Incremental Analysis

- Decision-Making
  - Making decisions is an important management function
    - Does NOT always follow a set pattern
    - Decisions vary in scope, urgency, and importance
    - Steps usually involved in process include:
      - Identify the problem and assign responsibility
      - Determine and evaluate possible courses of action
      - Make a decision
      - Review results of the decision
- Decision Making Process
  - In making business decisions,
    - Considers financial and non-financial information
    - Financial information
      - Revenues and costs
      - Effect on overall profitability
    - Non financial information
      - Effect on employee turnover
      - The environment
      - Overall company image
- Incremental Analysis Approach
  - Decisions involve a choice among alternative actions
  - Process used to identify the financial data that change under alternative courses of action
    - Both costs and revenues may vary
    - Only revenues may vary
    - Only costs may vary
- How incremental analysis works
  - Important concepts used in incremental analysis:
    - Relevant cost
    - Opportunity cost
    - Sunk cost
  - Sometimes involves changes that seem contrary to intuition
  - Variable costs sometimes do not change under alternatives
  - Fixed costs sometimes change between alternatives
- Types of incremental analysis
  - Common types of decisions involving incremental analysis:
    - Accept an order at a special price
    - Make or buy component parts or finished products
    - Sell or process further
    - Repair, retain, or replace equipment
    - Eliminate an unprofitable business segment or product
- Special orders
  - To obtain additional business by making a major price concession to a specific customer
  - Assumes that sales of products in other markets are not affected by special order
  - Assumes that company is not operating at full capacity
  - Fixed costs
    - Do not change since within existing capacity--thus fixed costs are not relevant
  - Variable manufacturing costs
    - And expected revenues change--thus both are relevant to the decision
- Opportunity cost

    - The lost potential benefit that could have been obtained from following an alternative course of action
    - In the make-or-buy decision, it is important for management to take into account the social impact of its choice
- Sell or process further
    - May have option to sell product at a given point in production or to process further and sell at a higher price
    - Decision Rule:
        - Process further as long as the incremental revenue from such processing exceeds the incremental processing costs
- Multiple-Product case
    - Cream and skim milk are products that result form the processing of raw milk
    - Joint product costs
        - Sunk costs and thus not relevant to the sell-or-process further decision
- Repair, retain, or replace equipment
    - Additional considerations
        - Book value of old machine does not affect the decision
            - Book value is a sunk cost
            - Costs which cannot be changed by future decisions (sunk cost) are not relevant in incremental analysis
        - Any trade-in allowance or cash disposal value of the existing asset is relevant
- Eliminate unprofitable segment or product
    - Key:
        - Focus on Relevant Costs
    - Consider effect on related product lines
    - Fixed costs allocated to the unprofitable segment must be absorbed by the other segments
    - Net income may decrease when an unprofitable segment is eliminated
    - Decision Rule:
        - Retain the segment unless fixed costs eliminated exceed contribution margin lost
- Practice Questions
    - Incremental analysis
        - Incremental analysis is the process of identify the financial data that
            - Do not change under alternative courses of action
        - If an unprofitable segment is eliminated
            - Fixed expenses allocated to the eliminated segment will have to be absorbed by other segments.
    - Make or buy decision
        - In a make-or-buy decision, relevant costs are:
            - Manufacturing costs that will be saved
            - The purchase price of the units
            - Opportunity costs
    - Sell or Process Further
        - Process further as long as the incremental revenue from processing exceeds:
            - Incremental processing costs

Pricing

- Target costing
    - The price of a good or service is affected by many factors
        - Company must have a good understanding of market forces
        - Price takers

            - Where products are not easily differentiated from competitor goods, prices are not set by the company, but rather by the laws of supply and demand
        - Where products are unique or clearly distinguishable from competitor goods, prices are set by the company
- Establishing a target cost
    - Target cost
        - Cost that provides the desired profit when the market determines a product's price
            - $target\ price = market\ price - desired\ profit$
    - If a company can reach its sales targets, produce its product for the target cost or less, it will meet its profit goal
    - Law of supply and demand significantly affect product price
    - To earn a profit
        - Companies must focus on controlling costs
    - Requires a target cost that will provide the company's desired profit
- Steps in target costing
    - First,
        - company should identify the segment of the market where it wants to compete.
    - Second,
        - company conducts market research to determine the target price
            - the price the company believes will place it in the optimal position for the target consumers.
    - Third,
        - company determines its target cost by setting a desired profit.
    - Last,
        - company assembles a team to develop a product to meet the company's goals.
- Cost-Plus and Variable-Cost Pricing
    - Cost-plus pricing
        - In an environment with little or no competition, a company may have to set its own price
        - cost-plus pricing
            - When a company sets price, the price is normally a function of product cost
        - Approach requires establishing a cost base and adding a markup to determine a target sell price
- Cost-plus pricing
    - $markup\ (profit) = selling\ price - cost$
        - In determining the proper markup,
            - A company must consider competitive and market conditions
        - Size of the markup (the "plus") depends on the desired return on investment for the product
            - $ROI = net\ income \div invested\ assets$
    - $target\ selling\ price = cost + markup$
    - Use markup on cost to set a selling price:
        - $markup\ percentage = markup\ (desired\ ROI) \div total\ unit\ cost$
    - Target selling price
        - $= total\ unit\ cost + (total\ unit\ cost \cdot markup\ percentage)$
    - Limitations of Cost-Plus Pricing
        - Advantages
            - Easy to compute
        - Disadvantages
            - Does NOT consider demand side:
                - Will the customer pay the price?
            - Fixed cost per unit changes with change in sales volume:

        - At lower sales volume, company must charge higher price to meet desired ROI
- Pricing factors
    - Pricing objectives
        - Gain market share
        - Achieve a target rate of return
    - Demand
        - Price sensitivity
        - Demographics
    - Environment
        - Political reaction to prices
        - Patent or copyright protection
    - Cost considerations
        - Fixed and variable costs
        - Short-run or long-run
- Variable-Cost Pricing
    - Alternative pricing approach:
    - Simply add a markup to variable costs
        - Avoids the problem of uncertain cost information related to fixed-cost-per-unit computations
        - Helpful in pricing special orders or when excess capacity exists
    - Major disadvantage
        - Mangers may set the price too low and fail to cover fixed costs
- Time-and-Material Pricing
    - Time-and-material pricing
        - An approach in which the company uses 2 pricing rates:
            - One for labor used on a job
                - Includes direct labor time and other employee costs
            - One for material
                - Includes cost of direct parts and materials and a material loading charge for overhead
    - Widely used in service industries, especially professional firms such as public accounting, law, and engineering
    - Steps
        - Calculate the labor rate
            - Express as a rate per hour of labor.
            - Rate includes:
                - Direct labor cost (includes fringe benefits).
                - Selling, administrative, and similar overhead costs.
                - Allowance for desired profit (ROI) per hour.
            - Labor rate for Lake Holiday Marina for 2020 based on:
                - 5,000 annual labor hours.
                - Desired profit margin of $8 per hour of labor.
            - Multiply the rate by the number of labor hours used on any particular job to determine the labor charges for the job
        - Calculate material loading charge
            - Material loading charge added to invoice price of materials.
            - Covers the costs of purchasing, receiving, handling, storing plus desired profit margin on materials.
            - Expressed as a percentage of estimated costs of parts and materials for the year:
                - $\frac{estimated\ purchasing, receiving, handling, storing\ costs}{estimated\ costs\ of\ parts\ and\ materials} + desired\ profit\ margin\ on\ materials$
        - Calculate charges for a job
            - $labor\ charges + material\ charges + material\ loading\ charge$