**WEEK 2 6140 Application Assignment**

**PLEASE Use THIS Template.**

**ENTER Your ANSWERS On THIS Document the submit for grading.**

**Problem 1:**

The boot department of the Great Western Outfitters store is preparing to set sales goals for the upcoming year. Sally Brown, the department manager, is trying to determine what brands of boots to retain as part of the sales inventory. In particular, she is wondering about the value of continuing to sell Durango Boots. Going through past records, she retrieves the following information about the sales of Durango boots and asks you to help her with some calculations:

|  |  |
| --- | --- |
| Total Sales (**1,000** pairs of boots) | **$500,000** |
| Variable Costs | **$300,000** |
| Fixed Costs | **$150,000** |
| Tax Rate | 25% |

**Based on the above information:**

* Compute the **Contribution Margin (CM)**, **unit CM**, and **CM ratio**. IN order to earn full credit for your work, please remember to include detailed step by step calculations with your response.

 **CM = S – VC = $500,000 – 300,000 = $200,000**

 **Unit CM = p – v = ($500,000 / 1,000) – ($300,000 / 1,000) = ($5-$3) = $2**

**CM Ratio = CM / S =**

* **If the average CM ratio for other brands is 35%, should Brown keep stocking Durango Boots? Why or Why not? Provide a rationale that demonstrates your understanding of how the technique is applied in practice.**

**Problem 2:**

Sally Brown discovers that the owner of Great Western Outfitters is a big fan of Durango Boots and wants to continue selling them. As Sally prepares to order the boots for next year, she needs to determine how many pairs of boots (a pair of boots is one unit) she needs to sell to break even.

**Based on the Table from Problem 1:**

* Help Sally compute the break-even point in units and in dollars.

 **Break-even point in units = FC / Unit CM = $150,000 / $200 = ??? units**

 **Break-even point in dollars = FC / CM ratio (from problem 1) = ???**

* **What if any factors might she consider which have the potential to change her analysis and/or the assumptions underlying her analysis?**

**Problem 3:**
Sally feels strongly that if they are going to carry Durango Boots that they need to do more than just break even.

**Based on the Table from Problem 1:**

* + - How many pairs of boots (units) would the boot department need to sell to obtain a profit of $100,000?
		- How many pairs of boots (units) would the company have to sell to obtain an **after tax income** of $120,000?

 **First Bullet Point: Target income volume = (FC + target Income) / Unit CM = ($150,000 + $100,000) / $200 = ??? units**

 **Second Bullet Point: Target income volume = (FC + [Target after tax income / (1 – tax rate)] / Unit CM = ??? units**

* + - **What assumptions were essential to the accuracy of her results and to the analysis and conclusions drawn? Discuss what role HR data might play in arriving at these calculations. How do HR data impact decisions on sales volume and operational results?**

**Problem 4:**

Sally Brown is flipping through a popular magazine and sees a photo spread of Garth Brooks, the country singing legend. Prominently on display is his collection of Durango Boots. Because of this, Sally is certain that the store can expect to sell 250 extra pairs of boots.

**Based on the Table from Problem 1:**

* + How much will income increase if the sales go up by 250 units? (You can ignore taxes for this problem.)
	+ How much will income increase if the store expects sales to go up by $25,000? (ignoring taxes).

**First Bullet Point: Change in net income = change in unit sales x unit CM (page 51). Since CM per unit = $200, then 250 units x $200 = ???**

**Second Bullet Point: Change in net income = dollar change in sales x CM ratio (page 50). Change in net income = ???**

**Problem 5:**

The top three selling brands of boots at the Great Western Outfitters store are Double-H boots, Durango boots, and Stetson boots.

For the last quarter, sales were as follows:

|  |  |  |  |
| --- | --- | --- | --- |
|   | Double-H Boots | Durango Boots | Stetson Boots |
| Sales | $400,000 | $500,000 | $875,000 |
| Variable Costs | $250,000 | $300,000 | $625,000 |

Total fixed costs were $507,000.

**Using these figures:**

* Determine the **sales mix**, **CM by product and in total**, the **CM ratio by product and in total**, and the **net income** (ignore taxes).
* Calculate the break-even point in dollars in total and by product.
* Use three decimal places for the percentages. For example, .275 would be 27.5%
* To help you get started on the chart below. (1) Using the first row of the chart for Sales, what percentage of the total $1,775,000 is A $400,000 ?
* $400,000 / $1,775,000 = xx.x%
* This xx.x% would be the Sales Mix percentage for A.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **A** | **B** | **C** | **Total** |
| Sales | $400,000 | $500,000 | $875,000 | $1,775,000 |
| **Sales Mix (SM)** |  xx.x% |  |  |  |
| Less VC |  |  |  |  |
|  |  |  |  |  |
| **CM** |  |  |  |  |
| **CM ratio** |  |  |  |  |
| Fixed costs |  |  |  |  |
| **Net income** |  |  |  |  |

**Break-even point in total dollars = 507,000 / .338 = ???**

**Break-even for the individual products =**

 **A: $1,500,000 x SM-A% = ???**

**B: $1,500,000 x SM-B% = ???**

**C: $1,500,000 x SM-C% = ???**

**Total: $1,500,000**

**Problem 6:**

Sally Brown is concerned about the sales numbers for Double-H Boots.

**Based on the Table from Problem 5:**

* + What is the margin of safety if the company projects sales at $400,000 and the break-even point is $250,000?

 **(400,000 – 250,000) / $400,000 = ?%**

* + **As the HR Manager for several stores, variable and fixed costs include HR components. As an HR professional, having reviewed the analysis, what feedback do you have about the information from an HR perspective? How might this information be valuable to your role in hiring, rewarding and developing sales associates?**