



GACTT5113-08

MANAGERIAL ACCOUNTING

MARCH 2021

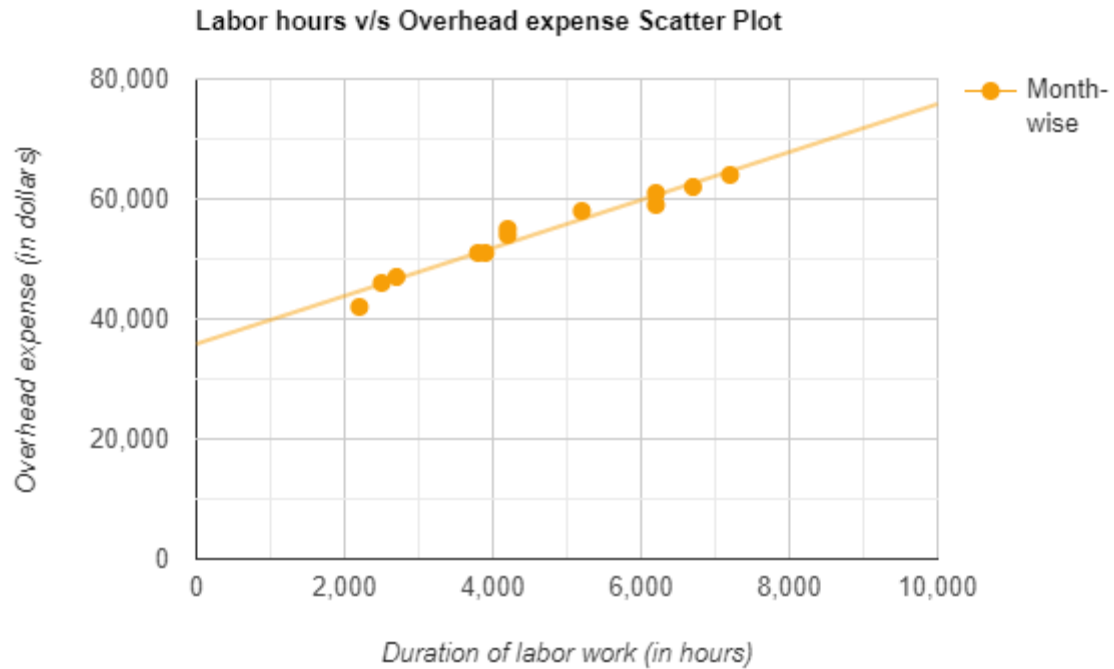
CASE STUDY 1 – GROUP ASSIGNMENT

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Question 1: Prepare a scatter graph plot that puts labour-hours on the X -axis and overhead expenses on the Y -axis.



Scatter graph is used to show relationship between two variables. In this case, it refers to labour hours and overhead expenses. Above diagram tells strong relations between labour hours and overhead expenses. The increase the labour hours leads to increase of overhead expenses.

Question 2 (a): Use the least-squares regression method to estimate the fixed and variable components of overhead expenses. (Round the Variable cost to 2 decimal places, and Fixed Cost to the nearest dollar.)

	Labor Hours (x)	Overhead Expenses (y)	(xy)	(x²)
	2200	42000	92400000	4840000
	2500	46000	115000000	6250000
	2700	47000	126900000	7290000
	3900	51000	198900000	15210000
	4200	54000	226800000	17640000
	5200	58000	301600000	27040000
	6200	61000	378200000	38440000
	7200	64000	460800000	51840000
	6700	62000	415400000	44890000
	4200	55000	231000000	17640000
	3800	51000	193800000	14440000
	6200	59000	365800000	38440000
TOTAL	55000	650000	3106600000	283960000

Calculation:

$$n = 12;$$

$$b = (n\sum xy - \sum x \sum y) / ((n\sum(x^2)) - (\sum x)^2)$$

$$= ((12*3106600000) - (55000*650000)) / ((12*283960000) - (55000)^2)$$

$$= 3.9976$$

$$a = (\sum y - b(\sum x)) / n$$

$$= ((650000) - (55000*3.9976)) / 12$$

$$= 35847.083$$

The shown calculation present therefore, the Fixed Cost (nearest dollar) of the overhead expenses **\$35847**

The Variable Cost (rounded to decimal places) of the overhead expenses is **\$4.00**

Question 2 (b): Express these estimates in the form $Y = a + bX$. (Round the Variable cost to 2 decimal places, and Fixed Cost to the nearest dollar.)

$$Y = 35847 - (4.00) X \text{ {in dollars}}$$

Question 3: Estimate the contribution to profit of a standard 160-guest cocktail party if Sedapgila charges its usual price of \$32 per guest. (In other words, by how much would her overall profit increase?) (Round your intermediate calculations and final answer to 2 decimal places.)

Answer:

If she charges \$32, then her total income will be $\$32 \times 160 = \5120 .

Her expense per person is \$30.17, Therefore, her total expenditure is $\$30.17 \times 160 = \4827.20

Her total Profit = Income – Expenditure

$$= \$5120 - \$4827.20$$

$$= \$292.80$$

Hence, Sedapgila's total profit is **\$292.80**.

Question 4: How low could Sedapgila bid for the charity event in terms of a price per guest and still not lose money on the event itself? (Round your answer to the nearest dollar.)

Answer:

The limit to her bidding is \$30.17 dollars. If she goes below this threshold, she may have to put in her own money and therefore, will be at lost. To not loose any money in the deal, she can go down to nearest dollar, up to **\$31**.

Question 5: The individual who is organizing the charity's fund-raising event has indicated that he has already received a bid under \$31 from another catering company. Do you think Sedapgila should bid below her normal \$32 per guest price for the charity event? Why?

Answer:

Yes. Despite worrying about the chance of overhead expenses to vary, or to be disheartened with the fact of gaining less profit, she can go below \$31, near her threshold of \$30.17. The sole reason is that she can get better prospects for future, as there is a possibility to woo over the future clients. If the deal works out on a costing above the threshold, she would be in profit (even though small) and can achieve higher profits with the pure commercial contracts in the future. The current one being a charitable deed can be done in the no-profit-no-loss way too, but that has to be saved for the worst-case scenario.