Job Costing
Building Block Concepts of Costing Systems

- 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

- The relationship among these three concepts is as follows:

**Cost Assignment**

- Direct Costs
- Indirect Costs
- Cost Tracing
- Cost Allocation
- Cost Object
Building Block Concepts of Costing Systems

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.
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 a period.
General Approach to Job Costing

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

- 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

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

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 machines 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

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

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 ÷ 2,480 = $26.25 per machine hour.
General Approach to Job Costing

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 per machine hour \times 500 \text{ hours} = $13,125
General Approach to Job Costing

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 13,125
- Total $72,125
General Approach to Job Costing

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

1. Products
2. Responsibility centers
Actual Costing and Normal Costing

- **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 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

- 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 ÷ 2,400 = $25 per hour
- How much indirect cost was allocated to Job 100?
  - 500 machine hours × $25 = $12,500
- What is the cost of Job 100 under normal costing?
  - Direct materials 45,000
  - Direct labor 14,000
  - Factory overhead 12,500
  - Total $71,500
Cost Accounting

Transaction Flow:

1. **Purchase of materials and other manufacturing inputs**
2. **Conversion into work in process inventory**
3. **Conversion into finished goods inventory**
4. **Sale of finished goods**
$80,000 worth of materials (direct and indirect) were purchased on credit.

<table>
<thead>
<tr>
<th>Materials Control</th>
<th>Accounts Payable Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>80,000</td>
<td>80,000</td>
</tr>
</tbody>
</table>
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?

<table>
<thead>
<tr>
<th>Work in Process Control:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job No. 650</td>
</tr>
<tr>
<td>Job No. 651</td>
</tr>
<tr>
<td>Manufacturing Overhead Control</td>
</tr>
<tr>
<td>Materials Control</td>
</tr>
</tbody>
</table>
Transactions

<table>
<thead>
<tr>
<th>Materials Control</th>
<th>Work in Process Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>80,000</td>
<td>60,000</td>
</tr>
<tr>
<td>75,000</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Manufacturing Overhead Control</th>
<th>Job 650</th>
</tr>
</thead>
<tbody>
<tr>
<td>15,000</td>
<td>50,000</td>
</tr>
</tbody>
</table>

Cost Accounting

Horngreen, Datar, Foster
Transactions

- 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?

<table>
<thead>
<tr>
<th>Work in Process Control:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Job No. 650</td>
<td>19,000</td>
</tr>
<tr>
<td>Job No. 651</td>
<td>3,000</td>
</tr>
<tr>
<td>Manufacturing Overhead Control</td>
<td>5,000</td>
</tr>
<tr>
<td>Wages Payable</td>
<td>27,000</td>
</tr>
</tbody>
</table>
# Transactions

<table>
<thead>
<tr>
<th>Wages Payable</th>
<th>Work in Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>Control</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>27,000</td>
<td>60,000</td>
</tr>
<tr>
<td></td>
<td>22,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Manufacturing Overhead</th>
<th>Job 650</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td></td>
</tr>
<tr>
<td>15,000</td>
<td>50,000</td>
</tr>
<tr>
<td>5,000</td>
<td>19,000</td>
</tr>
</tbody>
</table>
Wages payable were paid.

<table>
<thead>
<tr>
<th>Wages Payable Control</th>
<th>27,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash Control</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Wages Payable Control</th>
<th>27,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash Control</td>
<td>27,000</td>
</tr>
</tbody>
</table>

Cost Accounting  Horngreen, Datar, Foster  24
Transactions

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

<table>
<thead>
<tr>
<th>Account</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing Overhead Control</td>
<td>45,100</td>
</tr>
<tr>
<td>Accumulated Depreciation Control</td>
<td>26,000</td>
</tr>
<tr>
<td>Various Accounts</td>
<td>19,100</td>
</tr>
</tbody>
</table>

- What is the balance of the Manufacturing Overhead Control account?
$62,000 of overhead was allocated to the various jobs of which $12,500 went to Job 650.

- Work in Process Control 62,000
- Manufacturing Overhead Control 62,000

What are the balances of the control accounts?
## Transactions

<table>
<thead>
<tr>
<th></th>
<th>Manufacturing Overhead Control</th>
<th>Work in Process Control</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>15,000</td>
<td>60,000</td>
</tr>
<tr>
<td></td>
<td>5,000</td>
<td>22,000</td>
</tr>
<tr>
<td></td>
<td>45,100</td>
<td>62,000</td>
</tr>
<tr>
<td>Bal.</td>
<td>3,100</td>
<td>Bal. 144,000</td>
</tr>
</tbody>
</table>
The cost of Job 650 is:

<table>
<thead>
<tr>
<th>Job 650</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>50,000</td>
<td></td>
</tr>
<tr>
<td>19,000</td>
<td></td>
</tr>
<tr>
<td>12,500</td>
<td></td>
</tr>
<tr>
<td>Bal.</td>
<td>81,500</td>
</tr>
</tbody>
</table>
Transactions

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

<table>
<thead>
<tr>
<th>Work in Process</th>
<th>Finished Goods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>Control</td>
</tr>
<tr>
<td>60,000</td>
<td>104,000</td>
</tr>
<tr>
<td>22,000</td>
<td></td>
</tr>
<tr>
<td>62,000</td>
<td>104,000</td>
</tr>
<tr>
<td>Bal. 40,000</td>
<td></td>
</tr>
</tbody>
</table>
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

- 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

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
Underallocated and Overallocated Costs

**Underallocated indirect costs:**
The allocated amount of indirect costs is lower than the actually incurred amount

**Overallocated indirect costs:**
The allocated amount of indirect costs is higher than the actually incurred amount

One possibility to balance the accounts: Write-Off to Cost of Goods-Sold:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of Goods Sold</td>
<td>3,100</td>
</tr>
<tr>
<td>Manufacturing Overhead Control</td>
<td>3,100</td>
</tr>
</tbody>
</table>
True of False ???

- 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:

- 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:

- 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?

- 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:

<table>
<thead>
<tr>
<th>Pre-OP-costs</th>
<th>OR-costs</th>
<th>In-room-costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient medicine</td>
<td>$200</td>
<td>$500</td>
</tr>
<tr>
<td>Dir. nursing time</td>
<td>$1,000</td>
<td>$2,000</td>
</tr>
</tbody>
</table>