

## *Working Capital Management*

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The uses of funds of a concern can be divided into two parts namely long-term funds and short-term funds. The long-term investment may be termed as 'fixed investment.' A major part of the long-term funds is invested in the fixed assets. These fixed assets are retained in the business to earn profits during the life of the fixed assets. To run the business operations short-term assets are also required.

### **Concept of Working Capital Management**

There are two concepts of working capital *viz.* **quantitative** and **qualitative**. Some people also define the two concepts as gross concept and net concept. According to quantitative concept, the amount of working capital refers to 'total of current assets'. What we call current assets? Smith<sup>1</sup> called, 'circulating capital'. Current assets are considered to be gross working capital in this concept.

The qualitative concept gives an idea regarding source of financing capital. According to qualitative concept the amount of working capital refers to "excess of current assets over current liabilities."<sup>2</sup> L.J. Guthmann defined working capital as "the portion of a firm's current assets which are financed from long-term funds."<sup>3</sup>

The excess of current assets over current liabilities is termed as 'Net working capital'. In this concept "Net working

capital” represents the amount of current assets which would remain if all current liabilities were paid. Both the concepts of working capital have their own points of importance. “If the objectives is to measure the size and extent to which current assets are being used, ‘Gross concept’ is useful; whereas in evaluating the liquidity position of an undertaking ‘Net concept’ becomes pertinent and preferable.

It is necessary to understand the meaning of current assets and current liabilities for learning the meaning of working capital, which is explained below.

**Current assets** - It is rightly observed that “Current assets have a short life span. These type of assets are engaged in current operation of a business and normally used for short-term operations of the firm during an accounting period *i.e.* within twelve months. The two important characteristics of such assets are, (i) short life span, and (ii) swift transformation into other form of assets. Cash balance may be held idle for a week or two, account receivable may have a life span of 30 to 60 days, and inventories may be held for 30 to 100 days.”<sup>4</sup>

Fitzgerald defined current assets as, “cash and other assets which are expected to be converted in to cash in the ordinary course of business within one year or within such longer period as constitutes the normal operating cycle of a business.”<sup>5</sup>

**Current liabilities** - The firm creates a Current Liability towards creditors (sellers) from whom it has purchased raw materials on credit. This liability is also known as accounts payable and shown in the balance sheet till the payment has been made to the creditors.

The claims or obligations which are normally expected to mature for payment within an accounting cycle are known as current liabilities. These can be defined as “those liabilities where liquidation is reasonably expected to require the use of existing resources properly classifiable as current assets, or the creation of other current assets, or the creation of other current liabilities.”<sup>6</sup>

**Circulating capital** - working capital is also known as ‘circulating capital or current capital.’ “The use of the term circulating capital instead of working capital indicates that its flow is circular in nature.”

### **Structure of Working Capital**

The different elements or components of current assets and current liabilities constitute the structure of working capital which can be illustrated in the shape of a chart as follows:

### Structure of Current Assets and Current Liabilities

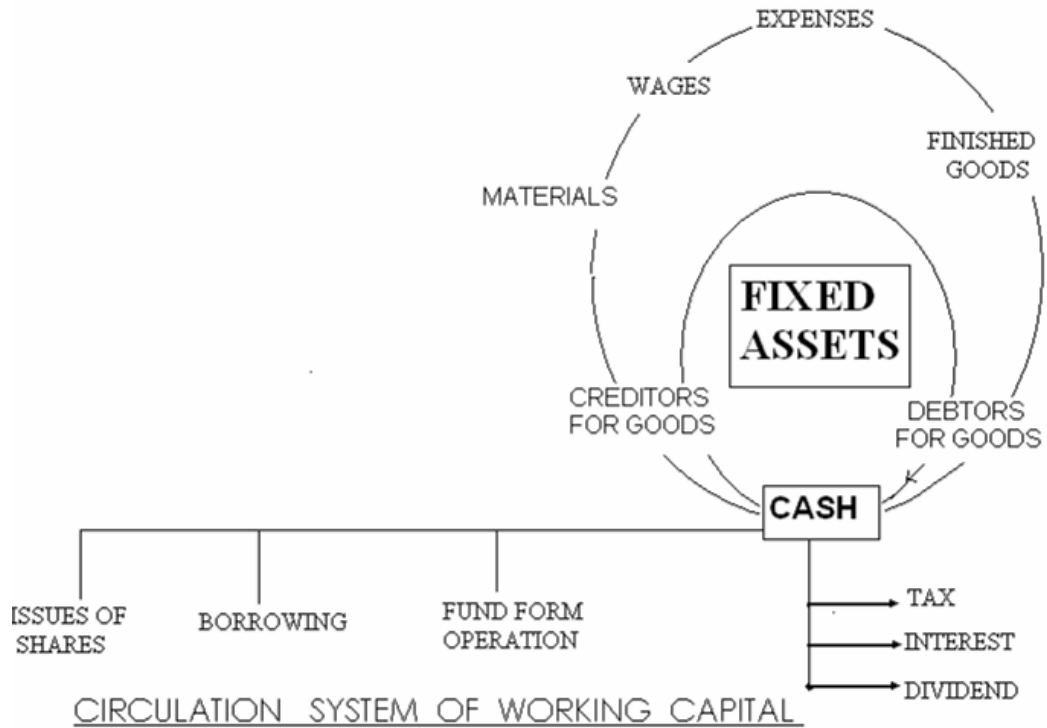
Current Liabilities	Current Assets
Bank Overdraft	Cash and Bank Balance
Creditors	Inventories: Raw-Materials Work-in-progress Finished Goods
Outstanding Expenses	Spare Parts
Bills Payable	Accounts Receivables
Short-term Loans	Bills Receivables
Proposed Dividends	Accrued Income
Provision for Taxation, etc.	Prepaid Expenses Short-term Investments

### Circulation of Working Capital

At one given time both the current assets and current liabilities exist in the business. The current assets and current liabilities are flowing round in a business like an electric current. However, "The working capital plays the same role in the business as the role of heart in human body. Working capital funds are generated and these funds are circulated in the business. As and when this circulation stops, the business becomes lifeless. It is because of this reason that the working capital is known as the circulating capital as it circulates in the business just like blood in the human body."<sup>7</sup>

Figure No.1 depicting 'Working Capital Cycle' makes it clear that the amount of cash is obtained mainly from issue of shares, borrowing and operations. Cash funds are used to purchase fixed assets, raw materials and used to pay to creditors. The raw materials are processed; wages and

overhead expenses are paid which in result produce finished goods for sale.



The sale of goods may be for cash or credit. In the former case, cash is directly received while in later case cash is collected from debtors. Funds are also generated from operation and sale of fixed assets. A portion of profit is used for payment of interest, tax and dividends while remaining is retained in the business. This cycle continues throughout the life of the business firm.

## Classification of Working Capital

The quantitative concept of Working Capital is known as gross working capital while that under qualitative concept is known as net working capital.

Working capital can be classified in various ways. The important classifications are as given below:

**Conceptual classification** - There are two concept of working capital *viz.*, quantitative and qualitative. The quantitative concept takes into account as the current assets while the qualitative concept takes into account the excess of current assets over current liabilities. Deficit of working capital exists where the amount of current liabilities exceeds the amount of current assets. The above can be summarised as follows:

- (i) Gross Working Capital = Total Current Assets
- (ii) Net Working Capital = Excess of Current Assets  
over Current Liabilities
- (iii) Working Capital Deficit = Excess of Current  
Liabilities over Current  
Assets.

**Classification on the basis of financial reports** - The information of working capital can be collected from Balance Sheet or Profit and Loss Account; as such the working capital may be classified as follows:

- (i) **Cash Working Capital** - This is calculated from the information contained in profit and loss account. This concept of working capital has assumed a

great significance in recent years as it shows the adequacy of cash flow in business. It is based on 'Operating Cycle Concept's which is explained later in this chapter.

- (ii) **Balance Sheet Working Capital** - The data for Balance Sheet Working Capital is collected from the balance sheet. On this basis the Working Capital can also be divided in three more types, *viz.*, gross Working Capital, net Working Capital and Working Capital deficit.

**Classification on the Basis of Variability** - Gross Working Capital can be divided in two categories *viz.*, (i) permanent or fixed working capital, and (ii) Temporary, Seasonal or variable working capital. Such type of classification is very important for hedging decisions.

- (i) **Temporary Working Capital** - Temporary Working Capital is also called as fluctuating or seasonal working capital. This represents additional investment needed during prosperity and favourable seasons. It increases with the growth of the business. "Temporary working capital is the additional assets required to meet the variations in sales above the permanent level."<sup>8</sup> This can be calculated as follows:

$$\text{Temporary Working Capital} = \text{Total Current Assets} - \text{permanent Current Assets}$$



- (ii) **Permanent Working Capital** – It is a part of total current assets which is not changed due to variation in sales. There is always a minimum level of cash, inventories, and accounts receivables which is always maintained in the business even if sales are reduced to a minimum. Amount of such investment is called as permanent working capital. “Permanent Working Capital is the amount of working capital that persists over time regardless of fluctuations in sales.”<sup>9</sup> This is also called as regular working capital.

### **Importance of Working Capital Management**

For smooth running an enterprise, adequate amount of working capital is very essential. Efficiency in this area can help, to utilize fixed assets gainfully, to assure the firm’s long-term success and to achieve the overall goal of maximization of the shareholders, fund. Shortage or bad management of cash may result in loss of cash discount and loss of reputation due to non-payment of obligation on due dates. Insufficient inventories may be the main cause of production held up and it may compel the enterprises to purchase raw materials at unfavourable rates.

Like-wise facility of credit sale is also very essential for sales promotions. It is rightly observed that “many a times business failure takes place due to lack of working capital.”<sup>10</sup> Adequate working capital provides a cushion for bad days, as

a concern can pass its period of depression without much difficulty.

O' Donnel *et al.* correctly explained the significance of adequate working capital and mentioned that "to avoid interruption in the production schedule and maintain sales, a concern requires funds to finance inventories and receivables."

The adequacy of cash and current assets together with their efficient handling virtually determines the survival or demise of a concern.<sup>11</sup> An enterprise should maintain adequate working capital for its smooth functioning. Both, excessive working capital and inadequate working capital will impair the profitability and general health of a concern.

The danger of excessive working capital are as follows:

**Heavy investment in fixed assets** - A concern may invest heavily in its fixed assets which is not justified by actual sales. This may create situation of over capitalisation.

**Reckless purchase of materials-** Inventory is purchased recklessly which results in dormant slow moving and obsolete inventory. At the same time it may increase the cost due to mishandling, waste, theft, etc.

**Speculative tendencies** - Speculative tendencies may increase and if profit is increased dividend distribution will also increase. This will hamper the image of a concern in future when speculative loss may start.

**Liberal credit** - Due to liberal credit, size of accounts receivables will also increase. Liberal credit facility can increase

bad debts and wrong practices will start, regarding delay in payments.

**Carelessness** - Excessive working capital will lead to carelessness about costs which will adversely affect the profitability.

**Paucity of working capital** is also bad and has the following dangers:

1. Implementation of operating plans becomes difficult and a concern may not achieve its profit target.
2. It is difficult to pay dividend due to lack of funds.
3. Bargaining capacity is reduced in credit purchases and cash discount could not be availed.
4. An enterprise loses its reputation when it becomes difficult even to meet day-to-day commitments.
5. Operating inefficiencies may creep in when a concern cannot meet its financial promises.
6. Stagnates growth as the funds are not available for new projects.
7. A concern will have to borrow funds at an exorbitant rate of interest in case of need.
8. Sometimes, a concern may be bound to sell its product at a very reduced rate to collect funds which may harm its image.

### **Meaning of Working Capital Management**

The management of current assets, current liabilities and inter-relationship between them is termed as working capital management. "Working capital management is concerned with

problems that arise in attempting to manage the current assets, the current liabilities and the inter-relationship that exist between them.”<sup>12</sup> In practice, “There is usually a distinction made between the investment decisions concerning current assets and the financing of working capital.”<sup>13</sup>

From the above, the following two aspects of working capital management emerges:

- (1) To determine the magnitude of current assets or “level of working capital” and
- (2) To determine the mode of financing or “hedging decisions.”

### **Significance of Working Capital Management**

Funds are needed in every business for carrying on day-to-day operations. Working capital funds are regarded as the life blood of a business firm. A firm can exist and survive without making profit but cannot survive without working capital funds. If a firm is not earning profit it may be termed as ‘sick’, but, not having working capital may cause its bankruptcy working capital in order to survive. The alternatives are not pleasant. Bankruptcy is one alternative. Being acquired on unfavourable term as another. Thus, each firm must decide how to balance the amount of working capital it holds, against the risk of failure.”<sup>14</sup>

Working capital has acquired a great significance and sound position in the recent past for the twin objects of profitability and liquidity. In period of rising capital costs and scare funds, the working capital is one of the most important

areas requiring management review. It is rightly observed that, "Constant management review is required to maintain appropriate levels in the various working capital accounts."<sup>15</sup> Mainly the success of a concern depends upon proper management of working capital so "working capital management has been looked upon as the driving seat of financial manager."<sup>16</sup>

It consumes a great deal of time to increase profitability as well as to maintain proper liquidity at minimum risk. There are many aspects of working capital management which make it an important function of the finance manager. In fact we need to know when to look for working capital funds, how to use them and how measure, plan and control them.

A study of working capital management is very important for internal and external experts. Sales expansion, dividend declaration, plants expansion, new product line, increase in salaries and wages, rising price level, etc., put added strain on working capital maintenance. Failure of any enterprise is undoubtedly due to poor management and absence of management skill.

Importance of working capital management stems from two reasons, *viz.*, (i) A substantial portion of total investment is invested in current assets, and (ii) level of current assets and current liabilities will change quickly with the variation in sales. Though fixed assets investment and long-term borrowing will also respond to the changes in sales, but its response will be weak.

## **Difference between the Working Capital Management and the Fixed Assets Management**

In fact management of working capital is similar to that of fixed assets management in the sense that in both cases a firm analyses their effects on its profitability and risk. However, fixed assets management and working capital management differ in three important ways. Firstly, in managing fixed assets time is very important. Consequently, discounting and compounding aspects of time element play a significant role in capital budgeting and a minor one in the working capital management. Secondly, large holdings of current assets specially cash, strengthen a firm's liquidity position (and reduce risks), but they also reduce overall profitability. Thirdly, the level of fixed as well as current assets depends upon the expected sales, but it is only current assets, which can be adjusted with sales fluctuations in the short-run.

### **Theory of Working Capital Management**

The interaction between current assets and current liabilities is, therefore, the main theme of the theory of working capital management. Working capital management is concerned with the problem that arises in attempting to manage the current assets, the current liabilities and the inter-relationship that exist between them. The goal of working capital management is to manage a firm's current assets and current liabilities in such a way that a satisfactory level of working capital is maintained.

## **Factors Influencing Working Capital Requirement**

Numerous factors can influence the size and need of working capital in a concern. So no set rule or formula can be framed. It is rightly observed that, "There is no precise way to determine the exact amount of gross or net working capital for every enterprise. The data and problem of each company should be analysed to determine the amount of working capital.

Briefly, the optimum level of current assets depends upon following determinants.

**Nature of business--**Trading and industrial concerns require more funds for working capital. Concerns engaged in public utility services need less working capital. For example, if a concern is engaged in electric supply, it will need less current assets, firstly due to cash nature of the transactions and secondly due to sale of services. However, it will invest more in fixed assets.

In addition to it, the investment varies concern to concern, depending upon the size of business, the nature of the product, and the production technique.

**Conditions of supply--** If the supply of inventory is prompt and adequate, less funds will be needed. But, if the supply is seasonal or unpredictable, more funds will be invested in inventory. Investment in working capital will fluctuate in case of seasonal nature of supply of raw materials, spare parts and stores.

**Production policy--** In case of seasonal fluctuations in sales, production will fluctuate accordingly and ultimately requirement of working capital will also fluctuate. However, sales department may follow a policy of off-season discount, so that sales and production can be distributed smoothly throughout the year and sharp, variations in working capital requirement are avoided.

**Seasonal Operations--** It is not always possible to shift the burden of production and sale to slack period. For example, in case of sugar mill more working capital will be needed at the time of crop and manufacturing.

**Credit Availability--** If credit facility is available from banks and suppliers on favourable terms and conditions, less working capital will be needed. If such facilities are not available more working capital will be needed to avoid risk.

**Credit policy of enterprises--** In some enterprises most of the sale is at cash and even it is received in advance while, in other sales is at credit and payments are received only after a month or two. In former case less working capital is needed than the later. The credit terms depend largely on norms of industry but enterprise some flexibility and discretion. In order to ensure that unnecessary funds are not tied up in book debts, the enterprise should follow a rationalized credit policy based on the credit standing of the customers and other relevant factors.



**Growth and expansion--** The need of working capital is increasing with the growth and expansion of an enterprise. It is difficult to precisely determine the relationship between volume of sales and the working capital needs. The critical fact, however, is that the need for increased working capital funds does not follow growth in business activities but precedes it. It is clear that advance planning is essential for a growing concern.

**Price level change—** With the increase in price level more and more working capital will be needed for the same magnitude of current assets. The effect of rising prices will be different for different enterprises.

**Circulation of working capital—** Less working capital will be needed with the increase in circulation of working capital and *vice-versa*. Circulation means time required to complete one cycle *i.e.* from cash to material, from material to work-in-progress, from work-in-progress to finished goods, from finished goods to accounts receivable and from accounts receivable to cash.

**Volume of sale--** This is directly indicated with working capital requirement, with the increase in sales more working capital is needed for finished goods and debtors, its *vice versa* is also true.

**Liquidity and profitability--** There is a negative relationship between liquidity and profitability. When working capital in relation to sales is increased it will reduce risk and

profitability on one side and will increase liquidity on the other side.

**Management ability** — Proper co-ordination in production and distribution of goods may reduce the requirement of working capital, as minimum funds will be invested in absolute inventory, non-recoverable debts, etc.

**External Environment** — With development of financial institutions, means of communication, transport facility, etc., needs of working capital is reduced because it can be available as and when needed.

### **Principles of Working Capital Management**

The following are the principles of working capital management:

**Principles of the risk variation**— Risk here refers to the inability of firm to maintain sufficient current assets to pay its obligations. If working capital is varied relative to sales, the amount of risk that a firm assumes is also varied and the opportunity for gain or loss is increased. In other words, there is a definite relationship between the degree of risk and the rate of return. As a firm assumes more risk, the opportunity for gain or loss increases. As the level of working capital relative to sales decreases, the degree of risk increases. When the degree of risk increases, the opportunity for gain and loss also increases. Thus, if the level of working capital goes up, amount of risk goes down, and *vice-versa*, the opportunity for gain is like-wise adversely affected.

**Principle of equity position—** According to this principle, the amount of working capital invested in each component should be adequately justified by a firm's equity position. Every rupee invested in the working capital should contribute to the net worth of the firm.

**Principle of cost of capital—** This principle emphasizes that different sources of finance have different cost of capital. It should be remembered that the cost of capital moves inversely with risk. Thus, additional risk capital results in decline in the cost of capital.

**Principle of maturity of payment—** A company should make every effort to relate maturity of payments to its flow of internally generated funds. There should be the least disparity between the maturities of a firm's short-term debt instruments and its flow of internally generated funds, because a greater risk is generated with greater disparity. A margin of safety should, however, be provided for any short-term debt payment.

### **Operating Cycle**

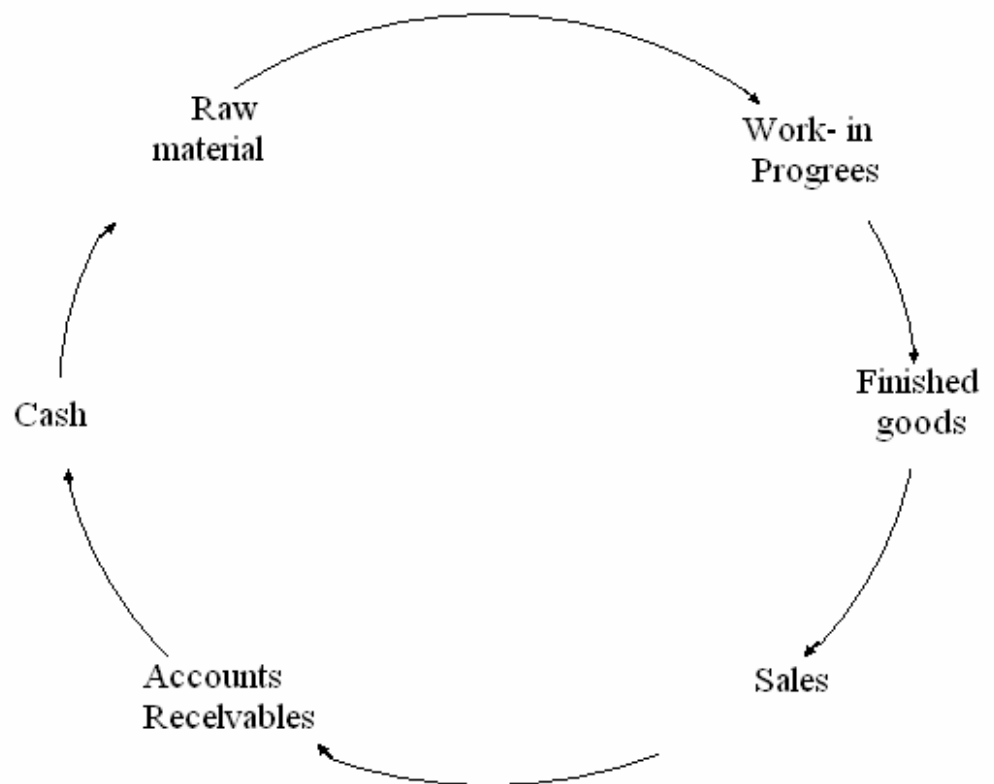
The duration of time required to complete the following sequence of events, in case of manufacturing firm, is called the operating cycle:

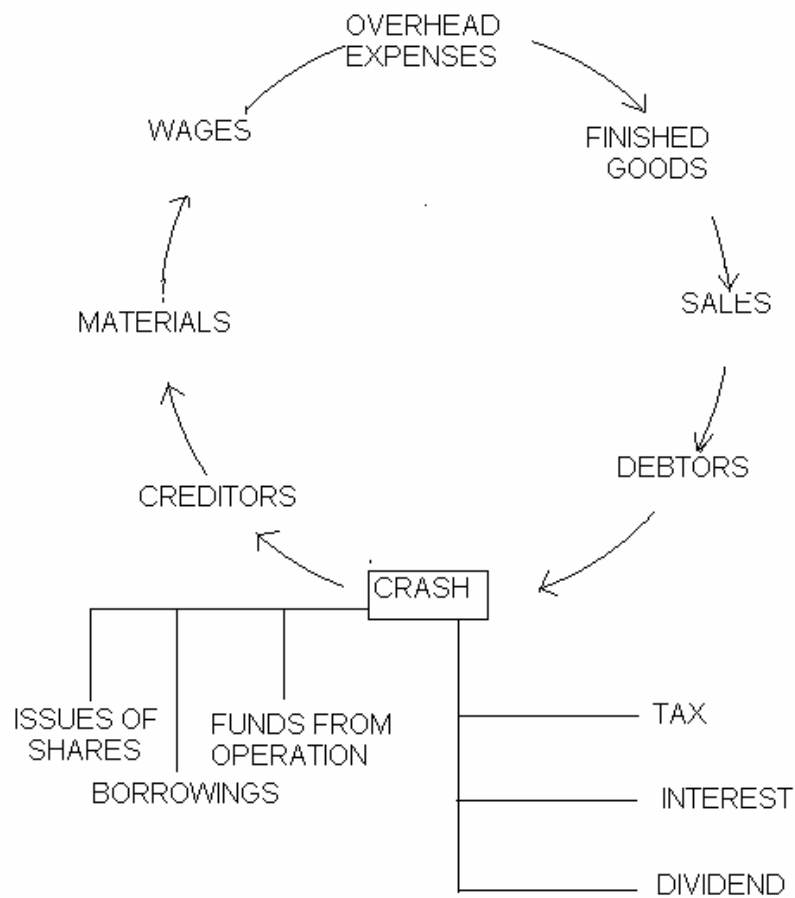
1. Conversion of cash into raw materials.
2. Conversion of raw materials into work-in-progress.
3. Conversion of work in process into finished goods.

4. Conversion of finished goods into debtors and bills receivables through sales.
5. Conversion of debtors and bills receivables into cash.

The length of cycle will depend on the nature of business. Non manufacturing concerns, service concerns and financial concerns will not have raw material and work-in-process so their cycle will be shorter. Financial Concerns have a shortest operating cycle.

### Operating Cycle of Manufacturing Concerns





### Duration of the Operating Cycle

The duration of the operating cycle is equal to the sum of the duration of each of these stages less the credit period allowed by the suppliers of the firm. In symbols,

$$O = R + W + F + D - C$$

Where,

O = duration of operating cycle.

R = raw material storage period.

W= work-in-process period.

F= finished goods storage period.

D=debtors collection period, and

C = creditors payment period.

The components of the operating cycle may be calculated as follows:

$$R = \frac{\text{Average stock of raw materials and stores}}{\text{Average raw material and stores consumption per day}}$$

$$W = \frac{\text{Average work-in-process inventory}}{\text{Average cost of production per day}}$$

$$F = \frac{\text{Average finished goods inventory}}{\text{Average cost of goods sold per day per day}}$$

$$D = \frac{\text{Average book debts}}{\text{Average credit sales per day}}$$

$$C = \frac{\text{Average trade creditors}}{\text{Average credit purchase per day}}$$

### **Determinants of Working Capital**

There are no set rules or formulas to determine the working capital requirement of a firm. A number of factors influence the need and quantum of the working capital of a firm. These are discussed below:

**Nature of industry-** The composition of an asset is related to the size of a business and the industry to which it belongs. Small companies have smaller proportion of cash, requirements and inventory than large corporations. Need of

working capital is thus determined by the nature of an enterprise.

**Demand of creditors-** Creditors are interested in the security of loans. They want their advances to be sufficiently covered. They want the amount of security in assets which are greater than liabilities.

**Cash requirements-** Cash is one of the current assets which are essential for the successful operations of the production cycle. Cash should be adequate and properly utilized. A minimum level of cash is always needed to keep the operations going.

**General nature of business-** The general nature of a business is an important determinant of the level of the working capital. Working capital requirements depends upon the general nature and its activity on work. They are relatively low in public utility concerns in which inventories and receivables are rapidly converted into cash. Manufacturing organisations, however, face problems of slow turn-over of inventories and receivables, and invest large amount in working capital.

**Time-** The level of working capital depends upon the time required to manufacture goods. If the time is longer, the amount of working capital required is greater and *vice-versa*. Moreover, the amount of working capital depends upon inventory turnover and the unit cost of goods that are sold. The greater this cost, the larger is the amount of working capital.

**Volume of sales-** This is the most important factor affecting the size and component of working capital. A firm maintains current assets because they are needed to support the operational activities which results in sales. The volume of sales and the size of the working capital are directly related to each other. As the volume of sales increases, there is an increase in the investment of working capital in the cost of operations, in inventories and in receivables.

**Terms of purchases and sales-** If the credit terms of purchases are more favourable and those of sales less liberal, less cash will be invested in inventory. With more favourable credit terms, working capital requirements can be reduced as a firm gets time for payment to creditors or suppliers.

**Inventory turnover-** If the inventory turnover is high, the working capital requirements will be low. With good and efficient inventory control, a firm is able to reduce its working capital requirements.

**Receivables turnover-** It is necessary to have effective control over receivables. Prompt collection of receivables and good facilities for setting payables result into low working capital requirements.

**Business cycle-** Business expands during periods of prosperity and decline during a period of depression.



Consequently, more working capital is required during periods of prosperity and less during the periods of depression.

**Variation in sales-** A seasonal business requires the maximum amount of working capital for a relatively short period of time.

**Production cycle-** The time taken to convert raw material into finished products is referred to as the production cycle or operating cycle. The longer the duration of production cycle, the greater is the requirement of working capital. Utmost care should be taken to shorten the period of the production cycle in order to minimize working capital requirements.

**Liquidity and profitability-** If a firm desires to take a greater risk for bigger gains or losses, it reduces the size of its working capital in relation to its sales. If it is interested in improving its liquidity, it increases the level of its working capital. However, this policy is likely to result in a reduction of sales volume and, therefore, of profitability. A firm, therefore, should choose between liquidity and profitability and decide about its working capital requirements accordingly.

**Profit planning and control-** The level of working capital is decided by management in accordance with its policy of profit planning and control. Adequate profit assists in the generation of cash. It makes it possible for management to

plough back a part of earnings into the business and substantially build up internal financial resources.

**Activities of the firm-** A firm's stocking of heavy inventory or selling on easy credit term calls for a higher level of working capital than a firm selling services or making cash sales.

### **Forecasting of Working Capital**

To forecast the working capital requirement for the next year the following formula may be used :

(Estimated cost of goods sold × Operating Cycle) + Desired Cash Balance

### **Control of Working Capital**

Working capital requirement depends upon the level of operation and the length of operating cycle. Monitoring the duration of the operating cycle is an important ingredient of working capital control. In this context, the following points should borne in mind:

1. The duration of the raw material stage depends on regularity of supply, transportation time, price fluctuations and economy of bulk purchase. For imported materials it takes a longer time.

**Example** - X Ltd. Expects its cost of goods sold for the forthcoming year to be Rs. 2 crore. The present operating cycle of the firm is 78 days. The firm plans to reduce its

operating cycle to 73 days and desired cash balance is Rs. 5 lakh.

The expected working capital requirement would be,  
 $2,00,00,000 \times \frac{73}{365} + 5,00,000 = \text{Rs. } 45,00,000$

2. The duration of the work-in-process depends on the length of manufacturing cycle, consistency in capacities at different stages, and efficient coordination of various inputs.
3. The duration of the finished goods depends on the pattern of production and sales. If production is fairly uniform throughout the year but sales are highly seasonal or *vice versa*. The duration of finished goods tends to be long.
4. The duration at the debtors stage depends on the credit period granted, discounts offered for prompt payment, and efficiency and rigour of collection efforts.

It is helpful to monitor the behaviour of overall operating cycle and its individual components. For this purpose time series analysis and cross section analysis may be done. In time series analysis the duration of the operating cycle and its individual components is compared over a period of time for same firm. In cross section analysis the duration of the operating cycle and its individual components is compared with that of other firms of a comparable nature.

## **Adequacy of Working Capital**

The importance of adequacy of working capital can hardly be over-emphasized. John L. O. Donnell and Milton S. Gladberg observe "Many a times business failure takes place due to lack of working capital."<sup>19</sup> Hence, working capital is considered as the life blood and the controlling nerve centre of a business. Inadequate working capital is business ailment.<sup>20</sup> Therefore, a firm has to maintain a sound working capital. It 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 greater extent, the maintenance of a 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 extend favourable credit terms to its customers.
- (6) It enables a company to operate its business more efficiently because there is no delay in obtaining materials, etc., because of credit difficulties.

- (7) It enables a business to withstand periods of depression smoothly.
- (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) Increasing price may necessitate bigger investments in inventories and fixed asset.

### **Source of Working Capital**

Conventional generalizations relating to financing of working capital suggest that an amount equal to the basic minimum of current assets should be financed from long-term source and that only seasonal needs of working capital should be financed from short-term sources.<sup>21</sup> It is obvious that such an arrangement helps to keep the cost of working capital finance to the minimum for an enterprise and gives a rise to its rate of return on the total funds employed. Viewed thus, the sources of working finance can be classified into permanent and the current sources of working capital finance.

## Structure of Working Capital

The study of structure of working capital is another name for the study of working capital cycle. In other words, it can be said that the study of structure of working capital is the study of the elements of current assets *viz.* inventory, receivable, cash and bank balances and other liquid resources like short-term or temporary investments. Current liabilities usually comprise bank borrowings, trade credits, assessed tax and unpaid dividends or any other such things. The following points mention relating to various elements of working capital deserves:

**Inventory-** Inventory is major item of current assets. The management of inventories – raw material, goods-in-process and finished goods is an important factor in the short-run liquidity positions and long-term profitability of the company.

**Raw material inventories-** Uncertainties about the future demand for finished goods, together with the cost of adjusting production to change in demand will cause a financial manager to desire some level of raw material inventory. In the absence of such inventory, the company could respond to increased demand for finished goods only by incurring explicit clerical and other transactions costs of ordinary raw material for processing into finished goods to meet that demand. If changes in demand are frequent, these order costs may become relatively large. Moreover, attempts to purchases hastily the needed raw material may necessitate payment of premium

purchases prices to obtain quick delivery and, thus, raises cost of production. Finally, unavoidable delays in acquiring raw material may cause the production process to shut down and then re-start again raising cost of production. Under these conditions the company cannot respond promptly to changes in demand without sustaining high costs. Hence, some level of raw materials inventory has to be held to reduce such costs. Determining its proper level requires an assessment of costs of buying and holding inventories and a comparison with the costs of maintaining insufficient level of inventories.

**Work-in-process inventory-** This inventory is built up due to production cycle. Production cycle is the time-span between introduction of raw material into production and emergence of finished product at the completion of production cycle. Till the production cycle is completed, the stock of work-in-process has to be maintained.

**Finished goods inventory-** Finished goods are required for reasons similar to those causing the company to hold raw materials inventories. Customer's demand for finished goods is uncertain and variable. If a company carries no finished goods inventory, unanticipated increases in customer demand would require sudden increases in the rate of production to meet the demand. Such rapid increase in the rate of production may be very expensive to accomplish. Rather than loss of sales, because the additional finished goods are not immediately available or sustain high costs of rapid additional

production, it may be cheaper to hold a finished goods inventory. The flexibility afforded by such an inventory allows a company to meet unanticipated customer demands at relatively lower costs than if such an inventory is not held.

Thus, to develop successfully optimum inventory policies, the management needs to know about the functions of inventory, the cost of carrying inventory, economic order quantity and safety stock. Industrial machinery is usually very costly and it is highly uneconomical to allow it to lie idle. Skilled labour also cannot be hired and fired at will. Modern requirements are also urgent. Since requirements cannot wait and since the cost of keeping machine and men idle is higher, than the cost of storing the material, it is economical to hold inventories to the required extent. The objectives of inventory management are:

- (1) To minimize idle cost of men and machines caused by shortage of raw materials, stores and spare parts.
- (2) To keep down:
  - (a) Inventory ordering cost.
  - (b) Inventory carrying cost,
  - (c) Capital investment in inventories.
  - (d) Obsolescence losses

Receivables - Many firms make credit sales and as a result thereof carry receivable as a current asset. The practice of carrying receivables has several advantages *viz.*, (i) reduction



of collection costs over cash collection, (ii) Reduction in the variability of sales, and (iii) increase in the level of near-term sales. While immediate collection of cash appears to be in the interest of shareholders, the cost of that policy may be very high relative to costs associated with delaying the receipt of cash by extension of credit. Imagine, for example, an electric supply company employing a person at every house constantly reading electricity meter and collecting cash from him every minute as electricity is consumed. It is far cheaper for accumulating electricity usage and bill once a month. This of course, is a decision to carry receivables on the part of the company. It may also be true that the extension of credit by the firm to its customers may reduce the variability of sales over time. Customers confined to cash purchases may tend to purchase goods when cash is available to them. Erratic and perhaps cyclical purchasing patterns may then result unless credit can be obtained elsewhere. Even if customers do obtain credit elsewhere, they must incur additional cost of search in arranging for a loan costs that can be estimated when credit is given by a supplier. Therefore, extension of credit to customers may well smooth out of the pattern of sales and cash inflows to the firm over time since customers need not wait for some inflows of cash to make a purchase. To the extent that sales are smoothed, cost of adjusting production to changes in the level of sales should be reduced.

Finally, the extension of credit by firms may act to increase near-term sales. Customers need not wait to accumulate necessary cash to purchase an item but can acquire it immediately on credit. This behaviour has the effect of shifting future sales close to the present time.

Therefore, the extension of credit by a firm and the resulting investment in receivables occurs because it pays a firm to do so. Costs of collecting revenues and adapting to fluctuating customer demands may make it desirable to offer the convenience associated with credit to firm's customers. To the extent that near sales are also increased, extension of credit is made even more attractive for the firm.

**Cash and interest-bearing liquid assets-** Cash is one of the most important tools of day-to-day operation, because it is a form of liquid capital which is available for assignment to any use. Cash is often the primary factor which decides the course of business destiny. The decision to expand a business may be determined by the availability of cash and the borrowing of funds will frequently be dictated by cash position. Cash-in-hand, however, is a non-earning asset. This leads to the question as to what is the optimum level of this idle resource. This optimum depends on various factors such as the manufacturing cycle, the sale and collection cycle, age of the bills and on the maturing of debt. It also depends upon the liquidity of other current assets and the matter of expansion. While a liberal maintenance of cash provides a sense of

security, a lack of sufficiency of cash hampers day-to-day operations. Prudence, therefore, requires that no more cash should be kept on hand than the optimum required for handling miscellaneous transactions over the counter and petty disbursements etc.

It has not become a practice with business enterprises to avoid too much redundant cash by investing a portion of their earnings in assets which are susceptible to easy conversion into cash. Such assets may include government securities, bonds, debentures and shares that are known to be readily marketable and that may be liquidated at a moment's notice when cash is needed.

### **The Present Study and Methodology**

The importance of the study is emphasized by the fact that as pointed out earlier in this chapter, the manner of administration of working capital determined to a very large extent, the success or failure of overall operations of an enterprise. Many times, in the event of the failure of a business concern, shortage of working capital is given out as its main cause. However, in the ultimate analysis, it may be mismanagement of resources of the firms that converted, otherwise successful business into an unsuccessful one "Inadequacy of working capital is a symptom, and sometimes an excuse of business failure."<sup>22</sup> The proper management of working capital is, therefore, of crucial importance, for the

success of an enterprise which involves the administration of all current assets.

**Methodology-** There were many cement companies in India. The annual reports of these companies have been collected from financial statement data of companies given in CMIE-Prowess-Database-Package. In addition, the author visited some of the companies and discussed various issues with the management of the respective companies. The collected data have been analysed with the help of statistical techniques and computer software. The analysis, findings, conclusions and suggestions have been presented in the form of this study.

**Analysis of working capital methods-** Various reasons may make it essential to analyse the working capital position of a business enterprise. One reason for analyzing the working capital position of a company is to see what will be found when financial statements are examined. A second reason is to enable management to detect trends and take corrective steps when the analysis indicates need for them. A third reason is to see what changes have taken place in the company over a period of time so that this knowledge may be used in setting guidelines. There are two important tools for analyzing the working capital position of an enterprise. One is the funds flow analysis and the other is ratio analysis.

**1. Funds Flow Analysis of Working Capital-** This analysis shows how funds have been procured for a business and

how they have been employed. This technique helps to analyse changes in working capital components between two data. The comparison of current assets and current liabilities, as shown in the balance sheet at the beginning and at the end of a specific period, shows changes in each type of current assets as well as the sources from which working capital has been obtained. However, this technique does not throw light on the question whether the working capital is being used most effectively and whether the current financial position of the enterprise has improved.

2. **Ratio Analysis of Working Capital-** This is the most commonly used technique which deals practically with each and every aspect of working capital analysis. In this technique, for each aspect of analysis certain ratios are computed and then results are drawn on the basis of trends shown by them against those fixed as guide-posts. Various ratios are used in analyzing the various aspects of the working capital position of an enterprise:

- (a) **Liquidity of Working Capital-** An analysis of the liquidity of working capital is of use for both the short-term creditors and internal management of a business enterprise. To the former it communicates - the chances of receiving payment at the time of maturity, the margin of safety, if the unexpected should arise which may indicate whether the working capital is sufficient, the

extent to which a concern has over- or under-invested the cash in its operating cycle. Two appropriate tests of this important feature of the working capital analysis are to be found in the computation of current and quick ratios. The details of the current and quick ratios have been discussed in the chapter where ratios have been computed and analysed.

**(b) Circulation of working capital-** An analysis of circulation of working capital highlights the efficiency which working capital is being utilised. For this purpose various turnover ratios such as inventory turnover ratio, Receivables turnover ratio, cash turnover ratio etc. are calculated which show efficiency of the use of working capital in each or its components as well as on the whole. Generally the higher the level of these turnover ratios, the smaller would be the working capital requirements of an enterprise. The details of the above ratios have been given in the respective chapters.

This aspect of the analysis of working capital focuses on the level of working capital. It helps an analyst to know whether the size of working capital maintained by an enterprise is excessive or short of or adequate to its requirements.

Various ratios can be computed to know the sufficiency of the size of working capital and movements in the quantum of working capital in successive periods. The two most important tools in this connection are the computation of the size of working capital in terms of “months’ cost of production” and “months’ average sales turnover.” The results of these ratios when compared with the quide-posts (as prevailing in the enterprise or in the industry), show whether the size of working capital maintained is of sufficient, inadequate or of an excessive order. A comparison of working capital with other variables such as the output and sales over various years may also give a hint to an analyst about the trends in the growth of working capital. The use of index numbers, percentages and ratios may help to accomplish this task.

### **Scope and Purpose of Present Study**

The present study “Working Capital Management in Cement Industry In India” analyses the efficiency of the working capital management and its components *i.e.* inventory amount, cash and bank balances and various current liabilities. The study attempts to determine the efficiency and effectiveness of management in each segment of working capital. Since the net concept of working capital has been taken

in the present study, management of both current assets and current liabilities will be critically reviewed

The importance of the study is emphasized by the fact that the manner of administration of current asset and current liabilities determined to a very large extent the success or failure of a business. The efficient and effective management of working capital is of crucial importance for the success of a business, which involves the management of the current assets and the current liabilities. The business concern has therefore to optimize the use of available resources through the efficient and effective management of the current assets and current liabilities. This will enable to increase the profitability of the concern and the firm could be able to meet its current obligation will in time.

### **Hypotheses of the study**

The study has been pursued to test the following hypotheses with reference to Cement Industry in India:

1. That proper management of working capital improves both 'Liquidity and Profitability' position of a business firm.
2. That external sources of finance particularly bank borrowing are being liberally utilized in financing the working capital requirement of industry in India.



3. That the scope for improvement in the management of working capital is greater in inventory as well as receivables management than in cash management.
4. That the private sector of the industry is definitely in a better position than the public sector, as far as management of working capital is concerned.

We often start with an assertion or a hypothesis and use our research data to prove or to disprove it. Every hypothesis put to test with known statistical procedure and unless such tests are carried out a research is not complete.

### **Objectives of the study**

The present study has been undertaken to achieve the following objectives with regard to management of working capital in Cement Industry of India:

1. To analyze and evaluate working capital management of selected units.
2. To evaluate the inventory, receivable and cash management performance
3. To assess the relative significance of various sources of financing of working capital.
4. To compare the selected units of the private sector regarding management of working capital.
5. To suggest on the basis of conclusions, innovation in the management of working capital in Cement Industry in India.

6. To find out the fluctuations arising in working capital in various cement companies due to its nature of demand and supply, production, government policies thereto.
7. To analyse the growth in the sector of production and installation policies and capacities during five year plans.
8. To analyze the impact of cement industry on the national economy.
9. To analyze new technique in cement industry with a view to cutting costs and increasing efficiency in production and distribution so as to raise the level of production and consumption.
10. To know the profitability of cement industry and its impact on working capital.

### **Methods of Study**

In the present study, top five cement companies have been selected out of more than 50 cement companies in India. These companies are:

- (i) ACC
- (ii) Gujarat Ambuja
- (iii) Shree Cement
- (iv) Indian Cement
- (v) Mangalam Cement

As the case study of five companies, the company will be selected on the basis of capital employed. Obviously, it will be a comparative study through empirical methods of the study.

Simultaneously, interview of top official in these companies would be arranged to make the empirical aspect more meaningful. It is expected that direct interviews may provide insight into the practical and behavioural aspect of the management of working capital, as the management is basically a human problem. That is why interviews have been planned in the course of study.

Besides these empirical methods of study, a histo-descriptive method would also be used in order to make the study academically significant and practically important exercise.

The data relating to management of working capital of cement industry and its selected units has been collected from the published annual reports of the companies for the year 2003-04 to 2007-2008 which were directly obtained from the registered offices of respective companies. In addition to this primary data about practices, policies and procedures followed in the management working capital in the selected units have been collected through personal discussions with the top executives of the units. This data was supplemented by information collected from various books, journals, newspapers and articles relating to industry. With the help of data related to the study, various selected statements and ratios have been calculated, fund flow and cash flow statements have been prepared and interpreted through different statistical techniques analysis of variance, coefficient of correlation and

regression etc. With the help of conclusions drawn, suggestions have been presented to improve the efficiency of management of working capital in the industry.

In the course of analysis in the study, use of various accounting and statistical techniques have been made. Accounting technique includes ratio analysis and funds flow statement.

**Ratio Analysis-** The purpose of the ratio analysis has been three-size analysis, composition analysis and efficiency analysis. Various ratios computed in order to analyse the size, composition and circulation of working capital and its various components (Inventory, receivable and current liabilities) have been explained at the relevant places in different chapters.

- (i) **Arithmetic mean-** It gives a single value to describe the whole data. Adding the value of all observations and dividing it by the numbers of observations have obtained simple arithmetic mean of each series of different ratio.
- (ii) **Chi-square test-** If the calculated value of Chi-square exceeds the tabulated value at .05, it indicates that the difference between Chi-square and  $\chi^2$  is significant at 5 percent level, if exceed. 01 values, significant at 1 percentage level. If less than .05, is not significant.
- (iii) **Trend Indices-** In order to measure the change in the relative proportion of various components of the

working capital to the total such indices have been computed.

- (iv) Linear Regression Analysis: To make projection of dependent variables (such as working capital, inventory, receivables and cash) for a given value of independent variables (sales) possible, the linear regression equations have been used. Further, in this type of analysis the value of Chi-square have been computed in order to ascertain the closeness of the relationship between dependent and independent variables.

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