

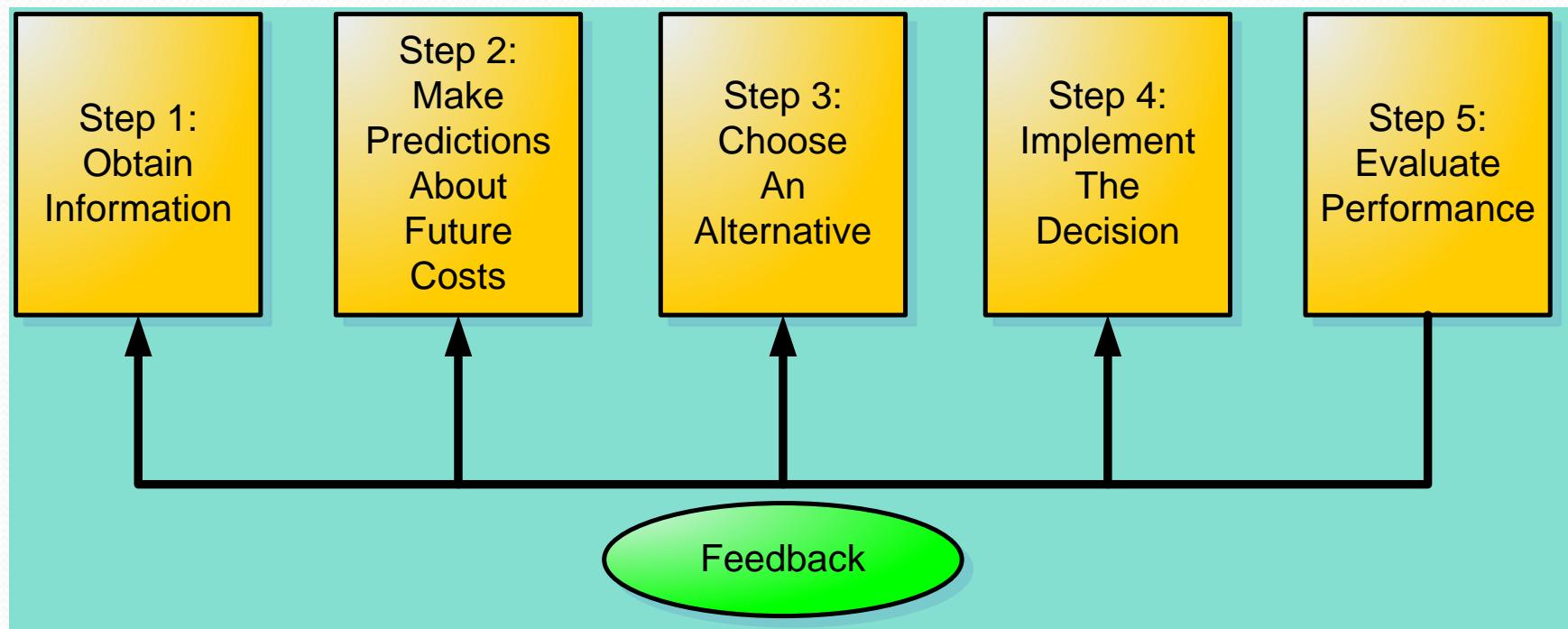
CHAPTER 11

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 ^a	<u>\$6,250,000</u>	<u>\$6,250,000</u>	—	—
Costs:				
Direct materials ^b	1,250,000	1,250,000	—	—
Manufacturing labor	640,000 ^c	480,000 ^d	\$ 640,000 ^c	\$ 480,000 ^d
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	

^a25,000 units × \$250 per unit = \$6,250,000

^b25,000 units × \$50 per unit = \$1,250,000

^c20 workers × 2,000 hours per worker × \$16 per hour = \$640,000

^d15 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		Total	Per Unit	
2	Units sold	<u>30,000</u>		
3				
4	Revenues	<u>\$600,000</u>	<u>\$20.00</u>	
5	Cost of goods sold (manufacturing costs)			
6	Variable manufacturing costs	225,000	7.50 ^b	
7	Fixed manufacturing costs	<u>135,000</u>	<u>4.50^c</u>	
8	Total cost of goods sold	<u>360,000</u>	<u>12.00</u>	
9	Marketing costs			
10	Variable marketing costs	150,000	5.00	
11	Fixed marketing costs	<u>60,000</u>	<u>2.00</u>	
12	Total marketing costs	<u>210,000</u>	<u>7.00</u>	
13	Full costs of the product	<u>570,000</u>	<u>19.00</u>	
14	Operating income	<u>\$ 30,000</u>	<u>\$ 1.00</u>	
15				
16	^a Surf Gear incurs no R&D, product-design, distribution or customer-service costs			
17	^b Variable manufacturing cost per unit = Direct material cost per unit + Direct manufacturing labor cost per unit + Variable manufacturing overhead cost per unit			
18				
19				
20	^c Fixed manufacturing cost per unit = Fixed direct manufacturing labor cost per unit + Fixed manufacturing overhead cost per unit			
21				
22				

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