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# Job Costing

## **Session 4**

# Learning Objectives

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- Describe the building block concepts of costing systems
- Distinguish between job costing and process costing
- Outline a seven-step approach to job costing
- Distinguish actual costing from normal costing
- Track the flow of costs in a job-costing system
- Explain undercosting and overcosting of products

# Building Block Concepts of Costing Systems

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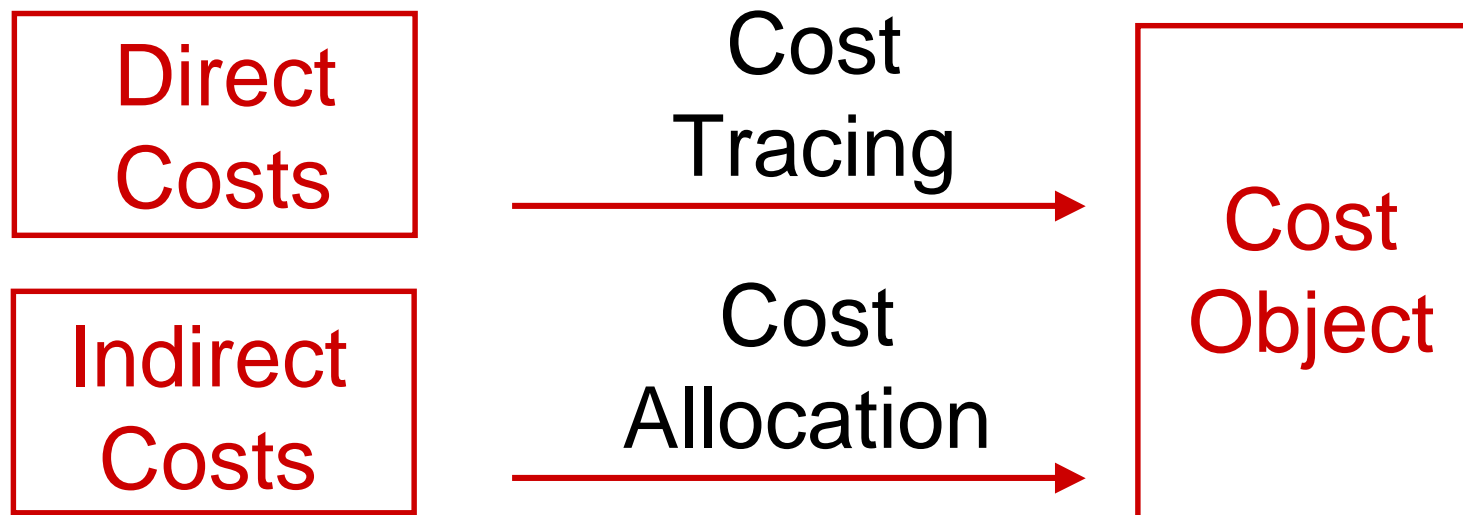
- The following five terms constitute the building blocks that will be used in this chapter:
  - 1 A **cost object** is anything for which a separate measurement of costs is desired.
  - 2 **Direct costs of a cost object** are costs that are related to the particular cost object and can be traced to it in an economically feasible way.
  - 3 **Indirect costs of a cost object** are costs that are related to the particular cost object but cannot be traced to it in an economically feasible way.

# Building Block Concepts of Costing Systems

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- The relationship among these three concepts is as follows:

## Cost Assignment



# Building Block Concepts of Costing Systems

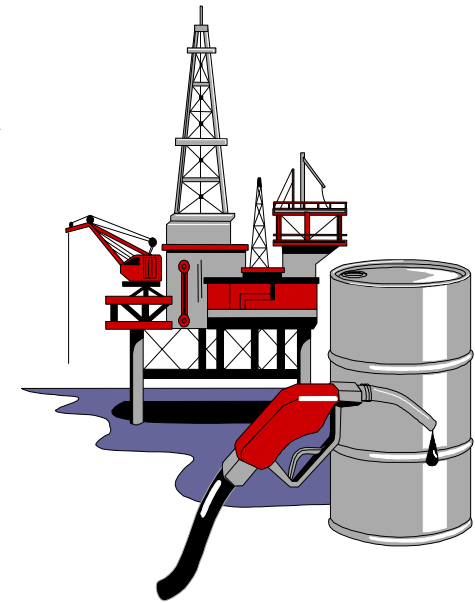
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- 4 **Cost pool** is a grouping of individual cost items.
- 5 **Cost allocation base** is a factor that is the common denominator for systematically linking an indirect cost or group of indirect costs to a cost object.

# Job-Costing and Process-Costing Systems

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- There are two basic systems used to assign costs to products or services:
  - 1 Job costing
  - 2 Process costing
    - In a **job-costing system**, the cost object is an individual unit, batch, or lot of a distinct product or service called a **job**.
    - In **process costing**, the cost object is masses of identical or similar units of a product or service.
    - Process costing allocates costs among all the products manufactured during that period.



# General Approach to Job Costing

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- The following ***seven-steps approach*** is used to assign ***actual costs*** to individual jobs:
  - 1 Identify the chosen cost object(s).
  - 2 Identify the direct costs of the job.
  - 3 Select the cost-allocation base(s).
  - 4 Identify the indirect costs associated with each cost-allocation base
  - 5 Compute the rate per unit of each cost-allocation base used to allocate indirect costs to the job.
  - 6 Compute the indirect costs allocated to the job.
  - 7 Compute the cost of the job by adding all direct and indirect costs assigned to it.

# General Approach to Job Costing

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- D. L. Sports manufactures various sporting goods.
- D. L. is planning to sell a batch of 25 special machines (Job 100) to Healthy Gym for \$104,800.
- A key issue for D. L. Sports in determining this price is the cost of doing the job.



# General Approach to Job Costing

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Step 1: The cost object is Job 100.

Step 2: Identify the direct costs of Job 100.

- Direct material = \$45,000
- Direct manufacturing labor = \$14,000

# General Approach to Job Costing

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Step 1: The cost object is Job 100.

Step 2: Identify the direct costs of Job 100.

Step 3: Select the cost-allocation base.

- D.L. chose machine hours as the only allocation base for linking all indirect manufacturing costs to jobs.
- Job 100 used 500 machine hours.
- 2,480 machine hours were used by all jobs.

# General Approach to Job Costing

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Step 1: The cost object is Job 100.

Step 2: Identify the direct costs of Job 100.

Step 3: Select the cost-allocation base.

Step 4: Identify the indirect costs.

- Actual manufacturing overhead costs were \$65,100.

# General Approach to Job Costing

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Step 1: The cost object is Job 100.

Step 2: Identify the direct costs of Job 100.

Step 3: Select the cost-allocation base.

Step 4: Identify the indirect costs.

Step 5: Compute the rate per unit.

- Actual indirect cost rate is  $\$65,100 \div 2,480 = \$26.25$  per machine hour.

# General Approach to Job Costing

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Step 1: The cost object is Job 100.

Step 2: Identify the direct costs of Job 100.

Step 3: Select the cost-allocation base.

Step 4: Identify the indirect costs.

Step 5: Compute the rate per unit.

Step 6: Compute the indirect costs allocated to the job.

- $\$26.25 \text{ per machine hour} \times 500 \text{ hours} = \$13,125$

# General Approach to Job Costing

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Step 1: The cost object is Job 100.

Step 2: Identify the direct costs of Job 100.

Step 3: Select the cost-allocation base.

Step 4: Identify the indirect costs.

Step 5: Compute the rate per unit.

Step 6: Compute the indirect costs allocated to the job.

**Step 7: Compute the cost of Job No. 100.**

• Direct materials	\$45,000
• Direct labor	14,000
• Factory overhead	<u>13,125</u>
• Total	\$72,125

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# General Approach to Job Costing

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- What is the gross margin of this job?
  - Revenues \$104,800
  - Cost of goods sold 72,125
  - Gross margin \$ 32,675

# Two Major Cost Objects

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- 1 Products
- 2 Responsibility centers





# Actual Costing and Normal Costing

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- **Actual Costing** is a job-costing system that uses actual costs to determine the cost of individual jobs.
  - Actual costing is a method of job costing that traces direct costs to a cost object by the **actual direct-cost rate(s)** times the **actual quantity of the direct cost input(s)**
  - **and allocates indirect costs** using indirect costs to a cost object by using the **actual indirect-cost rate(s)** times the **actual quantity of the cost allocation base**.
- **Normal Costing** is a costing method that allocates indirect costs based on the **budgeted indirect-cost rate(s)** times the **actual quantity of the cost allocation base(s)**.

# Normal Costing

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- Assume that D. L. Sports budgets \$60,000 for total manufacturing overhead costs and 2,400 machine hours.
- What is the budgeted indirect-cost rate?
  - $\$60,000 \div 2,400 = \$25$  per hour
- How much indirect cost was allocated to Job 100?
  - $500 \text{ machine hours} \times \$25 = \$12,500$
- What is the cost of Job 100 under normal costing?
  - |                  |               |
|------------------|---------------|
| Direct materials | 45,000        |
| Direct labor     | 14,000        |
| Factory overhead | <u>12,500</u> |
| Total            | \$71,500      |

# Transactions

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Purchase of materials and other manufacturing inputs

Conversion into work in process inventory

Conversion into finished goods inventory

Sale of finished goods

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# Transactions

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\$80,000 worth of materials (direct and indirect) were purchased on credit.

Materials	
Control	
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80,000	

Accounts Payable	
Control	
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	80,000

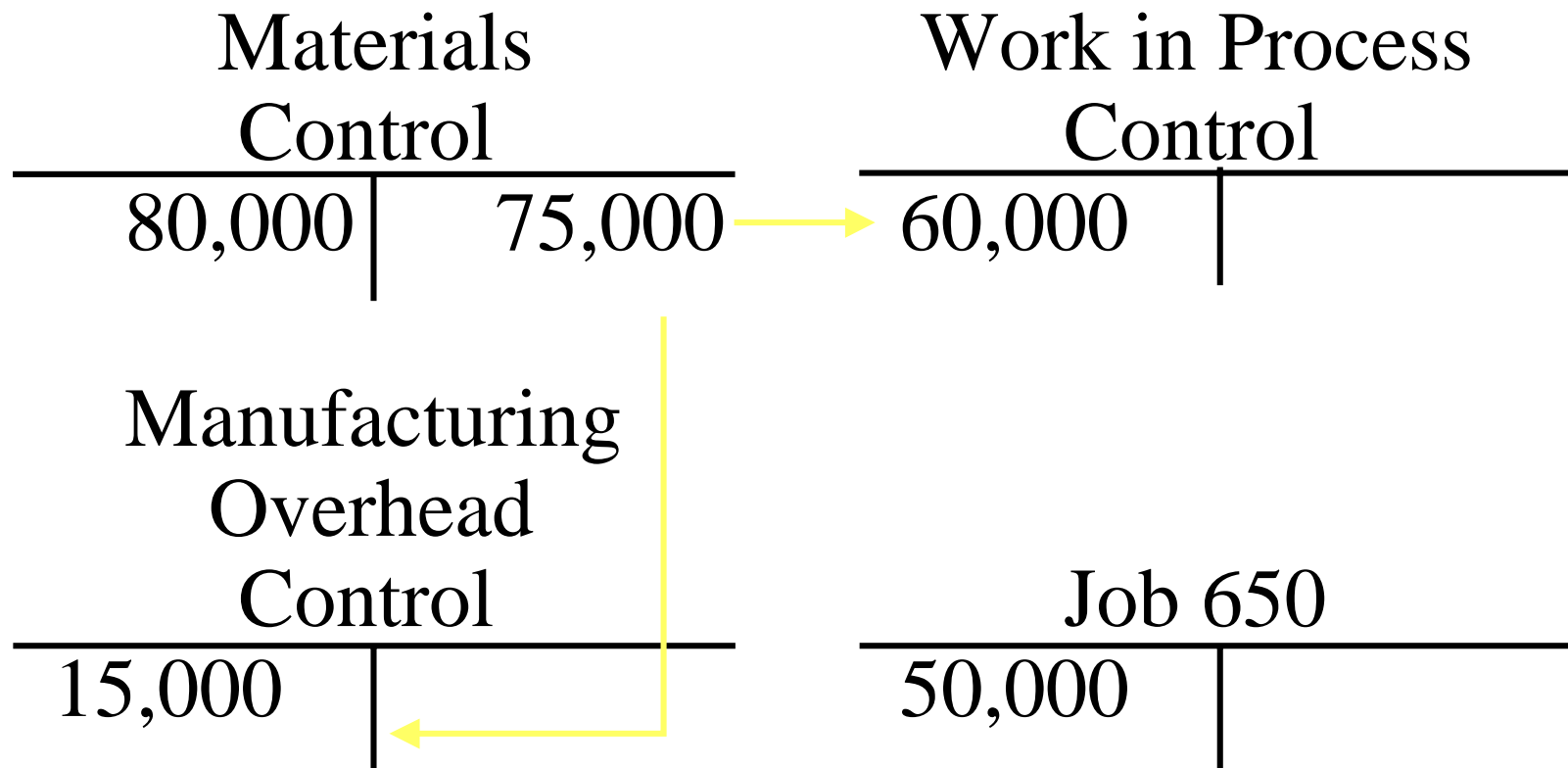
# Transactions

- Materials costing \$75,000 were sent to the manufacturing plant floor.
  - \$50,000 were issued to Job No. 650 and
  - \$10,000 to Job 651.
  - \$15,000 of indirect materials were issued.
- What is the journal entry?

Work in Process Control:		
Job No. 650	50,000	
Job No. 651	10,000	
Factory Overhead Control	15,000	
Materials Control		75,000

# Transactions

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# Transactions

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- Total manufacturing payroll for the period was \$27,000.
- Job No. 650 incurred direct labor costs of \$19,000 and
- Job No. 651 incurred direct labor costs of \$3,000.
- \$5,000 of indirect labor was also incurred.
- What is the journal entry?

## Work in Process Control:

Job No. 650	19,000	
Job No. 651	3,000	
Manufacturing Overhead Control	5,000	
Wages Payable		27,000

# Transactions

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Wages Payable  
Control

	27,000
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Work in Process  
Control

60,000	
22,000	

Manufacturing  
Overhead  
Control

15,000	
5,000	

Job 650

50,000	
19,000	

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# Transactions

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- Wages payable were paid.

Wages Payable Control	27,000	
Cash Control		27,000

Wages Payable Control	
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27,000	27,000

Cash Control	
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	27,000

# Transactions

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- Assume that depreciation for the period is \$26,000.
- Other manufacturing overhead incurred amounted to \$19,100.
- What is the journal entry?

Manufacturing Overhead Control	45,100	
Accumulated Depreciation		
Control		26,000
Various Accounts		19,100

- What is the balance of the Manufacturing Overhead Control account?
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# Transactions

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## Manufacturing Overhead Control

	15,000	62,000
	5,000	
	45,100	
Bal.	3,100	

## Work in Process Control

	60,000	
	22,000	
	62,000	
Bal.	144,000	

# Transactions

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The cost of Job 650 is:


Job 650	
50,000	
19,000	
<u>12,500</u>	
Bal. 81,500	

# Transactions

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- Jobs costing \$104,000 were completed and transferred to finished goods, including Job 650.
- What effect does this have on the control accounts?

Work in Process Control		Finished Goods Control	
60,000	104,000	104,000	
22,000			
62,000			
Bal. 40,000			



# Transactions

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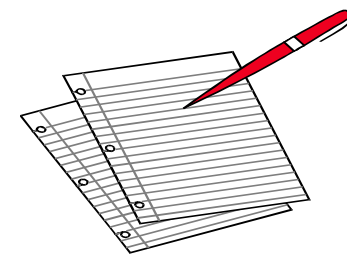
- Job 650 was sold for \$114,800.
- What is the journal entry?

Accounts Receivable Control	114,800	
Revenues		114,800
Cost of Goods Sold	81,500	
Finished Goods Control		81,500

# Transactions

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- What is the balance in the Finished Goods Control account?
- $\$104,000 - \$81,500 = \$22,500$
- Assume that marketing and administrative salaries were \$9,000 and \$10,000.
- What is the journal entry?



Marketing and Administrative Costs	19,000	
Salaries Payable Control		19,000



# Transactions

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	Direct Materials Used	\$60,000
+	Direct Labor and Overhead	\$84,000
—	Cost of Goods Manufactured	\$104,000
=	Ending WIP Inventory	\$40,000
	Cost of Goods Manufactured	\$104,000
—	Ending Finished Goods Inventory	\$22,500
=	Cost of Goods Sold	\$81,500

# Undercosting and Overcosting

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## ***Product undercosting:***

A product consumes a relatively high level of resources but is reported to have a relatively low total cost.

## ***Product overcosting:***

A product consumes a relatively low level of resources but is reported to have a relatively high total cost.

# Undercosting and Overcosting

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- Irene, Roberta, and Nancy meet occasionally for lunch.
  - Each one orders separate items.
  - Irene's order amounts to                   \$14  
Roberta consumed                            30  
Nancy's order is                               16  
Total                                               \$60
  - Assuming they divide the bill equally, what is the average cost per lunch?
  - $\$60 \div 3 = \$20$
  - Irene and Nancy are overcosted.
  - Roberta is undercosted.
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# True or False ???

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- Operations should be tailored to fit the costing system.
- Costing systems are the only source of information for managers.
- A firm may use either job costing or process costing, but cannot use both.
- There is only one correct cost-allocation base for indirect costs for each firm.
- A firm will never use budgeted rates for direct costs.

# Pick your Choice I:

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- When using normal costing, the indirect costs are allocated to the job by which of the following
    - actual cost x actual input quantity
    - actual cost x budgeted input quantity
    - budgeted cost x actual input quantity
    - budgeted cost x budgeted input quantity
  
  - ABC has the following information for the current year. Budgeted indirect costs are \$4,000, the budgeted allocation base is 2,000 hours. Actual indirect costs incurred were \$4,200 and the actual allocation base used was 2,050. What is the budgeted indirect-cost rate?
    - \$0.50 per hour
    - \$1.05 per hour
    - \$2.00 per hour
    - \$2.10 per hour
-

## Pick your Choice II:

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- ABC has the following information for the current year. Budgeted indirect costs are \$6,000, the budgeted allocation base is 3,000 hours. Actual indirect costs incurred were \$6,304 and the actual allocation base used was 3,075. If ABC is using the actual costing system, how much indirect cost will be allocated to a job that used 40 hours?
  - \$78
  - \$80
  - \$82
  - \$84

## Exercise:

### What is the total cost of the stay of patient Fred Adams?

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- Cowley County Hospital uses a job-costing system for all patients who have surgery. In March, the pre-operating room (PRE-OP) and operating room (OR) had budgeted allocation bases of 4,000 nursing hours and 2,000 nursing hours, respectively. The budgeted nursing overhead charges for each department for the month were \$168,000 and \$132,000, respectively. The hospital floor for surgery patients had budgeted overhead costs of \$1,200,000 and 15,000 nursing hours for the month. For patient Fred Adams, actual hours incurred were eight and four hours, respectively, in the PRE-OP and OR rooms. He was in the hospital for 4 days (96 hours). Other costs related to Adams were:

	Pre-OP-costs	OR-costs	In-room-costs
Patient medicine	\$ 200	\$500	\$2,400
Dir. nursing time	\$1,000	\$ 2,000	\$ 3,000

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