MARGINAL COSTING

- decision making technique :-
  a) total cost ascertainment (b) classification of TC into FC & VC.
  (c) use of such info for analysis.
- also called as variable costing or out of pocket costing.

Format of marginal costing :-

Sales	XX
(-) VC	(XX)
Profit b4 FC / CONTRIBUTION	XX
(-) FC (specific)	(X)
Net profit / contribution	X
(-) common FC	(X)
Net profit	XX

- fixed cost are never segregated on product always on total except of specific FC.

- assume :- FC - related to period — (Costing P&L)
  VC - related to product.

Marginal cost Equation

Sales - VC = contribution = FC + Profit.

(b) Break even point (BEP)

- no profit no loss.
- Total sales = total cost.
- Total contribution = total fixed cost.
- no. of units sold x contri. p.u = total FC.

(a) BEP (units) = $\frac{\text{Total FC}}{\text{contri. p.u}}$

(b) BEP (Rupees) = $\frac{\text{Total FC}}{\text{PV ratio}}$

or.

BE (sales) x sp.p.u = Total FC x $\left\{\frac{sp.p.u}{c.p.u}\right\}\left\{\frac{1}{PV}\right\}$

(c) BEP (units) x s.p.p.u = BE (rupees)

Basic decision making indicators :-

(a) Profit-Volume Ratio :-

- contribution expressed as % of sales.

(i) $\frac{\text{contri. p.u}}{\text{selling p.u}} \times 100$

(ii) $\frac{\text{Total contribution}}{\text{Total sales}} \times 100$.

(iii) $\frac{\text{change in total contribution}}{\text{change in total sales}} \times 100$

(iv) $\frac{\text{change in total profit}}{\text{change in total sales}} \times 100$.

(v) 100 - VC ratio = PV ratio.

basic indicator of profitability.

↑ PV ↑ profitability → ↑ SP or ↓ VC

level of sales	Remark	
(a) ↓ BEP	loss	contri < FC
(b) = BEP	no profit no loss	contri = FC
(c) ↑ BEP	profit	contri > FC

- real BEP is always on own FC and not allocated FC.

(c) Margin of saftey (MOS)

- sales over & above BEP

a) MOS (Rs) = actual sales − BES (Rs)

b) MOS (units) = no. of units sold − BES (units)

(c) MOS sales = $\frac{\text{profit/contri.}}{\text{PV ratio}}$

(d) MOS (units) = $\frac{\text{contri/profit} \cdot \text{p.u}}{\text{PV ratio p.u}}$

(e) MOS = 100% − BEP%.
contri = profit as FC is nill.

- strength indicator of business.
- profit = contribution earned on MOS.
- ↑ MOS - fall in sales is fine.
- ↓ MOS - fall is sales is dangerous.

improvement in MOS:

a) ↑ sales volume i.e no. of units.
b) ↑ SP but product is inelastic to absorb the ↑.
c) ↓ FC
d) ↓ VC

Overall BEP ratio:

also called composite BEP, overall BEP & BEP of co.

Overall PV BEP (Rs) = $\frac{\text{Total contri of co of all products}}{\text{Total sales}} \times 100$.

OR

Σ(PV of 1 product × prop of sales to total sales).

overall PV (units) = Σ (contribution of 1 product × propn of sales to total units) × 100.

OR

$\frac{\text{Total contri of all prod}}{\text{Total units sold of all prod}} \times 100$.

overall BEP

(Rs) = $\frac{\text{T.F.C}}{\text{over PV ratio}}$

(units) = $\frac{\text{T.F.C}}{\text{total contri p.u}}$

Indifference Point

- cost break even point
- that level of sales at which total cost = total profit.

A		B		C	
100	150	100 = 100		100	150
(60)	(110)	60 = 60		40 = 40	
40 = 40		40 = 40		60	110
×		✓		×	

- the mabee will be indifferent as to the option to be chosen.

IDP (Rs) = $\frac{\Delta - FC}{\Delta \text{ in PVR}}$

OR

$\frac{\Delta \text{ FC}}{\Delta \text{ in VC}}$

IDP (units) = $\frac{\Delta \text{ in FC}}{\Delta \text{ cont p.u}}$

OR

= $\frac{\Delta \text{ FC}}{\Delta \text{ VC p.u}}$

Interpretation of IDP

level of sales	Remarks
1) = IDP sales.	indifferent any operation
2) Actual sales > IDP sales	select opⁿ with highest PV ratio / Profit OR ↓ VC.

as all our costs will be recovered and not worried about FC.

3) Actual sales < IDP sales.	select opⁿ with lower FC.

as sales are ↓ ∴ profit ↓ and FC ↑.
If more than 2 opⁿ are there then take highest & lowest opⁿ.

SHUT DOWN POINT MC (2)

- It indicates that level of operations/sales which it is not justifyable to purse production.

FC are classified as :-
a) Avoidable / discretionary AFC FC
b) Unavoidable / committed FC.

- A firm should close down if its contribution to recover the avoidable FC.

$$SDP\ (units) = \frac{A \cdot F \cdot C}{Conti \cdot P \cdot V}$$

$$SDP\ (Rs) = \frac{AFC}{PV\ ratio}$$

Interpretation of SHUT DOWN POINT.

SALES	CHOICE	REASON.
1) = SDP	continue	contribution just enough to recover AFC
2) less than SDP	shut down	conti cannot recover AFC.
3) more than SDP	continue	conti will recover AFC & even some parts of VFC.

COST VOLUME PROFIT ANALYSIS

- CVP analysis.
- analysis of 3 variables - cost, volume, profit which explores the relationship existing among :-
a) cost (b) revenue (c) activity levels (d) resulting profit.
- aims at measuring variation of profit & cost with volume.

Semi Variable Cost

SVC = TC + FC

$$VC\ (SVC)_{P \cdot V} = \frac{\Delta \text{ in total SVC}}{\Delta \text{ of no. of units}}$$

∴ FC in SVC = bal fig
∴ TSVC − TVC = FC

M·C	A·C
① Cost classification: Nature based (V or F)	Function based (Prodn, admin, S&D function)
② Treatment of FC: • Periodic cost • doesnt affect profit (FC is deducted from total). • profits → contribution	• product cost. • each product includes FC. • product profit affected • profit → N·P.
③ Presentation highlights Total contribution	highlights GP & NP in conventional manner.
④ Stock valuation only VC is considered.	both VC & FC.
⑤ Variance reporting	

ABSORPTION COSTING (AC)

Sales
(-) COGS or COP (V+F)
GP
(-) Admin cost (V+F)
(-) S&D (V+F)
NP
DA adjustments
(-) under absorption
(+) over absorption
NP.

① always do the reconciliation of Prodn & sales:-
i.e Opn stk
(+) Prodn
(-) Cl. stk
Sales
• FC always on full capacity

② Never include selling & dist costs in COP as it also includes CLOSING STOCK.

③ S&D → always on units sold.

④ always segregate COP & S.D.

⑤ the diff in profit of (AC & MC) will be due to over absorp/under absorp.

⑥ no under/over absorp if we ourselves determine the recovery rate for FC.

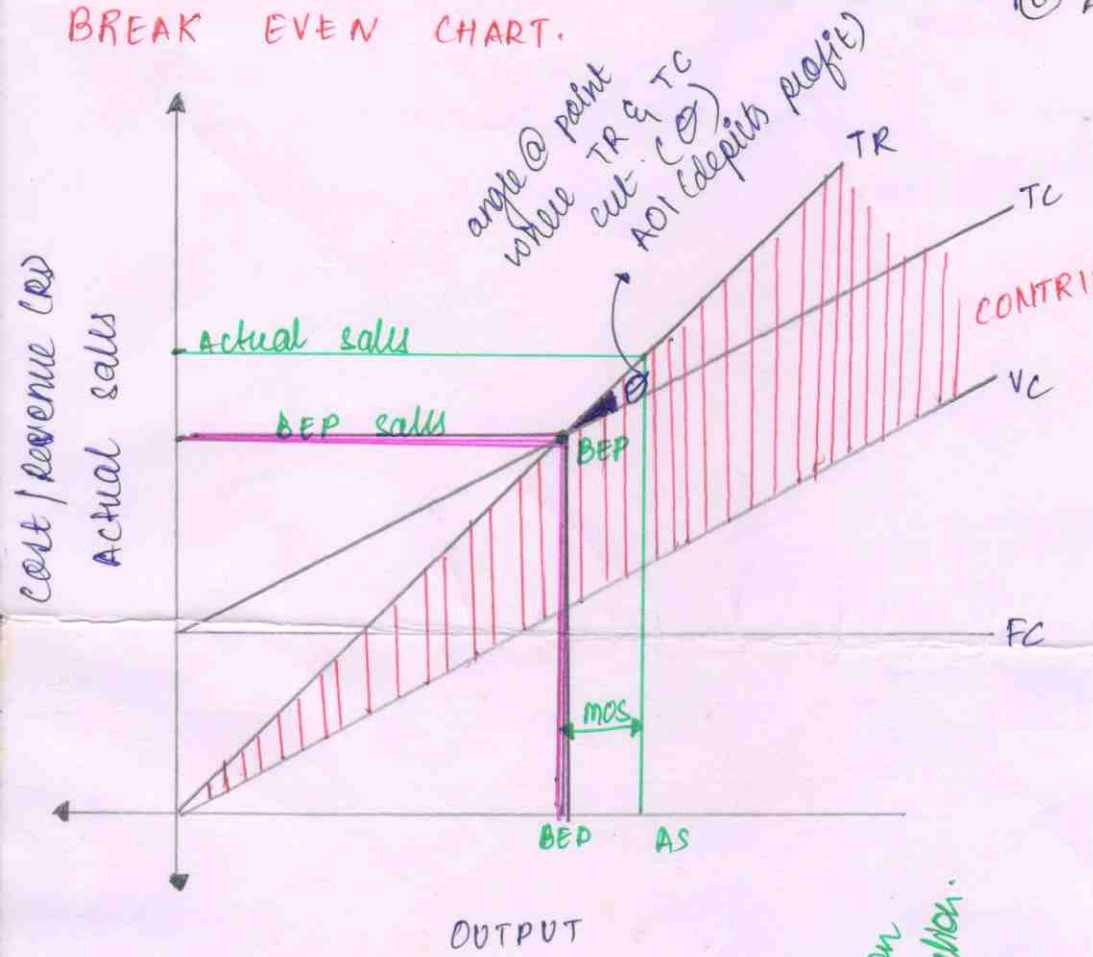
ACCEPTANCE OF SPECIAL ORDER. conditions.

1. idle capacity.
2. one time special order.
3. not affect the SP of regular customers.
4. recover all VC & specific FC
5. profit oriented.

Types of BEC MC (3)

1. contribution BEC
2. Product wise BEC
3. Cash BEC
4. Profit volume chart
5. control BEC
6. Analytical BEC

BREAK EVEN CHART.



Cash BEC = FC paid in cash / contri p.v.

General conclusions of BEC

Case		Remark
①	↓BEP ↑AOI	FC ↓ MOS ↑ stab ↑ profit ↑.
②	↓BEP ↓AOI	FC ↓ MOS ↑ stab ↑ profit ↓.
③	↑BEP ↓AOI	FC ↑ MOS ↓ stab ↓ profit ↓
④	↑BEP ↑AOI	FC ↑ MOS ↓ stab ↓ profit ↑

FC & BEP → direct relation.
BEP & MOS → Indirect relation.