How to Determine OPEX Cost Per Unit

Determining operating expenses (OPEX) per unit is a key part of pricing and profitability analysis. Unlike direct production costs such as raw materials or packaging, OPEX typically includes indirect costs like rent, salaries, and administration. The goal is to allocate these costs fairly across the number of units produced or sold, so you understand the true cost and profit per unit.

Step 1: Gather All Operating Expenses (OPEX)

Start by identifying all expenses that fall outside of direct production costs (raw materials, labour, packaging). Common OPEX categories include:

- Owner salary / administrative wages
- Rent and utilities
- Insurance, accounting, and legal fees
- Marketing and advertising
- Software subscriptions and IT
- Equipment depreciation and maintenance
- Shipping and distribution overhead (if not in COGS)

Step 2: Separate Fixed vs Variable OPEX

- Fixed OPEX: Costs that do not change with sales volume (e.g., rent, salaries).
- Variable OPEX: Costs that increase with sales volume but are not part of COGS (e.g., transaction fees, sales commissions, royalties).

Step 3: Decide Your Basis for Allocation

There are two common methods:

1. Per-Unit Allocation (Simple Method):
   OPEX per unit = Total OPEX ÷ Units Sold

   Example: $10,000 OPEX ÷ 2,000 units = $5.00 OPEX per unit.

2. Activity-Based Allocation (More Accurate): * **See Detailed Example: Activity-Based Allocation**
   Assign costs based on what drives them. For example, marketing may be tied to sales, rent spread evenly across products, and admin shared across all units.

Step 4: Use a Realistic Sales Forecast

If you're early-stage or sales fluctuate, base your OPEX allocation on realistic forecasts. As sales volume increases, OPEX per unit decreases because fixed costs are spread across more units.

Step 5: Monitor and Adjust

Recalculate OPEX per unit regularly (e.g., quarterly). If sales are lower than expected, OPEX per unit will increase, which may reduce profit margins. Adjust pricing or cost structures accordingly.

Rule of Thumb

For most small businesses, start with the simple per-unit allocation. Refine over time with activity-based methods if needed. The most important factor is consistency, so you can track trends and make informed business decisions.

*Detailed Example: Activity-Based Allocation

Activity-based allocation is about assigning operating expenses (OPEX) to products or services based on the activities that actually generate those costs. Instead of simply dividing all OPEX by total units sold, you look at the drivers of each expense and distribute accordingly.

This method gives a more realistic view of per-unit profitability, especially if your business has multiple products, variable marketing spend, or uneven resource usage.

Common Allocation Drivers

- Marketing & Promotions → Allocated based on sales revenue or number of units sold.
- Rent / Facilities → Spread evenly across all units (if all products use the same space).
- Administration / Salaries → Spread evenly, or tied to hours worked for each product line.
- Utilities / Equipment → Allocated based on machine hours, production runs, or square footage used.
- Insurance / Accounting → Often allocated evenly across products.

Hypothetical Example of Activity-Based Allocation (More Accurate):

Let's say a company sells 2 products (Product A and Product B) and has the following OPEX for the month:

Expense Category	Amount	Allocation Basis
Rent	$3,000	Spread evenly across units
Marketing	$4,000	% of sales revenue
Admin Salaries	$2,000	Spread evenly across units
Utilities	$1,000	Machine hours used
Insurance / Legal	$500	Spread evenly across units

Step 1: Sales and Production Data

- Units sold: Product A = 1,000 units; Product B = 500 units
- Sales revenue: Product A = $20,000; Product B = $10,000
- Machine hours: Product A = 600 hrs; Product B = 400 hrs

Step 2: Allocate Costs by Driver

Rent ($3,000) – Spread across total units (1,500 units):

OPEX per unit (rent) = 3,000 ÷ 1,500 = $2.00 per unit

Marketing ($4,000) – Allocate by revenue share (A = 67%, B = 33%):

Product A: $2,680 → 2,680 ÷ 1,000 = $2.68 per unit

Product B: $1,320 → 1,320 ÷ 500 = $2.64 per unit

Admin Salaries ($2,000) – Spread evenly across units:

2,000 ÷ 1,500 = $1.33 per unit

Utilities ($1,000) – Allocate by machine hours (A = 60%, B = 40%):

Product A: $600 → 600 ÷ 1,000 = $0.60 per unit

Product B: $400 → 400 ÷ 500 = $0.80 per unit

Insurance / Legal ($500) – Spread evenly:

500 ÷ 1,500 = $0.33 per unit

Step 3: Total OPEX per Unit

Product A (1,000 units) = 2.00 + 2.68 + 1.33 + 0.60 + 0.33 = $6.94 per unit

Product B (500 units) = 2.00 + 2.64 + 1.33 + 0.80 + 0.33 = $7.10 per unit

Why this matters:
If you had simply divided total OPEX ($10,500) by 1,500 units, you would have assigned $7.00 per unit across the board. That hides the fact that Product A is slightly less costly to support ($6.94) and Product B slightly more ($7.10) due to differences in machine usage and marketing weight.