

3 Tracking Job Cost Within the Corporate Ledger

Thus far, the illustrations of job costing have focused on forms, spreadsheets, databases, and technology to accumulate job cost information. In a sophisticated electronic environment, that information can be seamlessly transferred to a company's general ledger system. In the alternative, one may still need to transcribe the cost flow information via a series of entries. Either way, it is imperative to not only understand how job cost data are measured, but also how they impact a company's general ledger and resulting financial statements.

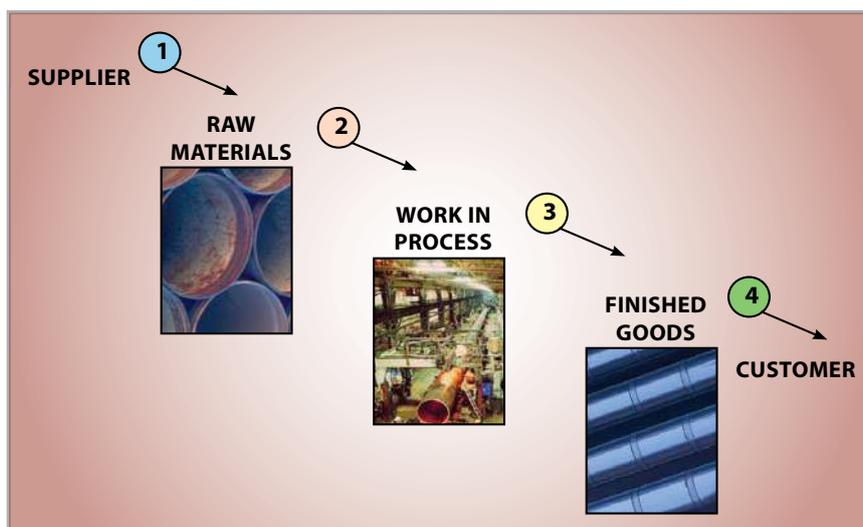
3.1 Direct Material

Begin by considering how a job cost travels through the accounting system by focusing on direct materials. Below is an illustration for a company that buys unfinished pipe from a steel mill. The manufacturing process entails a specialized heat treating, welding, and polishing process that readies the pipe for intense use by gas pipeline transmission companies.

The flow of direct materials occurs in the following four steps:

- Raw material is purchased from a supplier and placed in the raw materials inventory.
- Raw material is transferred to the production process.
- Upon completion of processing, the material is transferred to finished goods inventory.
- A customer takes delivery of the product, and it is removed from finished goods inventory.

Below is an illustration of the flow of material from supplier, through production, to the customer:



For purposes of this illustration, assume the stack of pipe in the first picture cost \$10,000. This expenditure must be captured in inventory and eventually transferred to cost of goods sold when the product is delivered to an end customer.

Raw Materials:

At the time it is acquired, the Raw Materials Inventory needs to be increased by \$10,000, as shown in the T-Account below.

Work in Process:

The second step will result in a reduction in the Raw Materials Inventory and a corresponding increase in the Work in Process Inventory.

Finished Goods:

Upon completion, that cost is transferred from Work in Process Inventory to Finished Goods Inventory.

Cost of Goods:

When the product is sold, the cost moves out of Finished Goods Inventory.

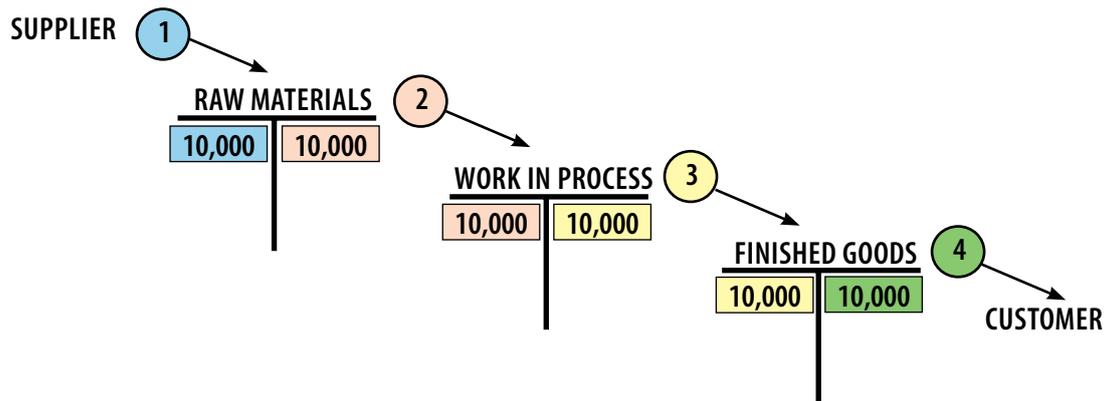
At this point, only the cost flow of direct materials is being illustrated; shortly, you will see how to weave in the direct labor and overhead costs.

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In general journal form, the preceding flow of costs is:

| | | |
|---|--------|--------|
| Raw Materials Inventory | 10,000 | |
| Accounts Payable | | 10,000 |
| <i>Purchased pipe from steel mill</i> | | |
| Work in Process Inventory | 10,000 | |
| Raw Materials Inventory | | 10,000 |
| <i>Transferred pipe to production</i> | | |
| Finished Goods Inventory | 10,000 | |
| Work in Process Inventory | | 10,000 |
| <i>Transferred processed pipe to finished goods</i> | | |
| Cost of Goods Sold | 10,000 | |
| Finished Goods Inventory | | 10,000 |
| <i>Delivered finished goods to customer</i> | | |

Carefully review the above set of entries, and focus on the fact that \$10,000 of cost was incurred when the raw material was purchased in Step 1. And, that cost eventually became a cost of goods sold at the end of the process when the goods were delivered to the customer in Step 4 (remember, only the direct material is being shown here; labor and overhead costs are yet to be considered).

Concurrent with recording the 4th entry, another entry would be made to record the sale (debit. Accounts Receivable and credit Sales). The difference between Sales and Cost of Sales would be the gross profit. These entries assume a perpetual inventory system; the same result could be achieved with a periodic system like that illustrated earlier in the book.

3.2 Direct Labor

Now focus exclusively on the direct labor cost, ignoring materials and overhead. Notice that laborers were present in the middle picture from the pipe plant. This suggests the introduction of direct labor into the costing equation. Like the cost of raw materials, the salaries payable for direct labor are added to Work in Process Inventory (at “stage 2” of the diagram). The following entries assume that the pipe required 200 hours of direct labor at \$15 per hour:

| | | |
|---|-------|-------|
| <i>Work in Process Inventory</i> | 3,000 | |
| <i>Salaries Payable</i> | | 3,000 |
| <i>Incurring direct labor to process pipe (200 hrs @\$15)</i> | | |
| | | |
| <i>Finished Goods Inventory</i> | 3,000 | |
| <i>Work in Process Inventory</i> | | 3,000 |
| <i>Transferring processed pipe to finished goods</i> | | |
| | | |
| <i>Cost of Goods Sold</i> | 3,000 | |
| <i>Finished Goods Inventory</i> | | 3,000 |
| <i>Delivering finished goods to customer</i> | | |

Notice that the accounts used in these entries are identical to those for direct material, except that the credit in the first entry is to Salaries Payable. This reflects that the cost is attributable to an obligation to pay employees for their time.

3.3 Applied Factory Overhead

Take one more look at the “work in process” factory floor picture, and think about the factory overhead that is being “used” to process the pipe. What components can you identify or contemplate? Likely, your list will include utilities costs, insurance, factory maintenance, depreciation on the equipment, some supplies, and similar items. As discussed earlier in the chapter, these costs must be attached to the products. But, the method of attachment is by applying overhead based on a predetermined estimated rate – again, because it is virtually impossible to associate or match the incurrence of actual overhead with each job actually produced.

Assume the pipe factory applies overhead at the rate of \$25 per direct labor hour. Remember that 200 hours were needed for the job in question. Thus, \$5,000 ($\25×200) is the amount of applied factory overhead. The following entries are similar to those that were used to record the direct labor; compare them, and pick out the account that differs:

| | | |
|---|-------|-------|
| Work in Process Inventory | 5,000 | |
| Factory Overhead | | 5,000 |
| <i>Applied factory overhead to production (200 hours @\$25)</i> | | |
| Finished Goods Inventory | 5,000 | |
| Work in Process Inventory | | 5,000 |
| <i>Transferred processed pipe to finished goods</i> | | |
| Cost of Goods Sold | 5,000 | |
| Finished Goods Inventory | | 5,000 |
| <i>Delivered finished goods to customer</i> | | |

An account entitled “Factory Overhead” was uniquely credited in the first of the above entries. What does this credit really represent? This account is one of the more confusing to explain; it is challenging for students to grasp. As a result, there is a separate section later in this chapter (Accounting for Actual and Applied Overhead). But, for the moment, accept this truncated explanation: The credit to Factory Overhead is the allocation tool used to pass out the actual overhead costs to jobs in progress; the actual overhead costs are captured via debits to this account through a separate process described later in this chapter.

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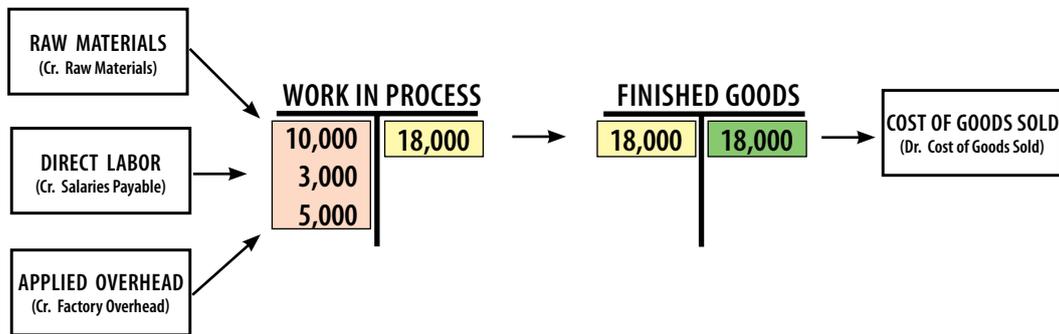
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3.4 Overview

The preceding information can be combined and summarized as follows:



This graphic illustrates how the total job cost was measured as \$18,000. The general journal would include the following entries:

| | | | |
|---------|--|--------|--------|
| 6-15-X3 | Raw Materials Inventory | 10,000 | |
| | Accounts Payable | | 10,000 |
| | <i>To record purchase of raw materials</i> | | |
| 6-20-X3 | Work in Process Inventory | 18,000 | |
| | Raw Materials Inventory | | 10,000 |
| | Salaries Payable | | 3,000 |
| | Factory Overhead | | 5,000 |
| | <i>To transfer raw materials to production, record direct labor costs on job, and apply overhead at the predetermined rate</i> | | |
| * | | | |
| 6-21-X3 | Finished Goods Inventory | 18,000 | |
| | Work in Process Inventory | | 18,000 |
| | <i>To transfer completed units to finished goods inventory</i> | | |
| 6-25-X3 | Accounts Receivable | 25,000 | |
| | Sales | | 25,000 |
| | <i>To record sale of finished pipe for \$25,000</i> | | |
| | Cost of Goods Sold | 18,000 | |
| | Finished Goods Inventory | | 18,000 |
| | <i>To transfer finished goods to cost of goods sold</i> | | |

3.5 Financial Statement Impact Scenarios

How job cost data appears on the financial statements depends on its condition at the financial statement date. Considering the pipe illustration:

- If the raw pipe had not yet started into production, its \$10,000 cost would appear in the raw materials inventory category on the balance sheet:

| | |
|-----------------|-----------|
| INVENTORIES | |
| RAW MATERIAL | \$ 10,000 |
| WORK-IN-PROCESS | |
| FINISHED GOODS | |

- If the pipe was in production but not complete, the total cost in the Work in Process account as of the balance sheet date would be aggregated and presented as work in process inventory on the balance sheet. For example, assume all of the raw material was in process, but only half of the necessary labor tasks had been performed; in this case, the Work in Process Inventory account would include \$14,000 (\$10,000 direct material + \$1,500 labor + \$2,500 applied overhead):

| | |
|-----------------|-----------|
| INVENTORIES | |
| RAW MATERIAL | |
| WORK-IN-PROCESS | \$ 14,000 |
| FINISHED GOODS | |

- If the drill pipe was completed but unsold, the finished goods inventory would be carried at \$18,000 on the balance sheet:

| | |
|-----------------|-----------|
| INVENTORIES | |
| RAW MATERIAL | |
| WORK-IN-PROCESS | |
| FINISHED GOODS | \$ 18,000 |

- If the drill pipe was sold for \$25,000, the income statement would include sales (\$25,000) and cost of goods sold (\$18,000), netting to the \$7,000 gross profit:

| | |
|--------------------|---------------|
| Sales | \$ 25,000 |
| Cost of goods sold | <u>18,000</u> |
| Gross profit | \$ 7,000 |
| | |

3.6 Cost Flows to the Financial Statements

If you are unclear about the flow of production costs into the financial statements, review the cost flow graphic presented in the Introduction to Managerial Accounting chapter. In so doing, remember that the nonmanufacturing “period” costs are charged directly to expense in the period incurred; they do not enter into the determination of inventory or cost of goods sold.



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3.7 Subsidiary Accounts

You learned earlier in the book about subsidiary accounts. For example, a company’s general ledger will reveal the total accounts receivable, total accounts payable, total equipment, etc. But, there is also need to know subsidiary details about each of these accounts. In other words, you must be able to identify the specific customers who owe money, how much is due to each vendor, how much depreciation to record for each asset, and so forth. The same is true for the Work in Process account. While it is imperative to know the total dollar value of all jobs, a company must also be able to pinpoint the amount attributable to each job. This is accomplished via an account numbering scheme where each job is given a unique number. This enables ease of data mining. The chart of accounts typically includes a number where the leading digits indicate the control account, and the trailing digits indicate the subsidiary account. For work in process, this numbering could go as illustrated below.

| | <u>Account Number</u> | |
|--------------------|-----------------------|------------------|
| Job A | 600.0100 | \$ 35,000 |
| Job B | 600.0101 | 25,000 |
| . | | . |
| . | | . |
| . | | . |
| . | | . |
| Job Z | 600.0125 | <u>12,000</u> |
| Total for all jobs | 600 | <u>\$290,000</u> |

While the exact mechanics of maintaining subsidiary account balance information can vary, what is important is that you could inspect the general ledger and financial statements, and find \$290,000 in work in process. The subsidiary account information should be sufficient to allow you to find that Job A represents \$35,000 of the total, Job B represents \$25,000, and so forth.

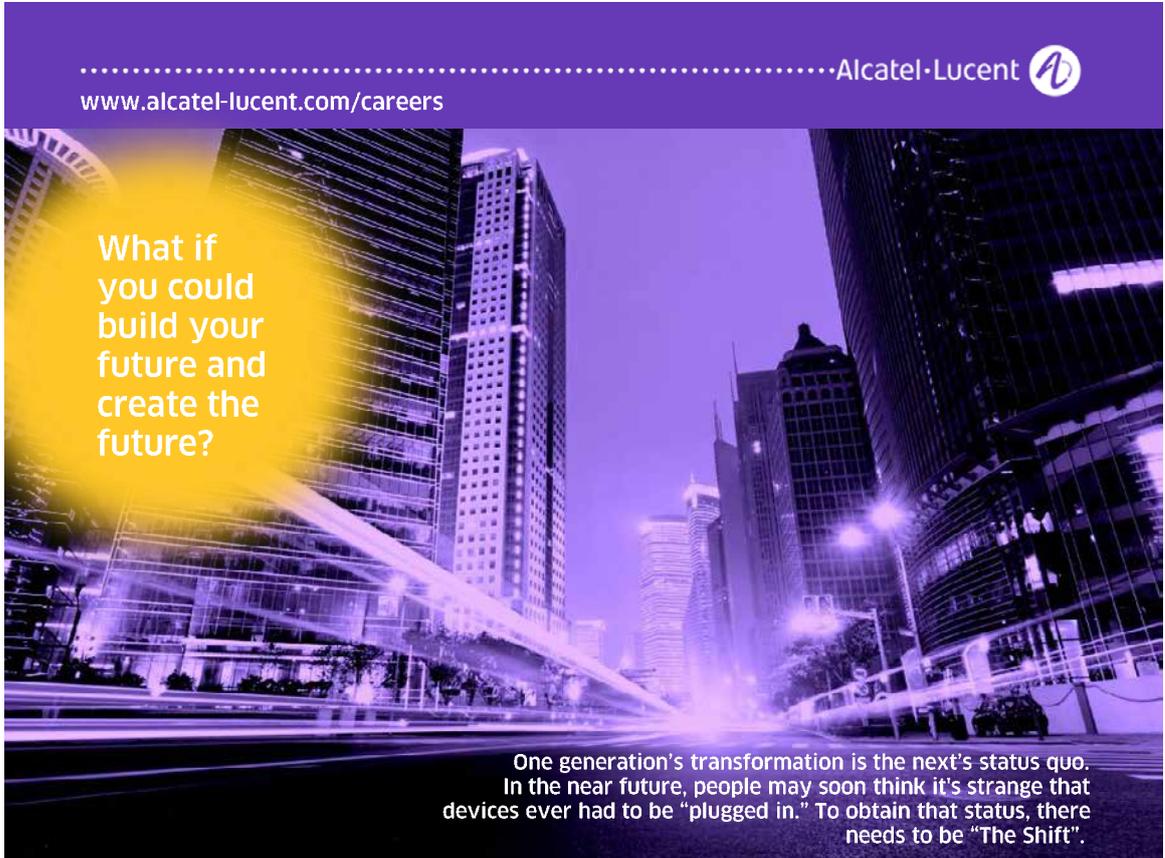
3.8 Global Trade and Transfers

Companies engaged in international commerce often establish separate operating units around the globe. For instance, a company may establish a manufacturing facility in a country with lower wages and costs of production. This trend has introduced a myriad of complex costing issues which generally fall under the heading of “transfer pricing.”

The heart of the issue is how to assess costs and set prices for goods produced in one venue and transferred to an affiliate in another. The governments of each country have a keen interest in taxing activities within their domain (whether it be by a value added tax, income tax, tariff system, custom duties, etc.). And, companies will envision an opportunity to shift profits from high tax jurisdictions to low tax jurisdictions by shuffling costs and prices between entities.

This is a fertile area of tax dispute, and one that keeps many managerial accountants quite busy. In the main, the applicable rules attempt to require the use of fair and equitable job costing, and require that transfers be based on “arms length” transaction pricing. But, the devil is in the details of implementation. A recent look on an internet search engine turned up almost five million hits for “transfer pricing rules!”

The above transfer pricing issues are not limited to global companies. Similar issues can arise when products are shipped between affiliated companies in different states or provinces. Also, affiliated companies may have divisional profit sharing, causing managers working for the same corporate parent to debate the costs assigned to products produced by their respective unit. As you can see, there is a lot more to job costing than just adding up costs!



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