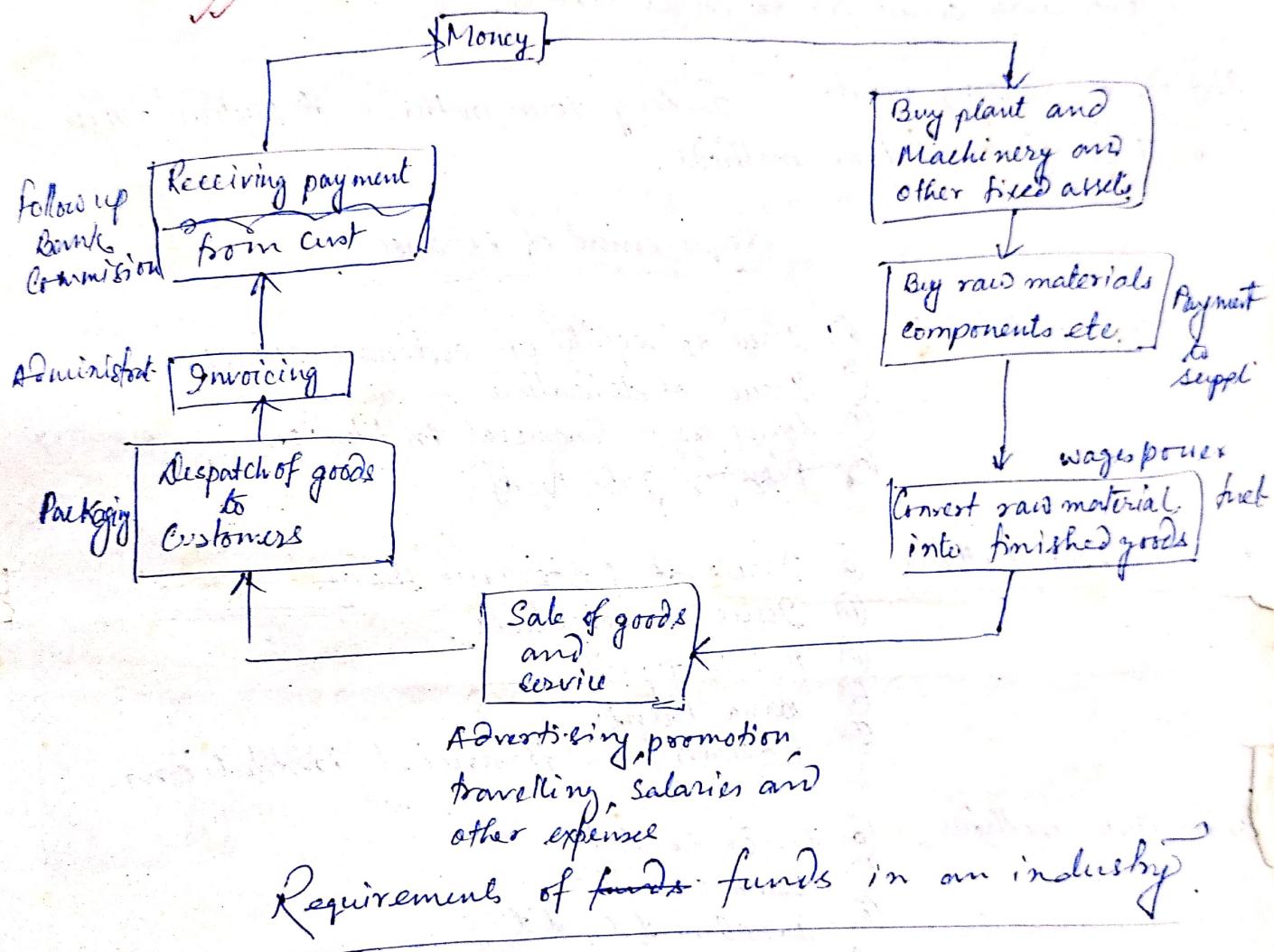


# FINANCIAL MANAGEMENT.

(9)

Capital structure :- Need for finance:-

Every firm irrespective of its size and nature of its operation requires funds (financed) to carry out its activities and objectives.  
Without money no new company can start or run.



## TYPES OF CAPITAL ✓

Capital may be classified as (i) Fixed capital (ii) working capital.

Fixed capital : acquisition of fixed assets. land, building, equipment furniture patent and tools, vehicle etc.. Since capital invested in such assets cannot be converted easily into money, that is why it is called fixed capital.

Source → Shares (equities), public deposits, debentures.

(ii) Working capital - It is required for day-to-day running of organisation. The funds are required to.

- Purchasing raw material, components, supplier tools and spares.
- Paying salaries and wages to the employee.
- meeting, advertising, promotion dispatching, sales expenses
- maintenance etc.
- Extending credit period to customers.

Methods of Raising funds : (A) Long term methods (B) Medium term methods (C) Short term methods.

### Requirement of Finance

Long-term methods :

- (A) Issue of equity or ordinary shares.
- (B) Issue of debentures  $\rightarrow$  Bank basis, interest.
- (C) Loans from financial institutions. Compulsory
- (D) ~~Banking back of~~

Medium term Methods

- (A) Issue of preference shares.
- (B) Issue of debentures.
- (C) Public deposits.
- (D) Bank loans.
- (E) Loans from financial institutions.

Short term methods

- (A) Trade credit
- (B) Bank credit
- (C) Instalment credit
- (D) Customer advances.

IDBI  
IFCI

### FINANCIAL INSTITUTIONS

- (A) All India development Banks.
- (B) Industrial Finance Corp of India.
- (C) IFCI - Industrial credit and Investment Corporation of India
- (D) IDBI - Industrial development Bank of India

#### State level Institutions

- (A) State industrial development corporation
- (B) State financial corporation

#### Specialised Financial Institutions

- (A) Risk Capital and technology Corporation (RCTC)
- (B) Tourism Finance Corporation of India.

#### Investment Institutions

- (A) UTI
- (B) LIC
- (C) GIC
- (D) General Insurance Corporation of India.

## Financial Institutions

Out of various sources of finance, borrowed sources of finance is a very significant source of finance.

### Depreciation Method

Every machine (or equipment) functionally degrades (its efficiency drops) because of wear and tear during use and its value reduces with the laps of time. It is this reduction in value of the equipment or machine which is known as depreciation.

Wear and tear is one of the cause of depreciation. The other causes of depreciation include physical decay, accidents, maintenance neglect, changes in requirements, and obsolescence etc.

### Different method of Calculating Depreciation

① Straight line method

② Reducing Balance Method

① Straight line method operates on the assumption that loss of value of machine is constant throughout the productive life of the machine, this is why it is also called fixed installation method.

$$\text{Depreciation amt. per year} = \frac{\text{Initial cost of machine} - \text{Scrap Value}}{\text{Number of years of life of the machine}}$$

$$(D) = \frac{C-S}{N}$$

Eg. A cylindrical grinding machine was purchased for Rs. 5,20,000. Additionally Rs. 12000 were spent on erection and installation of the machine. The machine is expected to have working life of 10 years. If the scrap value of the machine at the end of its life is expected to be at Rs. 32,000

Q What should be the rate of depreciation of the machine per year assuming straight line method.

- ⑧ What amount would be available in the depreciation fund after six years.
- ⑨ If after running the machine for 6 years, a grinding spindle and a four jaw chuck together, costing Rs. 20,000 are replaced what will be the new rate of depreciation.

$$\text{Ans} \text{ (a) total cost} : 5,20,000 + 12,000 = 5,32,000$$

$$(i) = 32,000, N = 10, \text{ S.B.P.} = \frac{5,32,000 - 32,000}{10}$$

$$\text{⑥ Depreciation (6 yrs)} = 6 \times 50,000 = 30,000 \\ = \text{Rs. } 3,00,000$$

$$\text{⑦ Residual or book value of the machine at the end of 6 yrs.} = 5,00,000 - 3,00,000 \\ = 2,00,000$$

Replacement cost = 20,000.

New book value = 2,20,000.

Residual life = 4 years.

$$\text{New rate of depreciation} = \frac{2,20,000}{4} = 55,000.$$

### REDUCING BALANCE (Percentage book value method)

$x = 1 - \left(\frac{s}{c}\right)^{\frac{1}{N}}$ ,  $x$  = fixed percentage to be applied to calculate yearly depreciation.

$s$  = scrap value.

$c$  = initial cost

$N$  = no. of years of life

Eg. A branch drill is purchased for. Rs. 10,000 which is expected to have working life of 10 years. Scrap value of the machine at the end of its life is expected to fetch Rs. 2,500. If reducing balance method of depreciation is applied

⑩ Calculate the percentage by which value of the machine will need to be reduced every year under the method

⑪ Then depreciation fund after 5 years.

$$C = \text{Rs. } 10,000, S = \text{Rs. } 2500$$

$$x = 1 - \left( \frac{2500}{10,000} \right)^{1/10} = 1 - 0.8706 \\ = 0.1294 \\ = 12.94\%$$

Yr.	Reduced value. of (Rs)	Depreciation @ 12.94%	Written down value.
1.	10,000	$0.1294 \times 10,000$ <u>= 1294</u>	8706
2.	8706	$0.1294 \times 8706$ <u>= 1126.56</u>	7579.44
3.	7579.44	$0.1294 \times 7579.44$ <u>= 980.78</u>	6598.66
4.	6598.66	$0.1294 \times 6598.66$ <u>= 853.87</u>	5744.79
5.	5744.79	$0.1294 \times 5744.79$ <u>= 743.38</u>	5001.41

Total

4998.59 ✓

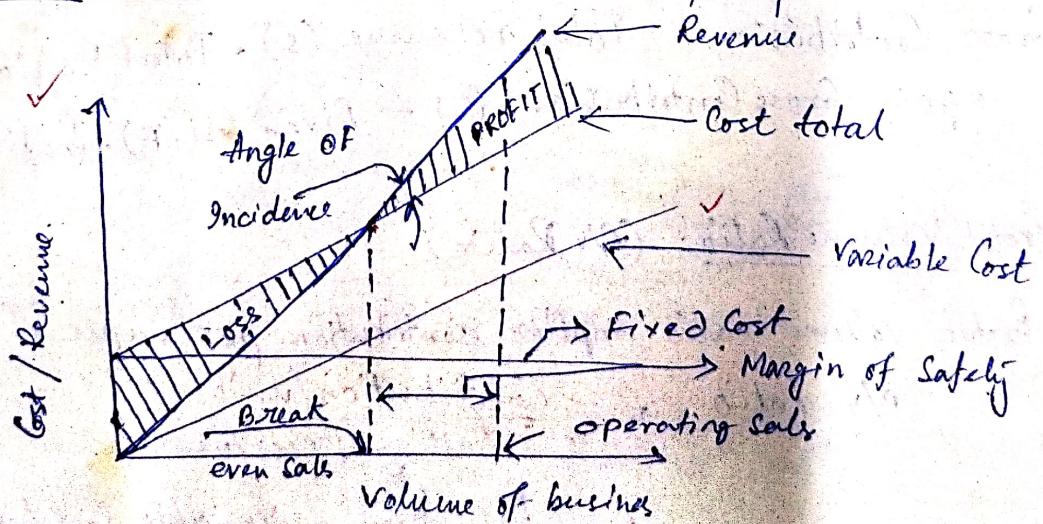
BREAK EVEN ANALYSIS

✓

The Break Even analysis provides a microscopic view of the profit structure of an enterprise. The analysis not only highlights the areas of economic strength and weaknesses of a business organisation but also provides a better perspective of the behaviour of its profits in relation to changes in input and thereby suggests the measure to enhance firm's profitability.

Elements of Break Even analysis

- a) ① Fixed Costs  $\leftrightarrow$  fixed costs are those costs which do not vary with the volume of production.
- b) ② Variable Costs ~~are~~ are those which vary directly with the volume of production.
- c) ③ Total Costs at any volume of business is the sum of the fixed cost and the variable cost.
- d) ④ Revenue refers to the net sales per period.



- ① Fixed Cost (F) Curve runs parallel to x axis.
- ② Total variable Cost curve emerges from the origin and move upward with the increase in volume of business.
- ③ Total Cost curve commences from fixed cost point and then runs parallel to variable cost curve.
- ④ Revenue curve starts from origin and moves upward with the increase in volume of business activity. Revenue curve intersects total cost curve at some volume of business. Such volume or level of activity at which total cost and revenue curves intersect is called break even point. Break even point is that level of sales at which income equals expenditure.

### Formula

- ① Contribution - Contribution is the difference between Selling price (or sale) and the variable cost. If both the items are taken on unit basis, it is called unit contribution otherwise it is known as gross contribution margin.

$$\text{Unit Contribution} = \frac{\text{Sale price per unit}}{} - \frac{\text{Variable Cost per unit}}{}$$

$$\begin{aligned}\text{Gross Contribution} &= \text{Total revenue (s)} - \text{Total Variable Cost (v)} \\ \text{again Gross Contribution (c)} &= \text{fixed Cost (F)} + \text{Profit (P)}\end{aligned}$$

- ② Profit Volume Ratio: (P/v Ratio)

Profit volume ratio implies contribution per rupee of sale.

$$\begin{aligned}\text{P/v ratio} &= \frac{\text{Contribution/unit}}{\text{Selling Price/unit}} \\ &= \frac{\text{Price/unit} - \text{Variable Cost/unit}}{\text{Price/unit}} \\ &= 1 - \frac{\text{variable Cost/unit}}{\text{Price/unit}} \quad \text{D} = 1 - \frac{\text{c}}{\text{p}} \quad \text{①}\end{aligned}$$

$$\begin{aligned}\text{again P/v ratio} &= \frac{\text{Gross Contribution}}{\text{Total revenue}} = \frac{\text{Total revenue} - \text{Total variable cost}}{\text{Total revenue}}\end{aligned}$$

(3)  
Margin of Safety : Margin of safety represents the excess of present sales over the break-even sales.

$$MS = \frac{\text{Operating Sales} - \text{Break even Sales}}{\text{Operating Sales}} \times 100$$

Operating Sales formula based on unit Contribution

$$q = \frac{F+P}{p-v}$$

④  $Q = P \cdot q = \frac{\text{Operating Sales in rupees to earn } P \text{ rupee of profit}}{p-v}$  — (IV)

$P = \text{Profit per unit sale}$   
 $F = \text{fixed cost}$   
 $q = \text{units}$   
 $p = \text{price per unit}$

$$= \frac{F+P}{(1-\frac{v}{p})} = \frac{F+P}{(1-\frac{V}{S})}$$

$$= \frac{F+P}{P/V}$$
 — (V)

⑤ Operating Sales formula based on Contribution ratio or Profit Volume ratio

$$Q = \frac{F+P}{P/V \text{ ratio}} \text{ from } (I) \& (IV) \& (V)$$

⑥ Break even Sales formula — (VI)

At break even point lever profit = 0

$$\text{Break even quantity } Q_0 = \frac{F}{p-v} \text{ from eqn } (III)$$

$$\text{Break even Sales } S_0 = \frac{F}{1-\frac{v}{p}} \text{ from eqn } (IV)$$

$$\text{and } S_0 = \frac{F}{(1-\frac{V}{S})} \text{ from eqn } (V)$$

$$\Rightarrow S_0 = \frac{F}{P/V \text{ ratio.}}$$

④ Profit formula :

$$\textcircled{1} \quad \textcircled{4} \quad \text{Profit } (P) = \text{Sales - Fixed Cost} - \text{Variable Cost.}$$

$$= Q - F - V = Q - (F + V).$$

again  $Q = \frac{F+P}{P/V \text{ ratio}}$  from eqn -  $\textcircled{VII}$

$$\text{Profit} = Q \times \frac{P}{V} \text{ ratio} - F$$

Note  $Q - Q_0 = \frac{F+P}{P/V \text{ ratio}} - \frac{F}{P/V \text{ ratio}} \Rightarrow \text{Profit } (P) = (Q - Q_0) \times \frac{P}{V} \text{ ratio}$

Ex. The everest soap company manufactures washing soap which it sells at Rs. 1.20 each. The variable cost of production is 0.60 while fixed cost is 10,000 per year. Calculate:

(a) P/V ratio  $\Rightarrow \frac{\text{Unit Contribution}}{\text{Selling price/unit}} = \frac{P - V}{P} = \frac{1.20 - 0.60}{1.20} = 0.50$

(b) Break even sales  $\Rightarrow Q_0 = \frac{\text{Fixed Cost}}{P/V \text{ ratio}} = \frac{10,000}{0.50} = 80,000.$

(c) Break even sales if existing sales price is reduced by 1.5%:

$$\text{New break even sales} = \frac{\text{fixed Cost}}{\text{New P/V ratio}}$$

$$\text{Now New P/V ratio} = \frac{\text{New Price/unit} - \text{Variable Cost/unit}}{\text{New Price/unit}}$$

$$= \frac{1.02 - 0.60}{1.02} = \frac{0.42}{1.02} = 0.4112$$

$$\text{New break-even sale} = \frac{40,000}{0.4112} = \text{Rs. } 97,276.$$

(e) Sales to earn a reasonable pre-tax profit of Rs. 30000 per year.

$$Q = \frac{F+P}{P/V \text{ ratio}} = \frac{10,000 + 30,000}{0.50} = 1,40,000.$$

(e) Sales to earn a reasonable after-tax profit of Rs. 20,000 assuming 60% as the rate of taxation

$$Q = \frac{F+P}{P/V \text{ ratio}}$$

When ~~Profit~~ after tax profit = 70% pre tax profit = 100, as tax = 60%.

$$Q = \frac{10,000 + 50,000}{0.50} = \frac{90,000}{0.50} = \frac{10\phi}{4\phi} \times 20,000 \phi = 50,000$$

(f) Profit of sales of Rs. 1,20,000.

from (e) P = Operating Sales (Q)  $\times \frac{P}{V}$  ratio - Fixed Cost (F)

$$= 1,20,000 \times 0.50 - 40,000$$

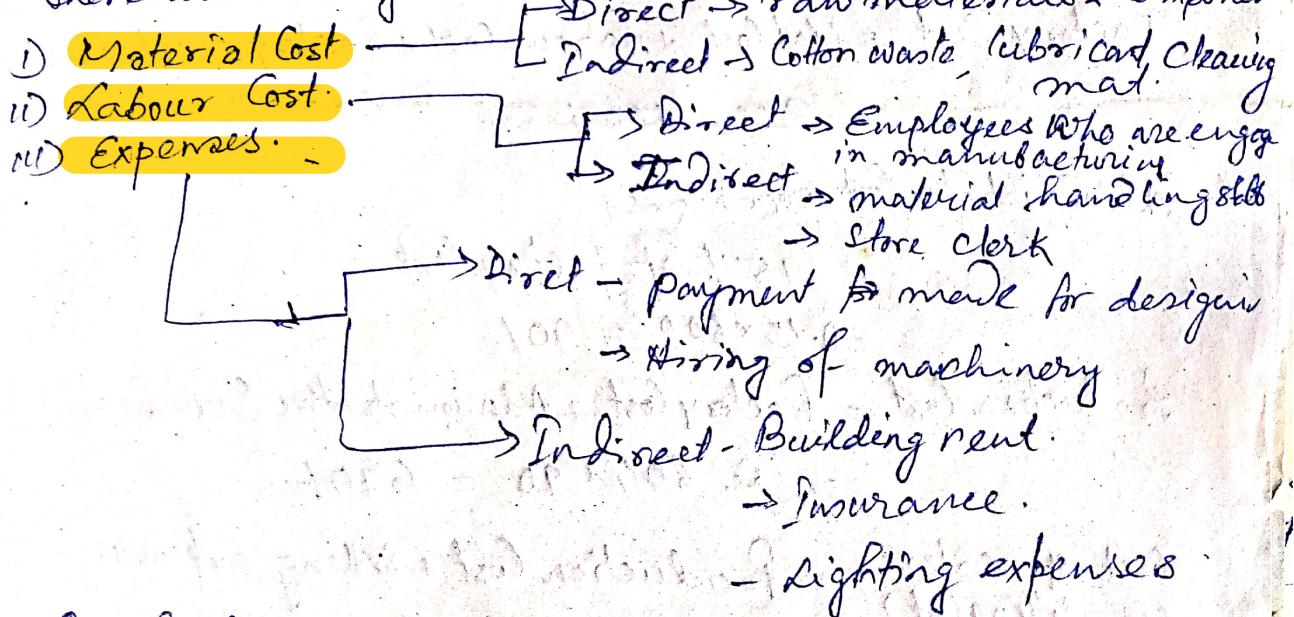
Definition: The systematic process of ascertainment of amount of expenditure incurred on or attributable to an item or group of items.

Requirement of cost accounting:

1. Determination, classification and analysis of cost and income of a business organisation.
2. Cost reduction and cost control.
3. Income contribution analysis of products.
4. Budgeting & budgetary control.
5. Level of activity of the organisation.
6. Balancing of cost and revenues.

Elements of Cost :-

There are broadly three elements.



Overheads

Numerical.

An automobile unit supplier on the  
A company supplies average 5000 water pumps to  
another company. Each pump is priced Rs. 920. The  
material, labour and factory overheads are in  
ratio of 3:1:2. Administration and selling expenses  
are 15% and 10% factory cost respectively. If  
material cost is Rs. 300, find the profit to the  
manufacturer ~~and~~ each pump produced.  
on.

Soln

$$\text{Soln: Material Cost} = 300/-$$

$$\text{Labour cost} = \frac{\text{Labour ratio}}{\text{Material ratio}} \times \text{Material Cost}$$

$$= \frac{1}{3} \times 300 = 100$$

$$\text{Factory overheads} = \frac{2}{3} \times 300 = 200$$

$$\text{Factory Cost} = \text{Mat Cost} + \text{Labour Cost} + \text{Factory overheads}$$

$$= 300 + 100 + 200 = 600$$

$$\text{Administrative Cost over heads}$$

$$= 15\% \text{ of factory Cost}$$

$$= 0.15 \times 600 = 90/-$$

$$\text{Production Cost.} = \text{Factory Cost} + \text{Administrative Overheads}$$

$$= \text{Rs. } 600 + 90 = 690/-$$

$$\begin{aligned} \text{Cost of sales.} &= \text{Production Cost} + \text{Selling expense.} \\ (\text{or Selling Cost}) &= 690 + 0.10(600) \end{aligned}$$

$$= 690 + 60 = 750/-$$

$$\text{Selling price is Rs. } 920 = \text{Selling Cost} + \text{Profit}$$

$$\therefore \text{Profit} = 920 - 750 = 170/-$$