

Breakeven Analysis & Sensitivity Analysis- Notes Organizer

Breakeven Analysis

- Estimates the minimum performance a manager needs to cover the costs of an enterprise
- Main types:
 - _____
 - Breakeven Selling Price/Unit
- Personal Breakevens
 - You have living expenses of \$500/month
 - Your job pays \$10/hour (take-home)
 - You only have _____ that you can work
 - What is the minimum number of hours you need to work to cover your living expenses (“breakeven quantity”)?
 - $\$500/\text{month} / \$10/\text{hr} = \underline{\hspace{2cm}}$
 - But you can only work 40 hours/month – uh oh!
 - You have living expenses of \$500/month
 - Your job pays \$10/hour (_____)
 - You only have 40 hours/month that you can work
 - What is the minimum take-home wage that you must earn to cover your living expenses (“breakeven price”)?
 - $\$500/\text{month} / 40 \text{ hrs/month} = \underline{\hspace{2cm}}$
 - You need a higher paying job to meet your needs!
- Using Breakevens
 - Compare your breakeven estimates to your planned sales quantity or price
 - If your breakeven is **less** than your planned – Good!
 - _____
 - If your breakeven is higher than your planned – Bad!
 - _____
 - Personal example:
 - You planned on \$10/hr but you NEED to earn \$12.50/hr
 - You planned on 40 hrs/month, but you need to work 50 hrs/month

- Short Run vs Long Run
 - _____
 - Refers to the next year or so
 - Only consider the _____ expenses!
 - Long Run
 - Refers to a long term decision (> 5 yrs)
 - Consider _____ expenses

- Short Run Breakeven Quantity
 - aka “_____”
 - Use your enterprise budget
 - Assume the only thing that changes is quantity sold
 - _____
 - Total Operating Expenses / Selling Price/Unit
 - You need to sell this amount to cover your _____

- Lawn Care Example
 - Short Run Breakeven Quantity
 - Total Operating Expenses / Selling Price/Lawn
 - \$19,814/year / \$100/lawn = 198 lawns/year
 - You need to mow at least 198 lawns/year to cover your operating expenses
 - You plan to mow 750 lawns/year – good sign!
 - Assumes the total operating expenses will be \$19,814/yr
 - Assumes you’ve purchased most of the operating inputs already

- Long Run Breakeven Quantity
 - aka “LR Breakeven Yield”
 - _____
 - Assume the only thing that changes is quantity sold
 - _____
 - Total Expenses / Selling Price/Unit
 - You need to sell this amount to cover your total expenses

- Lawn Care Example
 - Long Run Breakeven Quantity
 - _____ / Selling Price/_____
 - \$61,315/year / \$100/lawn = 613 lawns/year

- You need to mow at least 613 lawns/year to cover your total expenses
 - You plan to mow 750 lawns/year – good sign!
- Short Run Breakeven Price
 - aka “_____”
 - Use your enterprise budget
 - Assume the only thing that changes is selling price
 - Everything else stays the same
 - Total Operating Expenses / _____
 - You need to charge this price to cover your operating expenses
 - Assumes the quantity sold stays the same
- Lawn Care Example
 - Short Run Breakeven Price
 - Total Operating Expenses / _____/year
 - \$19,814/year / 750 lawns = \$26.40/lawn
 - You need to charge at least \$26.40/lawn to cover your operating expenses
 - You plan to charge _____ – good sign!
- Long Run Breakeven Price
 - aka “LR Breakeven Selling Price”
 - _____
 - Assume the only thing that changes is selling price
 - Everything else stays the same
 - Total Expenses / _____
 - You need to charge this price to cover your total expenses
 - Assumes the quantity sold stays the same
- Lawn Care Example
 - Long Run Breakeven Price
 - Total Expenses / Lawns/year
 - \$61,315/year / 750 lawns = \$81.75/lawn
 - You need to charge at least \$81.75/lawn to cover your total expenses
 - You plan to charge \$100/lawn – good sign!
- Know Your Breakevens!
 - Every manager needs to have a good idea about the breakeven price and quantity
 - _____

- Helps identify problems before it's too late
- Helps get a loan from a lender
- Sensitivity Analysis
 - Looking at changes in profits due to changes in key areas of an enterprise
 - _____
 - Quantity sold
 - _____
 - Look at changes of _____%
 - Individually, not everything at once!
 - Lawn Care Example
 - Look at a 10% decrease in selling price
 - Currently charging \$100/lawn
 - 10% decrease
 - $\$100 - (\$100 \times 10\%) = \$90/\text{lawn}$
 - Or $\$100 \times (100\% - 10\%) = \$90/\text{lawn}$
 - At 750 lawns/year
 - Revenue = $\$90/\text{lawn} \times 750 \text{ lawns} = \$67,500$
 - A decrease of \$7,500 per year!
 - Lawn Care Example
 - Impact on gross margin (RAOC)
 - Decreases from \$55,185 to \$47,685
 - Decrease of \$7,500
 - Simply due to charging a lower price/lawn
 - But!
 - Will you gain more customers by charging a lower price?
- Using the Spreadsheet
 - Look at the Lawn Mowing Business enterprise budget
 - Change the selling price from \$100 to \$90
 - Move your cursor to cell "F5"
 - Type in 90
 - The spreadsheet automatically does the calculations
 - Revenue drops to \$67,500
 - Return Above Operating Costs drops to \$47,685

- Other Sensitivity Analysis
 - Reset the price to \$100/lawn
 - Let's look at a 10% increase in the number of lawns mowed
 - You get 10% more customers than you planned!
 - Mover the cursor to cell "D5"
 - Enter 900 for the number of lawns mowed
 - Look at the impact on revenues and RAOC