

Break Even Analysis

Introduction

- ❖ Break-even analysis is used to plan the profit & production.
- ❖ Break-even analysis evaluates and compares the fixed costs and variable costs.
- ❖ This is no profit or no loss situation.

Use of Break even analysis

- ❖ To study the effect of CVP ratio.
- ❖ To know the effect of changes in sales mix.
- ❖ To determine the volume of sales to earn targeted profits.
- ❖ To decide to enhance the production of profitable products or to reduce / discontinue the production of low profitable or loss making products.

Assumptions on Break-even point.

- ❖ The following assumptions are such which are true and valid in certain set of circumstances up to a certain level.
 - All costs are divisible into fixed and variable.
 - All fixed costs remain constant at all levels of output within the installed capacity.
 - The variable costs vary along with production.
 - The selling price is assumed to be constant.
 - The volume of production influences the cost.
 - There is synchronization between production and sales, which would help deciding the break-even point.

Break even point

- ❖ The break-even point may be termed as that point of sales volume at which the total income is equal to total costs.
- ❖ It is a point of sale and production where there is no profit no loss.
- ❖ BEP can be decided in terms of units and as well as in monetary terms.
- ❖ Any production or sales below this point results into loss or any production or sales beyond this, yields profit.

Definitions

❖ **Variable Costs:**

(Direct materials, direct labor and variable overheads) will be incurred in direct proportion to the level of production.

❖ **Fixed Costs:**

Most overheads are time-based and remain constant, or fixed, regardless of the level of production.

❖ **Total Costs:**

Total costs at any level of production are obtained by adding the fixed costs to the variable costs.

Formula of BEP

$$\begin{aligned}
 \text{❖} \quad \text{BEP in units} &= \frac{\text{Total fixed costs}}{\text{Sales price less variable cost per unit}} \\
 &= \text{Total fixed costs divided by contribution per unit.}
 \end{aligned}$$

Formula of BEP

$$\begin{aligned}
 \text{❖} \quad \text{BEP in Sales value} &= \frac{\text{Fixed costs} \times \text{Sales}}{\text{Sales Less Variable cost}}
 \end{aligned}$$

Example

❖ Sales	6000 units
❖ Sales price per unit	Rs. 60=00
❖ Variable cost per unit	Rs.40=00
❖ Fixed costs	Rs. 40000=00

BEP in units

❖ Fixed costs	Rs.40000=00
❖ Contribution per unit	Rs. 20=00 (Rs.60=00 less Rs.40=00)
❖ BEP in units	40000 divided by 20 = 2000 units.
	2000 x Rs. 60=00 = Rs. 120,000

BEP in Sales Value

❖ Fixed costs	Rs. 40000=00
❖ Sales	Rs. 360,000=00
❖ Variable costs	Rs. 240,000=00
❖ BEP in sales value	40000 x 360,000 divided by 120,000=Rs.120000/-

Margin of safety

- ❖ **Margin of safety = Sales less Breakeven Sales.**
- ❖ **MOS=6000 - 2000 = 4000 / 66.7 %**
- ❖ **Conclusion: Even if Sales decrease by 66.7 %, unit will not incur loss.**

Conclusion

- ❖ **BEP Analysis will help the Banker in appraisal of actual / projected performance of the borrower. It also acts as sensitivity analysis tool to judge the projected performance. It will play supporting role to DSCR.**

