[20]

The term'inventory management' is used in two ways i.e. unit control and value control production and purchase officials use this word in term of unit control where as in accounting this word is used in term of value control. Thus, the proper management and control of the capital invested in the inventory should be the prime responsibility of accounting department beeause resources invested in inventory are not earning a return for the company. Rather on the other

hand, they are costing the firm money both in items of capital costs being incurded and loss of opportunity income that is being foregone Hence financial manager exercises control over inventory. Gopalan & Sandhilya are of the opinion that, "Uncontrolled inventory can become and organisation's cancer." [21]

Managing working capital is synonymous with controlling inventories. Good inventory management is good finance management. Even where funds are plentiful the finance officer should be prepared to participate actively and gainfully in the formulation of inventory policies design to speed up turnover and maximum return on investment.

An efficient management of inventory should ultimately result in the maximisation of the owners wealth. The financial manager actually is a kind of watch dog over other functional areas. Broadly speaking, the inventory management problem is one of the maintaining for a given financial investment, an adequate supply of something in order to meet an accepted distribution of pattern of demand. Inventory control is a science-nased art of ensuring that enough inventory or stock is held by an organisation to meet both its internal and external demand commitments economically.

1. MEANING OF INVENTORY : In financial parlance, inventory is defined as," the sum of the value of raw materials, fuels and lubricants, spare parts, maintaince, consumables, semi-processed materials and finished goods.stock of any given point of time." [22] S.E.Bolen states, " The term inventory refers to the stockpile of the product firm is offering for slees and the compoments that make of the product." [23] To expand the definition of inventory and make it applicable to manufacturing firms as well as merchandising firms, it

can be stated that inventory means, " The aggregate of those items of tangible personal property which, 1) are held for sale in the ordinary course of business, 2) are in process of production for such sale, and 3) are to be currently consumed in the production of goods or services to be available for sale." [24] James H.Greene observes, 'An inventory refere to the movable articles of the business which are eventully expected to go into the flow of trade'.[25]

In the present study, raw materials stores and spare parts, finished and semi-finished goods have been included in inventories.

2. OBJECTIVES OF INVENTORY MANAGEMENT : The primary objectives of inventory management are operational and financial. The operational object consist of minimising the idele time caused by shortage of raw materials, stores and spare parts. The financial object is to keep the inventory costs and investments to the minmum and also reduction in the risk of obsolesence losses. Both these objects are competing and conflecting. The inventory control is designed to maintain a rational and judicious balance between the two. Specifically the main object of inventory management are. -

1. Ensure adequate maintenance of supply of raw materials, stores, spares and finished goods for maintaining an efficient level of operations and meeting the changing demands of customers.

2. Maintaining the investment in the inventories at the optimum level as warranted by the activities of sales, operating and financial.

3. Isolate and pin-point slow moving, defective and obsolete items.

4. Minimising and if possible preventing loss through deterioration wastage, damage and pilferage.

5. Checking and confirming the actual existing physical quantities in stock and the values shown in inventory records.

6. Designing proper organisation for inventory control with clear, cut accountability, standardized procedure and passing inventory mannual.

7. Signalling over or under stocked items in relation to current or projected demand.

8. Keeping down the costs to minimum.

9. Furnishing of data for short term and long turn planning.

The aim of inventory management, thus, should be to avoid to much inventory and too little inventory and to maintain adequate inventory for the smooth running of the business operations efforts should be made to place orders at the right time with the right source of purchase the right quantity at the right price and of right quality.

3. TYPES OF INVENTORY : The following of the three types of inventory.

1. RAW MATERIAL - To holds stock of raw materials, an organisation deploys it primary production, sections to obtain raw materials from manufacturers and stockists.

2 WORK-IN-PROCESS - The holding of both raw materials and stocks of finished goods is generally a planned activity. In-process stocks, however, are likely to exist in any manufacturing organisation, whether they are planned for or not.

3. FINISHED GOODS - The stock of finished goods provides a buffer between customer's demand and the manufacturers' supplies.

4. MEANING AND IMPORTANCE OF INVENTORY CONTROL : Inventory control is concerned with the acquisition, storage, handling and use

of inventories. So as to ensure the availability of inventory whenever needed, provide adequate cushion for contingencies and derive maximum economy and minimise wastage and losses. Inventory control is a planned method of determining what to ident, when to ident how much to ident, how much to stock so that purchasing and storing costs are lowest possible without affecting production and sales. Thus inventory control incorporates the determination of optimum size of inventory. How much to be ordered and when after taking into consideration the minimum inventory costs. The overall inventory management includes, designing an inventory control organisation with proper accountability, procedures for inventory handling and disposal of scrap, simplicification and standardization odification of inventories, size of inventory holdings, reorder points and safty stocks., economic order quantity, ABC analysis and value analysis and finally framing an inventory mannual.

The efficiency of inventory control affects the flexibility to the firm. Thus, the effects of inventory control on flexibility and on the level of investment required in inventories represent two sides of the same coin. Hence D Anna, rightly concludes, unless inventories are controlled, they are unreliable, inefficient and costly and they lean towards to high side."[26]

5. <u>OBJECTS OF INVENTORY CONTROL</u> : The objects of inventory control are to reduce the level of investment locked up in the form of excess inventories, of inventories losses due to pilferage, obsolescence, damages and breakages. In addition the management also wants to avoid extra burden of taxes, insurance and storage charges for excessive inventories. In brief the objectives of inventory control are ---

1. To minimise the possibility of delays in production through regular supply of raw materials, stores and spares, tool and others equipments and when required.

2. To avoide unnecessary capital locked up in inventories

3. To excecise economics in ordering the obtaining and storing of materials.

6. ADVANTAGES OF INVENTORY CONTROL. : Specifically the following advantages accrue to the management by controlling inventories.

1. Ensuring the adequate supply, minimising stock out, shortages and interroptions in operation.

2. Keep the investment in inventories minimum and reducing the inventory costs and risks of obsolescence losses to minimum.

3. Eliminate duplication in ordering or in replenishing stocks.

4. Effect economies in purchase.

5. To facilitate inter-departmental transfers of surplus stocks.

6. To provide check against loss of stocks through pilferage or carelessness.

7. To provide a means for the location and disposition of machine or obsolute ites of stocks.

8. To conserve valuable foreign exchange.

9. To reduce costs associated with shortages and possession of surplus inventories.

10. To release capital so scarce in this country.

In the end it can be said that inventory control contributes to the nations economic well-being growth with stability.

7. THE INVENTORY CONTROL SYSTEM. : In any scheme of inventory control, the following levels and quantities are fixed for each class of items.

1. MINIMUM LEVEL - It represents the minimum level below which inventories should not drop. It is not fixed at 'Zero'. Normally fixed supplies should arrive at first the stock reaches the minimum.The difference between Zero and established quantity is the safety factors required to guard against the possible shortage. This minimum quantity is determined by the rate of use of that item, its importance, normal procurement time and the availability of substitutes.

2. RE-ORDER POINT - It is the volume of inventory at which replinishment order should be placed so that fresh stocks may arrive well intime to prevent lock out.

Re-order point will consist of,

1. Average volume of use during the normal procurement time.

2. An additional quantity of safety factor to cover an unanticipated increase in the rate of use or procurement time.

3. STANDARD ORDER QUANTITY - It is the standard quantity of inventory requisitioned each time when the balances drop to order point. The basic object in setting this quantity is to achieve the lowest overall inventory costs. The various factors considered in this order quantity are rate of consumption. inventory costs, vendor's discount and risk of deterioration and obsolesance.

4. MAXIMUM LEVEL - The maximum level is the sum of minimum level and the standard order quantity.

B. TOOLS, TECHNIQUES AND SYSTEMS OF INVENTORY MANAGEMENT :

The following techniques may used to control the size of inventory in a manufacturing concern -

1. ABC ANALYSIS OF INVENTORIES : ABC analysis is a basic analytical technique for inventory management which enables top management to direct the effort where the results will be the highe - st. This tool is popularly known as "Always Better Control". This analysis classifies the inventories according to the importance of each component. It helps to "Put First Things First", it is an analytical approcah that, provides,"The most control for the least amount of controlling". This analysis is a selective approach aimed at keeping the investments low and at the same time avoding stock, outs of critical items. This is the starting point of inventory control. It is based on the technique of management by exception and such focusses control areas in inventory management. Usually a firm has to maintain several items in its inventory. It is not desireble to keep the same degree of control on all items of inventory debause some items account for the major portion of the total consumption value of all the items though these are small in number. Efficient inventory management demands that items of higher value should attract greater control and attention of the management.'ABC classification of inventories is based the concept that the items of greater value but lesser in number should be watched more closely and looked after by the members of the top management's team. Where as the items of lower value but large in number may not call for strict control, and be in the charge of a junior executive. The items of the middle category are moderately, controlled by the middle level managers. Herbert, J. Richmod, designate this plan of concentration on important items as control by importance and exception (C.I.E.) and refers to the process of classifying and ranking of the stock items on the basis of their descending

importance as Proportional Value Analysis (P.V.A.)"[27]

MECHANICS OF ABC ANALYSIS - The following steps are to taken while implementing the A B C plan.

1. Classification of items of inventories, determining the expected use in units and price per unit for each item.

2. Determine the total cost of each item by multiplying the expected units to be used by its price per unit.

3. Rank the itms in accordance with the total cost, giving the first rank to the item with the greatest total cost and so on.

4. Compare the ratios(Percentage) of number of units of each item to totla cost of all items.

5. Combine items on the basis of their relative value to form their categories, A B and C.

The normal items in most of the organisations empirically show the following pattern.

1. 5% to 10% items of top number of items account for about 70 to 75 % of the total consumption value. These items are called 'A' items.

2. 15% to 20% of the number of items account for 15 to 20% of the total consumption value. These items are called 'B' items.

3. The remaining number of items account for the balance 5 to 10 % of the total issue value. These items are called 'C' items.

2. ORDERING SYSTEM OF INVENTORIES : - One basic problem of inventory control is how much to order ? There are many formulas & models to slove this problem. All inventory models, no matter how complex, address themselves to the problem of timing and magnitude of replenishment. The decision of ordering is very much affected by

ordering and carring costs. The expenses which are incurred by the firm to acquire inventories are known as ordering costs. Carring costs of inventories include the following.

1. Cost of interest of the money invested in inventories.

2. Salaries and weges of employees assigned the duty to look after the receipt issue and proper storage of the inventories.

3. Expenses for the insurance of inventories.

4. Loss on account of obsolescence.

5. Rent or depreciation of godowns.

6. Repairs and maintainance charges for equipment used in handling of inventories.

7. Other miscellaneous expenses.

The inventory ordering and carring costs are inversely related to each other. The ordering system should strike a balance between these two costs, so that the total costs of inventories might be minimum. There are the following three important systems of ordering materials.

a. ECONOMIC ORDER QUANTITY : The optimum size is popularly known as the "Economic Order Quantity." The economic order quantity is used to minimize the annual total costs for ordering and carrying the inventory. There are three factors which affect the economic size of the order to be placed, viz.

1. Usages of materials during the given period.

2. Cost of placing an order, and

3. Costs of carrying the inventories.

The size of the inventory strikes a balance between the ordering costs and carrying costs and suggests the optimal size of the order to be placed. It can be represented by the following formula.

$$E.O.Q. = \sqrt{\frac{2\ A.O.}{C}}$$

Where,

E.O.Q. = Economic Order Quantity.

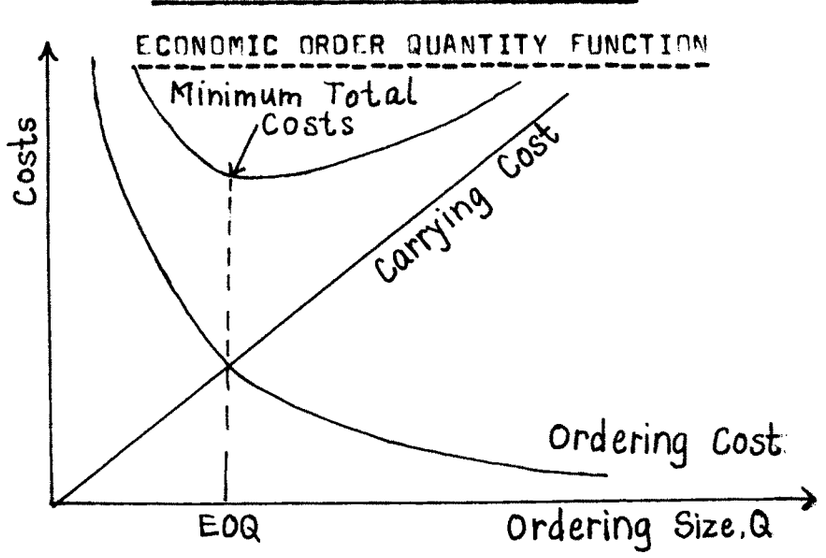
A = Total annual requirements in terms of unit.

O = Ordering cost per order in rupees.

C = Inventory carrying cost per unit.

The economic order quantity can also be shown graphically. Figure 3.6 shows the Economic Order Quantity Function.

FIGURE - 3.6



Source - S.C.Bardia, Working Capital Management, P.81.

In the figure, cost corrying, ordering and total are plotted on the vertical axis and the horizontal axis is used to represent the order size. It is clear from the figure that the total carring costs increase as the order size increases. The economic order quantity occurs at the point where the total costs is the minimum.

b. FIXED ORDER SIZE : It is also known as replenishment or the periodic review system. In this method the quantity is reviewed periodically and order is placed for a quantity sufficient to replenish inventory. It is determined on the basis of the requirement of materials during the review period and of lead time, under the

condition of certainty. In case of uncertainty it is determined on the basis of the requirement of materials and lead time plus safety stock, The review period is determined by keeping in view the terms conditions of the suppliers and the average consumption rate of the firm.

c.SINGLE ORDER SYSTEM : It is also known as part deliveries system. In this system a single order covers a firm's requirements of materials for a longer period, say, for 6 months or one year, with the instruction to supply materials in a certain number of instalments at specified intervals. This system ensures reguler supply of materials to the firm. The firm does not have to incur high ordering and carrying costs, nor does it have to make heavy investment in inventories. It also involves inconvenience of arranging space for storage. In fact the firm enjoys the economics of scale from the bulk order.

3. FIXING THE MINIMUM - MAXIMUM AND RE-ORDERING LEVEL FOR INVENTORY : In order to have a proper check on the investment in inventory, it is necessary to fix the minimum and the maximum limits of inventory so that there should be no overstocking of materials, nor shortage of raw materials. In fixing the levels of inventories, the following two factors should be borne in mind -

a. Time lag between indenting and receiving of the raw materials i.e. lead time.

b. rate of consumption during lead time.

Under this system, an order of sufficient size is placed when a minimum point in inventory is reached, to bring the inventory to the maximum point. Past experience may help the fixing of minimum and maximum points in inventories.

Re-ordering Level or Ordering level means it is a point if material reaches at this point, orders for fresh supplies of materials are placed with the suppliers. The point is fixed somewhere in between the maximum and minimum point in such a way that the quantity available between the minimum level and this point is sufficient to meet the requirements of production upon the time fresh supplies are received.

In fixing the ordering level, a danger level is also considered. It is a level at which normal issues of material are stopped or made at specific instructions of purchase officer. Purchase officet at thispoint, makes the efforts to get the materials available within an earliest possible time. This level is below the minimum level of stock.

4. PERPETUAL INVENTORY SYSTEM OR SYSTEM OF 'CONTINUOUS STOCK TAKING' : Maintenance of regular stock records is commonly known as perpetual (continuous stock taking) inventory. In fact, perpetual inventory implies a complete and updated account of each item of stores both on records and physical goods. The Institute of Cost and Management Accountants of England and Wales defines perpetual inventory as "A system of records maintained by the controlling department, which reflects the physical movement of stock and their current balance".[28] Thus, this is a system of ascertaining current balance after recording every receipt and issue of materials through stock records.

Strictly speaking, perpetual inventory means maintenance of such records (Stock Control Cards, Bin Cards and Store Ledger) as will reflect the receipts, issue and balance of all items in stock

at all times. The perpetual inventory system is generally supplemented by a programme of continuous stock taking which ensures that physical stocks agree with the book figures. The object of perpetual inventory records is to ensure that production is not interrupted due to want of materials, to facilitate regular checking, to avoid closing down for stocktaking and to provide basis for verification of physical quantity in stock.

Under this system the following two important steps are involved :

1. To ascertain the balance of stock of all items with regard to their quantities or values or both held in store at all times without the necessity for a physical stock taking,

2. Continuous physical verification of stock with regard to the balance shown by the stores records without interrupting the normal production activities.

5. TWO-BIN SYSTEM : Under this system, all inventory items are grouped under two categories. In the first group, a sufficient supply is kept to meet the current requirements over a designated period of time. In the second group or bin, a safety stock is maintained to meet the requirement of inventory when stock in the first bin is exhausted and reordering occurs.

6. ORDER CYCLING SYSTEM : In this system a review of each item of inventory is made from time to time depending upon the criticality of the item to have the predetermined level of inventory. Critical items may require a short review cycles and on the other hand, lower cost non-critical item may require longer review cycles. At each review date, a required quantity of inventory is ordered to bring it to the predetermined level.

7. STATISTICAL INVENTORY CONTROL SYSTEM : Statistical models are used by some firms to find out their widely spread distribution system with the help of computers etc. It helps the management in taking the inventory management decisions. But this system is valid only if the sufficient information for cost comparison is available and the data has accurately been compiled otherwise it is very difficult to find out the alternatives.

8. BUDGETARY CONTROL SYSTEM. : Under this system, inventory budgets are prepared and then compared with the actual consumption figures. Through budgets, inventory consumption and levels are coordinated with the expected usage. It serves the purpose of controlling cash and debtors position. The inventory budget is a plan for investing funds in stock at regular intervals via raw materials, work-in-progress and finished stocks.

9. INVENTORY REPORT : It is necessary for an effective control of inventories that the management should be kept aware of the latest stock position of different items. This is usually done by making periodic inventory reports. These reports should provide certain types of information necessary for the managerial action. Wherever necessary on the basis of these reports management may take corrective measures. The regular reporting reduces the chances of lapse in the administration of inventories.

10. EVALUATION THROUGH SELECTED INVENTORY RATIOS :
One important technique of inventory control is to use ratio analysis. Different ratios canbe computed as regards to inventory such as inventory turnover ratio, average inventory to total assets and inventory consumption rate. These ratios provide a broad frame work for the control and provide the basis for feature decisions regard-

ing inventory control. The ratios provide a rough indication of when inventory level are going to the high. Even if it appears from the ratio that the levels are too high there might be a perfectly good reason why the high level of inventory is being maintained. The ratio also indicate the situation and trend. They are not as end in themselves but only a means of sound inventory management.

The following are the some important ratios of inventory control.

1. Inventory Turnover $= \frac{\text{Net Sales}}{\text{Average Inventory}}$.

2. Raw Materials Inventory Turnover $= \frac{\text{Cost of R.M.Consumed}}{\text{Average R.M. Inventory.}}$

3. Work-in-process Inventory Turnover $= \frac{\text{Cost of Production}}{\text{Average W.i.P. Inventory}}$

4. Finished Goods Inventory Turnover $= \frac{\text{Cost of F.G.Sold}}{\text{Average F.G.Inventory.}}$

5. Consumable Stores Inventory Turnover $= \frac{\text{Cost of C.S.consumed}}{\text{Average C.S. Inventory.}}$

6. Percentage of Inventory Turnover $= \frac{\text{Average Inventory}}{\text{Net slaes}} \times 100$

7. Percentage of R.M.Inventory Turnover $= \frac{\text{Average R.M.Inventory}}{\text{Cost of R.M.Consumed}} \times 100$

8. Percentage of W.i.P.Inventory Turnover $= \frac{\text{Average W i p Inventory}}{\text{Cost of production}} \times 100$

9. Percentage of F.G.Inventory Turnover $= \frac{\text{Average F.G.Inventory}}{\text{Cost of F.G.Sold}} \times 100$

10. Percentage of C.S.Inventory Turnover $= \frac{\text{Average C.S.Inventory}}{\text{Cost of C.S.Consumed.}} \times 100$

9. INDUSTRY NORMS FOR INVENTORIES (TONDON GROUP REPORT) :

Considerable dialogue and unending debate is still in progress, concerning the inventory norms or standards prescribed by Tondon Study Group and accepted by the Reserve Bank of India for implementation in 15 major industries. From the clear premise that bank credit is a tool of resource allocation in the economy and taking note of the pressing claims from priority sectors recognised by Government and the Reserve Bank . the study group spotted the need to "Curb any tendency on the part of borrowers to built up undue inventories or to misdirect credit".[29] The types of inventory from this critical angle, got identified as -

1. Flabby Inventory, attributable to unsound working capital management and inefficient distribution.

2. Profit making inventory, where the stocks of raw materials or finished goods are looked upon as sources of stock profits, via induced scarcity.

3. Safety inventory, by way of a rather liberal insurance against failures in supplies or abrupt spurts in demand, etc.

4. Normal inventory, as related to the production plan, procurement lead time, rate of consumption economic ordering levels and similar factors of effective inventory management.

5. Excessive inventory, induced by reasons beyond control such as strategic imports, etc.

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