

SPA FEB UI 2024

MOJAKOE

Modul Jawaban Koeliah

Akuntansi Biaya

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PROBLEM 1 - JOINT PRODUCT & BYPRODUCT

PT. Jaki Menggali is a mining company specializing in petroleum refining. In 2024, PT. Jaki Menggali's refinery processed 40,000 barrels of crude oil (1 barrel = 159 liters) at a cost of \$400,000 to yield 475 barrels of Butane, 7800 barrels of Naphtha, and 5600 barrels of Residuum.

Butane undergoes isomerization and becomes Isobutane at a cost of \$2 per barrels of Butane. Isobutane is sold for \$55 per barrel, the process yields 380 barrels of Isobutane. Naphtha is further processed in the Hydrotreating, Refining, and Blending department to yield 5460 barrels of Gasoline that can be sold for \$0.95 per liter. Each department bears a cost of \$3, \$4, and \$2 per barrels of Naphtha, respectively. Residuum is further processed to yield 2400 barrels of Asphalt at a total cost of \$76,000. Asphalt is sold at a price of \$260 per barrel.

- Use the NRV method for allocating joint costs, compute unit costs per barrel for products Butane, Naphtha, and Residuum
- Use physical methods to allocate joint costs, compute unit costs per liter for products Isobutane, Gasoline, and Asphalt
- The demand for gasoline decreased by 15%. It is known that PT. Jaki Menggali can also sell Naphtha without further processing for \$0.5 per liter. Should Naphtha be sold at the splitoff or processed further?
- Assume Naphtha and Residuum have a relatively higher sales value compared to Butane, since Butane is not the primary focus of the distillation process. PT. Jaki Menggali uses the production method to account for byproducts. Compute the unit cost per barrel for Naphtha and Residuum if PT. Jaki menggali wants to make a gross margin of 10% of revenues on its byproduct and needs to allow 20% of revenues for marketing costs on the byproduct.

PROBLEM 2 - SUPPORT DEPARTMENT

Alsya GOAT Company has three products. Product 1 is manufactured entirely in department X. Product 2 is manufactured entirely in department Y. Product 3 is manufactured entirely in department Z. To produce these two products, Alsya GOAT Company has two support departments: A (a materials-handling department) and B (a human resource department).

Supplied By	A	B	X	Y	Z
A	-	400	1000	600	500
B	80	-	65	75	100

The work done in department A is measured by the direct labor-hours of materials-handling time. The work done in department B is measured by the number of

indirect labor hours. The budgeted costs of the operating departments for the coming year are \$2,250,000 for department X, \$3,050,000 for department Y and \$5,850,000 for department Z, For department A budgeted cost is \$810,000 and for department B is \$650,000. Allocations Support Department Cost and Total budgeted costs MOH of support departments A and B to operating departments X, Y and Z using:

- the direct method
- the reciprocal method

PROBLEM 3 - ABC COSTING SYSTEM

Edri Co. is a furniture manufacturing company that produces 2 types of chairs: Chair X and Chair Y. The company uses direct labor hours as a single cost allocation base for all its products. For the year 2024, budgeted manufacturing overhead is calculated below

Design Costs	75.000
Materials handling costs	325.000
Cost of machinery	5.000.000
Quality inspection costs	150.000
Other factory related costs	160.000
Total Manufacturing Overhead	5.710.000

Edri Co. has other budget data for 2024 as follows:

	Chair X	Chair Y
Quantity produced (units)	8.000	16.000
Direct material costs per unit	75	125
Direct labor hour per unit	3	6
Direct labor rate per hour	15	15
Pricing policy	15% margin	20% margin

The company was comfortable with this pricing strategy until a new competitor, Putini Co., introduced a similar product with a lower price. You suspect that there is a distortion between the costs of the two products due to the usage of a single cost allocation base. You decide to work on an activity-based costing system.

Additional information gathered:

- Overhead categories in the budget can represent activity cost pool
- For each activity cost pool, cost drivers and their respective budgeted level are:

Activity Cost Pool	Cost Driver	Budgeted level of cost driver
Design costs	Designer hours	2000 hours
Materials handling costs	Components per completed units	?
Cost of machinery	Machine hours	24000 hours
Quality inspection costs	Number of production run	336 runs
Other factory related costs	Square footage of space	4.500 sq feet

- The production runs for quality inspection are done per batch. One batch of Chair X is 35 units, and one batch of Chair Y is 150 units
- Chair X uses 65% of the total design hours, Chair Y uses the remaining
- Chair X needs 5 components per unit, while Chair Y needs 8 components per unit
- Each product needs 1 machine hour
- The total square footage of the company is divided equally for the production of Chair X and Chair Y

Required:

1. Using the company's current costing system:
 - a. Calculate the budgeted direct-labor hour for the year 2024
 - b. Calculate the predetermined overhead rate
 - c. Calculate the full product cost of Chair X and Y
 - d. Calculate the selling price of Chair X and Y
2. Work on the Activity Based Costing system using the additional information provided
 - a. For each activity cost pool, compute a pool rate
 - b. Determine the unit cost for each activity cost pool for Chair X and Chair Y
 - Design costs
 - Materials handling costs
 - Cost of machinery
 - Quality inspection costs
 - Other factory related costs
 - c. Calculate the product costs for Chair X and Chair Y
 - d. Compute the new price for Chair X and Chair Y

Problem 4

H-2 UAS company are company that make premium T shirt, H-2 UAS company decided to analyze the profitability of 4 customers, H-2 UAS sell the product for \$8 and the cost for making it are 40% of normal selling price, the data for 4 customer are :

	CUSTOMER			
	1	2	3	4
Tshirt Sold	2200	1900	1700	1900
Actual Selling price	80	78,2	77,8	79,6
Total miles of delivery	8000	7600	7700	6900
Number of rush deliveries	8	11	4	8
Number of purchase order	35	31	28	16
Hours on fitting	8	9	7	5

Activity	Cost driver rate
Delivery	\$2 / miles
Rush deliveries	\$200/ deliveries
Customer fittings	\$100/hours
Order taking	\$30/purchase order
Material handling	\$1.2/Tshirt sold

1. Compute the customer-level operating income of each of the five retail customers now being examined (1, 2, 3, 4,). Comment on the results.
2. Is there any unprofit customer ?, What factors should managers consider in deciding whether to drop one or more of the 4 customer

Problem 5

Taxlukan, a unit of Outdoor UnPlugged, manu-factures a line of electric, cordless, lawn mowers. Senior management of Outdoor UnPlugged has noticed that Taxlukan has been

producing more lawn mowers than it has been selling, and that the unit's inventory has been steadily increasing. Senior management of Outdoor UnPlugged suspects that the bonus plan in place for the head of Raymore is behind this practice. Senior management of Outdoor UnPlugged is contemplating to switch from the current sequential tracking to a backflush costing system in order to stop the overproduction at Taxlukan. Specifically, senior management of Outdoor UnPlugged is considering a back-flush costing system with the following option that is two and three trigger points:

Option 1, 2 Trigger Points :

- **Purchase of direct materials**
- **Sale of finished goods**

Option 2, 3 Trigger Points :

- **Purchase of direct materials**
- **Completion of good finished units of product**
- **Sale of finished goods**

Each mower takes 2 hours to assemble. There are no beginning inventories of materials or finished goods and no beginning or ending work-in-process inventories. The following data are for Taxlukan for March 2020:

- **Direct materials purchased \$2,560,000**
- **Conversion costs incurred \$880,000**
- **Direct materials used \$2,530,000**
- **Conversion costs allocated \$888,000**

Taxlukan records direct materials purchased and conversion costs incurred at actual costs. It has no direct material variances. When finished goods are sold, the backflush costing system “pulls through” standard direct materials cost, all the goods produced are done and sold at the end of the period. Any under- or overallocated conversion costs are written off monthly to the Cost of Goods Sold.

1. Use Sequential Costing that used before
2. Used Backflush costing for 2 Option
3. In your opinion what the sequential and backflush costing in this case have same amount in COGS

Problem 6

During 2023 and 2024, Matax Company reported sales of \$7,000,000 per year. Matax listed the following quality costs for the past two years. Assume that all changes in the quality costs are due to a quality-improvement program.

Cost	2023	2024
Retesting	\$ 365,000.00	\$ 195,000.00
Machine Maintenance	\$ 85,000.00	\$ 25,000.00
Scrap	\$ 125,000.00	\$ 215,000.00
Raw Materials	\$ 750,000.00	\$ 550,000.00
General Marketing	\$ 65,000.00	\$ 85,000.00
Warranty	\$ 345,000.00	\$ 285,000.00
Product Acceptance	\$ 400,000.00	\$ 450,000.00
Supplier Selection	\$ 900,000.00	\$ 700,000.00
Recall	\$ 230,000.00	\$ 320,000.00

1. Classify all the cost (Prevention, Appraisal, Internal Failure, External Failure, Not Quality cost)
2. Calculate all the cost as a subtotal for each categories and calculate percentage of the cost of quality of cost categories
3. Compared between 2022 and 2023 for each category is the program of improvement successful for each category and in total ?