

Pricing a Company's Products and Services to Increase Sales and Profits

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Steps in Pricing an Order

Step #1: Obtain all relevant cost and pricing data, including the company's current fixed and variable costs.

Step #2: Analyze the new order. Include incremental (additional) costs associated with the order. Be sure to adjust for any additional fixed costs.

Step #3: Determine the minimum selling price.

Step #4: Prepare a condensed profit and loss statement *only* on the new order.

To show the importance of pricing decisions, this Report will prove you can make money by selling a product for \$15 even though your average cost to produce that product is also \$15.

How to Price a Company's Products

Setting prices on a company's products and services is a tricky business. Set prices too high and you may never get the market share you're after. Set them too low and you won't reap the profits you could.

Compared to larger companies, smaller businesses are much more vulnerable to pricing mistakes because they're usually concentrating their efforts — and building their businesses — on fewer products. A larger company spreads its risks over many product lines, so a mistake on one product's pricing won't impact its bottom line as much.

One way a business can lessen the risk of a pricing mistake is by doing more analysis *before* setting a price on a product or service. Here are some questions to get you started.

- What is my breakeven cost on each product?
- Can I sell more products by lowering the price, or should I increase the price and sell fewer units?
- Should I lower the price for special quantity orders — and how low can I go and still make a profit?
- Do I have enough cushion in my pricing to give my salespeople or manufacturer's reps an additional 5% commission in an effort to generate more sales?
- If I'm going to spend \$20,000 on advertising, how many additional units must be sold to get back my investment?

These questions are critical: Many smaller businesses do not have the capital or resources that enable a larger corporation to ride out the consequences of a *wrong* pricing decision. That's why a knowledge of the cost-volume-price relationship of a company's products is essential for greater sales and greater profitability.

To begin, let's review these terms —

Breakeven in sales is determined by the following formula:

$$\text{Breakeven (BE)} = \frac{\text{Fixed Costs} + \text{Zero Profit}}{\text{Contribution Margin}}$$

Fixed Costs: Production and operational costs that remain the same in dollar amount even though the number of units produced may change. *Example:* Rent.

Variable Costs: Costs that change in total dollar amount as quantities (units) increase or decrease. *Example:* Materials used in production and sales commissions.

Operating Profit: Profit *after* cost of sales and general, selling, and administrative expenses. It is the profit *before* interest expense and other income and expense items, including taxes.

Operating Profit Margin: Operating profit divided by sales, e.g., \$60,000 operating profit divided by \$360,000 sales equals 16.7% operating profit margin.

Contribution Profit Margin: Percentage of sales dollar that is needed to cover fixed costs. The formula is sales less variable costs divided by sales. *Example:* \$18 selling price less \$10 variable cost equals \$8 contribution profit; \$8 divided by \$18 equals 44% contribution profit margin.

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With breakeven and contribution analysis, you can compute how much *incremental* sales are needed to cover *incremental* costs. Then, you can determine what you can expect as a profit if you increase sales *or* the number of units produced by a given volume or quantity.

Now to our case study on *Premier Radio* which explains the *why* and *how* of pricing a company's products.

Step #1: Prepare the Data

Premier Radio is a manufacturer of radios sold on a private-label basis to large discount chains. The company has current plant space to produce 45,000 radios annually. Planned production for the current year is 20,000 units and

involves working the plant for one shift only.

An analysis of the company's cost records reveals the following information for the 20,000-unit production level. (Variable costs fluctuate with volume changes while fixed costs, which reflect more of a company's *capacity* to produce, remain stable.)

Variable Costs per Radio

Manufacturing	\$ 8
Selling and Administrative	<u>2</u>
Total Variable Costs	\$10

Fixed Costs

Manufacturing	\$ 60,000
Selling and Administrative	<u>40,000</u>
Total Fixed Costs	\$100,000

Selling Price per Unit \$18

Based on the above cost data, the average cost per radio at the quantity level of 20,000 units is \$15, computed as follows:

$$\text{Average Cost} = \frac{\text{Fixed Costs} + \text{Total Variable Costs}}{\text{Number of Units}}$$

$$\text{Average Cost} = \frac{\$100,000 + \$200,000}{20,000 \text{ Units}}$$

$$\text{Average Cost} = \$15$$

At a current selling price of \$18, the profit per unit at the 20,000-unit-per-year level is \$3. The total profit is as follows:

Sales (20,000 Units times \$18)	\$ 360,000
Fixed Costs	-100,000
Variable Costs (\$10 per Unit)	<u>-200,000</u>
Operating Profit	<u>\$ 60,000</u>

It should be emphasized that data such as the above is easily attainable from your accountant or treasurer.

Step #2: Analyze the New Order

Premier's sales manager just received a large order from a new customer to buy 10,000 radios, but at a selling price of \$15 each rather than at *Premier's* current selling price of \$18. *Important:* The \$15 selling price being requested is also *Premier's* current average cost per unit (see table on prior page).

To fulfill the order, fixed costs will have to be increased by \$10,000 since the company will need additional assembly line equipment.

Question #1

Should the company accept the new order at the \$15 price, particularly since the current average cost per unit is \$15? It would seem like busy-work, merely taking money out of one pocket to put it in the other.

Solution. The answer to the question can be found in calculating the new cost-volume-price data on the **new order only**. *Please note:* In making the calculation, *only incremental revenues and costs* are considered — those that are added by this particular order. If the result is positive, the order should be considered; if it is a negative number or near breakeven, the order should be turned down. The data on the new order is as follows:

Analysis of New Order

Incremental Revenues (10,000 Units at \$15)	\$150,000
Incremental Costs	
Manufacturing Costs	-10,000
Variable Costs (\$10 per Unit)	<u>-100,000</u>
Profit on New Order	<u>\$ 40,000</u>

As computed, the new order generated a \$40,000 additional profit. Now, let's look at the total picture — the effect of the new order on *Premier's* overall sales and operating profit. Here is a condensed income statement:

	<u>Without New Order</u>	<u>With New Order</u>
Sales	\$ 360,000	\$510,000
Fixed Costs	-100,000	-110,000
Variable Costs	<u>-200,000</u>	<u>-300,000</u>
Operating Profit	\$ 60,000	\$100,000
Operating Profit Margin	16.7%	19.6%

Step #3: Look At the Results

1. You sold the product at \$15, which is equivalent to your current average cost per unit;
2. the \$15 selling price represented a 16.7% discount off your regular price of \$18; yet
3. your overall profit margin substantially increased from 16.7% to 19.6%.

Question #2

"Just how low in price might I go?" The calculations are simple: the total *incremental* costs of \$110,000 are divided by the number of additional units (10,000), resulting in a **minimum selling price** of \$11 per unit.

However, should you sell the product at \$12, if that were the best you could do to get the order, resulting in a profit of \$1 per unit for a total added profit of \$10,000? It would appear so, but let's look at the new profit margin. Your new sales would be \$480,000 (\$360,000 plus the \$120,000 new order) and your operating profit would be \$70,000 (\$60,000 plus \$10,000 profit from the new order).

The result. Your operating profit margin drops to 14.6% (\$70,000 profit divided by sales of \$480,000), compared to 16.7% *without* the order.

This is the essence of what is meant by "having more sales but enjoying them less." The trade-off is the increase in the actual dollar profit of \$10,000 versus the decrease in your overall profit margin. The choice is yours. With these calculations, you at least have the data to make more-informed decisions. You may decide to take the order just to add another customer whose business could increase in the future.

Remember: Exact costs may be hard to determine, and the line between fixed costs and variable costs can be hazy. But all businesses, and especially smaller businesses, where a mistake in pricing can mean the difference between survival and failure, should use breakeven and contribution margin analysis. It's easy to compute, and it can give you the necessary data to maximize your long-term sales and profits.

Other Applications

The examples and analysis in this Report can be used for:

- Pricing new or existing products.
- Justifying hiring additional salespeople.
- Increasing fixed costs to handle increased sales.
- Making the make-or-buy decision.
- Determining a product's minimum selling price, as well as its profit contribution.
- Expanding a marketing program, e.g., adding a new sales office or territory.

In addition, this type of analysis will apply when you are expanding your

company by buying other product lines or even an entire division of another company.

In these cases, certain fixed costs will be reduced since you will be operating two businesses under one umbrella. These reduced costs are referred to as the *synergistic* benefits of an acquisition and can add substantially to the overall profitability of both entities. □

***Questions and Answers:* Please see following pages.**

Questions and Answers

Using the original cost data presented for *Premier Radio* (page 5) and the breakeven data which follows, let's answer the following questions.

Breakeven Formula: The formula for determining *Premier Radio's* breakeven (in terms of units) is as follows:

$$\text{Breakeven} = \frac{\text{Fixed Costs}}{\text{Selling Price} - \text{Variable Costs}}$$

$$\text{Breakeven} = \frac{\$100,000}{\$18 - \$10} = 12,500 \text{ Units}$$

Question #1. What is the minimum selling price to break even on the additional 10,000-unit order if fixed manufacturing costs increase \$25,000 rather than \$10,000?

Answer: The minimum selling price to break even on the 10,000 additional order is computed as follows:

Additional Fixed Costs	\$ 25,000
Variable Costs (\$10 per Unit)	<u>100,000</u>
Total Incremental Costs	\$125,000
Divided by: Number of Units	10,000
Minimum Selling Price per Unit	\$12.50

Question #2. If your salespeople want 2,000 special product brochures for a direct mail campaign with follow-up calls, what is your breakeven in terms of number of units? (Assume that the brochures, mailing, select follow-up phone calls, and other costs will total \$20,000.)

Answer: The breakeven in units for the direct mail campaign is calculated by using the following formula:

$$\text{Breakeven} = \frac{\text{Additional Costs}}{\text{Selling Price - Variable Costs}} \\ \text{(per unit)} \quad \text{(per unit)}$$

$$\text{Breakeven} = \frac{\$20,000}{\$18 - \$10} = 2,500 \text{ Units}$$

Question #3. Your goal next year is to sell 40,000 units at \$18 per unit (double your current level of 20,000 units). Fixed costs will increase by \$75,000 (to a total of \$175,000); variable costs will remain the same (\$10 per unit). Ask your treasurer to prepare a projected income statement and operating profit.

Answer: Your projected income statement and operating profit is:

Sales (40,000 x \$18)	\$720,000
Fixed Costs	-175,000
Variable Costs (40,000 times \$10)	<u>-400,000</u>
Operating Profit	<u>\$145,000</u>

Question #4. After you prepare the answer to #3 above, compute your operating profit margin *and* contribution profit margin.

Answer: Your operating profit margin is 20.1% (\$145,000 operating profit divided by \$720,000 total sales). Your contribution profit margin is 44.4% (\$18 selling price less the \$10 variable cost per unit equals \$8, which is then divided by your \$18 selling price).

Question #5. What is the *new* average cost per unit based on the projected volume level of 40,000 units?

Answer: Your average cost per unit is \$14.375 (\$575,000 total fixed and variable cost divided by 40,000 units). □

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