PROFIT/LOSS/BREAK-EVEN ESTIMATION

First-Order Cost Feasibility

**Estimation Example:** Company X Plans to produce a Product

**Estimates:**

**Fixed Costs (FC) ……** Includes development costs, all other preproduction costs, and the expected cost of advertising the product.

\[ FC = $200,000 \]

**Unit Costs (UC) ……** Includes all costs for producing a unit, packaging a unit, and making it available for sale.

\[ UC = $20 \text{ per unit} \]

**Total Production Cost (TC) ………** \[ TC = FC + N(UC) \]

**Total Revenue (TR) ………….** Selling price x Number of units

\[ \text{Selling Price} = $28 \text{ per unit} \]

**Definitions:**

Break-Even occurs when \( TC = TR \).

**Profit/(Loss)……….** \[ \text{Profit/(Loss)} = TR - TC \]

**Return-On-Investment (ROI) ………….** \[ ROI = \frac{(TR - TC)}{(TC)} \]

**Chart:**

Plots of costs versus number of units produced: FC vs N, TC vs N, and TR vs N.
Limitations:

1. Chart should only be used as a tool for estimating first-order cost feasibility.

2. The chart is only as accurate as the information used in its construction.

3. The chart assumes that any one of the variables (e.g., number of items produced, costs, revenues) can be changed independently of the others. This is not usually realistic.

4. The model uses straight-line linear assumptions for costs and revenues as well as an expectation that production costs (e.g., parts costs) will remain constant throughout the production period.

5. The chart represents a static position rather than a dynamic one.