

Break-Even Analysis

The **break-even point (BEP)** is the stage where a business's **total revenue = total costs** (fixed + variable). At this point, the business is not making a profit but also not incurring a loss. For this model, the calculation breaks down as follows:

1. Formula for Break-Even Customers

$$\text{Break-Even Customers} = \frac{\text{Fixed Costs}}{\text{Contribution per Customer}}$$

Where:

- **Fixed Costs** = ₹4,50,000
- **Revenue per Customer (Selling Price)** = ₹2,000
- **Variable Cost per Customer** = ₹700
- **Contribution per Customer** = 2,000 – 700 = ₹1,300

So:

$$\text{BEP} = \frac{4,50,000}{1,300} \approx 346 \quad (\text{rounded up to 350 customers})$$

2. What This Means

- **Below 350 customers:** The business is running at a **loss**, because contributions are not enough to cover the fixed setup costs.
- **At 350 customers:** The business exactly breaks even (₹4,55,000 contribution \approx ₹4,50,000 fixed cost). Profit = 0.
- **Above 350 customers:** Every additional customer contributes **₹1,300 straight into profit**, since fixed costs are already covered.

3. Visual Interpretation

Think of it in terms of three lines:

- **Fixed Costs Line:** A flat line at ₹4,50,000 (doesn't change with customers).
- **Total Cost Line:** Starts at ₹4,50,000 (fixed) and rises with variable costs per customer (₹700 each).
- **Revenue Line:** Starts at zero and rises by ₹2,000 per customer.

The point where the **Revenue Line intersects the Total Cost Line** is the **break-even point** (~350 customers).

4. Sensitivity of Break-Even Point

The BEP is sensitive to changes in revenue per customer and variable costs:

- If the **commission drops** (say from ₹2,000 to ₹1,800), contribution falls to ₹1,100, and break-even customers rise to:

$$4,50,000 \div 1,100 \approx 410 \text{ customers}$$

- If **variable costs rise** (say from ₹700 to ₹1,000), contribution drops to ₹1,000, and BEP rises to:

$$4,50,000 \div 1,000 = 450 \text{ customers}$$

This shows how important it is to **protect margins** — even small changes shift the break-even point significantly.

5. Strategic Insights

- **Achieving BEP Quickly:** The company must focus on onboarding the first 350 customers as fast as possible to stop burning cash.
- **High Operating Leverage:** Once BEP is crossed, profits scale rapidly (₹1,300 profit per additional customer).
- **Cash Flow Planning:** Before BEP, the company needs to finance losses from reserves or investors. After BEP, the business generates positive cash flow.

Customers vs. Revenue (₹)

