

Financial & Managerial Accounting



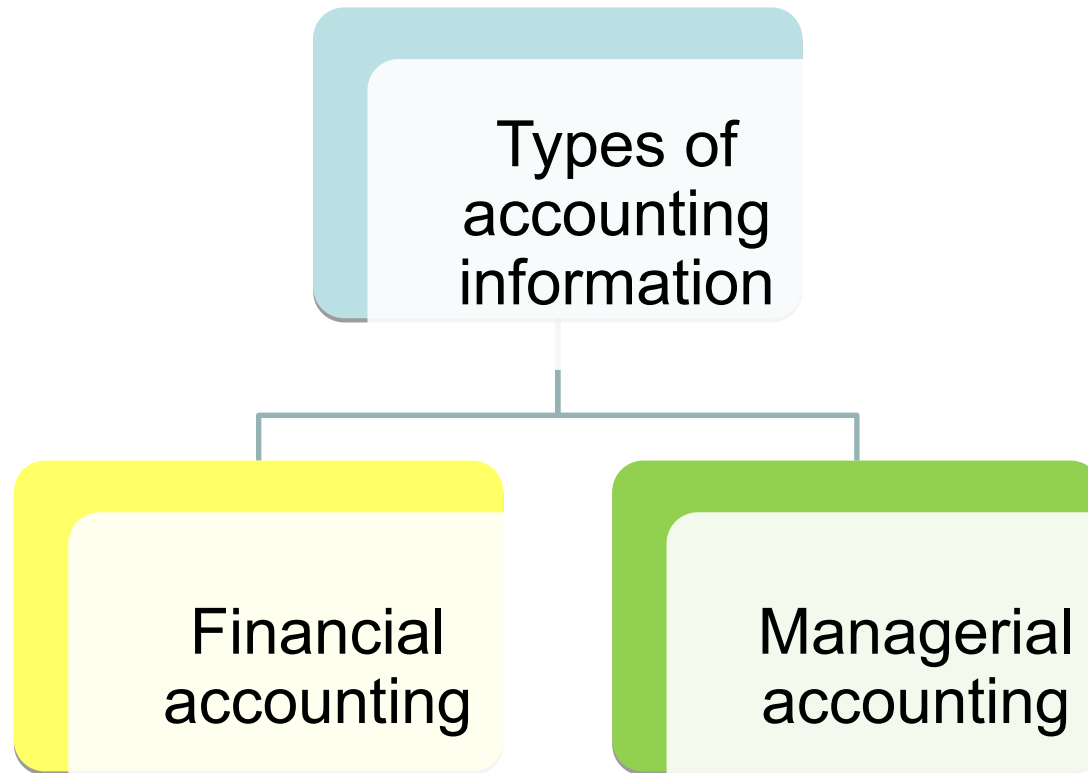
Chapter 15

Introduction to Managerial Accounting

Learning Objectives

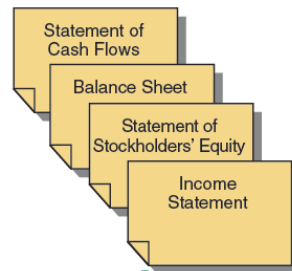
- **Obj. 1:** Describe managerial accounting, including its differences with financial accounting, its place in the organization, and its uses.
- **Obj. 2:** Describe and illustrate the nature of manufacturing operations, including different types and classifications of costs.
- **Obj. 3:** Describe and illustrate financial statements for a manufacturing business, including the balance sheet, statement of cost of goods manufactured, and income statement.
- **Obj. 4:** Describe and illustrate utilization rates in evaluating performance for service companies.

Differences Between Managerial and Financial Accounting (slide 1 of 4)

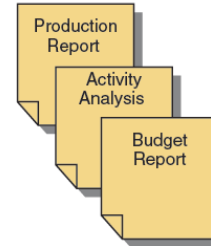


Financial Accounting and Managerial Accounting

Financial Statements



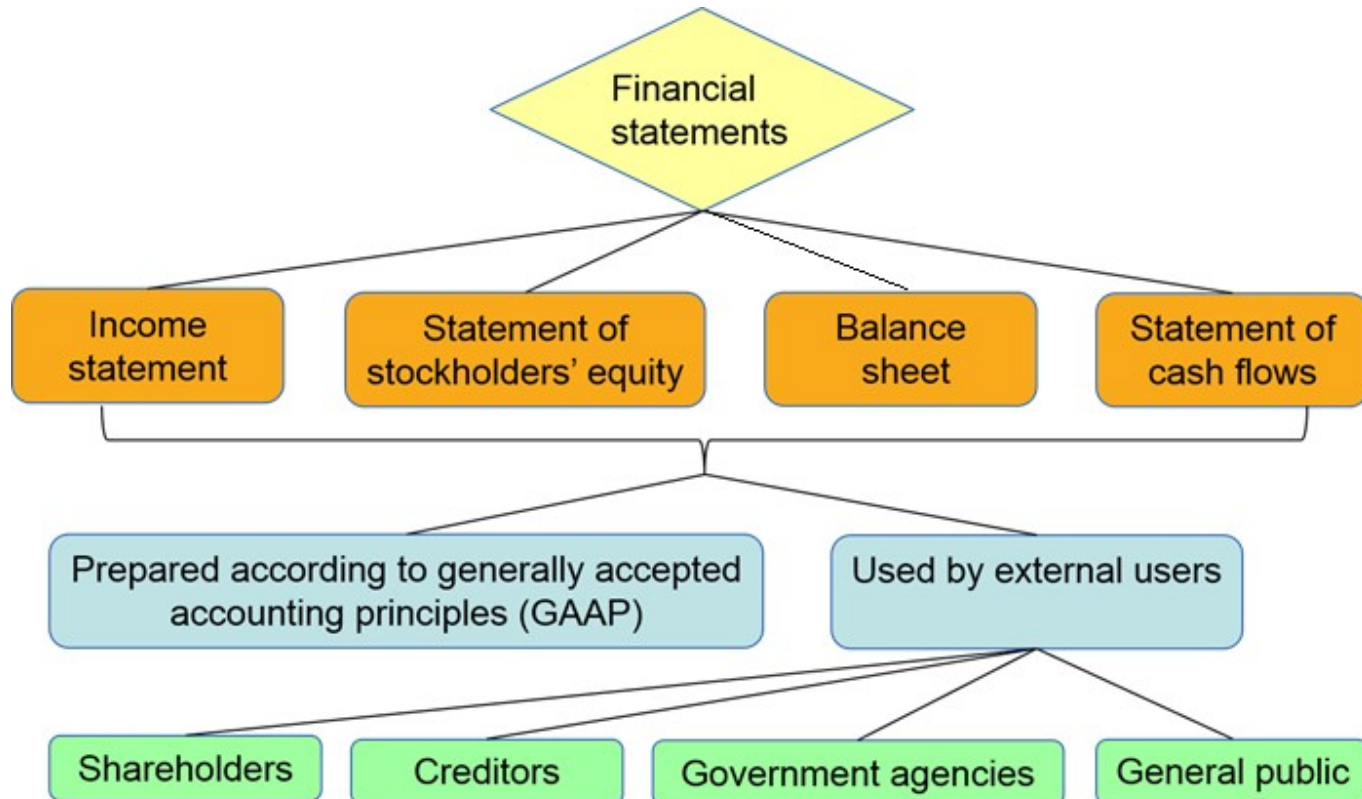
Managerial Accounting Reports



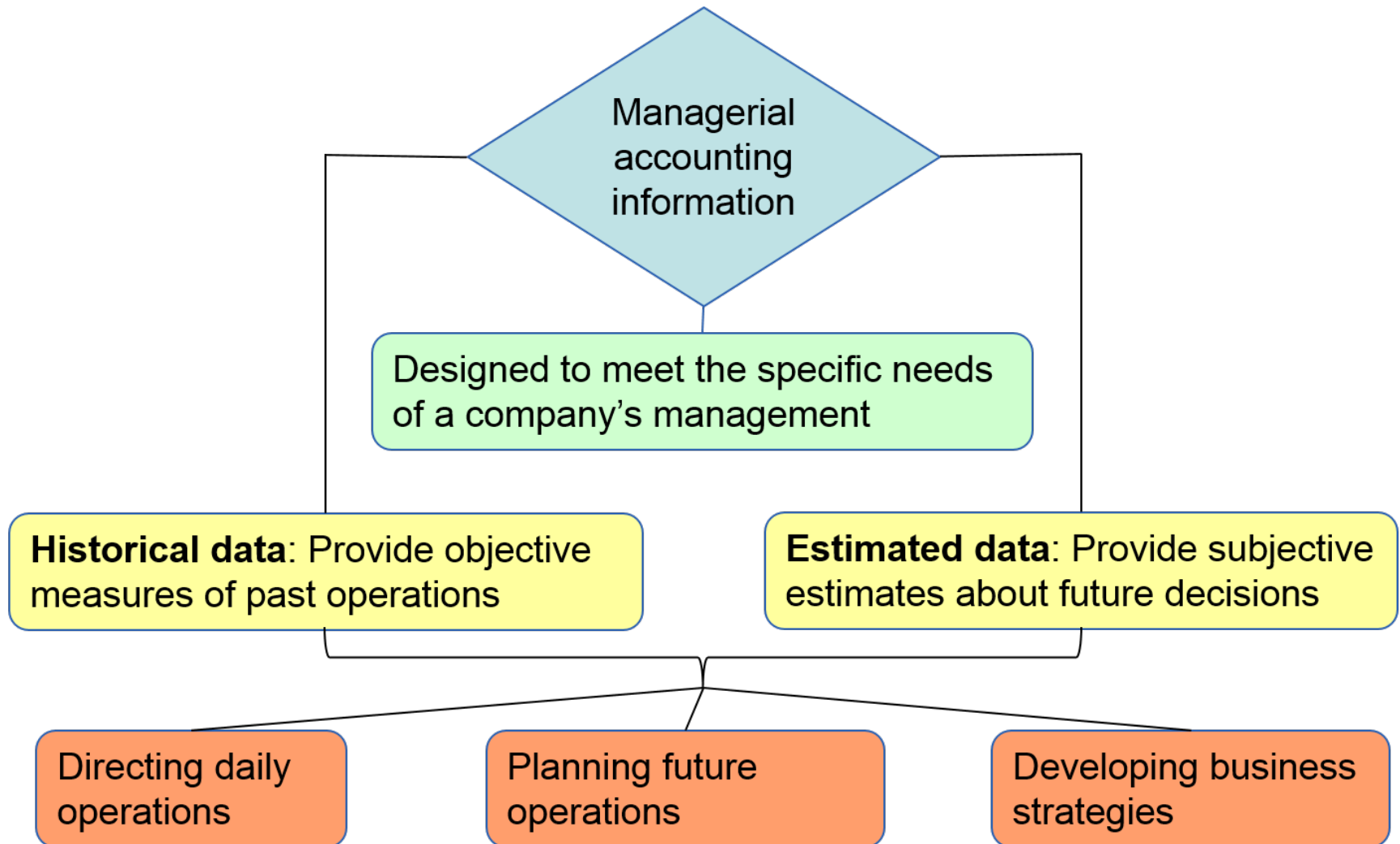
	Financial Statements	Managerial Accounting Reports
Users of Information	External users and company management	Management
Nature of Information	Objective	Objective and subjective
Guidelines for Preparation	Prepared according to GAAP	Prepared according to management needs
Timeliness of Reporting	Prepared at fixed intervals	Prepared at fixed intervals and on an as-needed basis
Focus of Reporting	Company as a whole	Company as a whole or segment

Differences Between Managerial and Financial Accounting (slide 2 of 4)

- **Financial accounting** information is reported at fixed intervals (monthly, quarterly, yearly) in general-purpose financial statements.



Differences Between Managerial and Financial Accounting (slide 3 of 4)



Differences Between Managerial and Financial Accounting

(slide 4 of 4)

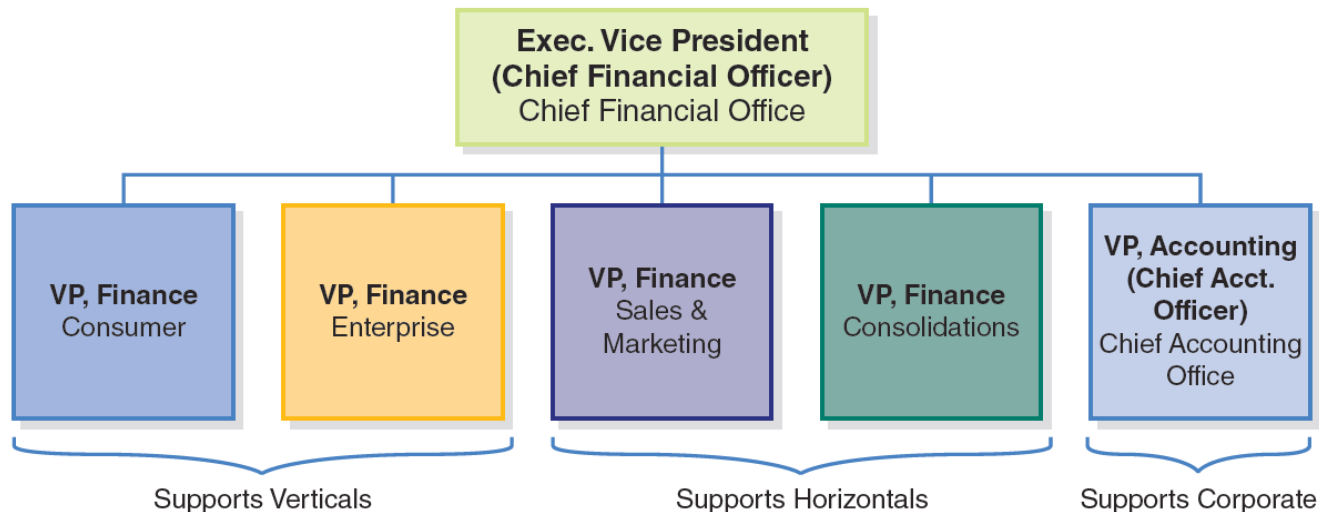
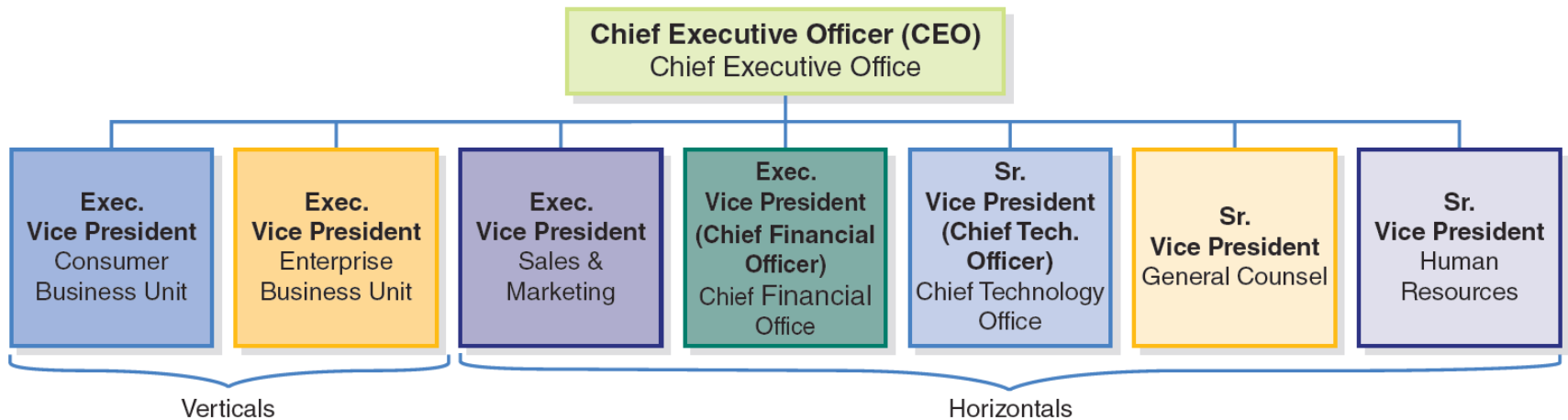
- Unlike the financial statements prepared in financial accounting, managerial accounting reports do not always have to be:
 1. Prepared according to generally accepted accounting principles (GAAP).
 - Only the company's management uses the information.
 - In many cases, GAAP are not relevant to the specific decision-making needs of management.
 2. Prepared at fixed intervals (monthly, quarterly, yearly).
 - Although some management reports are prepared at fixed intervals, most reports are prepared as management needs the information.
 3. Prepared for the business as a whole.
 - Most management reports are prepared for products, projects, sales territories, or other segments of the company.

Managerial Accounting in the Organization

(slide 1 of 2)

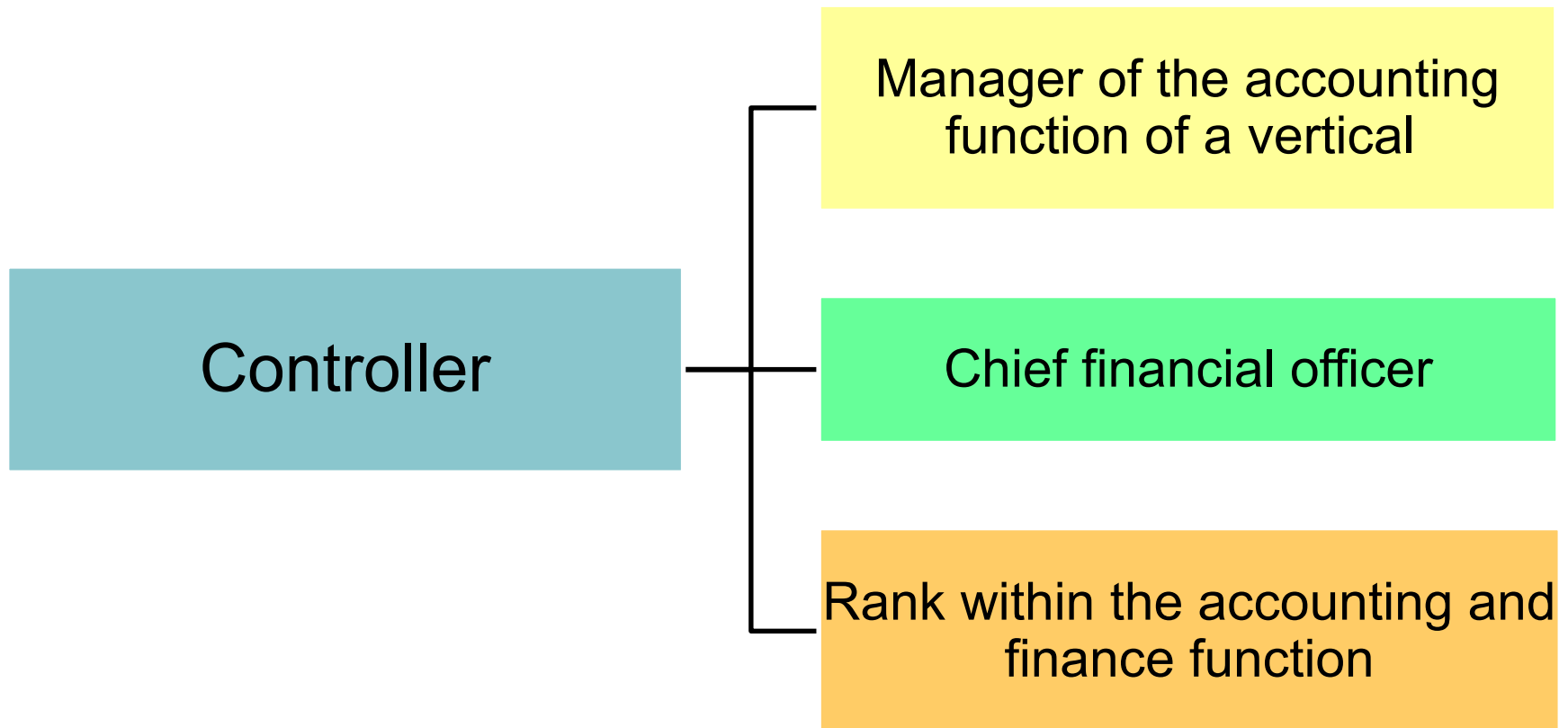
- Most large companies are organized in terms of “verticals” and “horizontals.”
 - **Verticals** are sometimes referred to as business units, because they are often structured as separate businesses within the parent company.
 - Verticals develop products that are sold directly to customers.
 - **Horizontals** are departments within the company that are not responsible for developing products.
 - Horizontals provide services to the various verticals and other horizontals.

Partial Organization Chart for McAfee



Managerial Accounting in the Organization

(slide 2 of 2)



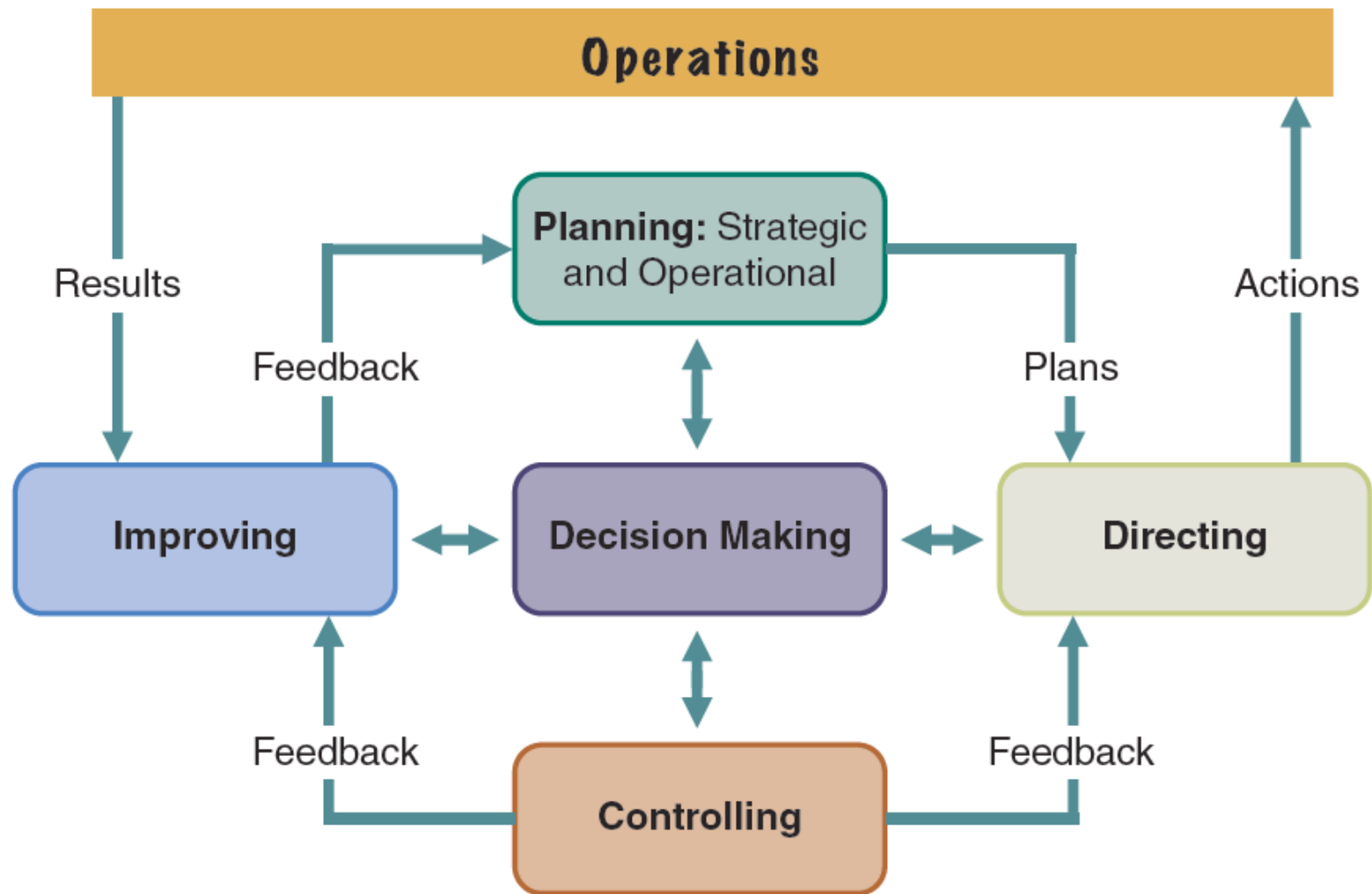
The Management Process

(slide 1 of 2)



The Management Process

(slide 2 of 2)



Planning

- Management uses **planning** in developing the company's **objectives (goals)** and translating these objectives into courses of action.
- Planning may be classified as follows:
 1. **Strategic planning**, which is developing long-term actions to achieve the company's objectives.
 - These long-term courses of action are called **strategies**, which often involve periods of 5 to 10 years.
 2. **Operational planning**, which develops short-term actions for managing the day-to-day operations of the company.

Directing

- The process by which managers run day-to-day operations is called **directing**.
 - For example, directing is a production supervisor's efforts to keep the production line moving without interruption (downtime).

Controlling

- Monitoring operating results and comparing actual results with the expected results is **controlling**.
 1. This **feedback** allows management to isolate areas for further investigation and possible remedial action.
- The philosophy of controlling by comparing actual and expected results is called **management by exception**.

Improving

- **Continuous process improvement** is the philosophy of continually improving employees, business processes, and products.
 1. The objective of continuous process improvement is to eliminate the source of problems in a process.
 - In this way, the right products (or services) are delivered in the right quantities at the right time.

Decision Making

- Inherent in each of the preceding management processes is **decision making**.
 1. In managing a company, management must continually decide among alternative actions.

Uses of Managerial Accounting Information

- Managerial accounting provides information and reports for managers to use in operating the business.
 1. The cost of manufacturing a product could be used to determine its selling price.
 2. Comparing the costs of manufacturing products over time and can be used to monitor and control costs.
 3. Performance reports could be used to identify any large amounts of scrap or employee downtime.
 4. A report could analyze the potential efficiencies and savings of purchasing a new computerized equipment to speed up the production process.
 5. A report could analyze how many units need to be sold to cover operating costs and expenses. Such information could be used to set monthly selling targets and bonuses for sales personnel.

1. Indicate whether the following statements are true or false:
 - a. Managerial accounting information is designed primarily to meet the needs of external users such as shareholders, creditors, and the general public.
 - b. Managerial accounting reports must be prepared for the business as a whole.
 - c. Operational planning develops short-term actions for managing the day-to-day operations of the company.
2. Three phases of the management process are planning, controlling, and improving. Match the following descriptions to the proper phase:

Phase of management process	Description
Planning	Monitoring the operating results and comparing the actual results with expected results
Controlling	Rejects solving problems with temporary solutions that fail to address the root cause of the problem
Improving	Used by management to develop the company's objectives

1.

- a. False. The primary focus and design of managerial accounting information is to meet the specific needs of a company's management.
- b. False. Managerial accounting reports do not have to be prepared for the business as a whole. Most management reports are prepared for products, projects, sales territories, or other segments of the company.
- c. True. Operational planning develops short-term actions for managing the day-to-day operations of the company. In contrast, strategic planning develops long-term actions (strategies) to achieve the company's objectives.

2. Planning: c. Used by management to develop the company's objectives

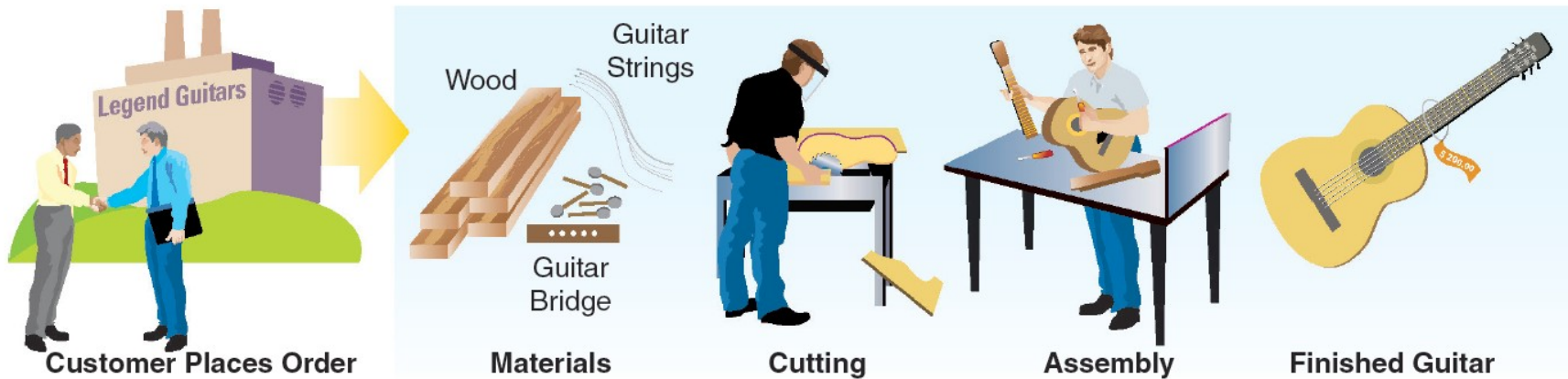
Controlling: a. Monitoring the operating results and comparing the actual results with expected results

Improving: b. Rejects solving problems with temporary solutions that fail to address the root cause of the problem

Manufacturing Operations

- The operations of a business can be classified as service, retail, or manufacturing.
 1. Most of the managerial accounting concepts that apply to manufacturing businesses also apply to service and merchandising businesses.
 - The manufacturing operations for a guitar manufacturer, Legend Guitars, is illustrated on the following slide.

Guitar-Making Operations of Legend Guitars



Direct and Indirect Costs

(slide 1 of 2)

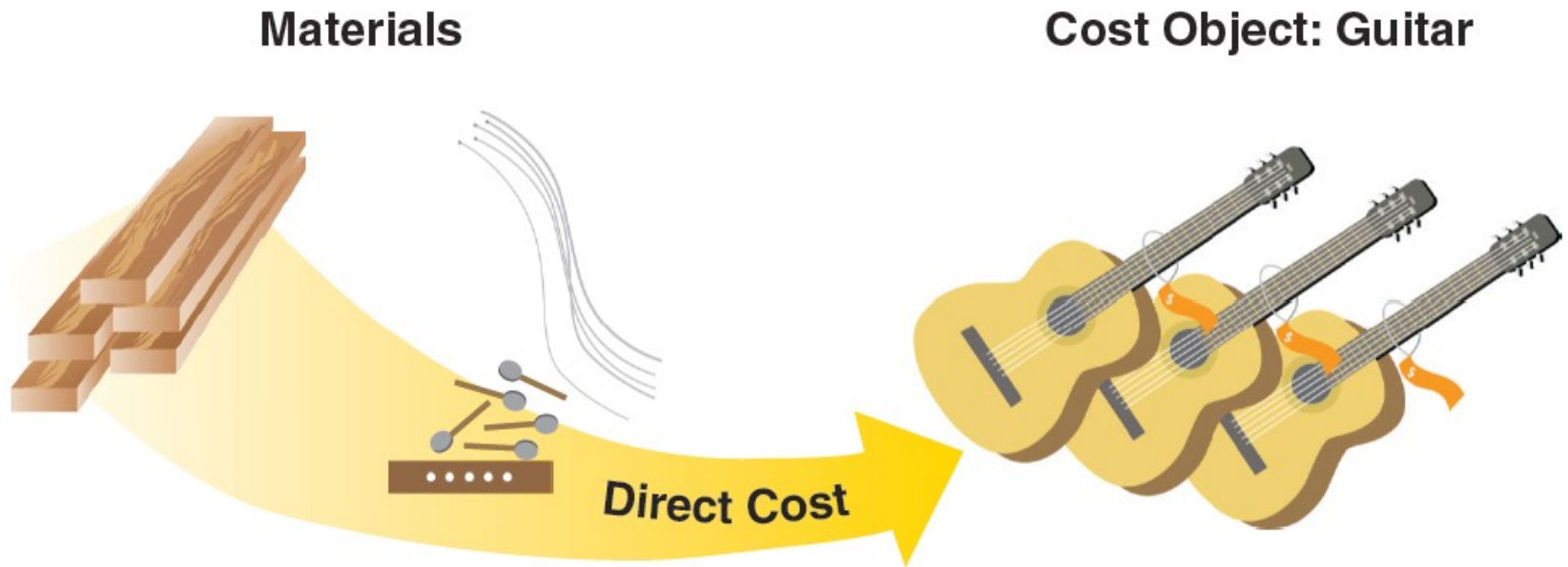
- A **cost** is a sacrifice made to obtain some benefit.
 1. In managerial accounting, costs are often classified according to the decision-making needs of management.
 - For example, costs are often classified by their relationship to a segment of operations, called a **cost object**.
 - A cost object may be a product, a sales territory, a department, or an activity, such as research and development.

Direct and Indirect Costs

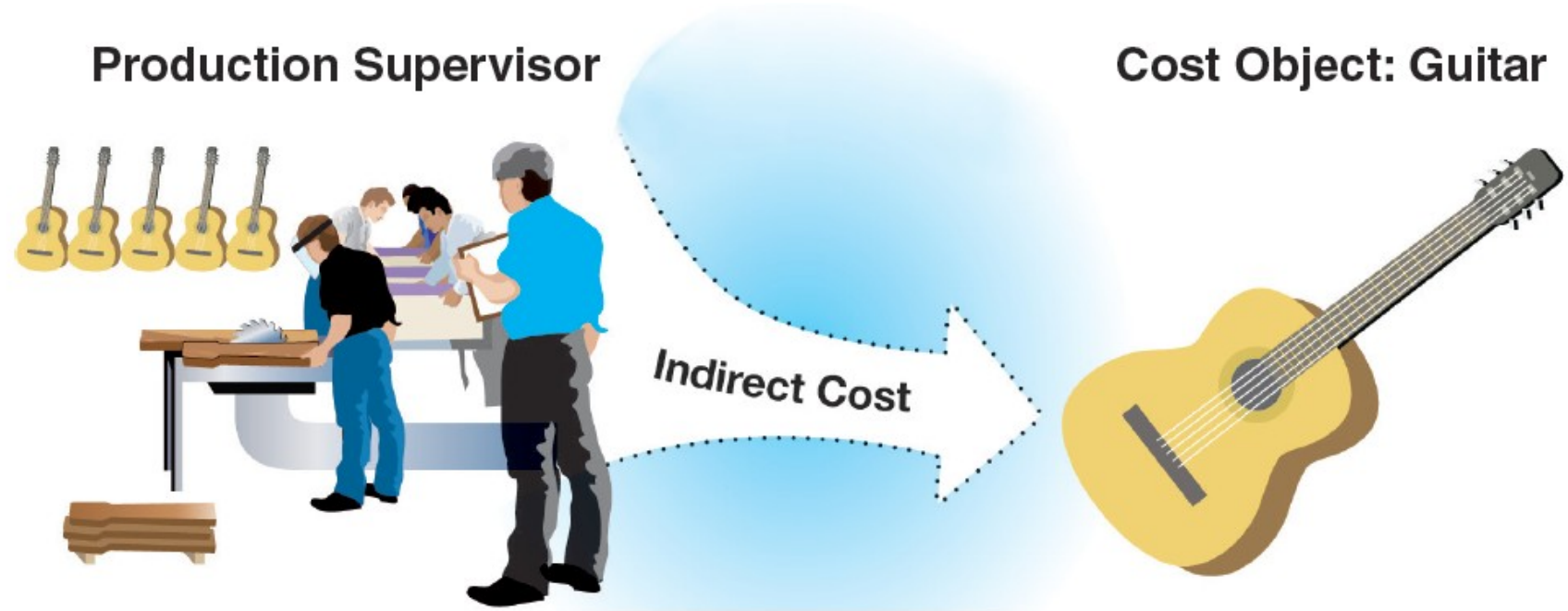
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- Costs identified with cost objects are either direct costs or indirect costs.
 1. **Direct costs** are identified with and can be traced to a cost object.
 - For example, the cost of wood used to make guitars is a direct cost.
 2. **Indirect costs** cannot be identified with or traced to a cost object.
 - For example, the salaries of production supervisors are indirect costs of producing a guitar because their salaries cannot be identified with or traced to any individual guitar.

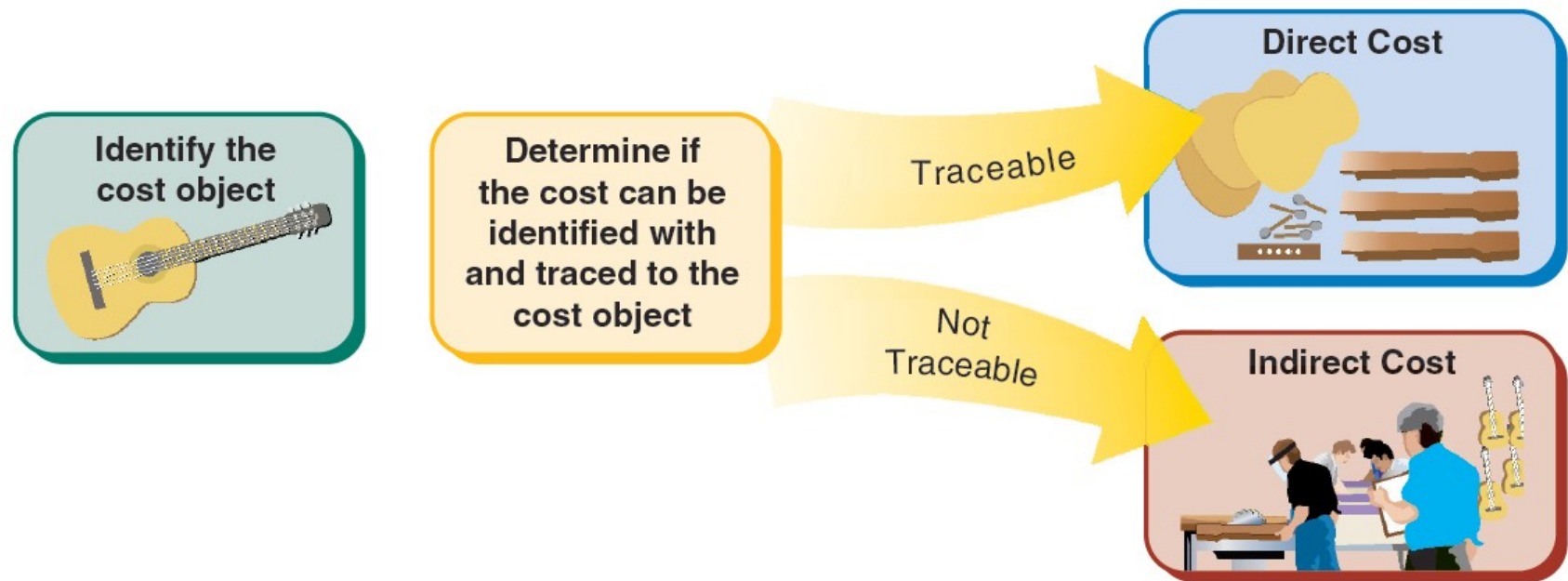
Direct Costs of Legend Guitars



Indirect Costs of Legend Guitars



Classifying Direct and Indirect Costs



Manufacturing Costs

- The cost of a manufactured product includes the cost of materials used in making the product.
- In addition, the cost of a manufactured product includes the cost of converting the materials into a finished product.
- Thus, the cost of a finished product includes:
 1. Direct materials cost
 2. Direct labor cost
 3. Factory overhead cost

Manufacturing Costs of Legend Guitars



Direct Materials



Direct Labor



Factory Overhead

Direct Materials Cost

- Manufactured products begin with raw materials that are converted into finished products.
- To be classified as a **direct materials cost**, the cost must be both of the following:
 1. An integral part of the finished product
 2. A significant portion of the total cost of the product
- Examples of direct materials costs include the following:
 1. The cost of the wood used in producing a guitar
 2. The cost of electronic components for a television
 3. Silicon wafers for microcomputer chips
 4. Tires for an automobile

Direct Labor Cost

- Most manufacturing processes use employees to convert materials into finished products.
- The cost of employee wages that is an integral part of the finished product is classified as **direct labor cost**.
- A direct labor cost must meet both of the following criteria:
 1. An integral part of the finished product
 2. A significant portion of the total cost of the product
- Examples of direct labor costs include the following:
 1. The wages of employees who cut guitars out of raw lumber and assemble them
 2. Mechanics' wages for repairing an automobile
 3. Machine operators' wages for manufacturing tools
 4. Assemblers' wages for assembling a laptop computer

Factory Overhead Cost

(slide 1 of 2)

- Costs other than direct materials cost and direct labor that are incurred in the manufacturing process are combined and classified as **factory overhead cost** (sometimes called **manufacturing overhead** or **factory burden**).
- All factory overhead costs are indirect costs of the product.
- Some factory overhead costs include the following:
 1. Heating and lighting the factory
 2. Repairing and maintaining factory equipment
 3. Property taxes on factory buildings and land
 4. Insurance on factory buildings
 5. Depreciation of factory plant and equipment

Prime Costs and Conversion Costs

(slide 1 of 2)

- Direct materials, direct labor, and factory overhead costs may be grouped together for analysis and reporting.
 1. Two such common groupings are as follows:
 - **Prime costs**, which consist of direct materials and direct labor costs
 - **Conversion costs**, which consist of direct labor and factory overhead costs
 - Conversion costs are the costs of converting the materials into a finished product.
- Direct labor is both a prime cost and a conversion cost.

Prime Costs and Conversion Costs

(slide 2 of 2)

Prime Costs



Direct Materials



Direct Labor

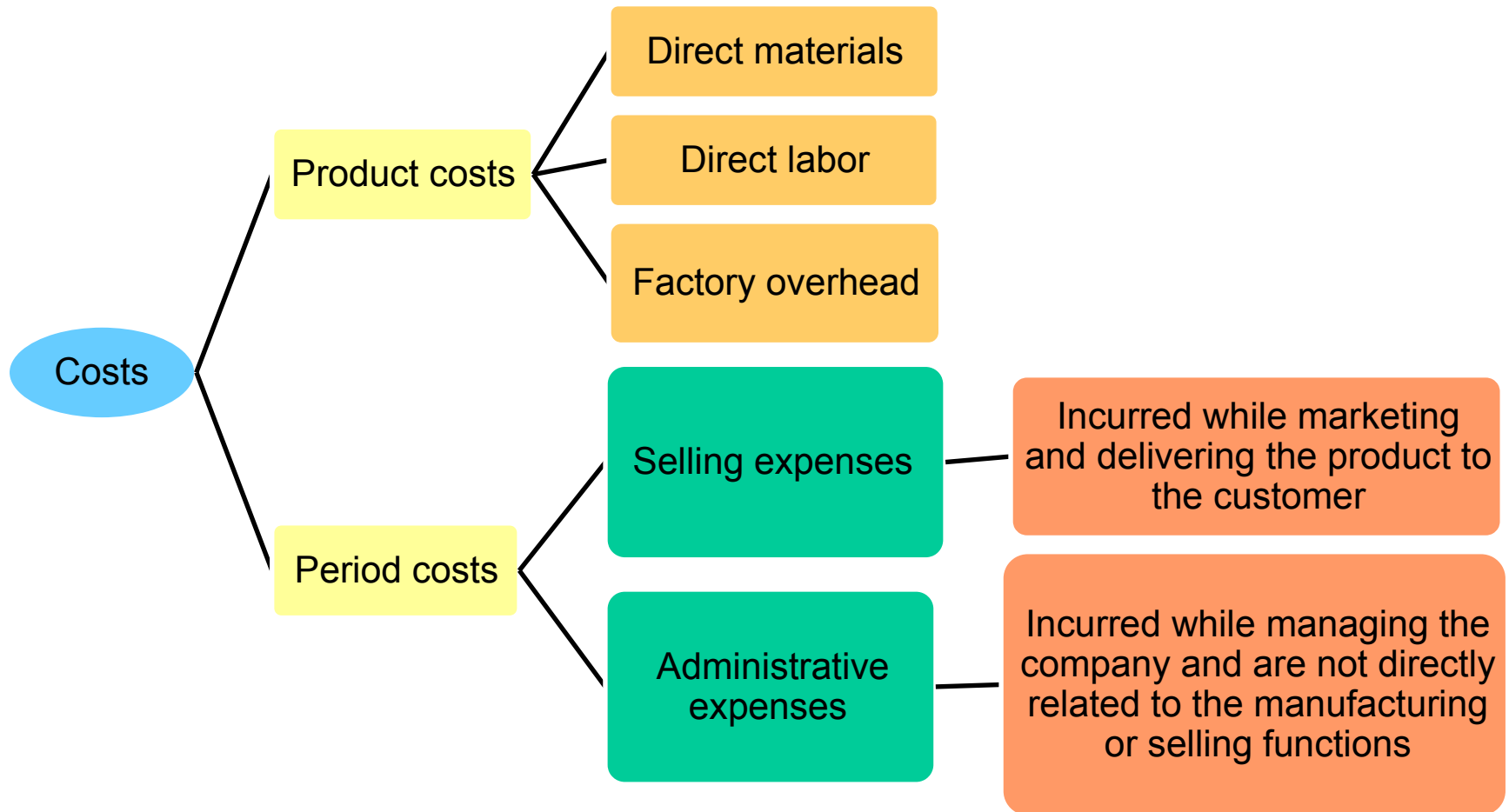


Factory Overhead

Conversion Costs

Product Costs and Period Costs

(slide 1 of 2)



Examples of Product Costs and Period Costs—Legend Guitars

Product (Manufacturing) Costs



Direct Materials Cost

- Wood used in neck and body



Direct Labor Cost

- Wages of saw operator
- Wages of employees who assemble the guitar



Factory Overhead

- Guitar strings
- Wages of janitor
- Power to run the machines
- Depreciation expense—factory building
- Sandpaper and buffing materials
- Oil used to lubricate machines
- Salary of production supervisors

Period (Nonmanufacturing) Costs

Selling Expenses

- Advertising expenses
- Sales salaries expenses
- Commissions expenses

Administrative Expenses

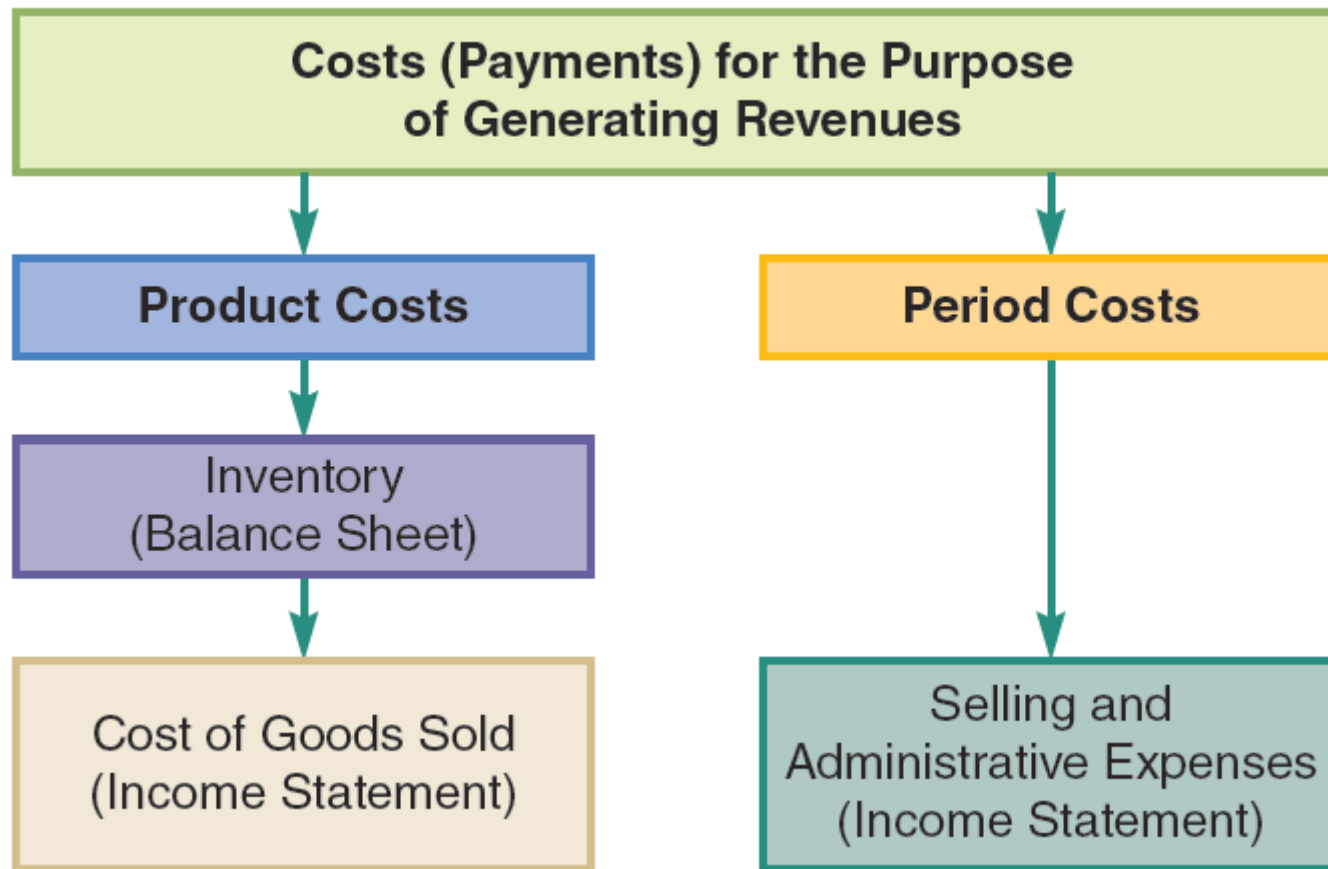
- Office salaries expense
- Office supplies expense
- Depreciation expense—office building and equipment

Product Costs and Period Costs

(slide 2 of 2)

- As product costs are incurred, they are recorded and reported on the balance sheet as inventory. When the inventory is sold, the cost of the manufactured product sold is reported as cost of goods sold on the income statement.
- Period costs are reported as expenses on the income statement in the period in which they are incurred, and, thus, they never appear on the balance sheet.

Product Costs, Period Costs, and the Financial Statements



- A partial list of the costs for MLB Mitt Company, a baseball glove manufacturer, is as follows:
 - a. Ink used to print a player's autograph
 - b. Salesperson's salary and commission
 - c. Padding material
 - d. Coolants for machines that sew the baseball gloves
 - e. Wages of assembly line employees
 - f. Cost of endorsement from a professional baseball player
 - g. Salary of manufacturing plant supervisor
 - h. Leather used to make the gloves
 - i. Office supplies used at company headquarters
 - j. Wages of office administrative staff
- Using the following headings, classify each cost as a product cost or a period cost. In addition, identify product costs as:
 - a. Direct materials, direct labor, or factory overhead, and
 - b. Prime cost, conversion cost, or both.

		Product Cost			Period Cost
Item	Direct Materials	Direct Labor	Factory Overhead	Prime Cost	Conversion Cost

Check Up Corner

Manufacturing Operations Solution

Item	Product Cost					Period Cost
	Direct Materials	Direct Labor	Factory Overhead	Prime Cost	Conversion Cost	
a.			X		X	
b.						X
c.	X			X		
d.			X		X	
e.		X		X	X	
f.						X
g.			X		X	
h.	X			X		
i.						X
j.						X

Financial Statements for a Manufacturing Business

- The statement of stockholders' equity and statement of cash flows for a manufacturing business are similar to those for service and retail businesses.
- However, the balance sheet and income statement for a manufacturing business are more complex.
 1. This is because a manufacturer makes the products that it sells and, thus, must record and report product costs.

Balance Sheet for a Manufacturing Business

- A manufacturing business reports three types of inventory on its balance sheet as follows:
 1. **Materials inventory** (sometimes called raw materials inventory) consists of the costs of the direct and indirect materials that have not yet entered the manufacturing process.
 2. **Work in process inventory** consists of the direct materials, direct labor, and factory overhead costs for products that have entered the manufacturing process, but are not yet completed (in process).
 3. **Finished goods inventory** consists of completed (or finished) products that have not been sold.

Balance Sheet Presentation of Inventory for Manufacturing and Merchandising Companies

MusicLand Stores, Inc. Balance Sheet December 31, 20Y8

Current assets:

Cash.....	\$ 25,000
Accounts receivable (net)	85,000
Inventory	142,000
Supplies	10,000
Total current assets.....	<u>\$262,000</u>

Legend Guitars Balance Sheet December 31, 20Y8

Current assets:

Cash.....	\$ 21,000
Accounts receivable (net)	120,000
Inventory:	
Direct materials	\$35,000
Work in process	24,000
Finished goods	62,500
Total inventory.....	<u>121,500</u>
Supplies.....	2,000
Total current assets.....	<u>\$264,500</u>

Income Statement for a Manufacturing Business

(slide 1 of 7)

- The income statements for retail and manufacturing businesses differ primarily in the reporting of the cost of goods (merchandise) available for sale and sold during the period.

Income Statements for Merchandising and Manufacturing Businesses

Retail Business

Income Statement

Sales		\$ XXX
Beginning inventory	\$ XXX	
Net purchases	<u>XXX</u>	
Inventory available for sale	\$ XXX	
Ending inventory	<u>(XXX)</u>	
Cost of goods sold		<u>(XXX)</u>
Gross profit		<u>\$ XXX</u>

Manufacturing Business

Income Statement

Sales		\$ XXX
Beginning finished goods inventory	\$ XXX	
Cost of goods manufactured	<u>XXX</u>	
Cost of finished goods available for sale	\$ XXX	
Ending finished goods inventory	<u>(XXX)</u>	
Cost of goods sold		<u>(XXX)</u>
Gross profit		<u>\$ XXX</u>

Income Statement for a Manufacturing Business

(slide 2 of 7)

- A retail business determines its cost of good sold by first adding its net purchases for the period to its beginning inventory.
 - This determines inventory available for sale during the period. The ending inventory is then subtracted to determine the **cost of good sold**.
- A manufacturing business makes the products it sells, using direct materials, direct labor, and factory overhead.
 - Manufacturing business must determine its **cost of goods manufactured** during the period.

Income Statement for a Manufacturing Business

(slide 3 of 7)

- The cost of goods manufactured is determined by preparing a **statement of cost of goods manufactured**.
 - This statement summarizes the cost of goods manufactured during the period

Income Statement for a Manufacturing Business (slide 4 of 7)

Beginning work in process inventory		\$XXX
Direct materials:		
Beginning materials inventory	\$XXX	
Purchases	<u>\$XXX</u>	
Cost of materials available for use	\$XXX	
Ending materials inventory	<u>\$XXX</u>	
Cost of direct materials used		\$XXX
Direct labor		\$XXX
Factory overhead		<u>\$XXX</u>
Total manufacturing costs incurred in period		<u>\$XXX</u>
Total manufacturing costs		\$XXX
Ending work in process inventory		<u>\$XXX</u>
Cost of goods manufactured		<u>\$XXX</u>

Income Statement for a Manufacturing Business (slide 5 of 7)

- The following data for Legend Guitars are used:

	Jan. 1, 20Y8	Dec. 31, 20Y8
Inventories:		
Materials	\$65,000	\$35,000
Work in process	\$30,000	\$24,000
Finished goods	\$60,000	\$62,500
Total inventories	\$155,000	\$121,500
Manufacturing costs incurred during 20Y8:		
Materials purchased		\$100,000
Direct labor		\$110,000
Factory overhead:		
Indirect labor	\$24,000	
Depreciation on factory equipment	\$10,000	
Factory supplies and utility costs	\$10,000	
Total factory overhead		\$44,000
Total		\$254,000
Sales		\$366,000
Selling expenses		\$20,000
Administrative expenses		\$15,000

Income Statement for a Manufacturing Business (slide 6 of 7)

- The statement of cost of goods manufactured is prepared using three steps

Determine the cost of materials used



Determine the total manufacturing costs incurred



Determine the cost of goods manufactured

Income Statement for a Manufacturing Business (slide 7 of 7)

- Using the data for Legend Guitars, the cost of materials used, total manufacturing costs, and cost of goods manufactured are computed as follows:

- The cost of materials used in production is determined as follows:

Materials inventory, January 1, 20Y8	\$65,000
Purchases	\$100,000
Cost of materials available for use	\$165,000
Materials inventory, December 31, 20Y8	\$35,000
Cost of direct materials used	\$130,000

- The total manufacturing costs incurred is determined as follows:

Direct materials used in production (step 1)	\$130,000
Direct labor	\$110,000
Factory overhead	\$44,000
Total manufacturing costs incurred in 20Y8	\$284,000

- The

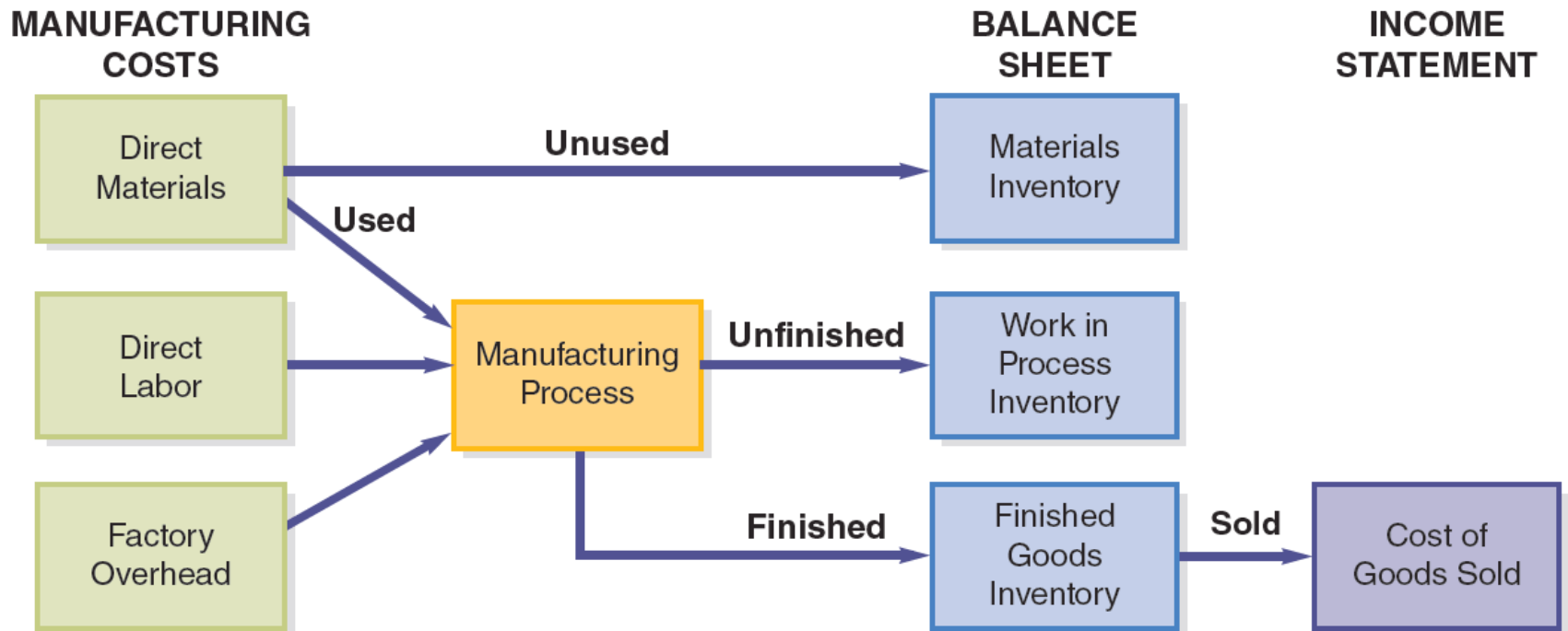
Work in process inventory, January 1, 20Y8	\$30,000
Total manufacturing costs incurred (step 2)	\$284,000
Total manufacturing costs incurred	\$314,000
Work in process inventory, December 31, 20Y8	\$24,000
Cost of goods manufactured in 20Y8	\$290,000

Manufacturing Company—Income Statement with Statement of Cost of Goods Manufactured

Legend Guitars Income Statement For the Year Ended December 31, 20Y8		
Sales		\$ 366,000
Cost of goods sold:		
Finished goods inventory, January 1, 20Y8	\$ 60,000	
Cost of goods manufactured	290,000	
Cost of finished goods available for sale	<u>\$350,000</u>	
Finished goods inventory, December 31, 20Y8	<u>(62,500)</u>	
Cost of goods sold		<u>(287,500)</u>
Gross profit		\$ 78,500
Operating expenses:		
Selling expenses	\$ 20,000	
Administrative expenses	<u>15,000</u>	
Total operating expenses		<u>(35,000)</u>
Net income		<u>\$ 43,500</u>

Legend Guitars Statement of Cost of Goods Manufactured For the Year Ended December 31, 20Y8		
Work in process inventory, January 1, 20Y8		\$ 30,000
Direct materials:		
Materials inventory, January 1, 20Y8	\$ 65,000	
Purchases	<u>100,000</u>	
Cost of materials available for use	<u>\$165,000</u>	
Materials inventory, December 31, 20Y8	<u>(35,000)</u>	
Cost of direct materials used		<u>\$130,000</u>
Direct labor		110,000
Factory overhead:		
Indirect labor	\$ 24,000	
Depreciation on factory equipment	10,000	
Factory supplies and utility costs	<u>10,000</u>	
Total factory overhead		<u>44,000</u>
Total manufacturing costs incurred in 20Y8		<u>284,000</u>
Total manufacturing costs		<u>\$314,000</u>
Work in process inventory, December 31, 20Y8		<u>(24,000)</u>
Cost of goods manufactured		<u>\$290,000</u>

Flow of Manufacturing Costs



- The following information is available for January for MLB Mitt Company, a baseball glove manufacturer:

Cost of direct materials used in production	\$25,000
Direct labor	\$35,000
Factory overhead	\$20,000
Work in process inventory, January 1	\$30,000
Work in process inventory, January 31	\$25,000
Finished goods inventory, January 1	\$15,000
Finished goods inventory, January 31	\$12,000

- For January, determine (a) the cost of goods manufactured and (b) the cost of goods sold.

- The cost of goods manufactured is determined by adding the total manufacturing costs incurred to the beginning work in process inventory.

a.

Work in process inventory, January 1		\$30,000
Cost of direct materials used	\$25,000	
Direct labor	\$35,000	
Factory overhead	<u>\$20,000</u>	
Total manufacturing costs incurred in January		<u>\$80,000</u>
Total manufacturing costs		\$110,000
Work in process inventory, January 31		<u>\$25,000</u>
Cost of goods manufactured		<u>\$85,000</u>

b.

Finished goods inventory, January 1	\$15,000
Cost of goods manufactured	<u>\$85,000</u>
Cost of finished goods available for sale	\$100,000
Finished goods inventory, January 31	<u>\$12,000</u>
Cost of goods sold	<u>\$88,000</u>

The cost of goods manufactured is added to the beginning finished goods inventory to determine the finished goods available for sale.

Managerial Accounting Differences Between Manufacturing and Service Companies

Manufacturing	Services
Users materials, work in process, and finished goods inventory.	Inventory is often limited to supplies.
Uses both product and period costs.	Uses only period costs.
Uses costs of good sold on the income statement.	May use cost of services on the income statement.
Manufacturing requires a physical production site.	Many services require a network that connects service to the customer. Examples include telecommunications, banking, power distribution, distributed entertainment, and transportation.
Manufacturing overhead is an indirect cost in manufacturing products.	Overhead is an indirect cost incurred in serving customers.
Labor is a direct cost to products.	Labor is not a direct cost to products, but may be direct cost to customers. Examples are accountants in accounting firm or doctors in a medical practice.
Materials are a direct cost to products.	Materials are often an indirect cost, but may be significant, such as fuel for transportation or utilities. In other cases, materials are not significant, such as financial, leisure, information, or education services.

Utilization Rates (slides 1 of 3)

- A **utilization rate** measures the use of a fixed asset in serving customers relative to the asset's capacity.
 - A higher utilization rate is considered favorable, while a lower utilization rate is considered unfavorable.
- Different service industries will have different names and computations used for measuring utilization rates.

Utilization Rates (slides 2 of 3)

- In the hotel industry, for example, utilization is measured by the occupancy rate, which is computed as:

$$\text{Occupancy rate} = \frac{\text{Guest nights}}{\text{Available room nights}}$$

- Where,
 - Guest nights = Number of guests × Number of nights per visit (per time period)
 - Available room nights = Number of available rooms × Number of nights per time period
- The number of guests is determined under single room occupancy, so that the number of guests is equal to the number of occupied rooms.

Utilization Rates (slides 3 of 3)

- Assume EasyRest Hotel is a single hotel with 150 rooms. During the month of June, the hotel had 3,600 guests, each staying for a single night. The occupancy rate would be determined as follows:

$$\begin{aligned}\text{Occupancy rate} &= \frac{\text{Guest nights}}{\text{Available room nights}} \\ &= \frac{3,600 \text{ guest nights}}{150 \text{ rooms} \times 30 \text{ days}} = 80\%\end{aligned}$$

- The hotel was occupied to 80% of capacity, which would be considered favorable.