MODULE 5

BREAK EVEN POINT

WHAT IS IT?

The Break-even Point (BEP) is the moment your business income exactly matches your expenses. You have made zero profit and zero loss.

- Fixed Costs: Expenses that stay the same no matter how much you sell (e.g., rent, insurance).
- Variable Costs: Expenses that change based on how many units you make (e.g., raw materials).
- Total Cost: Fixed Costs + (Variable Cost per unit × Number of units).
- Revenue: Selling Price × Number of units sold.
- Profit: Revenue minus Total Cost.

- The Goal To find the number of units you need to sell to break even, use either of these methods:
- Set Revenue = Total Cost
- Set Profit = 0

- Round Up: If your calculation results in a decimal (like 10.2), always round up to the next whole number (11). You cannot sell a fraction of a product, and rounding down would result in a loss.
- Break-even Sales: To find the total money you need to make, multiply your break-even units by the selling price.

To calculate the break-even point, you must understand three functions:

A. Cost Function

The total expense of producing a product.

- Formula: $C(x) = Vx + F$
- Variable Cost (V): Expenses that change per unit produced (e.g., raw materials, direct labor)
- Fixed Cost (F): Expenses that remain constant regardless of production volume (e.g., rent, utilities, wages)

B. Revenue Function (R(x))

The total money received from selling goods or services.

- Formula: R(x) = P \times x
- Selling Price (P$: The price per unit sold.

C. Profit Function (P(x))

The money earned after all costs are paid.

- Formula: $P(x) = R(x) - C(x)$

Thank You!