

## Financial Management

### Chapter : Operational Approach to Financial Decision

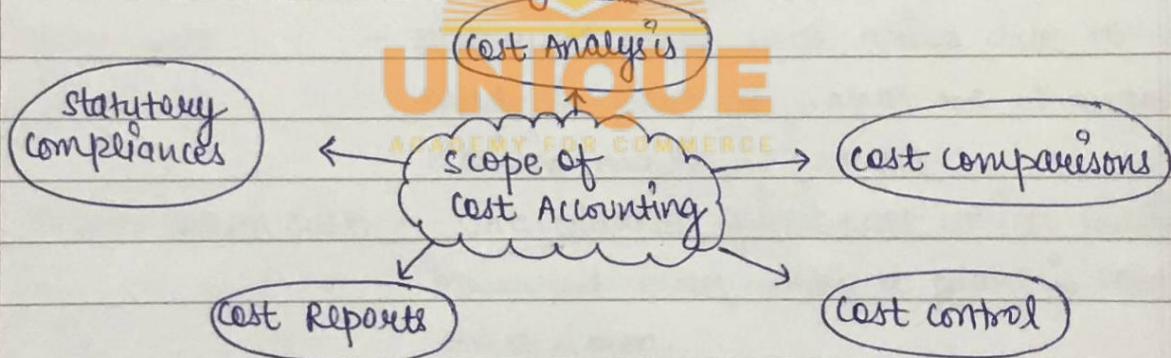
#### # An overview of costing -

ICWAI, India defines cost as "measurement in monetary terms, of the amount of resources used for the purpose of prod<sup>n</sup> of goods or rendering services".

The concepts, practices, procedures and processes used in a firm to plan and regulate how its resources are used are included in the definition of cost accounting. Cost Accounting is therefore the science, the art and the practice of a cost accountant.

#### # Scope of costing -

refers to the area of activity.



#### # Nature of costing -

Cost Accounting is a Branch of knowledge.

Cost Accounting is a science

Cost Accounting is an Art

Cost Accounting is a profession.

#### # Objectives of costing -

Ascertainment of cost.

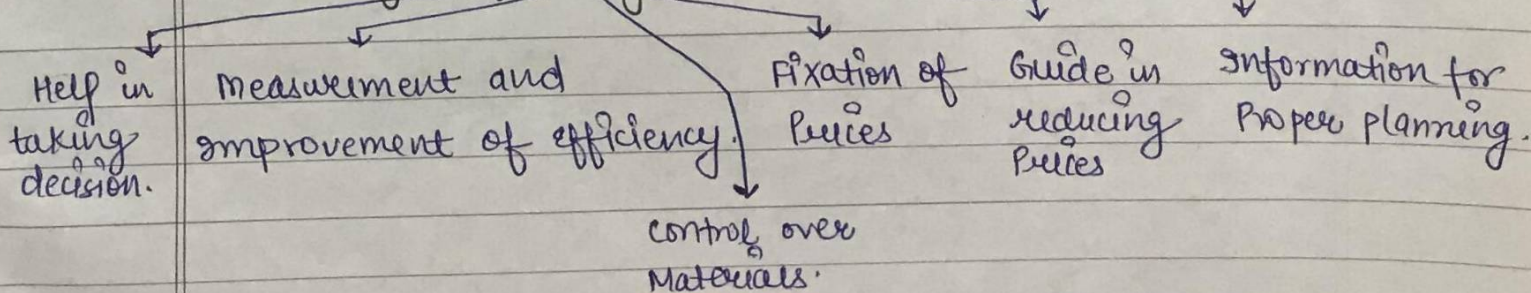
Cost Control

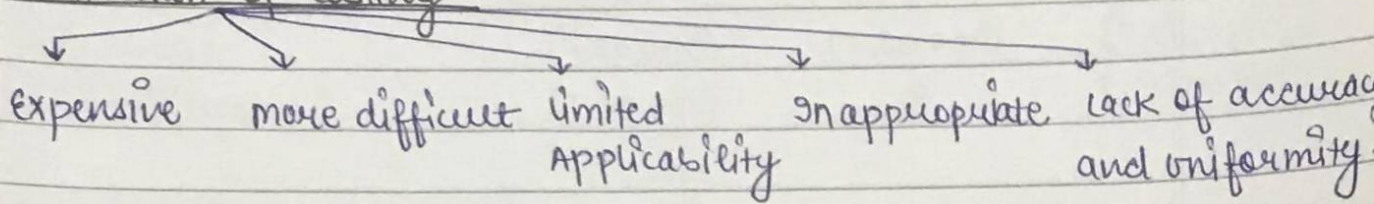
Guidelines for management.

## # Types of costing - cost are broadly classified into 4 types :

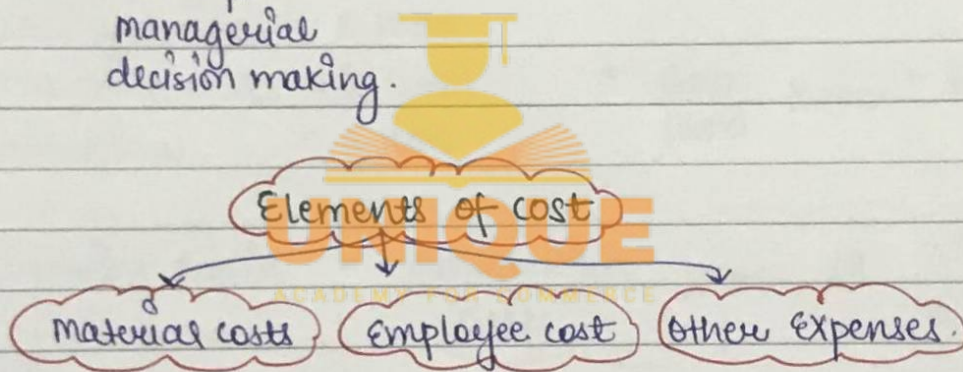
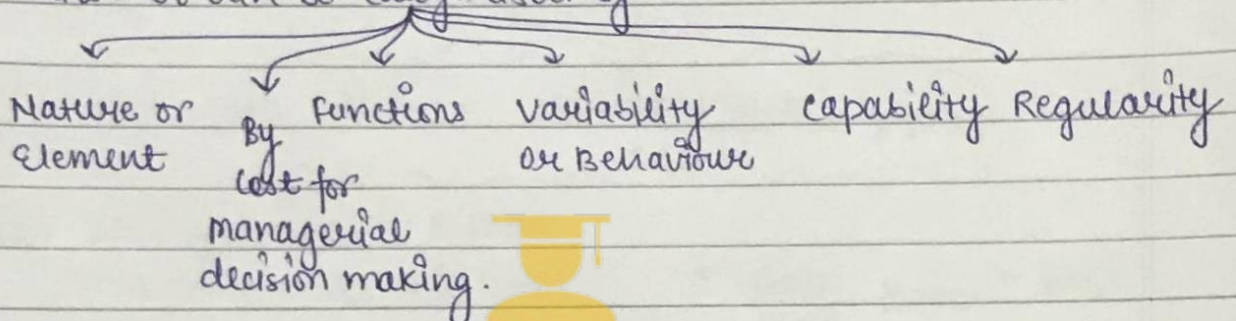
1. Variable cost - changes in direct proportion to a change in the level of activity.
2. Fixed cost - Do not change in total as activity changes.
3. Direct cost - cost that can be traced to specific segments of operations.
4. Indirect cost - cost that cannot be identified with specific segments of operations.
5. Relevant cost - costs which influence a choice of alternatives in a particular situation and are also affected by that decision are said to be relevant costs.
6. Irrelevant cost - costs which remains the same and are not affected by the decision whatever alternative is chosen are said to be irrelevant costs.
7. Sunk cost - Historical costs that arise due to decisions made in past & cannot be changed by any decision made in future.
8. Shut Down cost - Unavoidable fixed cost which continue to be incurred even when a plant is temporarily shut down.
9. Out of Pocket cost / Explicit cost - cost that requires cash outlay due to a particular managerial decision.

## # Advantages of costing -



# Limitation of costing -# Classification of costs -

It refers to the categorization of expenses based on their shared traits. It can be categorised by -

# Marginal costing -

The extra expense incurred in producing an extra unit of output is referred to as a marginal cost. A different name for this approach is the cost profit volume analysis. The relationship b/w prod<sup>n</sup> volume, selling price, costs, expenses and profits is examined via marginal cost analysis. It is determined by dividing by revenue after deducting variable costs.

Eg 1 -

Particulars	2022 (300 units)	2023 (500 units)	2024 (750 units)
Selling Price (₹1500)	4,50,000	7,50,000	11,25,000
Variable cost (₹1000)	(3,00,000)	(5,00,000)	(7,50,000)

	Contribution (£500)	1,50,000	2,50,000	3,75,000
⊖	Fixed cost	(2,50,000)	(2,50,000)	(2,50,000)
	Profit/(Loss)	(1,00,000)	0	1,25,000

★ Contribution is the amount which help recover the fixed cost for the company.

★ Fixed cost creates more risk for the company.

### # Ratios -

→ Variable cost Ratio =  $\frac{\text{Variable Costs}}{\text{Sales}} \times 100$

eg → selling Price = £1000

⊖ variable costs = (£600) ⇒  $\frac{600}{1000} \times 100 = 60\%$

Contribution = £400

→ Contribution Ratio =  $\frac{\text{Contribution}}{\text{Sales}} \times 100$  OR  $\frac{\Delta \text{ in Profit}}{\Delta \text{ in sales}} \times 100$

⇒  $\frac{400}{1000} \times 100 = 40\%$

★ variable cost ratio and contribution ratio are complimentary to each other.

eg →  
 ° if variable cost Ratio = 70%      50%      65%  
 ° Contribution Ratio = 30%      50%      35%

Q1. Chaman Ltd. furnishes you the following information -  
 variable costs = £240

Contribution Ratio = 40%

Fixed costs = £80,000

No. of units sold :- yr 1 = 400 units

yr 2 = 500 units  
yr 3 = 800 units

Calculate Profit / Loss ?

Ans.  $\text{Sales} = \frac{\text{Variable cost}}{\text{Variable cost Ratio}} = \frac{240}{60\%} = 400$

sales X Contribution Ratio = Contribution

$400 \times \frac{40}{100} = 160$

sales = 400

Variable cost = 240

Contribution = 160

	400 units	500 units	800 units
Selling Price (£400)	1,60,000	2,00,000	3,20,000
(-) Variable cost (£240)	(96,000)	(1,20,000)	(1,92,000)
Contribution (£160)	64,000	80,000	1,28,000
(-) Fixed costs	(80,000)	(80,000)	(80,000)
Profit / Loss	(16,000)	0	48,000
	(Loss)	(Break even Point)	(Profit)
	(C < FC)	(C = FC)	(C > FC)

# Operational Approach to Financial Decisions -

Marginal Costing

Applies to special order

Marginal Costing = Variable Cost

- ⇒ order more than Variable cost = Accept
- ⇒ order less than Variable cost = Reject
- ⇒ If order is equal to Variable cost = It depends

Q2. From the following particulars calculate -

(a) P/V Ratio (b) Fixed costs

→ 1 year sales Rs 1,95,000, profit Rs 9,000

→ 2 year sales Rs 2,25,000, profit Rs 15,000

Ans. (a)  $P/V \text{ Ratio} = \frac{\Delta \text{ in profit}}{\Delta \text{ in sales}} \times 100 = \frac{6,000}{30,000} \times 100 = 20\%$

(b) sales = 1,95,000

⇒ VC = (1,56,000)

Contribution = 39,000

⇒ FC = (30,000) balancing figure ∴ FC = 30,000

P/L = 9,000

# Break Even Point -

in units =  $\frac{\text{Fixed costs}}{\text{Contribution per unit}}$

in Amount =  $\frac{\text{PV Ratio}}{\text{(if given)}} = \frac{\text{Contribution (if given)}}{\text{Sales}}$

sales =  $\frac{\text{Contribution}}{\text{PV Ratio}}$

At Breakeven point 2 things are equal i.e. Fixed costs and Contribution.

∴ Breakeven Point =  $\frac{\text{Fixed cost}}{\text{PV Ratio (Sales/Amt)}}$

Cash Breakeven sales (Qty) = Fixed cost - Non cash fixed cost (i.e. depn)

$$\begin{array}{l}
 * \text{ Total sales} = \text{BEP sales} + \text{Margin of safety} \\
 \times \text{PV Ratio} \qquad \qquad \times \text{PV Ratio} \qquad \qquad \times \text{PV Ratio} \\
 \downarrow \qquad \qquad \qquad \downarrow \qquad \qquad \qquad \downarrow \\
 \text{Total contribution} = \text{Fixed costs} + \text{Profit}
 \end{array}$$

Q3.

Star X Ltd. sold goods for ₹ 30,00,000 in a year, in that year the variable cost is 60% of sales and profit is 8,00,000. Find out (i) P/V Ratio (ii) Fixed cost (iii) BEP sales (iv) sales that would still be profitable if the selling price were cut by 10% but fixed costs were raised by 1,00,000.

Ans. (i) Fixed cost = ₹ 4,00,000

sales = 30,00,000

⇒ VC = (18,00,000)

Contribution = 12,00,000

⇒ FC = (4,00,000)

Profit = 8,00,000

(ii) P/V Ratio =  $\frac{\text{Contribution}}{\text{Sales}} \times 100$

=  $\frac{12,00,000}{30,00,000} \times 100 = 40\%$

(iii) BEP sales =  $\frac{\text{Fixed cost}}{\text{P/V Ratio}} \times 100 = \frac{4,00,000}{40\%} \times 100 = ₹ 10,00,000$

(iv) sales = (30,00,000 - 10%) = ₹ 27,00,000

⇒ VC = ₹ (18,00,000)

Contribution = ₹ 9,00,000

Revised P/V Ratio =  $\frac{\text{Contribution}}{\text{Sales}} \times 100 = \frac{9,00,000}{27,00,000} \times 100 = 33.33\%$

Fixed cost Inc by 1,00,000 = 4,00,000 + 1,00,000 = 5,00,000

New BEP =  $\frac{\text{Fixed cost}}{\text{P/V Ratio}} \times 100 = \frac{5,00,000}{33.33\%} \times 100 = ₹ 15,00,000$

$$\star \text{ Composite Break even point} = \frac{\text{Composite FC}}{\text{Composite Contribution pu}}$$

$$\star \text{ Composite Contribution per unit} = \frac{\text{Composite Contribution}}{\text{Composite No. of units}}$$

Eg:- ABC Ltd sells two products J and K. The sales mix is 4 units of J and 3 units of K. The contribution margin pu are £ 40 for J and £ 20 for K. Fixed cost are £ 6,16,000 per month.

$$\begin{aligned} \text{Composite Contribution per unit} &= \frac{\text{Composite Contribution}}{\text{Composite no. of units}} \\ &= \frac{(4 \times 40) + (3 \times 20)}{7} = \frac{160 + 60}{7} = \frac{220}{7} = \text{£ } 31.43 \end{aligned}$$

$$\begin{aligned} \text{Composite BEP} &= \frac{\text{Composite FC}}{\text{Composite Contribution pu.}} \\ &= \frac{6,16,000}{31.43} = \text{£ } 19,600 \text{ (round off)} \end{aligned}$$

# Margin of safety - Sales above the volume necessary to break even is referred to as Margin of safety.

$$\text{MOS} = \text{Actual sales} - \text{Break even sales}$$

OR

$$\text{MOS} = \frac{\text{Profit}}{\text{P/V Ratio}}$$

OR

$$\text{MOS} = \frac{\text{Profit} \times \text{Selling price pu}}{\text{selling price pu} - \text{VC pu.}}$$

$$\text{Margin of safety as \% to total sales} = \frac{\text{MOS}}{\text{Total sales}} \times 100$$

Eg:- From the following information of Lotus Ltd. calculate P/V ratio and margin of safety.

- i) sales = ₹ 10,00,000
- ii) variable cost = ₹ 4,00,000
- iii) Profit = ₹ 3,00,000

$$\begin{aligned} \text{Contribution} &= \text{sales} - \text{Variable cost} \\ &= ₹ 10,00,000 - 4,00,000 = ₹ 6,00,000 \end{aligned}$$

$$\begin{aligned} \text{Fixed cost} &= \text{sales} - \text{VC} - \text{Profit or Contribution} - \text{Profit} \\ &= ₹ 10,00,000 - 4,00,000 - 3,00,000 \\ &= ₹ 3,00,000 \end{aligned}$$

$$\text{P/V Ratio} = \frac{6,00,000}{10,00,000} \times 100 = 60\%$$

$$\text{BEP (Value)} = \frac{\text{FC}}{\text{P/V Ratio}} = \frac{3,00,000}{60\%} = ₹ 5,00,000$$

$$\begin{aligned} \text{MOS} &= \text{sales} - \text{BEP} = ₹ 10,00,000 - 5,00,000 \\ &= ₹ 5,00,000 \end{aligned}$$

# Activity level at BEP -

$$\text{Activity level at BEP} = \frac{\text{BEP sales}}{\text{Total capacity}}$$

i.e. Total capacity ka kitna % prodn karna padhega BEP achieve karne ke liye.

Eg 1: A company manufactures a product currently providing 80% capacity with a turnover of £8,00,000 at £25 pu. The cost data are as under: Material cost £7.50 pu, labour cost £6.25 pu, semi variable cost (including vc £3.75 pu) £1,80,000, Fixed cost £90,000 up to 80% level of output, beyond this an add<sup>n</sup> £20,000 will be incurred.

Ans. No. of units sold = sales  $\div$  selling price pu.  
 $= \text{£}8,00,000 \div 25 \text{ pu} = 32,000 \text{ units}$

FC incurred in semi variable cost = Total semi variable cost - variable element.

$$= \text{£}1,80,000 - (3.75 \text{ pu} \times 32,000 \text{ units}) = \text{£}60,000$$

$$\text{VC pu} = \text{£}7.50 + 6.25 + 3.75 = \boxed{17.50}$$

Contribution pu = selling price - variable cost  
 $= \text{£}25 - 17.50 = \text{£}7.50$

$$\text{BEP} = \frac{\text{FC}}{\text{Contribution pu}} = \frac{90,000 + 60,000}{7.50} = 20,000 \text{ units}$$

$$\text{Activity level at BEP} = \frac{80\%}{32,000 \text{ units}} \times 20,000 \text{ units} = 50.00\%$$