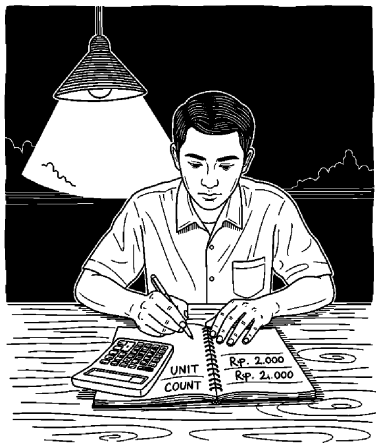
HIGH-VOLUME

WORKSHEET 2 OF 9

Weighted-Average Contribution Margin Update

Run after any month where one product's share of total sales shifts by more than 10 percentage points from the prior month.



Complementary worksheet for
Break-Even Analysis Handbook
by Ibrahim Anwar

SECTION 1

What This Is For

When a business sells more than one product, overall BEP is not controlled by any single product's margin — it is controlled by the weighted-average contribution margin across the entire mix. This worksheet calculates that weighted average from last month's actual unit volumes and updates the BEP accordingly.

The number is often surprising the first time. A food business adding a lower-CM delivery menu alongside its dine-in business may watch its WACM drop from $0.60 to $0.48 per unit without any price or cost change. That 20% drop in WACM raises BEP by the same proportion. The business must sell 20% more units to cover the same fixed costs — from a mix shift alone.

SECTION 2

Benefits

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

- Detects silent BEP increases caused by product-mix drift without any price or cost change.
- Identifies which product gaining share is pulling WACM down, and by exactly how much in dollars per unit.
- Provides the WACM input that feeds directly into the Chapter 05 multi-product BEP formula.
- Takes 20 minutes after the month closes, using only the sales volume data already recorded.
- Enables a concrete, specific conversation about whether to promote a higher-CM product or renegotiate the mix with a distributor.

SECTION 3

Framework To Use

Mix-Weighted Floor

BEP moves when mix moves, even without any price or cost change. Weighted CM translates actual mix into a single number the BEP formula can use.

Product A (High CM)	Product B (Low CM)	Effect on WACM
CM per unit: $5.00	CM per unit: $2.00	Mix determines outcome
60% of sales mix	40% of sales mix	WACM = $3.80
40% of sales mix	60% of sales mix	WACM = $3.20 — BEP rises 19%
80% of sales mix	20% of sales mix	WACM = $4.40 — BEP falls 13%

SECTION 4

How To Use

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

1. Step 1: List every active product or SKU in the first column. Include all products that generated revenue this month, even minor ones.
2. Step 2: For each product, write the CM per unit in column two — that is selling price minus all variable costs per unit. Use the same variable cost logic as worksheet hv-1.
3. Step 3: Write units sold this month for each product in column three. Use actual sales records.
4. Step 4: Divide each product's units sold by total units across all products. Write the result as a percentage in column four. The column must sum to 100%.
5. Step 5: For each product, multiply CM per unit (column two) by the share percentage (column four), then divide by 100. Write the result in column five. This is each product's weighted contribution.
6. Step 6: Sum all values in column five. That total is the WACM — the contribution per unit averaged across the actual sales mix.
7. Step 7: Divide total fixed costs by WACM to get updated BEP Units. Compare to last month's BEP Units. If WACM fell, BEP rose — by how much in units?
8. Step 8: Identify which product gained share. Is it a deliberate strategy or an unexamined drift? Write one sentence explaining the mix movement.

SECTION 5

Example Use

A snack manufacturer sells three products: Premium Mix at $3.00/pack CM, Standard Cracker at $1.50/pack CM, and Budget Peanut at $0.80/pack CM. Last month's actual sales were 200 packs Premium, 600 packs Standard, 1,200 packs Budget. Fixed costs are $2,400/month.

Total units: 200 + 600 + 1,200 = 2,000 packs.

Shares: Premium 10%, Standard 30%, Budget 60%.

Weighted CM:
Premium: $3.00 × 10% = $0.30
Standard: $1.50 × 30% = $0.45
Budget: $0.80 × 60% = $0.48
WACM = $0.30 + $0.45 + $0.48 = $1.23

BEP Units = $2,400 ÷ $1.23 = 1,951 packs per month.
Actual volume of 2,000 means margin of safety is only 49 packs — 2.4%.

Last month, Budget's share was 40% (not 60%). At that mix:
WACM = $3.00 × 0.15 + $1.50 × 0.45 + $0.80 × 0.40 = $1.45
Old BEP = $2,400 ÷ $1.45 = 1,655 packs.

The mix shift from Budget at 40% to 60% raised BEP by 296 packs without any price or cost change. The owner now knows what moved.

SECTION 6

The Worksheet

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

Weighted-Average Contribution Margin Update

Run after any month where one product's share of total sales shifts by more than 10 percentage points from the prior month.

PRODUCT / SKU	CM PER UNIT ($)	UNITS SOLD THIS MONTH	SHARE OF TOTAL UNITS (%)	WEIGHTED CM (COL 2 × COL 4 ÷ 100)
Product A				
Product B				
Product C				
Product D				
Product E				
— add rows as needed —				
TOTAL			100%	= WACM
BEP Units = Fixed Costs ÷ WACM				

SECTION 6 (CONTINUED)

Reflection Prompts

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

1. Did WACM go up or down from last month? By how much? If down, which product gained share?

2. If the lower-CM product continues growing as a proportion of mix, at what WACM does BEP exceed your realistic monthly capacity?

3. What is one action — a promotion, a bundle, a sales conversation — that shifts mix toward the higher-CM product this week?

SECTION 7

Tips and Traps

TIPS

- Run this whenever one product's share changes by more than 10 percentage points from the prior month — that threshold appears in Chapter 05. Below 10 points, WACM shift is usually small enough that the old BEP is still directionally valid.
- When adding a new product, run this worksheet twice: once with the current mix and once with the projected mix assuming the new product reaches 20% share. The gap between those two WACM figures is the BEP risk of the launch.
- If a product's CM per unit has also changed this month (e.g., supplier raised a material cost), update CM per unit in column two before calculating shares. Both inputs matter.

TRAPS

- Using revenue shares instead of unit shares in column four when products have very different price points. A $15 product that sells 100 units and a $3 product that sells 400 units each represent 50% of revenue — but the unit shares are 20% and 80%, which produce a completely different WACM. Use units unless all products have the same price.
- Treating a WACM drop as a math error rather than a business signal. If WACM falls from one month to the next, something in the sales mix changed. Find it before closing the worksheet.
- Only running this when there is already a problem. By then, the mix drift has been compounding for several months. Run it monthly, flag it when the trigger threshold fires.

SECTION 8

Appendixes

Appendix A — WACM Quick Reference Formulas

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Step 1: CM per unit per product
  CM = Selling Price – Variable Cost per Unit

Step 2: Unit share per product
  Share (%) = (Units Sold, This Product ÷ Total Units All Products) × 100
  Verify: all shares must sum to 100%.

Step 3: Weighted CM per product
  Weighted CM = CM per Unit × Share (%) ÷ 100

Step 4: WACM
  WACM = Sum of all Weighted CMs

Step 5: Updated BEP
  BEP Units    = Total Fixed Costs ÷ WACM
  BEP Revenue  = Total Fixed Costs ÷ WACM Ratio
    where WACM Ratio = WACM ÷ Weighted-Average Selling Price

WACM Ratio shortcut (when revenue mix is used instead of unit mix):
  For each product: Revenue Share (%) × CM Ratio → sum = WACM Ratio
  BEP Revenue = Total Fixed Costs ÷ WACM Ratio
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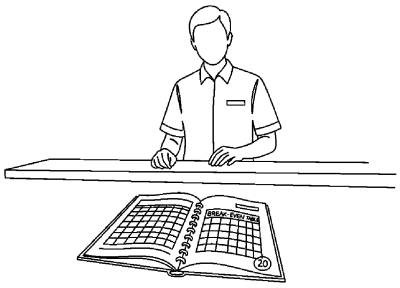

WHERE THIS WORKSHEET COMES FROM

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.

Available on Google Play Books

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