

How to complete a break-even analysis

The break-even point is the point at which your company makes enough money to cover its costs. Past this point, the company starts to make profit. Finding the break-even point through the analysis of costs is one of the most useful processes an entrepreneur can undertake. It helps you answer questions such as:

- What volume of sales do I need to break even?
- What profit can I expect from a particular volume of sales?
- What price should this product be sold at?
- Should advertising be increased or decreased?

How to carry out a break-even analysis

1. Separate your variable costs from your overheads

Make a tally of all your costs separated by type – either fixed or variable. If you come across a mixed cost, like a bill with a flexible usage fee and a flat subscription cost, work out which is the greater part and add it to the appropriate list. You want to finish knowing two things: **your total fixed costs** and the average variable cost of providing one product or service (known as the **variable cost per unit**). If you take away the variable cost per unit from your sales price, you have your **contribution (or profit) margin**.

2. Now carry out the following calculation to find your break-even point

TOTAL FIXED COSTS ÷ CONTRIBUTION MARGIN = SALES VOLUME REQUIRED TO BREAK EVEN

Example:

A window cleaner has fixed costs of \$15,000, while the business's variable costs average \$15 per job and the charge out rate is \$40 per job, so his contribution margin is \$25. To break even he needs to carry out:

$\$15,000 \div \$25 (\$40 - \$15) = 600 \text{ jobs}$

For a more honest estimate of viability, the business owner factors their own salary into the fixed costs part of the equation.

Dollars

To obtain a dollar break-even point, you need to express the contribution margin as a decimal figure converted from a percentage. For example:

$$\begin{aligned}\$25 &= 62.5\% \text{ of } \$40 \\ 62.5\% &= 0.625\end{aligned}$$

Now simply divide the fixed costs by the contribution margin (decimal figure). So, our window cleaner's annual sales target to cover costs would therefore be:

$$\$15,000 \div 0.625 = \$24,000$$

Hours

If your business is a service provider that charges an hourly rate, you'll want to know your hours-worked break-even point. Simply divide your fixed costs by your hourly call out rate. Say, for example, our window cleaner decided to charge \$40 by the hour, after finding out a minority of jobs were taking up a lot of his time. His hours target to reach break-even would be:

$$\$15,000 \div \$40 = 375 \text{ HOURS}$$

Again, in both cases, he'd be wise to factor his salary expectations into his costs for a truer figure.

Advertising spend

While break-even analysis is typically used to set a sales benchmark or estimate when a business will become profitable, it is also a fundamental tool when it comes to budgeting advertising dollars. Many businesses neglect to apply any analysis to advertising spend at all, especially if they are used to a set spending pattern every year. However, applying a break-even analysis to your advertising spend tells you exactly how effective that ad must be before the cost is paid for and it starts to help you make a profit.

The calculation is virtually identical to the standard equation – just replace your fixed costs with the cost of the ad:

ADVERTISING SPEND ÷ CONTRIBUTION MARGIN = SALES VOLUME REQUIRED FOR ADS TO BREAK EVEN

Example:

The owner of a city garage and auto service shop is being offered a 'cut-price' deal to advertise in a monthly car magazine – a full page ad for \$4,000. At the same time, he knows he sells a car service for \$200, with the variable costs per service being \$65. A break-even analysis would tell him he will need to carry out 29 extra services than usual during the month before he doesn't lose any money on the cost of the ad:

$$\$4000 \div (\$200 - \$65) = 29 \text{ services}$$

Weighted average price

Most companies make multiple products that cost varying amounts to make, yet their owners still need to know a single break-even point. To work this out, they multiply the price of each product by the average quantity they estimate to sell, before adding together a total of results, such as:

100 item X @ \$2	=	\$300
200 item Y @ \$3	=	\$600
400 item Z @ \$5	=	\$2,000
700		\$2,800

Dividing the total forecasted sales value by the total units they forecast to sell gives them a weighted average price = \$4. This can then be used along with their weighted variable cost per unit (found using the same method) in a break-even equation.