Unit 2: Master Formula, Metric & Strategy Reference

1. Market Sizing & Customer Perception

```
TAM → SAM → SOM Market Sizing Hierarchy
```

- **Total Addressable (TAM):** `Total Potential Buyers × Annual Price`.
- **Serviceable Addressable (SAM):** Target demographic segment within geographic/business model reach.
- **Serviceable Obtainable (SOM):** `SAM × Realistic Market Share % (Year 1-3 target)`.
- **Net Promoter Score (NPS):**
  `NPS = % Promoters (Score 9-10) - % Detractors (Score 0-6)`.
  Passives (7–8) are counted in total sample but excluded from score. Range: –100 to +100.

2. Markup on Cost vs. Margin on Price

```
Markup = (P - C) / C   |   Margin = (P - C) / P
```

- **Markup on Cost:** Profit as % of production/purchase cost.
  `Price = Cost × (1 + Markup %)`.
- **Gross Margin on Price:** Profit as % of final sales price.
  `Price = Cost / (1 - Margin %)`.
- **Mathematical Transformations:**
  `Margin % = Markup / (1 + Markup)`
  `Markup % = Margin / (1 - Margin)`.
- *Example:* 100% markup on cost ≡ 50% gross margin on retail price.

3. Cost-Volume-Profit & Break-Even Engine

```
Unit CM = P - VC   |   CM Ratio = Unit CM / P
```

- **Break-Even Quantity (Units):** `Q_BE = Fixed Costs / Unit CM`.
- **Break-Even Revenue (Dollars):** `Rev_BE = Fixed Costs / CM Ratio`.
- **Target Profit Volume:**
  `Q_Target = (Fixed Costs + Target Operating Profit) / Unit CM`.
- **Margin of Safety (MoS):**
  `MoS Units = Projected Units - Q_BE`
  `MoS % = (Projected Sales - Break-Even Sales) / Projected Sales`.
- **Operating Indifference Volume:**
  `FC_A + VC_A(Q) = FC_B + VC_B(Q) ⇒ Q = ΔFC / ΔUnit CM`.

4. Price Elasticity of Demand & Revenue Test

```
PED = [(Q2 - Q1)/Q_avg] / [(P2 - P1)/P_avg] (Midpoint Formula)
```

- **Elastic (|PED| > 1):** Quantity responds strongly to price.
  • *Price Cut:* TR increases ★ | *Price Hike:* TR decreases.
- **Inelastic (|PED| < 1):** Quantity responds weakly to price.
  • *Price Hike:* TR increases ★ | *Price Cut:* TR decreases.
- **Unit Elastic (|PED| = 1):** Total Revenue is maximized (MR = 0).
- **Determinants:** Closeness of substitutes, luxury vs necessity, share of household budget, time horizon for adjustment.

5. Unit Economics: CAC, LTV & Payback

```
CAC = S&M Spend / New Cust   |   LTV = Monthly CM / Churn
```

- **Customer Lifespan:** `Lifespan = 1 / Churn Rate`.
- **LTV Formula:** `Average Order CM × Purchase Frequency × Lifespan`.
- **LTV to CAC Golden Benchmark:**
  • `< 1.0×` Unsustainable (destroying capital).
  • `3.0× – 5.0×` **Venture Golden Ratio** (Scalable & efficient).
  • `> 5.0×` Under-investing in growth (market share at risk).
- **CAC Payback Period:** `CAC / Monthly Gross Margin per User` (Target ≤ 12 months).
- **Return on Ad Spend:** `ROAS = Attributed Revenue / Ad Spend`.

6. Distribution Channels & Intermediary Margins

```
Wholesale Price = Retail Price × (1 - Retailer Margin %)
```

- **Distributor Take:** `Mfr Net = Wholesale Price × (1 - Distributor %)`.
- **Distribution Intensity:**
  • *Intensive:* Everywhere (convenience, high substitutes).
  • *Selective:* Curated retailers (complex goods, demonstrations).
  • *Exclusive:* Single outlet per territory (luxury, prestige).
- **D2C Disintermediation:** Bypasses 40–60% retail markups, but shifts customer acquisition costs (CAC) to brand.
- **Channel Conflict:** Vertical (D2C vs retailers) & Horizontal (dealer wars).

Unit 2: High-Yield Strategic & Financial Visual Models

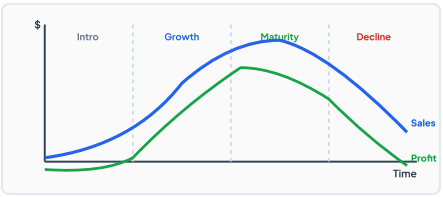
Master Vector Reference

Model 1: 2×2 Perceptual Map & White Space



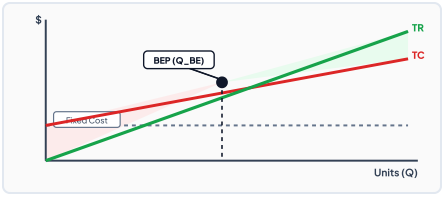
Strategic goal: Position in under-served quadrant with high customer demand.

Model 2: The Product Life Cycle (PLC)



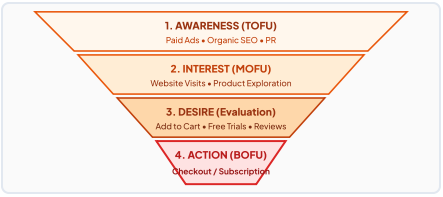
Profits peak in late Growth / early Maturity • Cash Cow funding Star innovation.

Model 3: CVP Break-Even Economics



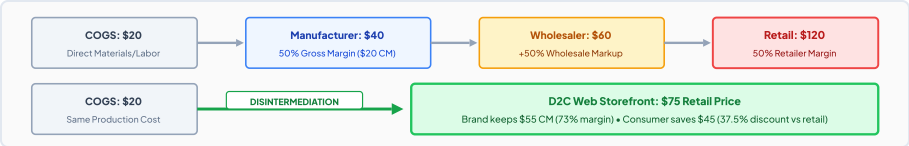
Beyond Q_BE, every unit contributes (P – VC) straight to net operating profit.

Model 4: The AIDA Customer Acquisition Funnel



Friction reduction at each tier expands bottom-funnel paying conversions.

Model 5: Channel Markup Cascade — Traditional 3-Tier vs. Direct D2C



Disintermediation preserves gross margins to fund digital customer acquisition (CAC).