



## 23BAT605-FINANCIAL STATEMENT ANALYSIS

### Marginal Costing in Cost, Volume, and Profit Analysis

#### 1. Cost-Volume-Profit (CVP) Analysis:

- **Definition:**
  - CVP analysis examines the relationship between costs, volume, and profits to understand the impact of changes in activity levels on an organization's financial performance.
- **Components in CVP Analysis:**
  - **Fixed Costs:**
    - Costs that remain constant regardless of the volume of production or sales.
  - **Variable Costs:**
    - Costs that vary proportionally with changes in production or sales levels.
  - **Contribution Margin:**
    - The difference between total sales revenue and total variable costs. It represents the amount available to cover fixed costs and contribute to profit.
- **Equations in CVP Analysis:**
  - **Profit Equation:**
    - $\text{Profit} = (\text{Sales} - \text{Variable Costs}) - \text{Fixed Costs}$
  - **Break-Even Point (BEP):**
    - $\text{BEP (in units)} = \text{Fixed Costs} / \text{Contribution Margin per Unit}$
  - **Break-Even Point (BEP) in Sales:**
    - $\text{BEP (in sales)} = \text{Fixed Costs} / \text{Contribution Margin Ratio}$

#### 2. Marginal Costing in CVP Analysis:

- **Contribution Margin Ratio:**
  - The contribution margin ratio is calculated as  $(\text{Contribution Margin} / \text{Sales}) * 100$ . It represents the percentage of sales revenue contributing to covering fixed costs and generating profit.

- **Impact on Profitability:**
  - Marginal costing focuses on the contribution margin and highlights the impact of changes in sales volume on profitability.
- **Scenario Analysis:**
  - Marginal costing allows for scenario analysis by evaluating the effects of variations in production or sales levels on profits.

### 3. Break-Even Analysis:

- **Break-Even Point (BEP) Calculation:**
  - $BEP \text{ (in units)} = \text{Fixed Costs} / \text{Contribution Margin per Unit}$
- **Break-Even Sales (BES) Calculation:**
  - $BES = \text{Fixed Costs} / \text{Contribution Margin Ratio}$
- **Implications of Break-Even Analysis:**
  - The break-even point represents the level of sales at which total costs are covered, resulting in zero profit or loss.

### 4. Profit-Volume (P/V) Ratio:

- **Definition:**
  - The Profit-Volume (P/V) ratio is another term for the contribution margin ratio. It expresses the relationship between contribution margin and sales.
- **Calculation:**
  - $P/V \text{ Ratio} = (\text{Contribution Margin} / \text{Sales}) * 100$
- **Significance:**
  - The P/V ratio helps in assessing the impact of changes in sales volume on profits.

### 5. Multi-Product Scenario:

- **Contribution Margin per Unit:**
  - In a multi-product scenario, the contribution margin per unit is calculated for each product to assess individual product profitability.
- **Product Mix Decisions:**
  - Marginal costing aids in making product mix decisions by analyzing the contribution margins of different products.

## **6. Limitations of Marginal Costing in CVP Analysis:**

- **Assumption of Constant Variable Cost per Unit:**
  - Marginal costing assumes a constant variable cost per unit, which may not be true in all scenarios.
- **Fixed Costs Assumption:**
  - Treats fixed costs as if they remain constant, which may not hold in the long term or under certain circumstances.
- **Not Suitable for All Industries:**
  - May not be suitable for industries with high fixed costs and low variable costs.

## **7. Sensitivity Analysis:**

- **Scenario Planning:**
  - Marginal costing facilitates sensitivity analysis by exploring different scenarios and their impact on profits.
- **Decision-Making:**
  - Helps in decision-making by providing insights into the financial consequences of various choices.

## **Conclusion**

Marginal costing plays a crucial role in cost, volume, and profit (CVP) analysis by focusing on the contribution margin and understanding the impact of changes in activity levels on profitability. It provides valuable insights for break-even analysis, scenario planning, and decision-making in various business scenarios. However, it's essential to recognize the assumptions and limitations associated with marginal costing for accurate financial analysis.