

Relevant Costs for Short-Term Decisions

Chapter 8



Reviews

- Last chapter: cost behavior; breakeven-point; target profit;
- Later chapter: longer-term decisions (such as buying equipment and undertaking plant expansions), in which the time value of money becomes important.
- This chapter: how managers use cost behavior knowledge to make six special business decisions.

Objective 1

Describe and identify information
relevant to short-term
business decisions

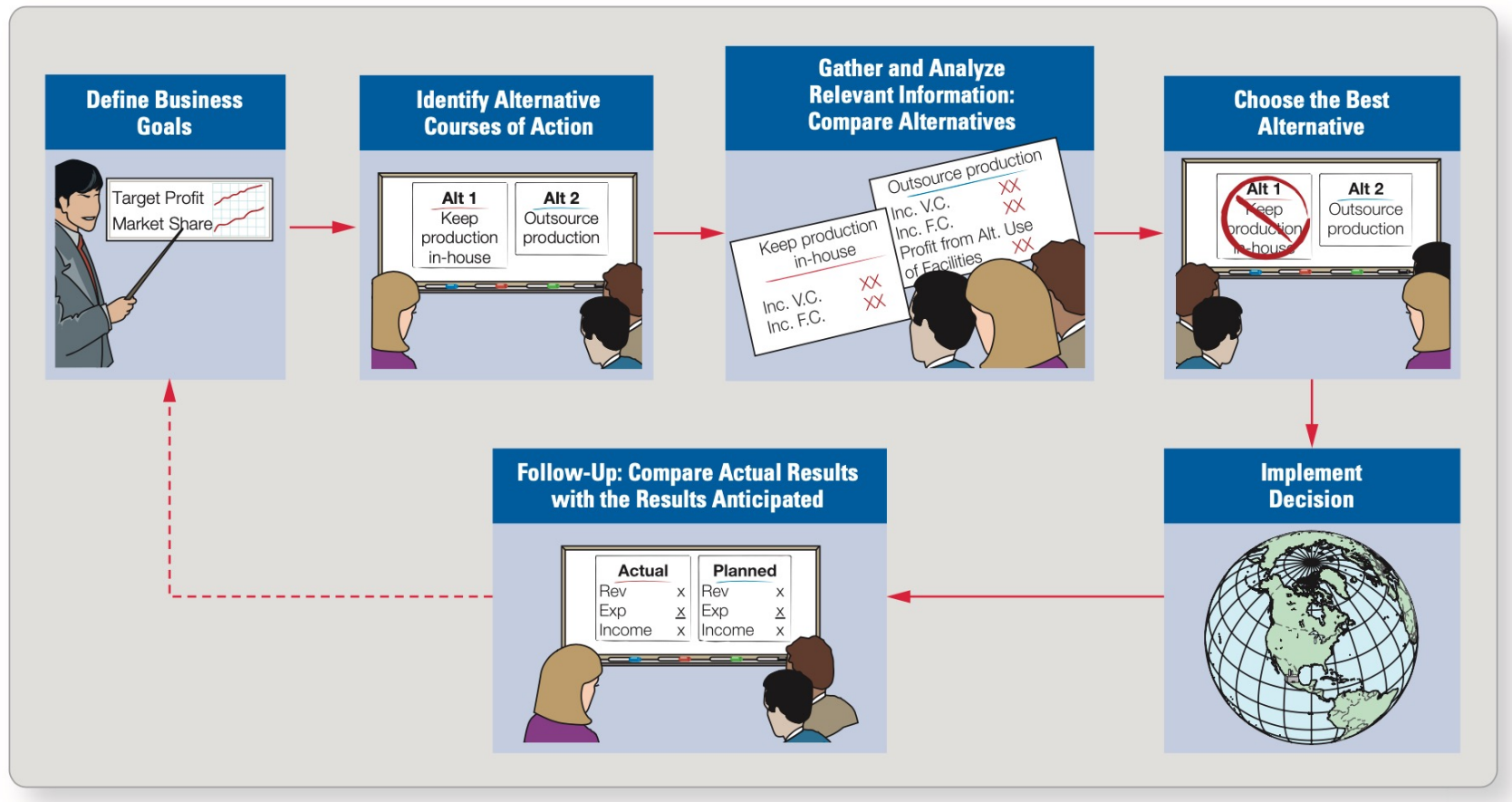


How Managers Make Decisions

- Define business goals
- Identify alternative courses of action
- Gather and analyze relevant information
- Choose best alternative
- Implement decision
- Follow-up: Compare actual with anticipated results

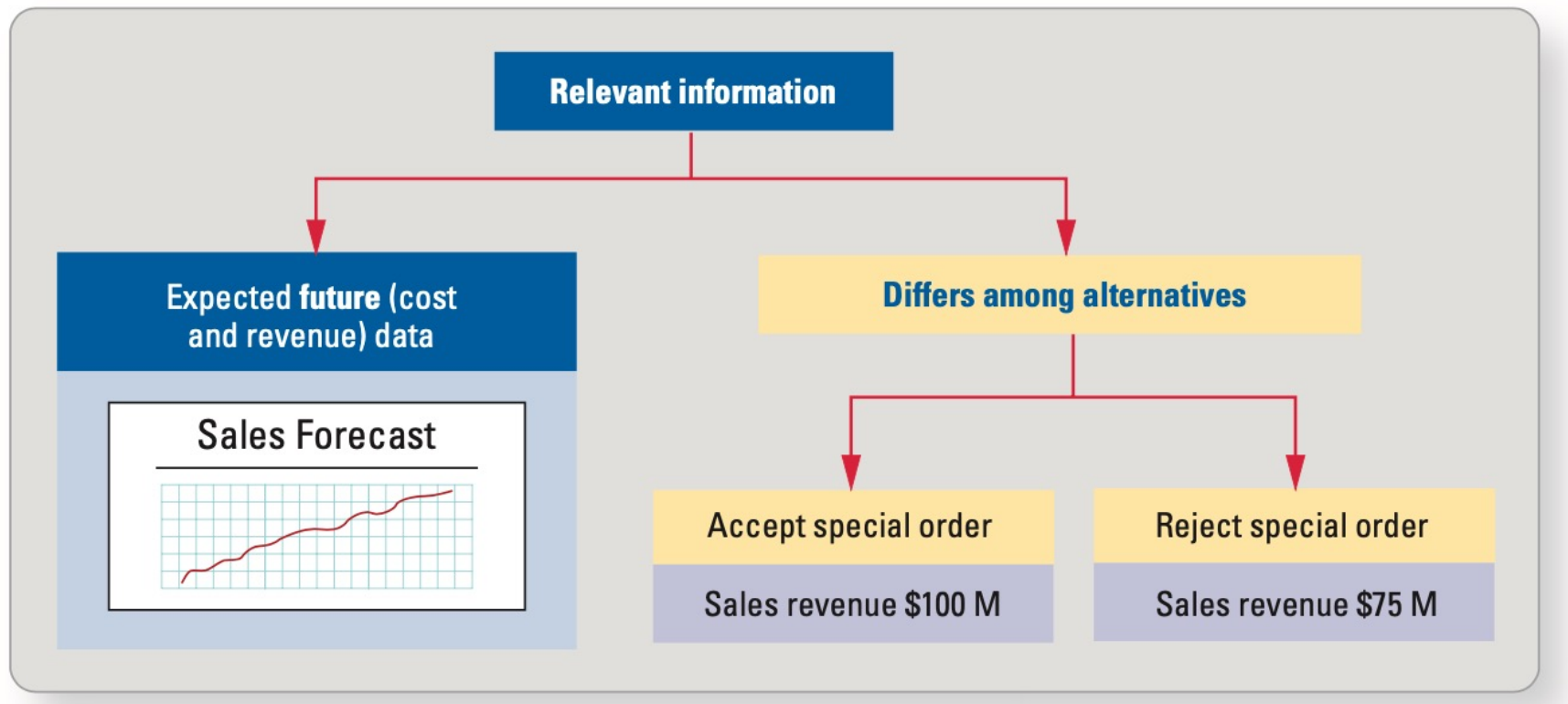
How Managers Make Decisions

EXHIBIT 8-1 How Managers Make Decisions



Relevant and Irrelevant Information

EXHIBIT 8-2 Relevant Information



Relevant and Irrelevant Information

- Relevant
 - Expected *future* (cost and revenue) data
 - *Differs* among *alternative* courses of action
 - Is both quantitative and qualitative
- Irrelevant
 - Costs that do not differ between alternatives
 - Sunk costs: Incurred in past and cannot be changed

Relevant Information Example

- Review from Chapter 2:

Purchase a new vehicle- Model X VS. Model Y:

- 1) Incurred in the future (after you decide to buy a car)
- 2) Differ between alternatives (different invoice price, sales tax, and insurance premium)

Irrelevant Information Example

- Operating costs: assume similar fuel efficiency and maintenance ratings, thus operating costs is no differ between alternatives.
- Sunk cost: costs that were incurred in the past and cannot be changed regardless of which future action is taken.

Relevant Nonfinancial Information

- Nonfinancial, or qualitative factors, also play a role in managers' decisions.
 - Closing manufacturing plant
 - Laying off employees
 - Outsourcing
 - Discounted prices to select customers
- Triple-bottom-line approach
- Managers who ignore qualitative factors can make serious mistakes.

Keys to Making Short-Term Special Decisions

- Relevant information approach/ incremental analysis approach:

Approaches to making short-term special decisions

- Just look at how operating income would *change* or *differ* under each alternative.

Six Short-Term Special Decisions

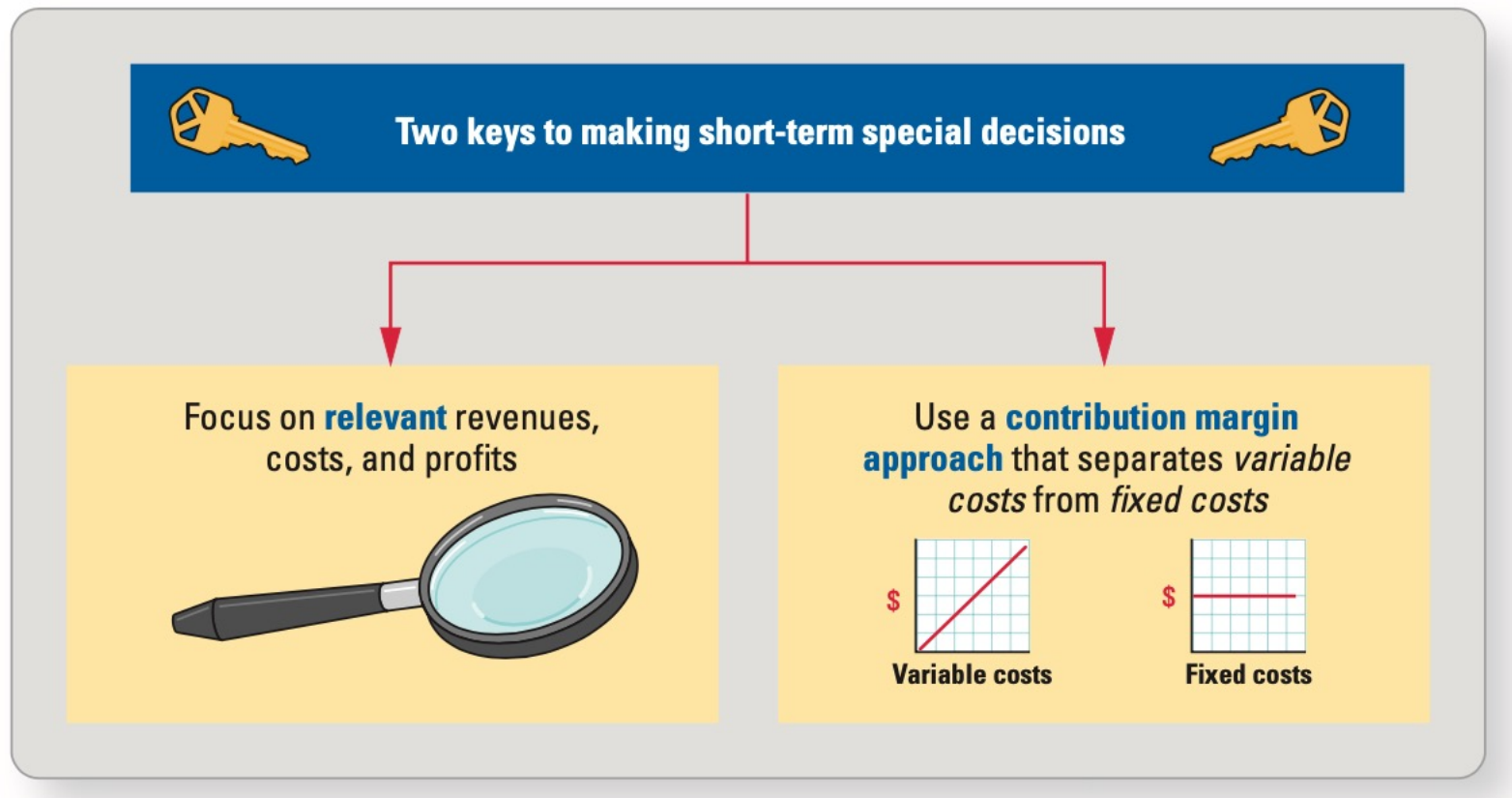
- Special sales orders
- Pricing
- Discontinuing products, departments, and stores
- Product mix
- Outsourcing (make or buy)
- Selling as is or processing further

Keys to Making Short-Term Special Decisions

- Two keys in analyzing short-term special business decisions
 - Focus on relevant revenues, costs, and profits, those that will differ between alternatives.
 - Use contribution margin approach that separates variable costs from fixed costs. [Absorption Costing VS. Contribution Costing]

Two keys to making short-term special decision

EXHIBIT 8-3 Two Keys to Making Short-Term Special Decisions



Objective 2

Decide whether to accept a
special order



Special Order

- A special order occurs when a customer requests a one-time order at a reduced sales price. Often these special orders are for large quantities.

EXHIBIT 8-4 Special Order Considerations

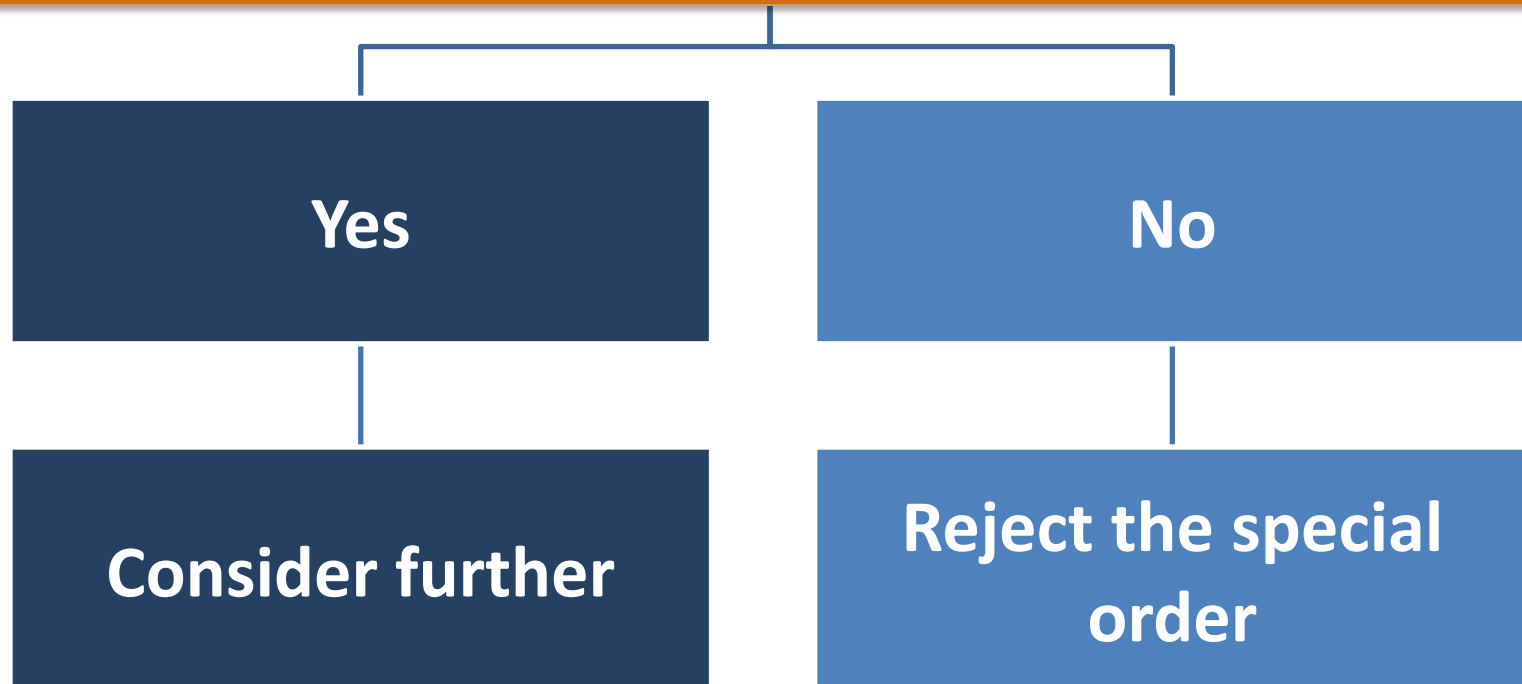
- Do we have excess capacity available to fill this order?
- Will the reduced sales price be high enough to cover the *incremental* costs of filling the order (the variable costs of filling the order and any additional fixed costs)?
- Will the special order affect regular sales in the long run?

Special Order Considerations 1

A customer requests a one-time order at a reduced sale price, often for a large quantity:

DECISION RULE:

Do we have excess capacity available to fill this order?



Special Sales Order 2

DECISION RULE:

Is the special reduced sales price high enough to cover the incremental costs of filling the order?

If revenues are greater than expected cost increase

Accept the special order

If revenues are less than expected cost increase

Reject the special order

Special Sales Order 2

- The special price must exceed the variable costs of filling the order or the company will loss money.

= Positive contribution margin

- Or special sales price is high enough to generate a positive contribution margin and cover additional fixed costs.

Special Sales Order 2

- Rule of thumb

Never compare the special order sales price with the absorption cost per unit or your analysis will be flawed. Rather, use the contribution margin approach.

Special Sales Order 2

Inventoriable Product Cost at Current Production Level	Absorption Unit Cost
Variable manufacturing costs (DM, DL, Variable MOH) per unit	\$1.20
Fixed manufacturing costs (Fixed MOH of \$200,000 ÷ 250,000 units)	0.80
Cost per unit using absorption costing	<u>\$2.00</u>

Special Sales Order 2



Special Sales Order 3

DECISION RULE:

Will the special order affect regular sales
in the long run?

If no to these questions

Accept the special
order

If yes to these questions

Reject the special order

Special Sales Order 3

- Example questions:
 - 1) Will regular customers find out about the special order and demand a lower price or take their business elsewhere?
 - 2) Will the special order customer come back again and again, asking for the same reduced price?
 - 3) Will the special order price start a price war with competitors?

Managers must gamble that the answers to these questions are “no” or consider how customers will respond.

Incremental Analysis of Special Sales Order, Exhibit 8-6

	A	B	C	D
1	Incremental Analysis for Special Order Decision	Per Unit	Total Order (20,000 units)	
2	Revenue from special order	\$ 1.75	\$ 35,000	
3	Less variable expense associated with the order:			
4	Variable manufacturing costs (DM, DL, Variable MOH)	1.20	24,000	
5	Contribution margin	\$ 0.55	\$ 11,000	
6	Less: Additional fixed expenses associated with the order		0	
7	Increase in operating income from the special order		\$ 11,000	
8				

Now turn to E8-17A

Suppose the Baseball Hall of Fame in Cooperstown, New York, has approached Hobby Memorabilia & More with a special order. The Hall of Fame wants to purchase 58,000 baseball card packs for a special promotional campaign and offers \$0.43 per pack, a total of \$24,940. Hobby Memorabilia & More's total production cost is \$0.63 per pack, as follows:

Variable costs:

Direct materials	\$0.14
Direct labor	0.08
Variable overhead	0.11
Fixed overhead	<u>0.30</u>
Total cost	<u><u>\$0.63</u></u>

Hobby Memorabilia & More has enough excess capacity to handle the special order.

Requirements

1. Prepare an incremental analysis to determine whether Hobby Memorabilia & More should accept the special sales order assuming fixed costs would not be affected by the special order.
2. Now assume that the Hall of Fame wants special hologram baseball cards. Hobby Memorabilia & More must spend \$5,500 to develop this hologram, which will be useless after the special order is completed. Should Hobby Memorabilia & More accept the special order under these circumstances? Show your analysis.

E8-17A

Variable costs:	
Direct Materials	\$0.14
Direct Labor	0.08
Variable Overhead	0.11
Total Cost	<u>\$0.33</u>

Would accept the special order because the cost per part to make it is only \$0.33 per part versus the \$0.43 per part selling price being offered by the buyer.

E8-17A (cont.)

Expected increase in revenues—sale of 58,000 cards x \$0.43 each	\$ 24,940
Expected increase in expenses—variable manufacturing costs:	
58,000 cards x \$0.33 each	(19,140)
Special hologram cost	<u>(5,500)</u>
Expected increase in operating income	<u>\$ 300</u>

Objective 3

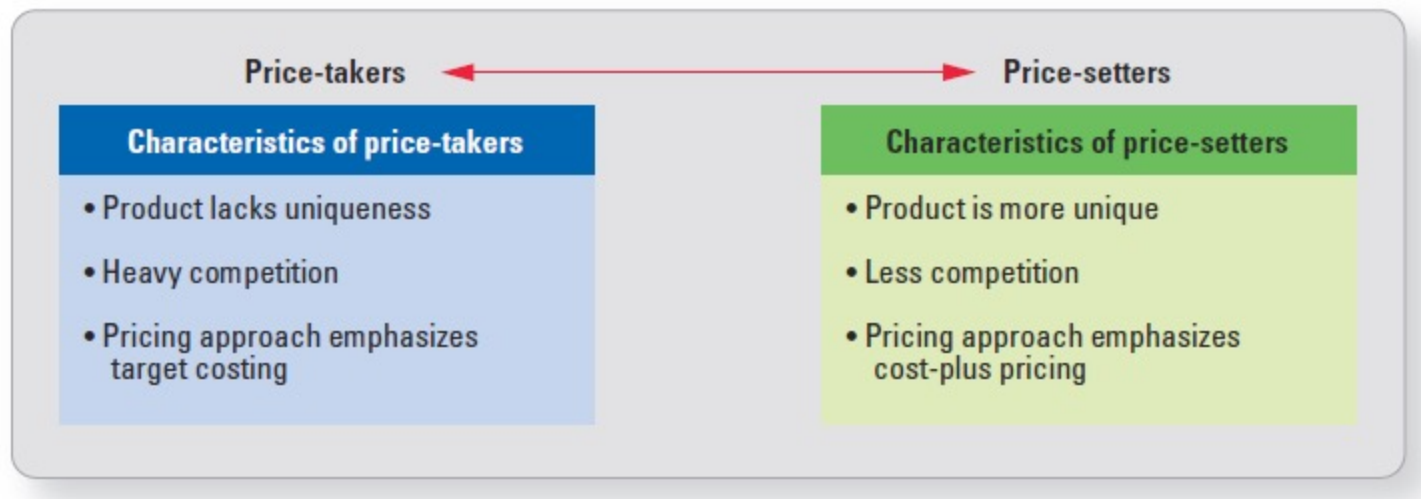
Describe and apply different approaches
to pricing



Regular Pricing Considerations

- What is our target profit?
- How much will customers pay?
- Are we a price-taker or a price-setter for this product?

Price-Taker vs. Price-Setter



Target Costing—Price-taker

- Market price - desired profit = target **total** cost
- Target cost includes:
 - Development cost
 - Design cost
 - Production cost
 - Marketing cost
 - Delivery cost
 - Service cost
- Exhibit 8-9:

Revenue at market price (250,000 units × \$3.00 price)	\$ 750,000
Less: Desired profit (10% × \$1,000,000 of assets)	<u>(100,000)</u>
Target total cost	<u><u>\$ 650,000</u></u>

Two Potential Outcomes when Using Target Costing

1. Actual cost less than target total cost
2. Actual cost greater than target total cost

In setting regular sales prices, companies must cover all of their costs—it doesn't matter if these costs are inventoriable product costs or period costs, or whether they are fixed or variable.

If current cost > target total cost

- Cut fixed costs
- Cut variable costs
- Try other strategies, such as branding, product differentiation, or adding to the company's product mix
- Accept a lower profit

Cut fixed costs

EXHIBIT 8-10 Calculating Target Fixed Cost

Target total cost (from Exhibit 8-9).....	\$ 650,000
Less: Current variable costs (250,000 units \times \$1.50).....	<u>(375,000)</u>
Target fixed cost.....	<u><u>\$ 275,000</u></u>

Cut variable costs

EXHIBIT 8-11 Calculating Target Unit Variable Cost

Target total cost (from Exhibit 8-9).....	\$ 650,000
Less: Current fixed costs (from Exhibit 8-5).....	<u>(325,000)</u>
Target total variable costs	\$ 325,000
Divided by number of units.....	<u>÷ 250,000</u>
Target variable cost per unit.....	<u><u>\$ 1.30</u></u>

Other Strategies

- Gain some controls over pricing, for example:
 - 1) Spend more on R&D expense to differentiate its product through innovation
 - 2) Advertising cost

Cost-Plus Pricing

- The opposite of the target-pricing approach
 - Starts with the company's full costs
 - Adds the desired profit to determine a cost-plus price

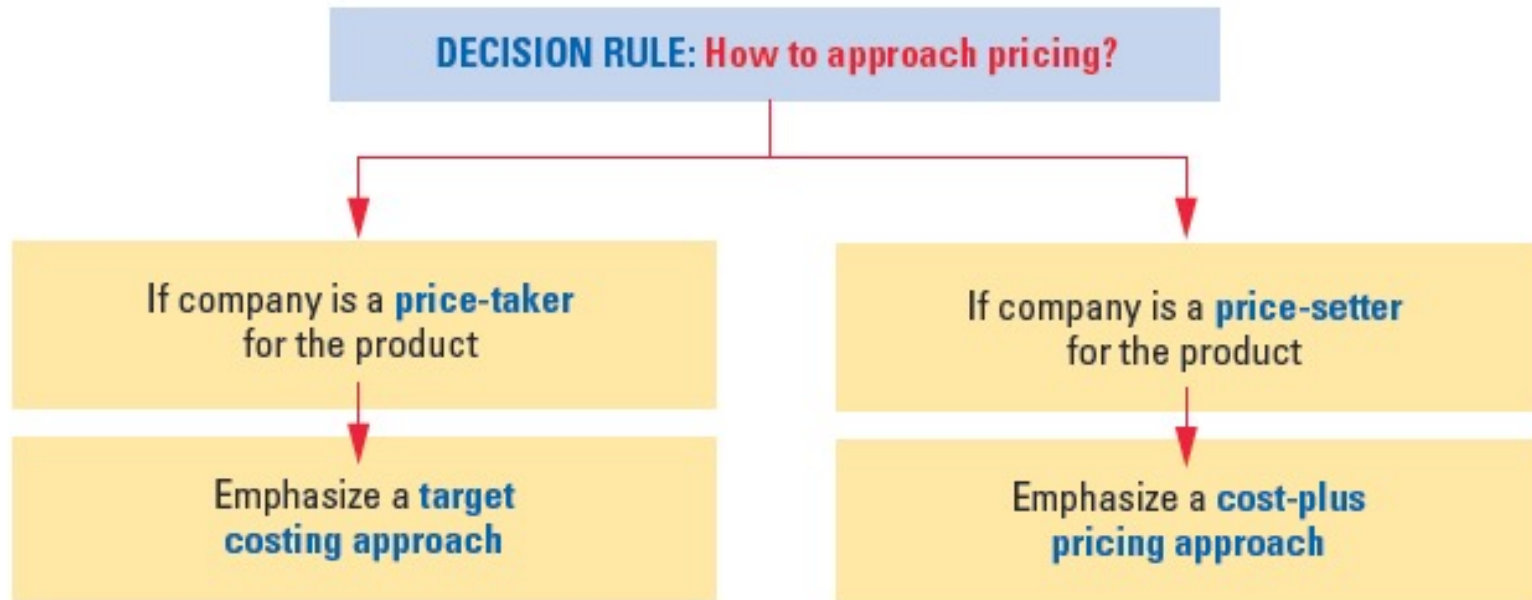
Total cost
<u>Plus: Desired profit</u>
<u>Cost-plus price</u>

Calculating Cost-Plus Price, Exhibit 8-12

Current variable costs (250,000 units \times \$1.50 per unit)	\$ 375,000
Plus: Current fixed costs (Exhibit 8-5).....	<u>325,000</u>
Current total costs	\$ 700,000
Plus: Desired profit (10% \times \$1,000,000 of assets).....	<u>100,000</u>
Target revenue.....	\$ 800,000
Divided by number of units.....	<u>\div 250,000</u>
Cost-plus price per unit	<u><u>\$ 3.20</u></u>

- If the current price is \$3.00, can the company charge \$3.20?
- Depends.

Pricing Decisions



Now turn to E8-20A

Preston Builders builds 1,500-square-foot starter tract homes in the fast-growing suburbs of Houston. Land and labor are cheap, and competition among developers is fierce. The homes are “cookie-cutter,” with any upgrades added by the buyer after the sale. Preston Builders’ costs per developed subplot are as follows:

Land.....	\$ 51,000
Construction.....	\$121,000
Landscaping	\$ 9,000
Variable marketing costs	\$ 5,000

Preston Builders would like to earn a profit of 15% of the variable cost of each home sale. Similar homes offered by competing builders sell for \$204,000 each.

Requirements

1. Which approach to pricing should Preston Builders emphasize? Why?
2. Will Preston Builders be able to achieve its target profit levels? Show your computations.
3. Bathrooms and kitchens are typically the most important selling features of a home. Preston Builders could differentiate the homes by upgrading bathrooms and kitchens. The upgrades would cost \$20,000 per home but would enable the company to increase the selling prices by \$35,000 per home (in general, kitchen and bathroom upgrades typically add at least 150% of their cost to the value of any home). If Preston Builders upgrades, what will the new cost-plus price per home be? Should the company differentiate its product in this manner? Show your analysis.

E8-20A

1. Preston Builders should emphasize Target Costing—Firm is a price-taker, product lacks uniqueness and there is heavy competition

E8-20A (cont.)

2. The answer is no, the target cost is less than variable cost.

	Calculations	Total
Revenue at market price		\$ 204,000
Less: Desired Profit	15% of the variable cost \$186,000	<u>(27,900)</u>
Target cost		\$ 176,100

E8-20A (cont.)

3. Yes, they should customize—they will achieve their target profit levels with the cost-plus price.

		Total
Current total costs	$(\$186,000 + \$20,000)$	\$206,000
Plus: Desired profit	$(15\% \times \text{variable cost of } \$206,000)$	<u>+ 30,900</u>
Cost-plus price		\$236,900

Objective 4

Decide whether to discontinue a product, department, or store (1/4 special business decisions)



Other Short-Term Business Decisions Managers Face

- When to discontinue a product, department, or store
- How to factor constrained resources into product mix decisions
- When to make a product or outsource it
- When to sell as is or process further

Considerations for Discontinuing Products, Departments or Stores, Exhibit 8-14

	A	B	C	D
1	ACDelco			
2	Product Line Contribution Margin Income Statement			
3	For the Year Ended December 31			
4		Product lines		
5		Oil Filters	Air Cleaners	Company Total
6		(250,000 units)	(62,500 units)	(312,500 units)
7				
8	Sales revenue	\$ 800,000	\$ 125,000	\$ 925,000
9	Less variable expenses:			
10	Variable manufacturing costs (DM, DL, Variable MOH)	300,000	62,500	362,500
11	Variable operating expenses (selling and administrative)	75,000	12,500	87,500
12	Contribution margin	\$ 425,000	\$ 50,000	\$ 475,000
13	Less fixed expenses:			
14	Fixed manufacturing costs (Fixed MOH)	160,000	40,000	200,000
15	Fixed operating expenses	100,000	25,000	125,000
16	Operating income	\$ 165,000	\$ (15,000)	\$ 150,000
17				

Considerations for Discontinuing Products, Departments or Stores

- Does the product provide a positive contribution margin?
- Are there any fixed costs that can be avoided if we discontinue the products?
- Will discontinuing the product affect sales of the company's other products?
- What could we do with the freed capacity?

Contribution Margin

- Is the contribution margin positive or negative?
- If negative: 1) raise the price of the product 2) cut variable costs/ discontinue the line
- One except: the sales of a companion product to decline as a result of discontinuing the product.

Fixed Costs

- Can any fixed costs be eliminated if the product line is discontinued?
 - Avoidable fixed costs: cancelable lease on equipment; advertisement
 - Unavoidable fixed costs: property taxes; insurance; depreciation.

Discontinuing Products, Departments, or Stores



Now turn to E8-21A

Top managers of Family Tyme Movies are alarmed by their operating losses. They are considering dropping the DVD product line. Company accountants have prepared the following analysis to help make this decision:

	A	B	C	D
1	Family Tyme Movies			
2	Product Line Contribution Margin Income Statement			
3	For the Year			
4				
5		Product lines		
6		Blu-ray Discs	DVDs	Company Total
7	Sales revenue	\$ 301,000	\$ 126,000	\$ 427,000
8	Less: Variable expenses	155,000	80,000	235,000
9	Contribution margin	\$ 146,000	\$ 46,000	\$ 192,000
10	Less fixed expenses:			
11	Manufacturing	79,000	59,000	138,000
12	Marketing and administrative	57,000	15,000	72,000
13	Operating income (loss)	\$ 10,000	\$ (28,000)	\$ (18,000)
14				

Total fixed costs will not change if the company stops selling DVDs.

E8-21A (cont.)

Requirements

1. Prepare an incremental analysis to show whether Family Tyme Movies should discontinue the DVD product line. Will discontinuing DVDs add \$28,000 to operating income? Explain.
2. Assume that the company can avoid \$29,000 of fixed expenses by discontinuing the DVD product line (these costs are direct fixed costs of the DVD product line). Prepare an incremental analysis to show whether the company should stop selling DVDs.
3. Now, assume that all of the fixed costs assigned to DVDs are direct fixed costs and can be avoided if the company stops selling DVDs. However, marketing has concluded that Blu-ray disc sales would be adversely affected by discontinuing the DVD line (retailers want to buy both from the same supplier). Blu-ray disc production and sales would decline 10%. What should the company do?

E8-21A

1. Decision: Do not drop DVDs. It is incorrect to conclude that dropping DVDs would add \$28,000 to operating income. If the company drops the DVD product line, it will still incur the \$74,000 (\$59,000 + \$15,000) of fixed expenses allocated to DVDs.

Expected decrease in revenues:	
Sale of DVDs	\$126,000
Expected decrease in expenses:	
Variable manufacturing expenses	<u>80,000</u>
Expected <u>decrease</u> in operating income	<u>\$46,000</u>

E8-21A (cont.)

2. Do not drop DVDs because the product's incremental revenues (\$126,000) exceed its incremental costs (\$109,000).

Expected decrease in revenues:		
Sale of DVDs		\$126,000
Expected decrease in expenses:		
Variable manufacturing expenses	\$80,000	
Direct fixed expenses	<u>\$29,000</u>	
Expected decrease in total expenses		109,000
Expected <u>decrease</u> in operating income		<u>\$17,000</u>

E8-21A (cont.)

- Consider dropping DVDs because net operating income would increase overall. The product's incremental revenues is now less than its incremental costs.

Expected decrease in revenues:		
Sale of DVDs	\$126,000	
Sale of Blu-rays	<u>30,100</u>	\$156,100
Expected decrease in expenses:		
Variable manufacturing expenses - DVDs	\$80,000	
Variable manufacturing expenses – Blu-rays	\$15,500	
Direct fixed expenses	<u>\$74,000</u>	
Expected decrease in total expenses		<u>169,500</u>
Expected <u>increase</u> in operating income		<u>\$13,400</u>

Objective 5

Factor resource constraints into product mix decisions (2/4 special business decisions)



Product Mix Considerations—Example

	<i>Per Unit</i>	
	Shirts	Jeans
Sale price.....	\$ 30	\$ 60
Less: Variable expenses	<u>(12)</u>	<u>(48)</u>
Contribution margin	<u>\$ 18</u>	<u>\$ 12</u>
Contribution margin ratio:		
Shirts: $\$18 \div \30	<u>60%</u>	
Jeans: $\$12 \div \60		<u>20%</u>

Product Mix Considerations— Exhibit 8-18

	A	B	C
1	Product Mix Analysis When Demand Is Unlimited	Shirts	Jeans
2	Contribution margin per unit	\$ 18	\$ 12
3	Multiply by: Number of units produced per machine hour	10	20
4	Contribution margin per machine hour	\$ 180	\$ 240
5	Multiply by: Available capacity (number of machine hours)	2,000	2,000
6	Total contribution margin at full capacity	\$ 360,000	\$ 480,000
7			

Product Mix

DECISION RULE: Which product to emphasize?



Emphasize the product with the **highest contribution margin per unit of the constraint.**

Product Mix when Demand Is Limited or Fixed Costs Change

- What if demand is limited, due to competition or other factors? [In this example, company has demand for only 30,000 jeans, which consume in total 1,500 hours (30,000 jeans/20 jeans per hour)]

	A	B	C	D
1	Product Mix Analysis When Demand Is Limited	Shirts	Jeans	Total
2	Contribution margin per machine hour (from Exhibit 8-18)	\$ 180	\$ 240	
3	Multiply by: Number of machine hours devoted to product	500	1,500	2,000
4	Total contribution margin at full capacity	\$ 90,000	\$ 360,000	\$ 450,000
5				

- What if fixed costs are different when a different product mix is emphasized?

Now turn to E8-23A

TreadLight produces two types of exercise treadmills: Regular and Deluxe. The exercise craze is such that TreadLight could use all of its available machine hours producing either model. The two models are processed through the same production department.

	A	B	C	D
1		Per Unit		
2		Deluxe	Regular	
3	Sales price	\$ 1,020	\$ 580	
4	Less expenses:			
5	Direct materials	320	110	
6	Direct labor	88	186	
7	Variable manufacturing overhead	168	84	
8	Fixed manufacturing overhead*	80	40	
9	Variable operating expenses	113	69	
10	Total expenses	\$ 769	\$ 489	
11	Operating income	\$ 251	\$ 91	
12				

* Allocated on the basis of machine hours.

What product mix will maximize operating income? (*Hint: Use the allocation of fixed manufacturing overhead to determine the proportion of machine hours used by each product.*)

E8-23A

What product mix will maximize operating income?

TreadLight		
Product Mix Analysis		
	Deluxe	Regular
Sale price per unit	\$1,020	\$580
Variable costs per unit	<u>689^a</u>	<u>449^b</u>
Contribution margin per unit	331	131
Units produced with equivalent number of machine hours	<u>× 1</u>	<u>× 2</u>
Contribution margin for equivalent number of machine hours	<u>\$ 331</u>	<u>\$262</u>

^a (\$320 + \$ 88 + \$168 + \$113)

^b (\$110 + \$186 + \$ 84 + \$ 69)

TreadLight should produce only the Deluxe model.

Objective 6

Analyze outsourcing (make-or-buy) decisions (3/4 special business decisions)



Outsourcing (Make or Buy) Considerations

- To buy a product or service or produce it in-house
- The heart of the decisions: How best to use available resources
 - How do our variable costs compare to the outsourcing cost?
 - Are any fixed costs avoidable if we outsource?
 - What could we do with the freed capacity?

Outsourcing



Now turn to E8-25A

TechSystem manufactures an optical switch that it uses in its final product. TechSystems incurred the following manufacturing costs when it produced 68,000 units last year:

	A	B	C	D
1	Direct materials	\$ 612,000		
2	Direct labor	136,000		
3	Variable MOH	68,000		
4	Fixed MOH	408,000		
5	Total manufacturing cost for 68,000 units	\$ 1,224,000		
6				

TechSystems does not yet know how many switches it will need this year; however, another company has offered to sell TechSystems the switch for \$13.50 per unit. If TechSystems buys the switch from the outside supplier, the manufacturing facilities that will be idle cannot be used for any other purpose, yet none of the fixed costs are avoidable.

E8-25A

Requirements

1. Given the same cost structure, should TechSystems make or buy the switch? Show your analysis.
2. Now, assume that TechSystems can avoid \$97,000 of fixed costs a year by outsourcing production. In addition, because sales are increasing, TechSystems needs 73,000 switches a year rather than 68,000 switches. What should the company do now?
3. Given the last scenario, what is the most TechSystems would be willing to pay to outsource the switches?

E8-25A

1. TechSystem should continue to make the switch.

TechSystem			
Incremental Analysis for Outsourcing Decision			
	Make Unit	Buy Unit	Cost to Make Minus Cost to Buy
Variable cost per unit:			
Direct materials	\$ 9.00 ^a	\$ —	\$ 9.00
Direct labor	2.00 ^b	—	2.00
Variable overhead	1.00 ^c	—	1.00
Purchase price from outsider	<u>—</u>	<u>13.50</u>	<u>(13.50)</u>
Variable cost per unit	<u>\$12.00</u>	<u>\$13.50</u>	<u>\$ (1.50)</u>

^a $\$612,000 / 68,000 = \$9.00/\text{unit}$

^b $\$136,000 / 68,000 = \$2.00/\text{unit}$

^c $\$68,000 / 68,000 = \$1.00/\text{unit}$

E8-25A (cont.)

2. It is still cheaper for TechSystems to make its own switches rather than outsource the switches.

	Make switches	Buy switches
Variable cost per unit (from part 1)	\$ 12.00	\$ 13.50
× Units needed	<u>73,000</u>	<u>73,000</u>
Total variable costs	\$ 876,000	985,500
Fixed costs	<u>408,000</u>	<u>311,000*</u>
Total relevant costs	<u>\$1,284,000</u>	<u>\$1,296,500</u>

***(\$408,000 – \$97,000 avoidable)**

E8-25A (cont.)

3. Given the last scenario, what is the most TechSystems would be willing to pay to outsource the switches?

Cost if making switches = Cost of outsourcing switches

Variable costs + fixed costs = Variable costs + fixed costs

$$(\$12.00 \times 73,000) + \$408,000 = (x) * (73,000) + \$311,000$$

$$\$876,000 + \$408,000 = 73,000x + \$311,000$$

$$\$973,000 = 73,000x$$

$$\$13.33(\text{rounded}) = x$$

*** Where x = outsourcing cost per switch**

Objective 7

Decide whether to sell a product “as is”
or process it further (4/4 special
business decisions)



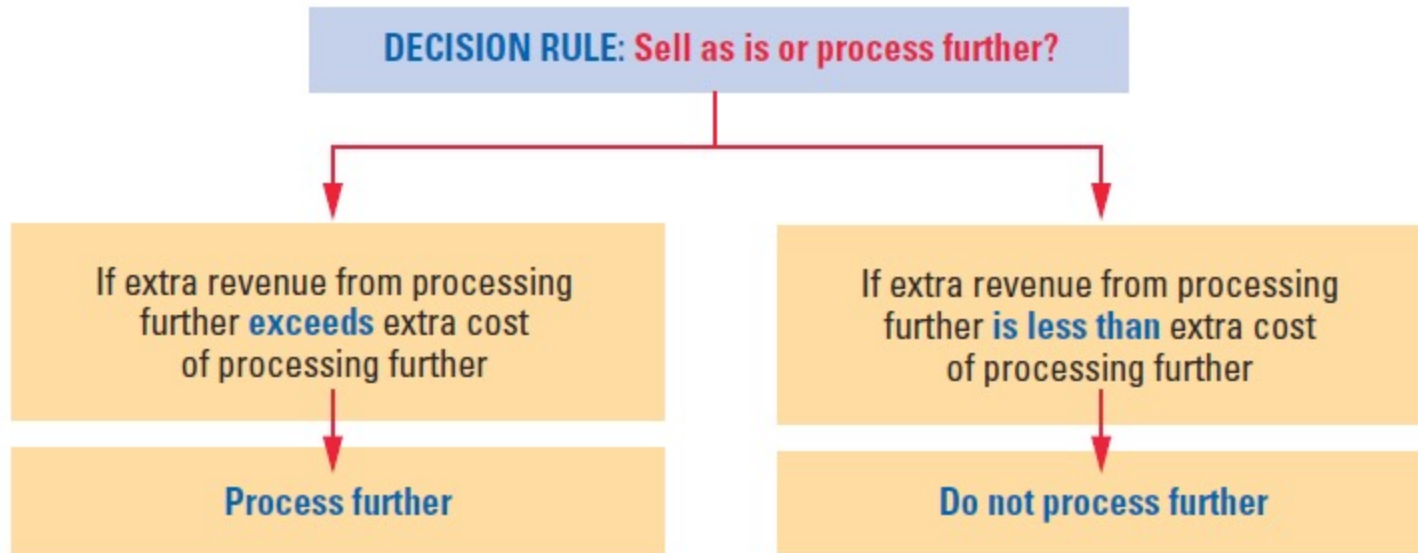
Sell As-Is or Process Further Considerations

- At which point in processing should a company sell its product? (How much revenue is generated if we sell the product as is?)
- How much revenue is generated if we sell the product after processing it further?
- How much will it cost to process the product further?

Analysis for Sell As Is or Process Further Decision—Exhibit 8-25

	A	B	C	D
1	Incremental Analysis			
2	Sell or Process Further Decision	Sell As Is	Process Further	Difference
2	Revenues:			
3	If sell as is: $\$5.00 \times 50,000$ quarts			
3	If process further: $\$7.00 \times 50,000$ quarts	\$ 250,000	\$ 350,000	\$ 100,000
4	Less: Extra cost of processing further	0	37,500	37,500
5	Net benefit to operating income	\$ 250,000	\$ 312,500	\$ 62,500
6				

Sell As-Is or Process Further



Now turn to E8-28A

Keister Natural Dairy processes organic milk into plain yogurt. Keister sells plain yogurt to hospitals, nursing homes, and restaurants in bulk, one-gallon containers. Each batch, processed at a cost of \$820, yields 450 gallons of plain yogurt. The company sells the one-gallon tubs for \$5.00 each and spends \$0.16 for each plastic tub. Keister has recently begun to reconsider its strategy. Management wonders if it would be more profitable to sell individual-sized portions of fruited organic yogurt at local food stores. Keister could further process each batch of plain yogurt into 9,600 individual portions (3/4 cup each) of fruited yogurt. A recent market analysis indicates that demand for the product exists. Keister would sell each individual portion for \$0.54. Packaging would cost \$0.08 per portion, and fruit would cost \$0.10 per portion. Fixed costs would not change. Should Keister continue to sell only the gallon-sized plain yogurt (sell as is) or convert the plain yogurt into individual-sized portions of fruited yogurt (process further)? Why?

E8-28A

	Sell as-is (gallons)	Process further
Sales revenue per unit	\$ 5.00	\$ 0.54
Additional process costs per unit—packaging	(0.16)	(0.08)
Additional process costs per unit—fruit	<u>(0.00)</u>	<u>(0.10)</u>
Net benefit per unit	\$ 4.84	\$ 0.36
Number of units produced per batch	<u>× 450</u>	<u>× 9,600</u>
Net benefit per batch	<u>\$2,178</u>	<u>\$ 3,456</u>

End of Chapter 8





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