BREAK-EVEN ANALYSIS AND PRICING

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LEARNING OBJECTIVES

At the end of the session students should be able to:

- Understand different types of costs
- Perform different methods of breakeven analysis
- Perform different pricing methods

BREAK-EVEN ANALYSIS

CLASSIFICATION OF COSTS

FIXED COST

- Costs that remain the same in total regardless of the changes in the activity level

VARIABLE COST

- Costs that vary in total directly and proportionately with changes in the activity level

MIXED COST

- Costs that has a fixed and variable component

CLASSIFICATION OF COSTS

Cost	Effect of Changing Activity Level	
	Total Amount	Per Unit Amount
Variable	Increases & decreases proportionately with activity level	Remains the same regardless of activity level
Fixed	Remains the same regardless of activity level	Increases & decreases inversely with activity level

CVP ANALYSIS

COST-VOLUME-PROFIT ANALYSIS

- Study of the effects of changes in costs and volume on a company's profits

Components of CVP Analysis

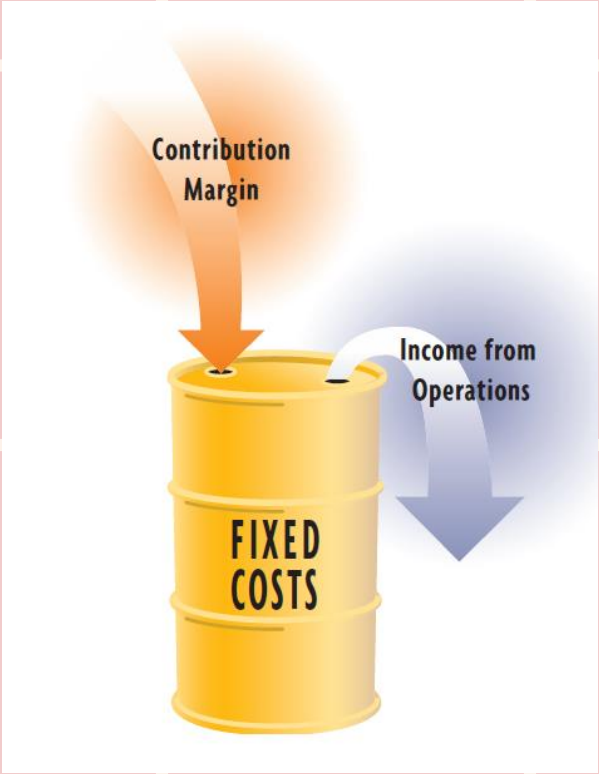
a. Volume/level of activity
b. Unit selling prices
c. Variable costs per unit
d. Total fixed costs
e. Sales mix

CONTRIBUTION MARGIN

- Amount of revenue remaining after deducting variable costs

Contribution Margin = Sales – Variable Costs

Sales	$1,000,000
Variable costs	600,000
Contribution margin	$ 400,000
Fixed costs	300,000
Income from operations	$ 100,000



CONTRIBUTION MARGIN RATIO

- Contribution margin expressed as percentage of sales

Contribution Margin Ratio = Contribution Margin ÷ Sales

If there will be an increase in sales volume, what will happen to the income from operations?

1. Get total increase in sales.
2. Multiply #1 by the contribution margin ratio.
3. Add the #2 to the previous income from operations.

BREAK-EVEN ANALYSIS

- Process of finding the break-even point
- Useful to the management in making decisions

Break-even Point

- Level of activity at which total revenues equal total costs
- Can be expressed in **units** or **sales**

3 APPROACHES IN COMPUTING THE BREAK-EVEN POINT

1. Use of a mathematical equation
2. Use of contribution margin
3. Derived from a CVP graph

USE OF A MATHEMATICAL EQUATION

Operating Net Income = Required Sales – Variable Costs – Fixed Costs

Operating Net Income = (Required Sales)(X) – (Variable Costs)(X) – Fixed Costs

X = Fixed Cost ÷ (Required Sales – Variable Cost)

- Net income is set to zero to compute the break-even point
- Break-even point can be in units by using unit selling prices and unit variable costs

USE OF CONTRIBUTION MARGIN

UNITS: **X = Fixed Cost ÷ Unit Contribution Margin**

SALES: **X = Fixed Cost ÷ Contribution Margin Ratio**

TARGET NET INCOME

- Income objective set by the management
- Used to determine the sales necessary to achieve this specified level of income
- Can be in terms of units or sales

***UNITS*: X = (Fixed Cost + Target Net Income) ÷ Contribution Margin**

***SALES*: X = (Fixed Cost + Target Net Income) ÷ Contribution Margin Ratio**

DERIVED FROM A CVP GRAPH

PRICING

PRICE

- Amount of **money charged** for a product or service
- Sum of the values that consumers **exchange for the benefits** of having or using the product or service

COMPONENTS OF PRICE

- Ingredient Cost
  - Product cost, cost of the drug
- Service Cost
  - Cost of dispensing
- Profit

INGREDIENT COST

1. **Actual Acquisition Cost (AAC)**
   - Price the pharmacy pays for the product it dispenses
   - Varies based on:

- Source
- Volume of purchases
- Incentives/special deals
- Type of pharmacy

INGREDIENT COST

2. Wholesale Acquisition Cost (WAC)

- Price paid by wholesalers for drugs purchased from supplier (manufacturer)

3. Average Wholesale Price (AWP)

- Cost assigned to the product by manufacturer and listed in a published source
- Overstates AAC

INGREDIENT COST

4. Estimated Acquisition Cost (EAC)

- Established by third-party payers to estimate actual acquisition cost

5. Maximum Allowable Cost (MAC)

- Cost of generic & innovator drugs from different manufacturers/companies

SERVICE COST / COST OF DISPENSING

- The average, or per unit, cost of providing a service
- Covers expenses such as salaries, rent and utilities, and depreciation

DIRECT COST

INDIRECT COST

SERVICE COST

Direct Cost

- Result directly from providing the service
- **Dispensing-related direct costs** include costs of labels and containers, patient education materials, and pharmacy licenses

SERVICE COST

Indirect Cost

- Do not result directly from a given service
- **Dispensing-related indirect costs** : rent, utilities, manager's salary
- Costs shared by all services provided by the pharmacy

SERVICE COST / COST OF DISPENSING

Cost of providing a service

= DIRECT COST + "FAIR SHARE" OF INDIRECT COST

PRICING STRATEGIES

Cost-Plus Methods	Market Methods
Total Cost Concept	Demand-based Methods
Product Cost Concept	Competition-based Methods
Variable Cost Concept	

MARKET METHODS

Demand-based Methods

- Set the price according to the **demand for the product**

Competition-based Methods

- Set the price according to the **price offered by competitors**

COST-PLUS METHODS

- Price the product in order to achieve a **target profit**

Markup

- Amount added to the cost of a product
- Results to all costs plus a profit included in the selling price

TOTAL COST CONCEPT

- Include all costs of manufacturing a product plus SAG in the cost amount to which the markup is added
  1. Determine total manufacturing cost.
  2. Add SAG.
  3. Determine cost amount per unit.
  4. Determine markup percentage and multiply to #3.
  5. Selling price is #3 + #4

TOTAL COST CONCEPT

$$\text{Markup percentage} = \frac{\text{Desired profit}}{\text{Total costs}}$$

PRODUCT COST CONCEPT

- Only the costs of manufacturing the product (product cost) are included in the cost amount to which the markup is added
- Estimated SAG and profit are included in the markup

$$Markup\ Percentage = \frac{Desired\ profit + SAG}{Total\ manufacturing\ costs}$$

VARIABLE COST CONCEPT

- Only variable costs are included in the cost amount to which the markup is added
- Fixed manufacturing costs, fixed selling and administrative expenses, and profit are included in the markup

$$Markup\ Percentage = \frac{Desired\ profit + Total\ fixed\ costs}{Total\ variable\ costs}$$

Total Cost Concept

Product Cost Concept

Variable Cost Concept

PRODUCTION BOTTLENECKS

- Occurs at the point in the process where the demand for the company's product exceeds the ability to produce the product
- Contribution margin per unit vs. Contribution margin per bottleneck hour

PRODUCT PRICING UNDER PRODUCTION BOTTLENECKS

- Products that use a large number of bottleneck hours per unit require more contribution margin than products that use few bottleneck hours per unit
- Compute for the price that would equate profitability between 2 products with different CMBH

ALTERNATIVE PRICING STRATEGIES

1. Price skimming
2. Psychological pricing
3. Bundle pricing
4. Dynamic pricing

PRICE SKIMMING

- Used when a business has a new product that is unique in the marketplace
- Sets high price to cover costs of R&D, but eventually lower price once competitors enter

PSYCHOLOGICAL PRICING

Based on 2 behavioral tendencies of customers:

- Customers often assume that the higher the price of a product, the higher the quality
- Consumers are more likely to purchase a product priced just below the next whole number

Odd-even Pricing

- Used to imply bargains, even though the price difference between the odd and even number is insignificant

BUNDLE PRICING

- Grouping two related products together and pricing them as a single product
- Bundling products at a slightly reduced total price is intended to generate additional sales that otherwise might not have been made.

DYNAMIC PRICING

- Used when the price of a product changes depending upon supply, demand, time of day, season, weather conditions, and other factors

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