## Topic 3: Job Order Costing

### LEARNING OUTCOMES

By the end of this topic, you should be able to:

1. Explain the terms used in the job order costing process;
2. Discuss the basic characteristics of job order costing;
3. Analyse the steps to conduct job order costing;
4. Review the source documents in job order costing; and
5. Apply the procedures in the recording of materials, labour and manufacturing overheads in job order costing.

### INTRODUCTION

How much cost is incurred in producing a product? How much cost did Proton incur to produce its new car model? What was the cost incurred by Price Waterhouse Coopers to provide audit services to its different clients? Cost information is needed by management for planning purposes that are related to pricing, development of new products, external reporting requirements and other production activities. In order to assist management in making these decisions, we must understand the related costing methods.

In this topic, we will be introduced to the job order costing system, its basic characteristics and the documents involved. The accounting for materials, labour and manufacturing overheads for the purpose of this costing system will also be explained.
3.1 TYPES OF COST

Before we explore further on the costing method, try to remember the types of cost involved in producing a product. What are the costs and its examples?

In costing, there are several terms that you must know. Among these are:

(a) **Cost Object**
Cost object is something that requires a separate cost measurement. For example, a product (example, computer and car) or a service (example, cost to repair the air-conditioner and medical cost).

(b) **Direct Cost for the Cost Object**
Direct cost for the cost object is the cost related to the cost object and can be traced directly with the cost object economically. For example, if the cost object is a wooden table, the cost of wood is the direct cost to the cost object.

(c) **Indirect Cost for the Cost Object**
Indirect cost for the cost object is the cost that is related to the cost object but cannot be directly traced to the cost object economically. The depreciation of a car factory used in the manufacturing of various car models is an example of an indirect cost. The factory’s depreciation cannot be traced directly to the individual cost objects, which are the various car models.

(d) **Cost Pool**
Cost pool is the cost of individual items that are pooled together.

(e) **Basis for Cost Allocation**
The basis for cost allocation is related to how the cost is allocated to the product. It has a systematic relationship with the indirect costs and the cost object. Among the basis that can be used for the purpose of cost allocation is the allocation according to machine hours and direct labour cost. As an example, the factory’s rental is allocated according to the area that is used for the production of each product.

Figure 3.1 shows a relationship between the types of cost and cost object.
Figure 3.1: Relationship between the types of cost and cost object

3.2 JOB ORDER COSTING AND PROCESS COSTING

There are two costing systems that can be used to charge costs to the product or service (refer to Figure 3.2).

Figure 3.2: Costing system

3.2.1 Basic Characteristics of Job Order Costing

Job order costing system is used when services or products produced at the same time are distinct from each other. For example, a job order costing is used when a big construction company builds different buildings with different specifications according to the needs of each individual customer. Job order costing system is
not only used in the manufacturing industry, but also in the service industry, for example:

- A boutique that accepts orders to make clothes for its customers will produce clothes of different sizes and designs according to customers’ orders.
- A law firm that has several cases where each case is unique and different.
- A doctor who treats the patients at the clinic for different illnesses.

As the products or services produced or provided are different, the cost of each one is also different. Therefore, the recording of cost for each of the jobs must be kept separately.

In summary, the basic characteristics of job order costing are:

(a) Comprises of products or services that are different from each other.
(b) Costs are pooled according to the job.
(c) Unit cost is calculated by dividing the total job cost with the unit produced for that particular job.

Steps to implement the job order costing are as shown in Figure 3.3.

Figure 3.3: Steps in job order costing
3.3 SOURCE DOCUMENTS FOR JOB ORDER COSTING

Information to be used for the purposes of costing must be obtained from related source documents. The source documents are the original records that support the journal entries in the accounting system. The three important source documents for a job order costing process are:

(a) **Job Cost Record**
A job cost record records all the chargeable costs to a particular job.

The following is a sample of a job cost record:

<table>
<thead>
<tr>
<th>Item description : DS14</th>
<th>Job Order No : 16A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completed quantity : 100</td>
<td>Start date : 21/01/2009</td>
</tr>
<tr>
<td></td>
<td>Completion date : 31/01/2009</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Direct Raw Materials</th>
<th>Direct Labour</th>
<th>Overheads</th>
</tr>
</thead>
<tbody>
<tr>
<td>Request No.</td>
<td>Total (RM)</td>
<td>Ticket No.</td>
</tr>
<tr>
<td>23A-1</td>
<td>900</td>
<td>52</td>
</tr>
<tr>
<td>35A-5</td>
<td>600</td>
<td>75</td>
</tr>
</tbody>
</table>

**Cost Summary**
- Direct Raw Materials : RM1,500
- Total Cost : RM2,245
- Direct Labour : RM650
- Unit cost : RM22.45
- Overheads : RM95

(b) **Material Requisition Record**
Material requisition record contains information about the direct raw material costs used in a job.

The following is a sample of a material requisition record:

Item description : DS14
Completed quantity : 100
Request No. | Total (RM) | Ticket No. | No. of Hours | Rate (RM) | Total (RM) | No. of Hours | Rate (RM) | Total (RM) |
23A-1        | 900          | 52         | 50           | 10        | 500        | 50           | 1.50       | 75         |
35A-5        | 600          | 75         | 10           | 15        | 150        | 10           | 2.00       | 20         |

Cost Summary
- Direct Raw Materials : RM1,500
- Total Cost : RM2,245
- Direct Labour : RM650
- Unit cost : RM22.45
- Overheads : RM95
Labour Time Record
Labour time record contains information on the labour time used in a job.

The following is a sample of the labour time record:

<table>
<thead>
<tr>
<th>Ticket No.</th>
<th>007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worker No.</td>
<td>316</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time started work</th>
<th>Time ended</th>
<th>Total Time</th>
<th>Rate Per Hour</th>
<th>Total (RM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.00am</td>
<td>6.00pm</td>
<td>8</td>
<td>10</td>
<td>80</td>
</tr>
</tbody>
</table>

Approved by: Aiman Nordin

Before we proceed further with this discussion, test your understanding via the following exercise.

SELF-CHECK 3.1

What is the reference or source that supports the recording of business transactions in the accounting system?
Nikol Sdn Bhd processes and produces various sports equipment according to customers’ orders. The company intends to sell 25 units of health bicycles Model XY (Job 250) to Ulu Semperit District Sports Corporation at a total price of RM104,800.

Nikol must first determine the cost of doing the job before it can estimate the profit.

**Step 1:** Cost object is **Job 250**

**Step 2:** Identify the direct cost that is related to **Job 250**.

The direct costs that are related to **Job 250** are:
- Direct raw materials : RM45,000
- Direct labour : RM14,000

**Step 3:** Select the method to allocate the indirect cost to the job.
- Nikol selected machine hours as the basis to allocate its indirect cost to **Job 250**.
- **Job 250** used 500 machine hours.
- 2,480 machine hours were used for all jobs, including **Job 250**.

**Step 4:** Identify all the related indirect costs.
- Actual total manufacturing overhead cost is RM65,100.

**Step 5:** Calculate the unit cost rate using the method in Step 3 above (machine hours) to allocate the indirect costs to the job.

\[
\text{Unit Cost Rate} = \frac{\text{Actual Manufacturing Overhead Cost}}{\text{Actual Normal Hours}}
\]

\[
= \frac{\text{RM65,100}}{2,480}
\]

\[
= \text{RM26.25 per machine hour}
\]

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**EXERCISE 3.1**

1. What are the basic characteristics of job order costing?
2. What are the source documents involved in job order costing? Explain the use of these documents.

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**3.4 ILLUSTRATION OF JOB ORDER COSTING**
**Step 6:** Calculate the indirect costs that is allocated to Job 250.
Indirect cost = RM26.25 for each machine hour x 500 hours
= RM13,125

**Step 7:** Add the total direct costs and indirect costs that are involved for the job to obtain the cost for Job 250.

Cost for Job 250 = Direct costs + Indirect costs
= Direct raw materials + Direct labour + Factory Overheads
= RM45,000 + RM14,000 + RM13,125
= RM72,125

Based on the information obtained, how much is the gross profit from Job 250 if the bicycles are sold at a price of RM104,800?

<table>
<thead>
<tr>
<th>Sales</th>
<th>RM104,800</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of goods sold</td>
<td>RM 72,125</td>
</tr>
<tr>
<td>Gross profit</td>
<td>RM 32,675</td>
</tr>
</tbody>
</table>

What is the gross profit margin?

\[
\text{Gross profit margin} = \frac{\text{RM 32,675}}{\text{RM104,800}} = 31.2\%
\]
Try the following exercise to test your understanding on the calculation of costs in job order costing.

**EXERCISE 3.2**

Kinrana Sdn Bhd has two departments, which are the Assembly and Packaging Departments. The company uses the job order costing system to calculate the overhead allocation rate for both the departments. The Assembly Department uses the machine hour rate and the Packaging Department uses the direct labour rate. In the beginning of the year, the company estimates the following:

<table>
<thead>
<tr>
<th>Department</th>
<th>Assembly</th>
<th>Packaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct labour hours (hours)</td>
<td>6,000</td>
<td>30,000</td>
</tr>
<tr>
<td>Machine hours (hours)</td>
<td>48,000</td>
<td>5,000</td>
</tr>
<tr>
<td>Manufacturing overhead costs (RM)</td>
<td>360,000</td>
<td>486,000</td>
</tr>
<tr>
<td>Direct labour costs (RM)</td>
<td>50,000</td>
<td>270,000</td>
</tr>
</tbody>
</table>

1. Calculate the overhead allocation rate for each department.
2. Assume that the rate you calculated in (1) has been accepted. Job 590 was started and completed in that year with the following data:

<table>
<thead>
<tr>
<th>Department</th>
<th>Assembly</th>
<th>Packaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct labour hours (hours)</td>
<td>60</td>
<td>200</td>
</tr>
<tr>
<td>Machine hours (hours)</td>
<td>800</td>
<td>40</td>
</tr>
<tr>
<td>Direct materials (RM)</td>
<td>5,000</td>
<td>3,100</td>
</tr>
<tr>
<td>Direct labour (RM)</td>
<td>700</td>
<td>1,500</td>
</tr>
</tbody>
</table>

Based on the information given in (2), calculate:
(a) Total overhead cost charged to Job 590.
(b) Total cost charged to Job 590.
3.5 ACCOUNTING FOR MATERIALS

Knowledge on recording procedures for raw materials and documents involved can increase the understanding on the journal entry and basic information included in the selected costing method.

The raw material recording procedures are as follows:

(a) **Receipt of Raw Materials**
When raw material is received, it must be checked to ensure the quantity and quality is correct as ordered. This receipt detail will be recorded in the goods received note. This goods received note will become the source document to update stock account.

(b) **Issue of Raw Materials**
Thereafter, the stock will be taken out from the store if there is request for the stock. Requisitions can be made using the store requisition form. This form will list the types of goods/stocks requested together with the quantities. Besides that, it also includes information on the job number, product code and overhead account involved. This document will then be used as the basis for stock account recording. At the end of the period, the balance of each raw material will be calculated.

(c) **Charge of Raw Materials Cost to the Job/Process**
Thereafter, the raw material cost will be charged to the job or process as shown in the store requisition form.

See the following example to help your understanding.

**Example 3.1**

**Transaction 1:** Receipt and purchase of raw materials (direct and indirect) on credit amounted to RM79,000 in January 2009.

The raw materials control account will increase (debited) by RM79,000 and accounts payable control account will also increase (credited) by RM79,000. Both of these accounts are control accounts as the detailed records for each transaction are found in the smaller ledger/subsidiary.

The raw materials control account includes all the purchased raw materials whether direct or indirect.
Journal entry:

Raw Materials (Control) 79,000
Accounts Payable (Control) 79,000

Posting to the general ledger:

Raw Materials (Control) | Accounts Payable (Control)
---|---
1 79,000 | 1 79,000

**Transaction 2:** The issue of raw materials from the store to the production line. The direct raw materials taken are RM71,000 and indirect raw materials are RM3,000.

This transaction will cause the work in process control account to increase (debited) by RM71,000 and manufacturing overhead control account to increase (debited) by RM3,000. Meanwhile, the raw materials control account will reduce (credited) by RM74,000.

Journal entry:

Work in Process (Control) 71,000
Manufacturing Overhead 3,000
Raw Materials (Control) 74,000

Posting to general ledger:

Raw Materials (Control) | Work in Process (Control) | Manufacturing Overhead
---|---|---
1 79,000 | 2 74,000 | 2 3,000

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### 3.6 Accounting for Labour

It is important to record the labour working hours to calculate the wages and salary for the purpose of costing as well as planning and controlling.

The gross salaries can be calculated based on the information from the employees’ personnel records, for example, the attendance records and production records. Each employee’s record is kept separately, and shows their salary history, current pay rate and deductions allowable (for example, deductions for Inland Revenue Board, tithe, loans, Employees Provident Fund).
The **time card** (also known as **punch card**) will provide information on the working hours, time in and out and overtime work done by an employee. If payment is made based on the number of products produced, then the **product ticket** will be analysed to determine the employees’ wages. The gross salary will then be deducted with the deductions allowable to obtain net salary.

Thereafter, this labour cost must be charged to the related product.

**Transaction 3:** The total direct labour cost and indirect labour cost for January are RM30,000 and RM15,000.

This transaction will cause the work in process control account to increase (debited) by RM30,000 and the manufacturing overhead control account to increase (debited) by RM15,000. Meanwhile, the liability account, which is the salaries payable account will increase (credited) by RM45,000.

Journal entry:

<table>
<thead>
<tr>
<th>Account</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work in Process (Control)</td>
<td>30,000</td>
</tr>
<tr>
<td>Manufacturing Overhead</td>
<td>15,000</td>
</tr>
<tr>
<td>Salaries Payable</td>
<td>45,000</td>
</tr>
</tbody>
</table>

Posting to general journal:

<table>
<thead>
<tr>
<th>Salaries Payable</th>
<th>Work in Process (Control)</th>
</tr>
</thead>
<tbody>
<tr>
<td>③ 45,000</td>
<td>② 71,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Manufacturing Overhead</th>
</tr>
</thead>
<tbody>
<tr>
<td>② 3,000</td>
</tr>
<tr>
<td>③ 15,000</td>
</tr>
</tbody>
</table>

### 3.7 ACCOUNTING FOR OVERHEADS

Overheads are indirect costs. They include for example, the indirect materials (glue used in making chairs) and indirect labour (factory supervisor's salary). Indirect costs cannot be traced directly to the product. Therefore, it must be allocated to the product based on the most appropriate allocation method. Examples of methods that can be used to allocate the manufacturing overheads are allocations based on the area used (factory rental) and machine hours (factory machines' maintenance expenses).
Transaction 4: Other manufacturing overhead costs in January are as follows: machine maintenance, RM21,000 and machine depreciation RM13,000.

These transactions will cause the manufacturing overhead control account to increase (debited) by RM34,000. Meanwhile, the liability account, which is the accounts payable control account will increase (credited) by RM21,000 and the accumulated depreciation account of the machine will increase (credited) by RM13,000.

Journal entry:

```
Manufacturing Overhead 34,000
Accounts Payable (Control) 21,000
Accumulated Depreciation – Machine 13,000
```

Posting to general ledger:

```
Accumulated Depreciation – Machine
4. 13,000

Accounts Payable (Control)
1. 79,000
4. 21,000
```

Transaction 5: Allocation of overhead cost to the job, RM50,000.

This transaction will cause the work in process control account to increase (debited) by RM50,000 and manufacturing overhead control account to reduce (credited) by RM50,000. However, the decrease in the manufacturing overhead control account will be shown in its contra account, which is the Allocated Manufacturing Overhead account. This allocated manufacturing overhead account will show the overhead amount allocated to each job or product based on the allocation method used by the entity.

Journal entry:

```
Work in Process (Control) 50,000
Allocated Manufacturing Overhead 50,000
```
Posting to general ledger:

<table>
<thead>
<tr>
<th>Allocated Manufacturing Overhead</th>
<th>Work in Process (Control)</th>
</tr>
</thead>
<tbody>
<tr>
<td>⑤ 50,000</td>
<td>② 71,000</td>
</tr>
<tr>
<td>③ 30,000</td>
<td>⑥ 130,000</td>
</tr>
<tr>
<td>⑤ 50,000</td>
<td></td>
</tr>
</tbody>
</table>

**Transaction 6:** The process of completing and transferring to finished goods account of RM130,000.

This transaction will cause the Finished Goods Control account to increase (debited) by RM130,000 and Work in Process Control account to decrease (credited) by RM130,000 to denote the completed jobs.

Journal entry:

```
Finished Goods (Control)          130,000
Work in Process (Control)         130,000
```

Posting to general ledger:

<table>
<thead>
<tr>
<th>Finished Goods Control Account</th>
<th>Work in Process (Control)</th>
</tr>
</thead>
<tbody>
<tr>
<td>⑥ 130,000</td>
<td>② 71,000</td>
</tr>
<tr>
<td>③ 30,000</td>
<td>⑥ 130,000</td>
</tr>
<tr>
<td>⑤ 50,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Balance: 21,000</td>
</tr>
</tbody>
</table>

The debit balance of RM21,000 in the Work in Process Control Account is the total uncompleted job at the end of January 2009.
Job order costing system is used when various services or products produced at the same time are different from each other.

The job order costing system has three main characteristics - the products or services produced are different, the costs are pooled according to the job and unit cost is obtained by dividing the total job cost with the total units produced.

Costs will be pooled according to the job.

Indirect costs will be allocated to the job using the most appropriate method.

Seven main steps to carry out the job order costing are: identify the cost object, identify the direct cost, select the method to allocate the indirect cost,
identify the related indirect cost, calculate the unit cost rate, calculate the indirect cost that is allocated to the job and finally, add up all the direct costs and indirect costs for the job.

- The information used for job order costing is obtained from three main sources, which are the job cost record, the raw material requisition record and labour time record.

<table>
<thead>
<tr>
<th>KEY TERMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost object</td>
</tr>
<tr>
<td>Cost pool</td>
</tr>
<tr>
<td>Cost tracing</td>
</tr>
<tr>
<td>Goods received note</td>
</tr>
<tr>
<td>Job cost record</td>
</tr>
</tbody>
</table>