

CHAPTER - V

ESTIMATION OF WORKING CAPITAL MANAGEMENT

INTRODUCTION -

Adequate amount of Working Capital is essential for the smooth running of a business enterprise. The finance manager should forecast Working capital requirements carefully to determine an optimum level of investment in working capital. While forecasting working capital requirements, it should be borne in mind that working capital requirements are to be determined on an average basis and not at any.

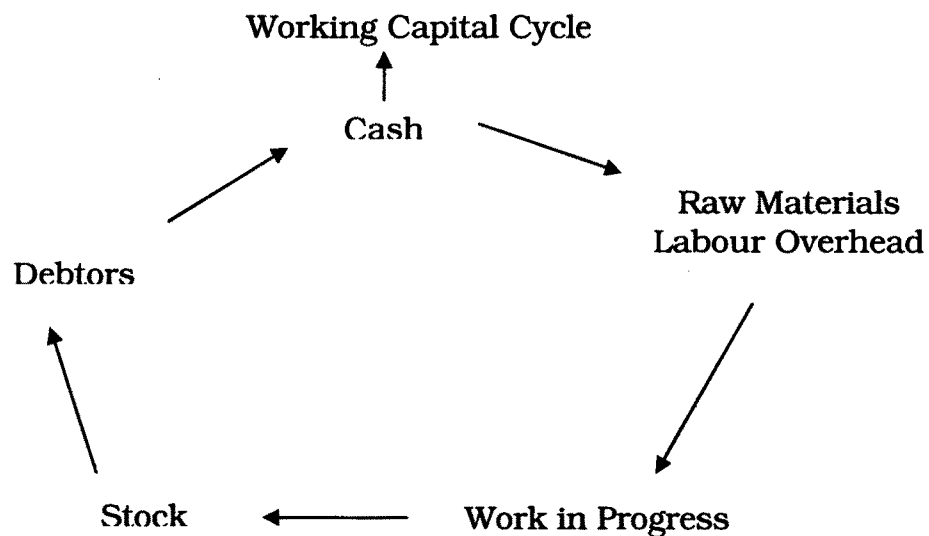
WORKING CAPITAL CYCLE :

The working capital cycle refers to the length of time between the firms paying cash for materials, etc., entering into the production process / stock and the inflow of cash from debtors (sales). Suppose a company has a certain amount of cash it will need raw materials. Some raw materials will be available on credit but, cash will be paid out for the other part immediately. Then it has to pay labour costs and incurs factory overheads. These three combined together will constitute work in progress.

After the production cycle is completed, work in progress will get converted into finished products. The finished products when sold on credit gets converted into sundry debtors. Sundry debtors will be realized in cash after the expiry of credit period. This cash

can again be used for financing of raw materials, work in progress etc. Thus there is a complete cycle from cash to cash wherein cash gets converted into raw materials, work in progress, finished goods, debtors and finally into cash again short term funds are required to meet the requirements of funds during this time period. This time period is depending upon the length of time within which the original cash gets converted into cash again. This cycle is also known as operating cycle or cash cycle.

The working capital cycle is depicted below :



Working capital cycle indicates the length of the between a company's paying for materials, entering into stock and receiving the cash from sales of finished goods. It can be determined by adding the number of days required for each stage in the cycle.

The determination of working capital cycle helps in the forecast, control and management of working capital. It indicates the total time lag and the relative significance of its constituent

parts the duration of working capital cycle may vary depending on the nature of the business.

The operating cycle (Working capital cycle) continues to throughout the life of business.

- * Conversion of cash into raw material.
- * Conversion of raw materials into work in progress.
- * Conversion of work in progress into finished stock.
- * Conversion of finished stock into accounts receivables through sales, and
- * Conversion of account receivables into cash.

The duration of the operating cycle for the purpose of estimating working capital is equal to the sum of the durations of each of above said events, less the credit period allowed by the suppliers.

In the form of an equation, the operating cycle process can be expressed as follows :

$$\text{Operating Cycle} = R + W + F + D - C$$

R = Raw material.

W = Work in progress.

F = Finished goods.

D = Debtors collection period.

C = Credit period availed.

The various components of operating cycle may be calculated as shown below :

| | | | |
|----|------------------------------------|---|---|
| 1) | Raw Material Storage Period | = | $\frac{\text{Average stock of raw material}}{\text{Average cost of consumption per day}}$ |
| 2) | Work in progress hold period | = | $\frac{\text{Average work in progress inventory}}{\text{Average cost of production per day}}$ |
| 3) | Finished goods storage period | = | $\frac{\text{Average stock of finished goods}}{\text{Average cost of goods sold per day}}$ |
| 4) | Debtor's Collection Period | = | $\frac{\text{Average book debts}}{\text{Average credit sales per day}}$ |
| 5) | Credit Period availed | = | $\frac{\text{Average trade creditors}}{\text{Average credit purchases per day}}$ |

The calculation of working capital with the help of operating cycle and its impact on various component of working capital has been demonstrated in the section working capital forecast.

WORKING CAPITAL FORECASTS :

Adequate amount of working capital is essential for the smooth running of business enterprises. The finance manger should forecast working capital requirements carefully to determine an optimum level of investment in working capital. While forecasting working capital requirements, it should be borne in mind that working capital requirements are to be determined on an average basis and not at any specific point of time.

The estimate of future working capital can be made if the amount of current assets and current liabilities can be estimated as follows :

The various constituents of current assets and current liabilities have a direct bearing on the computation of working capital and the operating cycle. The holding period of various constituents of operating cycle may either contract or expand the net operating cycle period. Shorter the operating cycle, lower will be the requirement of working capital and vice versa. Hence, the correct approach for the calculating the working capital requirements will be to estimate the different items of current assets and current liabilities with the help of operating cycle period and other relevant information. The following discussion focuses on the estimation of working capital.

ESTIMATION OF CURRENT ASSETS :

1) RAW MATERIAL INVENTORY :

The funds to be invested in raw materials inventory may be estimated on the basis of production budget, the estimated cost per unit and average holding period of raw material inventory. The following formula can be used for this purpose.

| | | | | |
|---------------------------------------|---|---|---|--|
| Estimated Production (In Units) | X | Estimated cost of raw material per unit | X | Average raw material holding period (In Months/In Days) |
| 12 Months / 360 days | | | | |

Note : 360 days in a year are generally assumed to facilitate calculation.

2) The funds to be invested in work in progress inventory can be estimated by the formula.

| | | | | |
|---------------------------------------|---|--|---|---|
| Estimated Production (In Units) | X | Estimated work in progress (Cost per unit) | X | Average holding period of WIP (In Months/In Days) |
| 12 Months / 360 days | | | | |

3) The funds to be blocked in finished goods inventory may be calculated with the help of -

| | | | | |
|---------------------------------------|---|--|---|---|
| Estimated Production (In Units) | X | Cost of production (Per unit excluding depreciation) | X | Average holding period of finished goods inventory (In Months/In Days) |
| 12 Months / 360 days | | | | |

4) The amount to be tied up in trade debtors may be estimated with the help of following formula -

| | | | | |
|---|---|---|---|---|
| Estimated Credit Sales (In Units) | X | Cost of sales (Per unit excluding depreciation) | X | Average debtors collection period (In Months/In Days) |
| 12 Months / 360 days | | | | |

5) Minimum desired cost and bank balances to be maintained by the firm has to be added in the current assets for the computation of working capital.

ESTIMATION OF CURRENT LIABILITIES :

Current liabilities generally affect computation of working capital. Hence, the amount of working capital is lower to the extent of current liabilities (Other than bank credit) arising in the normal course of business. The important current liabilities like trade creditors, wages and overhead can be estimated as follows :

1) Trade Creditors :

| Estimated year period (In Units) | X | Raw material requirements per unit | X | Credit period granted by suppliers (In Months/In Days) |
|-------------------------------------|---|---------------------------------------|---|--|
| 12 Months / 360 days | | | | |

2) Direct Wages :

| Estimated Production (In Units) | X | Direct Labour Cost per unit | X | Average time lag in payment of wages (In Months/In Days) |
|------------------------------------|---|--------------------------------|---|--|
| 12 Months / 360 days | | | | |

3) Overheads – (Other than depreciations and amortization)

| Estimated yearly production (In Units) | X | Overhead costs per unit | X | Average time lag in payments of overheads (In Months/In Days) |
|---|---|----------------------------|---|--|
| 12 Months / 360 days | | | | |

Note : The amount of overheads may be separately calculated for different types of overhead. In the case of selling overheads; the relevant item would be sales volume instead of production volume.

* Factors to be taken into consideration while determining the requirement of working capital.

- 1) Production policies.
- 2) Nature of the business.
- 3) Credit policy.
- 4) Inventory policies.
- 5) Abnormal factors.
- 6) Market conditions.
- 7) Conditions of supply.
- 8) Business cycle.
- 9) Growth and expansion.
- 10) Level of taxes.
- 11) Dividend policy.
- 12) Price level changes.
- 13) Operating efficiency.

TABLE NO. 5.1
ESTIMATION OF WORKING CAPITAL OF WARANA DAIRY
FOR THE YEAR 2005-06

[Rs. in thousands]

| Sr. No. | Particular | Estimated amount 2005-06 | Reasoning |
|------------|--------------------------------------|--------------------------------|--|
| A) | <u>Current Assets :</u> | | |
| | 1) Cash in hand and at Bank | 100000 | Minimum balance to be maintained. |
| | 2) Inventory | 198140 | As per inventory turnover ratio. |
| | 3) Advances | 50000 | Reasonable estimate. |
| | 4) Sunday debtors | 120220 | Debtors turnover ratio. |
| | 5) Accrued interest | 600 | Reasonable estimate |
| | Total (A) | 468960 | |
| B) | <u>Current Liabilities :</u> | | |
| | i) Sundry creditors | 281232 | Creditors turnover ratio estimated. |
| | ii) Short terms loan | 400000 | |
| | Total (B) | 681232 | |
| | Estimated Working Capital (A - B) | (-) 212272 | |