

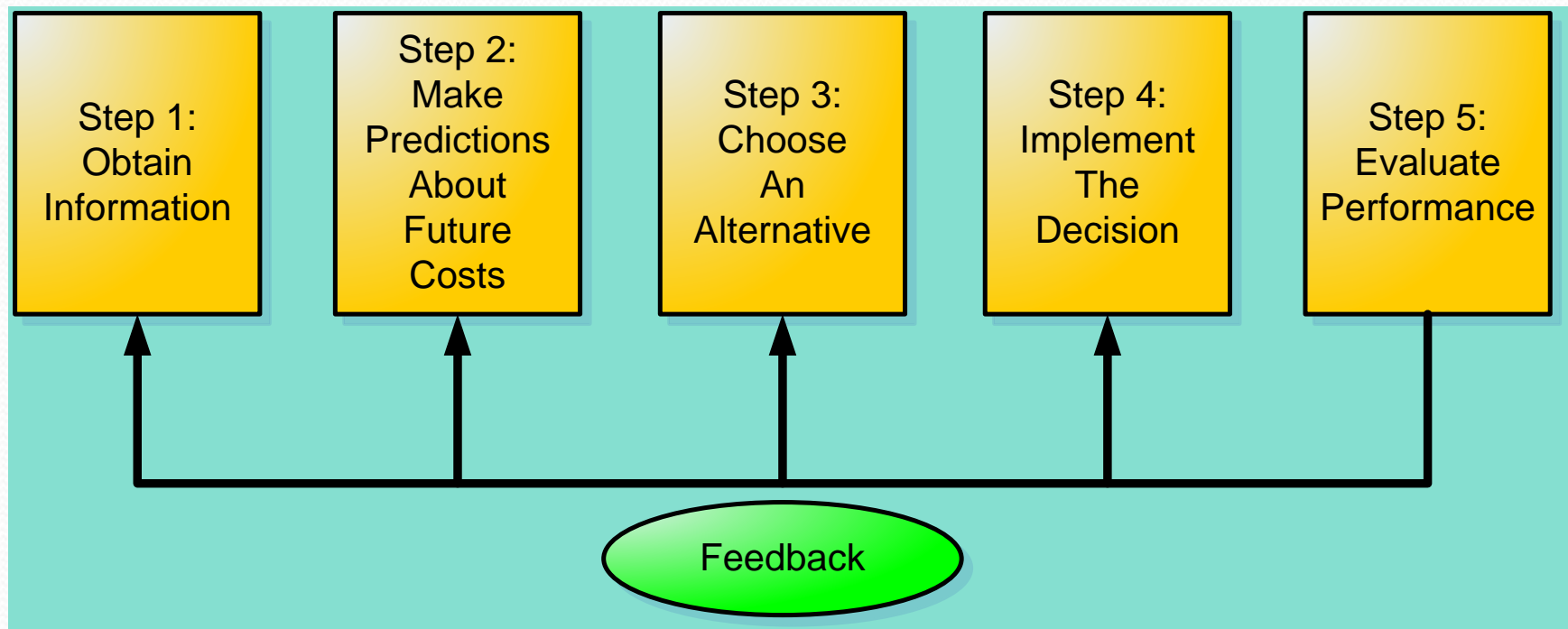
# CHAPTER 11

## Decision Making and Relevant Information

# Decision Models

- A decision model is a formal method of making a choice, often involving both quantitative and qualitative analyses.
- Managers often use some variation of the five-step decision-making process.

# Five-Step Decision-Making Process



# Relevance

- Relevant information has two characteristics:
  - It occurs in the future
  - It differs among the alternative courses of action
- Relevant costs—expected future costs
- Relevant revenues—expected future revenues



# Relevant Cost Illustration

	All Revenues and Costs		Relevant Revenues and Costs	
	Alternative 1: Do Not Reorganize	Alternative 2: Reorganize	Alternative 1: Do Not Reorganize	Alternative 2: Reorganize
Revenues <sup>a</sup>	\$6,250,000	\$6,250,000	—	—
Costs:				
Direct materials <sup>b</sup>	1,250,000	1,250,000	—	—
Manufacturing labor	640,000 <sup>c</sup>	480,000 <sup>d</sup>	\$ 640,000 <sup>c</sup>	\$ 480,000 <sup>d</sup>
Manufacturing overhead	750,000	750,000	—	—
Marketing	2,000,000	2,000,000	—	—
Reorganization costs	—	90,000	—	90,000
Total costs	<u>4,640,000</u>	<u>4,570,000</u>	<u>640,000</u>	<u>570,000</u>
Operating income	<u>\$1,610,000</u>	<u>\$1,680,000</u>	<u>\$(640,000)</u>	<u>\$(570,000)</u>
	\$70,000 Difference		\$70,000 Difference	

<sup>a</sup>25,000 units × \$250 per unit = \$6,250,000

<sup>b</sup>25,000 units × \$50 per unit = \$1,250,000

<sup>c</sup>20 workers × 2,000 hours per worker × \$16 per hour = \$640,000

<sup>d</sup>15 workers × 2,000 hours per worker × \$16 per hour = \$480,000

# Features of Relevant Information

- Past (historical) costs may be helpful as a basis for making predictions. However, past costs themselves are always irrelevant when making decisions.
- Different alternatives can be compared by examining differences in expected total future revenues and expected total future costs.
- Not all expected future revenues and expected future costs are relevant. Expected future revenues and expected future costs that do not differ among alternatives are irrelevant and, hence can be eliminated from the analysis. The key question is always, What difference will an action make?
- Appropriate weight must be given to qualitative factors and quantitative nonfinancial factors.



# Sunk Costs Are Irrelevant in Decision Making

- Costs that have already occurred and can not be changed are classified as sunk costs.
- Sunk costs are excluded because they can not be changed by future actions.
- These are costs that were incurred in the past and are not recordable.

# A Starting Point: Absorption-Based Budgeted Income Statement

	A	B	C	D
1		<b>Total</b>	<b>Per Unit</b>	
2	Units sold	30,000		
3				
4	Revenues	\$600,000	\$20.00	
5	Cost of goods sold (manufacturing costs)			
6	Variable manufacturing costs	225,000	7.50 <sup>b</sup>	
7	Fixed manufacturing costs	135,000	4.50 <sup>c</sup>	
8	Total cost of goods sold	360,000	12.00	
9	Marketing costs			
10	Variable marketing costs	150,000	5.00	
11	Fixed marketing costs	60,000	2.00	
12	Total marketing costs	210,000	7.00	
13	Full costs of the product	570,000	19.00	
14	Operating income	\$ 30,000	\$ 1.00	
15				
16	<sup>a</sup> Surf Gear incurs no R&D, product-design, distribution or customer-service costs			
17	<sup>b</sup> Variable manufacturing = Direct material + Direct manufacturing + Variable manufacturing			
18	cost per unit	cost per unit	labor cost per unit	overhead cost per unit
19	= \$6.00 + \$0.50 + \$1.00 = \$7.50			
20	<sup>c</sup> Fixed manufacturing = Fixed direct manufacturing + Fixed manufacturing			
21	cost per unit	labor cost per unit	overhead cost per unit	
22	= \$1.50 + \$3.00 = \$4.50			



# Types of Information

- Quantitative factors are outcomes that can be measured in numerical terms.
- Qualitative factors are outcomes that are difficult to measure accurately in numerical terms, such as satisfaction.
  - Qualitative factors are just as important as quantitative factors even though they are difficult to measure.

# Terminology

- Incremental cost—the additional total cost incurred for an activity
- Differential cost—the difference in total cost between two alternatives
- Incremental revenue—the additional total revenue from an activity
- Differential revenue—the difference in total revenue between two alternatives