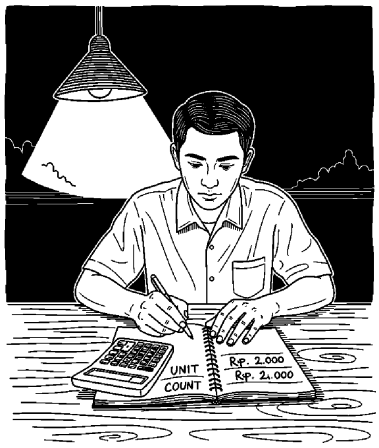
NICHE-SEARCH

WORKSHEET 5 OF 9

Sensitivity Matrix for New Pricing Scenario

Use when evaluating a price change — upward or downward — against a backdrop of variable cost pressure. Build before the decision, not after.



Complementary worksheet for
Break-Even Analysis Handbook
by Ibrahim Anwar

SECTION 1

What This Is For

This worksheet constructs a 4×5 sensitivity matrix: four variable cost scenarios on the rows, five selling price scenarios on the columns. Each cell in the matrix shows the BEP Revenue that results from that specific combination. The matrix answers a question no single BEP calculation can answer: which simultaneous combination of cost increase and price change tips the business from safe to below break-even?

The West Java distributor case in Chapter 08 is the reason this exists. A 10% variable cost increase on a 25% CMR business raised BEP from $800,000 to $1,111,000 per month — a 38.9% jump from one supplier's price change. The matrix shows, before any change occurs, exactly which cells represent safe territory and which represent loss. Build it when a supplier gives notice of a price increase, or when a distributor is pressing for a discount. Do not build it after the decision.

SECTION 2

Benefits

What you get when you actually run this worksheet on a real situation:

- Shows the BEP impact of any combination of variable cost change and selling price change in one table — no repeated calculations needed during a board discussion.
- Identifies the single cell representing the most probable near-term scenario, so the team can discuss that specific number rather than debating abstractions.
- Makes the minimum price increase needed to offset a given cost increase immediately readable — the cell where new BEP equals baseline BEP shows that crossover point.
- Serves as a communication tool: present the matrix in a supplier meeting to quantify why a cost increase cannot be absorbed without a price response.
- Can be saved as a reusable template — refill with new inputs after every trigger event without rebuilding the structure.

SECTION 3

Framework To Use

Two-Variable BEP Matrix

Every cell: Fixed Costs ÷ (Baseline CM Ratio adjusted for both cost and price change). One matrix, twenty scenarios, one session.

Price −5%	**Price 0% (base)**	**Price +5%**	
VC +0%	BEP rises	BEP = base	BEP falls
VC +10%	BEP rises sharply	BEP rises	BEP rises less
VC +20%	BEP critical	BEP critical	BEP still above base

SECTION 4

How To Use

Follow these steps in order. Each one builds on the previous.

1. Step 1: Write your baseline fixed costs per month, baseline CM Ratio, and baseline BEP Revenue in the header row before filling any matrix cell.
2. Step 2: For each row, select the variable cost increase percentage: +0%, +5%, +10%, +15%, +20%. These rows represent plausible supplier price scenarios over the next 12 months.
3. Step 3: For each column, select the selling price change: -10%, -5%, 0%, +5%, +10%. These columns represent the pricing options available in response.
4. Step 4: For each cell, calculate the new CM Ratio. Formula: New CM Ratio = Baseline CM Ratio − (Variable Cost Increase % × (1 − Baseline CM Ratio)). Adjust for selling price change by scaling the entire ratio proportionally.
5. Step 5: BEP Revenue for each cell = Fixed Costs ÷ New CM Ratio. Fill all 20 cells.
6. Step 6: Mark any cell whose BEP Revenue exceeds your current average monthly revenue. Those cells represent conditions where the business is already below break-even.
7. Step 7: Circle the cell representing the most likely combination to occur in the next 90 days. Is that cell safe or marked?
8. Step 8: Find the row where variable costs are most likely to move next quarter. Read across that row: which selling price is the minimum needed to keep BEP below current revenue?

SECTION 5

Example Use

A consumer goods distributor: fixed costs $12,500/month, baseline CM Ratio 25%, baseline BEP Revenue $50,000/month, current actual revenue $65,625/month. The primary supplier has given informal notice of a 10% cost increase. The distributor's retail customers are resisting any price increases.

Baseline: CM Ratio 25%, BEP = $12,500 ÷ 0.25 = $50,000.

Variable costs at +10%, selling price unchanged (+0%):
Variable costs were 75% of selling price. After +10%: 75% × 1.10 = 82.5%.
New CM Ratio = 100% − 82.5% = 17.5%.
New BEP = $12,500 ÷ 0.175 = $71,429.

Current revenue $65,625 is now $5,804 below the new BEP. This is exactly the Chapter 08 scenario: from safe to below break-even in one supplier change.

Find the minimum price increase to stay above current BEP:
New CM Ratio needed: $12,500 ÷ $65,625 = 19.05%.
Variable costs at +10% consume 82.5% of old price.
New selling price needed: raise until CM = 19.05%.
Minimum price increase: approximately 4.3%.

The matrix shows the board this in one glance: the VC+10%/Price+0% cell is dangerous; the VC+10%/Price+5% cell is safe. The decision is not "should we raise prices" — it is "a 5% increase covers the 10% cost scenario with margin."

SECTION 6

The Worksheet

Tear this out, copy it onto a fresh sheet, or fill it in directly.

Sensitivity Matrix for New Pricing Scenario

Use when evaluating a price change — upward or downward — against a backdrop of variable cost pressure. Build before the decision, not after.

	SELLING PRICE −10%	**SELLING PRICE −5%**	**SELLING PRICE 0% (BASELINE)**	**SELLING PRICE +5%**	**SELLING PRICE +10%**
Variable Costs +0%	BEP = ?	BEP = ?	BEP = ?	BEP = ?	BEP = ?
Variable Costs +5%	BEP = ?	BEP = ?	BEP = ?	BEP = ?	BEP = ?
Variable Costs +10%	BEP = ?	BEP = ?	BEP = ?	BEP = ?	BEP = ?
Variable Costs +15%	BEP = ?	BEP = ?	BEP = ?	BEP = ?	BEP = ?
Variable Costs +20%	BEP = ?	BEP = ?	BEP = ?	BEP = ?	BEP = ?

SECTION 6 (CONTINUED)

Reflection Prompts

After filling in the worksheet on the previous page, work through these.

1. For each cell: New CM Ratio = (Baseline CM Ratio − Variable Cost Increase %) adjusted for price change. BEP Revenue = Fixed Costs ÷ New CM Ratio. Fill every cell before reading the matrix.

2. Mark every cell whose BEP Revenue exceeds your current average monthly revenue in red. The boundary between red and non-red cells is your operating tolerance limit.

3. Which single-variable scenario is most likely to occur in the next 90 days based on current supplier and market signals? Circle that row and column. Is the corresponding BEP cell above or below current revenue?

SECTION 7

Tips and Traps

TIPS

- Build the matrix before a supplier negotiation, not during one. Present it in the meeting: the supplier can see that their 10% cost increase requires a specific price response from the distributor. Numbers clarify the conversation faster than arguments about fairness.
- Save the completed matrix as a template file. When the next trigger fires, only the fixed cost and baseline CM Ratio inputs need updating — the structure and formulas remain the same.
- Low CM Ratio businesses (retail at 18–22%) need narrower row intervals — use +0%, +3%, +6%, +9%, +12% instead of 5-point steps. A 3% variable cost increase already moves the BEP materially when CM starts at 20%.

TRAPS

- Using revenue-proportion CM Ratio when the product mix has shifted since the last WACM calculation. If mix has changed by more than 10 points, run worksheet ns-1 first to get an updated WACM, then use that WACM Ratio as the baseline for this matrix.
- Reading only the diagonal cells (where costs and prices move proportionally) and treating those as the realistic scenarios. The most dangerous real-world situations usually sit off-diagonal: costs up, prices held flat by competitive pressure.
- Stopping after marking the critical cells without deciding which cell is most likely and what the response will be. The matrix is a decision tool, not a report.

SECTION 8

Appendixes

Appendix A — Cell Calculation Formula

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For each cell in the matrix:

Inputs:
  FC    = Fixed Costs per month (constant across all cells)
  CMR0  = Baseline CM Ratio (decimal, e.g. 0.25 for 25%)
  ΔVC   = Variable cost increase % (e.g. +0.10 for 10% increase)
  ΔP    = Selling price change % (e.g. −0.05 for 5% decrease)

Step 1 — New variable cost ratio:
  VC0   = 1 − CMR0        (e.g. 1 − 0.25 = 0.75)
  VC_new = VC0 × (1 + ΔVC) (e.g. 0.75 × 1.10 = 0.825)

Step 2 — Adjust for selling price change:
  If selling price rises, VC as a share of revenue falls proportionally.
  VC_adj = VC_new ÷ (1 + ΔP)
    Example: VC_new 0.825, price +5% → VC_adj = 0.825 ÷ 1.05 = 0.786

Step 3 — New CM Ratio:
  CMR_new = 1 − VC_adj     (e.g. 1 − 0.786 = 0.214)

Step 4 — Cell BEP:
  BEP_cell = FC ÷ CMR_new

Worked example (VC+10%, Price−5%):
  VC_new = 0.75 × 1.10 = 0.825
  VC_adj = 0.825 ÷ 0.95 = 0.868
  CMR_new = 1 − 0.868 = 0.132
  BEP = $12,500 ÷ 0.132 = $94,697 (dangerous — well above current revenue)
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Appendix B — Minimum Price Increase to Offset a Given Cost Increase

To find the minimum selling price increase that restores the original BEP
after a variable cost increase:

Formula:
  Original BEP = FC ÷ CMR0
  Target BEP   = same as original (hold BEP constant)

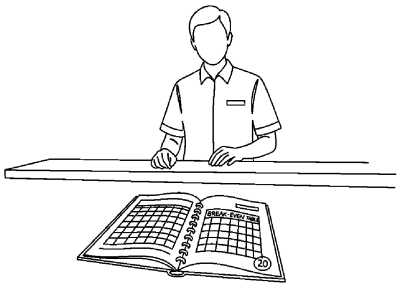
Needed CMR after cost increase:
  CMR_needed = FC ÷ Target BEP = CMR0 (if holding BEP constant)

New variable cost ratio after ΔVC increase:
  VC_new = (1 − CMR0) × (1 + ΔVC)

Required selling price multiplier to restore CMR0:
  Price_multiplier = VC_new ÷ (1 − CMR0)
  Price increase % = Price_multiplier − 1

Example: CMR0 = 0.25, VC increase = 10%
  VC_new = 0.75 × 1.10 = 0.825
  Price_multiplier = 0.825 ÷ 0.75 = 1.10
  Required price increase = 10%

A 10% variable cost increase on a 25% CMR business requires exactly
a 10% selling price increase to restore the original BEP.
On a 40% CMR business, the same 10% cost increase only requires
a 6.25% price increase to hold BEP steady — higher CM provides buffer.



WHERE THIS WORKSHEET COMES FROM

Break-Even Analysis Handbook

Calculate How Many Units Must Sell Before This Business Turns a Profit

by Ibrahim Anwar

This worksheet is one of nine in the *Break-Even Analysis Handbook* companion worksheet pack. The full pack is grouped into three categories: high-volume worksheets you can run weekly, niche-search worksheets for rare but high-value situations, and specific-case worksheets that walk you through a single concrete scenario.

Every framework, decision filter, and figure used in these worksheets is drawn from the chapters of the source book. The book sets the diagnosis, the worksheets give you the form to act on it.

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