Academic Institution

Case study

Analysis

By

Name

Location

Date

Title

**Activity 1:**

Cost Behaviour and Cost Estimation at Sports-Strength Required:

**1) Identify each of the following costs incurred by Sports-Strength in terms of its cost behaviour – variable, fixed, mixed or step fixed:**

|  |  |
| --- | --- |
| **Cost** | **Behaviour** |
| a. Monthly sales staff payroll of $12,000 plus 6% sales commission on jerseys | FixedVariableMixedStep |
| b. Website hosting cost of $100 per month | FixedMixedVariableStep |
| c. $250 monthly rental for credit card processing equipment | FixedMixedVariableStep |
| d. Fuel cost of company owned vehicles used for product delivery | StepMixedFixedVariable |
| e. The cost ($2) of price tags attached to each jersey | StepMixedFixedVariable |
| f. Cost of goods sold for $14.80 per jersey | StepFixedVariableMixed |
| g. Inventory insurance that costs $2 per $2,000 of sales | VariableFixedStepMixed |

**2) Refer to the Sports-Strength’s Contribution Format Income Statement for the year ended February 1, 2019 (Exhibit 2) and answer the following:**

**a. What is Sports-Strength’s operating profit equation?**

**Operating Profit** = [Revenue](https://investinganswers.com/dictionary/r/revenue) - cost of goods sold, labor, and other day-to-day Fixed and variable expenses

b. How many jerseys has Sports-Strength sold during the year? If it has sold 10% less than it had expected, how many jerseys had it planned to sell? Assuming a 30% tax rate, how much more income after tax would the extra 10% of sales have generated?

|  |  |  |
| --- | --- | --- |
| 1039500/ | 20 | =51975 |

Number of Jersey =

|  |  |
| --- | --- |
| Let Expected number Jersey | = x |
| x - 10% of x | =51975 |
| 0.9x | =51975 |
| **x** | **=57750** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **SPORTS-STRENGTH** | | | | |
| **INCOME STATEMENT** | | | | |
| **(CONTRIBUTION FORMAT)** | | | | |
| **Year ended February 1, 2019** | | | | |
|  |  |  | **Per Unit** | **Ratio** |
| **Sales** |  | $1,155,000 | $20.00 | 100% |
| Less: variable expenses |  |  |  |  |
| Cost of goods sold | $854,700 |  | 14.8 | 74% |
| Sales commissions | $69,300 |  | 1.2 | 6% |
| **Total variable expenses** |  | $924,000 | 16 | 80% |
| Contribution margin |  | $231,000 | 4 | 20% |
| **Less: fixed expenses** |  |  |  |  |
| Selling | 116,500 |  |  |  |
| Administrative | 51,500 |  |  |  |
| **Total fixed expenses** |  | 168,000 |  |  |
| **Operating income before tax** |  | $63,000 |  |  |
| **Less: Income Tax** |  | $18,900 |  | 30% |
| Operating Income after tax |  | $44,100 |  |  |

**c. If Sports-Strength sells 55,000 jerseys what total expense will be reported on the income statement?**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **SPORTS-STRENGTH** | | | | |
| **INCOME STATEMENT** | | | | |
| **(CONTRIBUTION FORMAT)** | | | | |
| **Year ended February 1, 2019** | | | | |
|  |  |  | **Per Unit** | **Ratio** |
| **Sales** |  | $1,100,000 | $20.00 | 100% |
| Less: variable expenses |  |  |  |  |
| Cost of goods sold | $814,000 |  | 14.8 | 74% |
| Sales commissions | $66,000 |  | 1.2 | 6% |
| **Total variable expenses** |  | $880,000 | 16 | 80% |
| Contribution margin |  | $220,000 | 4 | 20% |
| **Less: fixed expenses** |  |  |  |  |
| Selling | 116,500 |  |  |  |
| Administrative | 51,500 |  |  |  |
| **Total fixed expenses** |  | 168,000 |  |  |
| **Operating income before tax** |  | $52,000 |  |  |
| **Less: Income Tax** |  | $15,600 |  | 30% |
| Operating Income after tax |  | $36,400 |  |  |

**d. The Messenger, a local newspaper, has approached Martin Cole with a $20,000 annual ad campaign. If Martin accepts the ad campaign, what will change in Sports-Strength’s operating profit equation?**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **SPORTS-STRENGTH** | | | | |
| **INCOME STATEMENT** | | | | |
| **(CONTRIBUTION FORMAT)** | | | | |
| **Year ended February 1, 2019** | | | | |
|  |  |  | **Per Unit** | **Ratio** |
| **Sales** |  | $1,100,000 | $20.00 | 100% |
| Less: variable expenses |  |  |  |  |
| Cost of goods sold | $814,000 |  | 14.8 | 74% |
| Sales commissions | $66,000 |  | 1.2 | 6% |
| **Total variable expenses** |  | $880,000 | 16 | 80% |
| Contribution margin |  | $220,000 | 4 | 20% |
| **Less: fixed expenses** |  |  |  |  |
| Selling | 116,500 |  |  |  |
| Administrative | 51,500 |  |  |  |
| Advertisement expenses | 20,000 |  |  |  |
| **Total fixed expenses** |  | 188,000 |  |  |
| **Operating income before tax** |  | $32,000 |  |  |
| **Less: Income Tax** |  | $9,600 |  | 30% |
| Operating Income after tax |  | $22,400 |  |  |

**e. Assume Martin Cole accepts The Messenger’s ad campaign and as a result SportsStrength sells 60,000 jerseys next year. Prepare a contribution format income statement for the year.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **SPORTS-STRENGTH** | | | | |
| **INCOME STATEMENT** | | | | |
| **(CONTRIBUTION FORMAT)** | | | | |
| **Year ended February 1, 2019** | | | | |
|  |  |  | **Per Unit** | **Ratio** |
| **Sales** |  | $1,200,000 | $20.00 | 100% |
| Less: variable expenses |  |  |  |  |
| Cost of goods sold | $888,000 |  | 14.8 | 74% |
| Sales commissions | $72,000 |  | 1.2 | 6% |
| **Total variable expenses** |  | $960,000 | 16 | 80% |
| Contribution margin |  | $240,000 | 4 | 20% |
| **Less: fixed expenses** |  |  |  |  |
| Selling | 116,500 |  |  |  |
| Administrative | 51,500 |  |  |  |
| Advertisement expenses | 20,000 |  |  |  |
| **Total fixed expenses** |  | 188,000 |  |  |
| **Operating income before tax** |  | $52,000 |  |  |
| **Less: Income Tax** |  | $15,600 |  | 30% |
| Operating Income after tax |  | $36,400 |  |  |

**f. Discuss (max 500 words) the results shown in part e above. Should the ad campaign be accepted? Comment on the distribution of costs between fixed and variable for Sports Strength. How can the information on cost behaviour and the contribution margin statement be used by management to make decisions and to plan? Give two specific examples of decisions and plans that could be made with this information.**

**Answer:**

If Sport-Strength sells $60,000 jersey per year then the operating income will be $36,400. The ad campaign is good for business in short run as sales increases by this ad campaign but this ad campaign will affect the operating income which was better without ad campaign so it is better for Strength sport to spend less on ad campaign or it may increase it capacity of sales. The Strength sport can also increase the per unit cost of Jersey to adjust the ad campaign expenses.

**Activity 2:**

**CVP Analysis for Sports- Using the information in Exhibit 2 as a starting point, answer the following questions:**

1. **What is Sports-Strength’s breakeven point in units and dollars before any of the above changes take place (i.e. given the sale price and cost structure indicated in Exhibit 2)?**

**Break Even point = Fixed cost**

**Contribution margin**

= 168,000/4

=42,000 Units

**b. What was Sports-Strength’s margin of safety in units and dollars in the year ending 1 February, 2019? Calculate the margin of safety in percentage and briefly explain what does this mean for Sports-Strength?**

Margin of Safety = Actual Sales – Breakeven point

Actual Sales

= 51975-42000

51975

= 0.1919

**=19%**

The Sales increase 19% from the breakeven point.

**c. How much would operating income decrease if Sports-Strength did nothing to recover the increase in cost of goods sold, all other things being equal?**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **SPORTS-STRENGTH** | | | | |
| **INCOME STATEMENT** | | | | |
| **(CONTRIBUTION FORMAT)** | | | | |
| **Year ended February 1, 2019** | | | | |
|  |  |  | **Per Unit** | **Ratio** |
| **Sales** |  | $1,039,500 | $20.00 | 100% |
| Less: variable expenses |  |  |  |  |
| Cost of goods sold | $795,218 |  | 15.3 | 74% |
| Sales commissions | $62,370 |  | 1.2 | 6% |
| **Total variable expenses** |  | $857,588 | 16 | 80% |
| Contribution margin |  | $181,913 | 4 | 20% |
| **Less: fixed expenses** |  |  |  |  |
| Selling | 116,500 |  |  |  |
| Administrative | 51,500 |  |  |  |
| **Total fixed expenses** |  | 168,000 |  |  |
| **Operating income before tax** |  | $13,913 |  |  |
|  |  |  |  |  |

The operating income decrease by $25,987 if per unit cost of Jersey has increased from 14.80 to 15.30.

**d. Determine the expected operating income under each proposed sales and marketing plan.**

**Plan 1**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **SPORTS-STRENGTH** | | | | |
| **INCOME STATEMENT** | | | | |
| **(CONTRIBUTION FORMAT)** | | | | |
| **Year ended February 1, 2019** | | | | |
|  |  |  | **Per Unit** | **Ratio** |
| **Sales** |  | $1,065,488 | $20.50 | 100% |
| Less: variable expenses |  |  |  |  |
| Cost of goods sold | $795,218 |  | 15.3 | 74% |
| Sales commissions | $63,929 |  | 1.2 | 6% |
| Advertisement expenses | $10,000 |  |  |  |
| **Total variable expenses** |  | $869,147 | 16 | 80% |
| Contribution margin |  | $196,341 | 4 | 20% |
| **Less: fixed expenses** |  |  |  |  |
| Selling | 116,500 |  |  |  |
| Administrative | 51,500 |  |  |  |
| **Total fixed expenses** |  | 168,000 |  |  |
| **Operating income before tax** |  | $28,341 |  |  |
|  |  |  |  |  |

**Plan 2**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **SPORTS-STRENGTH** | | | | |
| **INCOME STATEMENT** | | | | |
| **(CONTRIBUTION FORMAT)** | | | | |
| **Year ended February 1, 2019** | | | | |
|  |  |  | **Per Unit** | **Ratio** |
| **Sales** |  | $1,155,000 | $20.00 | 100% |
| Less: variable expenses |  |  |  |  |
| Cost of goods sold | $883,575 |  | 15.3 | 74% |
| Sales commissions | $46,200 |  | 1.2 | 4% |
| Advertisement expenses | $5,000 |  |  |  |
| Sales Salaries | $22,000 |  |  |  |
| **Total variable expenses** |  | $956,775 | 16 | 80% |
| Contribution margin |  | $198,225 | 4 | 20% |
| **Less: fixed expenses** |  |  |  |  |
| Selling | 116,500 |  |  |  |
| Administrative | 51,500 |  |  |  |
| **Total fixed expenses** |  | 168,000 |  |  |
| **Operating income before tax** |  | $30,225 |  |  |
|  |  |  |  |  |

Plan 2 generate more operating income as the marketing expenses in plan 2 have decrease and number of units increase by giving incentive to production staff. In Plan 1 marketing expenses are 10000 and operating income is $28341 which shows that ad campaign consumes more expenses as compared to increase in sales by giving salaries to sales staff and decrease in sales commission from 6% to 4%.

**e. Why does the first plan result in the reduction in operating income that is greater than the $10,000 advertising?**

Manager believes that increase in marketing income will increase the operating income. The advertisement expense is more in plan 1 and it shows low operating income because marketing campaign is not always successful and it consumes a lot of expenses to conduct this campaign (Anand, Singh, & Gandhi, 2018).

**f. Which plan do you recommend to management? Write a memo in the proper format which justifies your recommendation by providing relevant and appropriate supporting information. Include and explain any qualitative factors which may affect your recommendation.**

I would recommend Plan 2 in which sales increase 10% and advertisement expenses decrease by $5000 and the sales commission decrease from 6% to 4%. The Plan 1 consumes more expenses on advertisement which targeted the operating income and it can also reduce the operating income.

**Activity 3** Required

1. Given that J&B Sports uses direct labor dollars as its application base, what is the company’s predetermined overhead rate?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Shorts | Jerseys | Jackets |  |
| Units Finished | 13500 | 3200 | 2500 |  |
| Per unit Cost | 3 | 2.4 | 18 |  |
| **Total Factory overhead cost** | **40500** | **7680** | **45000** | **93180** |

**Predetermined Overhead Rate= Total factory overhead costs**

**Total direct labor cost**

= $93180\_\_

$74,208

= 1.25%

b. Taking into consideration only these three products:

1. Calculate the total manufacturing cost for June.

Total cost of manufacturing =**3,58,979**

1. Calculate the Cost of Goods Manufactured for June.

Cost of goods Manufactured= **3,579,71**

1. Calculate the Ending Work in Process Inventory for June.

W-I-P Ending inventory at the end of June is **6573**

1. Calculate Gross Profit for June.

Gross profit = Sales – Cost of goods Sold

=526380-361789

**=164591**

|  |  |  |
| --- | --- | --- |
| **J&B Sports** | | |
| **Income Statement** | | |
| **At the End of June 2019** | | |
|  |  |  |
| Sales | **$5,26,380** |  |
| Cost of direct material |  | $1,91,591 |
| Cost of direct Labor |  | $74,208 |
| Overhead manufacturing Cost |  | $93,180 |
| Total manufacturing Cost | **$3,58,979** |  |
| Add: W-I-P Beginning Inventory |  | 5,565 |
| Cost of Goods available for manufacturing | 3,64,544 |  |
| Less: W-I-P Ending Inventory |  | (6,573) |
| Cost of goods Manufactured | **3,579,71** |  |
| Add Finished goods opening inventory |  | 4,935 |
| Cost of goods available for Sale |  | 3,62,906 |
| Less: Finished good closing inventory |  | (1,117) |
| Cost of Goods Sold | **3,61,789** |  |
| Gross profit | **$1,64,591** |  |
|  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Shorts** | **Jerseys** | **Jackets** | **Total** |
| Units Finished | 13500 | 3200 | 2500 |  |
| Total Unit cost | 9.87 | 11.17 | 77.12 |  |
| **Cost of Goods Sold** | **133245** | **35744** | **192800** | **361789** |

1. For each of the three products, state whether there are more, fewer, or the same number of finished units in Finished Goods Inventory on June 30 than there were on June 1.

**Answer**

The Finished goods inventory have fewer number of Units because only 100 units of Jersey are remained at the end of June whereas the ending Units of May was 500 Units of Shorts.

**d. J&B Sports board of directors has adopted a long-term strategy of maximizing value of the shareholders’ investment. To achieve this goal, the board established the following five-year financial objectives:**

**• Increase sales by 10% per year**

**• Increase income before taxes by 15% per year**

**• Increase dividends by 12% per year.**

**The managing director added a fourth financial objective last year: maintaining cost of goods sold at a maximum of 70% of sales. The company failed to achieve this goal in the year ending 1 February 2019, and it appears that it will again not be achieved in the current year. Because employee bonuses are tied to performance on all four objectives, the new internal accountant is concerned about company morale. She decides that if she overestimates the amount of ending work in process inventory and reclassifies the fabric inspection costs as administrative rather than manufacturing overhead costs, cost of goods sold for the year will fall below the 70% maximum level. She makes the adjustments and presents the managing director a set of financial statements that meet most of the financial objectives.**

1. **Explain why the adjustments the accountant made are unethical, referring to the Australian Accounting code of ethics.**

**Answer**

The accounting adjustment made is against the Australian Accounting Code of ethics because it is against the morale that income and dividend and sales increase but the employees are tied with their performance bonuses.

1. **What additional costs, both monetary and nonmonetary might J&B Sports incur because of the accountant’s actions?**

**Answer**

The employees should be compensated well according to the rules of Australian Accounting Code of ethics, this will create a motivation among employees to work for the organization in better way. The manager should make decision according to morale and Accounting law (West, 2018).

**Activity 4: Activity Based Costing at J&B Sports**

**Required**

1. **Calculate the activity rates for each of the four activity pools before the new tool was purchased.**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Total Cost** | **Activity Pool** | **Activity Rate** |
| **Product Design** | $83,889 | 3product lines | **$27,963** |
| **Warehouse /packaging** | $170,562 | 9170 batches | **$18.60** |
| **Cutting** | $147,108 | 56,580 cuts | **$2.60** |
| **Sewing** | $206,820 | 86,175 direct labor hours | **$2.40** |

1. **Classify each activity using the ABC cost hierarchy categories.**

|  |  |
| --- | --- |
| Cost Hierarchy | |
| **Sewing** | Facility level |
| **Product Design** | Product level |
| **Warehouse /packaging** | Batch level |
| **Cutting** | Unit level |

1. **Calculate and present a schedule of the total annual cost included in the cutting activity cost pool assuming the cutting tool is purchased.**

|  |  |  |
| --- | --- | --- |
| **Total annual cost** | **Increase in annual cost** | **Total Cost after purchase of tool** |
| 147108 | 14082 | **161190** |

1. **Calculate the cost per cut assuming the cutting tool is purchased.**

|  |  |  |
| --- | --- | --- |
| **Total Cost after purchase of tool** | **Activity** | **Cost per cut** |
| 161190 | 56580 | 2.8488 |

1. **Identify any other activity rates that will be affected by the purchase of the new cutting tool and explain how they will be affected.**

|  |  |  |
| --- | --- | --- |
| **Total Cost after purchase of tool** | **Activity** | **Cost per cut** |
| 172195 | 56580 | 2.8488 |

1. **Explain to Chris why unit costs for all three products will change after the purchase of the new cutting tool.**

|  |  |  |
| --- | --- | --- |
| **Total Cost after purchase of tool** | **Activity** | **Cost per cut** |
| 172195 | 56580 | 3.04338989 |

**g. Do you recommend that Chris purchase the new cutting tool? Write a memo in the proper format which justifies your recommendation by providing relevant and appropriate supporting information. Include and explain any qualitative factors which may affect your recommendation**.

Yes, I will recommend him to buy the cutting tool because the production size has increased from 35 jersey to 50 jersey in little difference of cost per cut amount. The production has increased by using cutting tool and the efficiency of labor is increased by new cutting tool (Testa, Annunziata, Iraldo, & Frey 2016).

**Bibliography**

Anand, M., Singh, J., & Gandhi, K. (2018). An Empirical Study on the Relevance of Advertising, Sales Promotion, R&D and Training and Development Expenses on Firm Value in the Indian Context. *South Asian Journal of Management*, *25*(3).

Testa, F., Annunziata, E., Iraldo, F., & Frey, M. (2016). Drawbacks and opportunities of green public procurement: an effective tool for sustainable production. *Journal of Cleaner Production*, *112*, 1893-1900.

West, A. (2018). After virtue and accounting ethics. *Journal of Business Ethics*, *148*(1), 21-36.