

# ACCT 102 – Fundamentals of Accounting II

## Chap 23 – Relevant Costing for Managerial Decisions

### Decisions and Information

Differential analysis is about analyzing the data given, and comparing the alternative choices, using relevant and meaningful data. Sometimes the best decision will be the alternative that results in the highest profit or return; sometimes the best decision will be the alternative that minimizes a certain loss.

#### Decision Making:

- Step 1: Define the decision task
- Step 2: Identify alternative courses of action
- Step 3: Collect relevant information and evaluate each alternative
- Step 4: Select the preferred course of action
- Step 5: Analyze and assess decisions made

Relevant Costs – the additional or incremental revenue generated by selecting a particular course of action over another.

Sunk Costs – costs from past decisions and cannot be avoided or changed; these costs are irrelevant to future decisions.

Out-of-Pocket Costs – costs that require a future outlay of cash and are relevant for current and future decisions.

Opportunity Costs – the potential benefit lost by taking a specific action when two or more alternative choices are available.

### Managerial Decision Scenarios

A differential analysis reports the finding and the effects of alternative decision on total revenues and costs. It is very important to understand the difference between relevant costs and sunk costs.

The types of managerial decisions that we will focus on in this chapter are as follows:

- Additional Business - whether to accept or decline additional business
- Make or Buy - whether to internally manufacture a part or purchase a part
- Scrap or Rework - whether to replace or repair an asset
- Sell or Process – whether to sell partially completed products or process further
- Sales Mix – determine the best sales mix to maximize profits
- Segment Elimination - whether to discontinue an unprofitable segment of a business

Setting Normal Selling Prices - When we set normal, everyday selling prices, it's very important to make sure the selling price covers all costs and includes a proper markup or profit.

There are two basic approaches to setting these normal daily prices:

- Market Methods
- Costs Methods

Market Methods are based on external market factors – supply and demand and competition models – and other economic theories. We will leave that to your economics classes.

In this class, we will study Cost Methods. We use cost methods to price a product in order to achieve a target profit. However, in practice, the final price is set by utilizing hybrids of these methods. That is, the “cost” approach is used as a starting point, and then adjusted for economic factors.

Total cost concept

Step 1: Determine Total Costs

$$\text{Total Costs} = \text{Production Costs} + \text{Non-Production Costs}$$

Step 2: Determine total Cost per unit

$$\text{Total Cost per unit} = \text{Total Costs} \div \text{Total units expected to be produced or sold}$$

Step 3: Determine to dollar markup per unit

$$\text{Markup per unit} = \text{Total cost per unit} \times \text{markup \%}$$

$$\text{Markup \%} = \text{Desired Profit} \div \text{Total Costs}$$

Step 4: Determine selling price per unit

$$\text{Selling price per unit} = \text{Total cost per unit} + \text{markup per unit}$$

The following costs were incurred to make 10,000 pogo sticks.

Variable manufacturing cost	\$5 per unit
Variable selling and administrative expenses	\$2 per unit
Fixed factory overhead costs	\$80,000
Fixed selling and administrative expenses	\$30,000

This company wishes to price its product so it will make a profit of \$27,000 if all 10,000 units are sold. Determine the selling price of the pogo stick.

## DIFFERENTIAL ANALYSIS

1. Bradford Manufacturing needs to obtain a gear-cutting machine, which can be purchased for \$75,000. Bradford estimates that repair, maintenance, insurance, and property tax expense will be \$20,000 over the machine's 5-year life. At the end of the machine's life, it will have no salvage value.

As an alternative, Bradford can lease the machine for 5 years for \$18,000 per year. If the machine is leased, Bradford is required to pay only for routine maintenance, which is estimated to be \$8,000 over the machine's life. All other costs will be paid by the lessor. Prepare a differential analysis to determine whether Bradford should purchase or lease the machine.

2. Grayson Enterprises currently manufactures part A-14, one of the components parts used to assemble the company's main product. Specialty Parts has offered to make part A-14 for \$12.95 per unit.

Grayson's per-unit cost to make part A-14 is \$14.75, as follows:

Direct material	\$5.00
Direct labor	6.00
Variable overhead	1.75
Fixed overhead	2.00

None of Grayson's fixed overhead costs will be eliminated if the part is purchased. However, the plant space currently used to manufacture the part can be leased to another company for \$30,000 per year. Assuming that Grayson needs 100,000 parts per year, should the company continue to make part A-14 or buy it?

3. Apple Valley Orchards sells apples for \$15.00 per bushel. The company has considered processing some of its apples into apple butter. Each bushel of apples will yield two dozen jars of apple butter, which can be sold for \$1.50 per jar. The additional cost to process the apples into apple butter is \$0.80 per jar. Use differential analysis to determine whether Apple Valley Orchards should make the apple butter.
4. Gooding Foods makes Goody-Goody brand peanut butter. The cost to make each jar is \$2.05 and consists of the following:

Direct material	\$1.00
Direct labor	0.25
Variable overhead	0.30
Fixed overhead	0.50

A grocery store chain wants to purchase a generic brand peanut butter from Gooding and is willing to pay \$1.50 per jar. The generic peanut butter will be made using a different recipe, lowering the direct materials cost to \$0.80 per jar. Gooding can produce this special order using excess capacity; therefore, fixed costs will not increase. Use differential analysis to determine whether Gooding should accept this special order.

