

Module 2 - Home

COST-VOLUME-PROFIT ANALYSIS

Modular Learning Outcomes

Upon successful completion of this module, the student will be able to satisfy the following outcomes:

- Case
 - Apply break-even analysis to a business scenario.
- SLP
 - Identify special pricing issues.
- Discussion
 - Analyze modern managerial accounting models.

Module Overview

Cost-volume-profit (CVP) analysis helps managers understand the interrelationships among cost, volume, and profit by focusing their attention on the interactions among the prices of products, volume of activity, per-unit variable costs, total fixed costs, and mix of products sold. It is a vital tool used in many business decisions such as deciding what products to manufacture or sell, what pricing policy to follow, what marketing strategy to employ, and what type of production facilities to acquire.

The variable costing income statement is helpful to managers in judging the impact on profits of changes in selling price, cost, or volume.

Sales, variable expenses, and contribution margin can also be expressed on a **per-unit basis** or as a percentage.

Contribution margin ratio (CM ratio)

The CM ratio is calculated by dividing the **total** contribution margin by **total** sales.

The CM ratio can also be calculated by dividing the contribution margin **per unit** by the selling price **per unit**.

Break-even analysis

The break-even point can be computed using either the **equation method** or the **contribution margin method**.

The equation method is based on the contribution approach income statement.

The equation can be stated in one of two ways:

Profits = (Sales – Variable expenses) – Fixed Expenses

or

Sales = Variable expenses + Fixed expenses + Profits

The contribution margin method **has two key equations**:

Break-even point in units sold = Fixed expenses divided by CM per unit

Break-even point in sales dollars = Fixed expenses divided by CM ratio

The margin of safety

The margin of safety is the **excess of budgeted (or actual) sales over the break-even volume of sales**.

Cost structure refers to the relative proportion of fixed and variable costs in an organization. Managers often have some latitude in determining their organization's cost structure.

There are **advantages and disadvantages** to high fixed cost (or low variable cost) and low fixed cost (or high variable cost) structures.

An advantage of a high fixed cost structure is that income will be higher in good years compared to companies with a lower proportion of fixed costs.

A disadvantage of a high fixed cost structure is that income will be lower in bad years compared to companies with a lower proportion of fixed costs.

Companies with low fixed cost structures enjoy greater stability in income across good and bad years.

Operating leverage

Operating leverage is a measure of **how sensitive net operating income is to percentage changes in sales**.

The degree of operating leverage is a measure, at any given level of sales, of how a percentage change in sales volume will affect profits. It is computed as follows:

Degree of operating leverage = Contribution margin divided by net operating income

The degree of operating leverage is not a constant—like unit variable cost or unit contribution margin—that a manager can apply with confidence in a variety of situations. The degree of operating leverage depends on the level of sales and must be recomputed each time the sales level changes. Also, note that operating leverage is greatest at sales levels near the break-even point and it decreases as sales and profits rise.

Module 2 - Background

COST-VOLUME-PROFIT ANALYSIS

Cost-Volume-Profit Analysis

We start with two interactive presentations on the topic.

Cost-Volume-Profit Analysis. (2014). Pearson Learning Solutions, New York, NY. Retrieved from <http://www.pearsoncustom.com/mct-comprehensive/asset.php?isbn=1269879944&id=12139>

Using CVP Analysis Methods to Plan Profits. (2014). Pearson Learning Solutions, New York, NY. Retrieved from <http://www.pearsoncustom.com/mct-comprehensive/asset.php?isbn=1269879944&id=12137>

The next video puts breakeven analysis into a simple business setting.

n.a. (2010, September 20). Breakeven Analysis - Starting a Coffee Shop - [Video file] Retrieved from <http://www.youtube.com/watch?v=i7uhmGVsbUg>

The chapter below covers the information in more detail.

Walther, I. (2012). Chapter Eighteen. Cost-Volume-Profit and Business Scalability. Retrieved from <http://www.principlesofaccounting.com/>

Suggested Resource

Tsorakidis, N. (2009). Break-Even Analysis. Retrieved from <http://bookboon.com/en/business/finance/break-even-analysis-1>