

## **Business Plan Part 3 Costs, Revenue, and Elasticity**

In Lesson 2 and 3 you established the product your business will produce, the form of business organization you will use, and explained how the forces of supply and demand affect your business. Now you must project your costs and revenue and then, explain whether you think your product will have elastic or inelastic demand and why.

Page Seven – Write one page that explains the costs you expect in order to produce your good. What costs will be fixed? What costs will be variable? What resources will you use? How will you know what level of output to produce? How will the law of diminishing returns affect your cost to do business?

Page Eight – Write one page that explains the revenue you expect to earn from selling your product. Will your product have elastic or inelastic demand? Why? How will you adjust your price to increase total revenue given the price elasticity of demand for your product?

## **Transparency #1 Business Costs**

**Fixed Costs (FC):** Costs that must be paid regardless of production, such as rent.

**Variable Costs (VC):** Costs that change along with production, such as labor or materials.

**Total Cost (TC) = Fixed Costs + Variable Costs**

**Average Fixed Cost (AFC):** The average amount of fixed costs paid per unit of production.

$$AFC = FC/Q \text{ (quantity)}$$

**Average Variable Cost (AVC):** The average amount of variable costs paid per unit of production.

$$AVC = VC/Q$$

**Total Variable Cost (TVC):** The average amount of total costs paid per unit of production.

$$ATC = TC/Q$$

**Marginal Cost (MC):** The additional cost of producing an additional unit of the good.

$$MC = \text{Change in TC} / \text{Change in Q}$$

## Transparency #2 Business Costs: A Sample Problem

### The Smith Company – Producers of Fine Wood Tables

**Expenses:**

**Rent for factory - \$1000**

**Rent for equipment - \$800**

**Lumber per table - \$50**

**Labor per table - \$100**

**Wood finish per table - \$25**

1. What are Smith Company's fixed costs? \_\_\_\_\_  
(\$1800: \$1000 rent for factory + \$800 rent for equipment)
  
2. What are Smith Company's variable costs if they produce 100 tables?  
\_\_\_\_\_  
(\$17,500: \$50 for lumber x 100 + \$100 for labor x 100 + \$25 for finish x 100)
  
3. What is the total cost of producing 100 tables? \_\_\_\_\_  
(\$19,300: \$1800 fixed costs + \$17,500 variable costs)
  
4. What is the average fixed cost? \_\_\_\_\_  
(\$18: \$1800/100)
  
5. What is the average variable cost? \_\_\_\_\_  
(\$175: \$17,500/100)
  
6. What is the average total cost? \_\_\_\_\_  
(\$193: \$19,300/100)
  
7. What is the marginal cost of producing the 101<sup>st</sup> table? \_\_\_\_\_  
(\$175: The change in total cost is the additional variable cost of \$175/ the change in quantity of 1, 175/1 = 175)

## **Transparency #3 Revenue and Production**

**Total Revenue (TR) = Price of Good x Quantity Sold (Q)**

**Marginal Revenue (MR) = Change in TR/Change in (Q)**

**Business firms compare marginal revenue and marginal cost to determine how much to produce.**

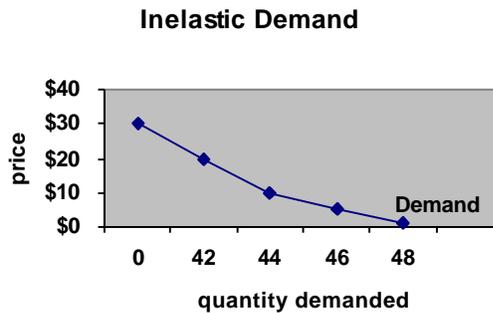
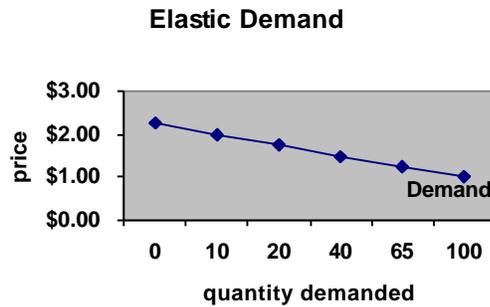
**If  $MR > MC$ , a firm will produce another unit of the good**

**If  $MR = MC$ , a firm will produce another unit of the good**

**If  $MR < MC$ , a firm will NOT produce another unit of the good**

## Transparency #4 Elasticity

**Price Elasticity of Demand: A measure of the change in quantity demanded that results from a change in price.**



**Price Elasticity of Demand = % change in QD/ % change in P**

**If Price Elasticity of Demand = Greater Than 1, Demand is Elastic**

**If Price Elasticity of Demand = Less Than 1, Demand is Inelastic**

**If Demand is Elastic, Decrease Price to Increase Total Revenue**

**If Demand is Inelastic, Increase Price to Increase Total Revenue**