



Managerial Accounting

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Chapter 2

How is Job Costing Used to Track Production Costs?

Chapter 2 - Section 1

Distinguish between job costing and process costing.

Chapter 2 - Section 1

What is a job costing system and why is it used?

- A job costing system tracks revenues and costs for each unique job.
- Used to compare actual and budgeted revenues and costs.
- Used to assess profitability of each job.
- Used to track revenues and costs throughout production process.

Chapter 2 - Section 1

How is a process costing system different than a job costing system?

- A process costing system tracks revenues and costs for companies producing identical products in batches.

Chapter 2 - Section 1

What types of companies use job costing and process costing?

Table 2.1 Job Costing Versus Process Costing

Job Costing	Process Costing
Custom homes	Oil
Custom vans	Chemicals
House painting services	Paint
Movies	Lumber
Airplanes	Milk
Bridges	Pencils
Legal services	Paper

Chapter 2 - Section 2

Understand how direct materials and direct labor costs are assigned to jobs.

Chapter 2 - Section 2

What are the product costs for a manufacturing company (from chapter 1)?

- Direct materials
- Direct labor
- Manufacturing overhead

Chapter 2 - Section 2

How do we account for the purchase of raw materials?

- Journal entry assuming Custom Furniture Company purchased \$4,500 in raw materials on May 2:

May 2	Raw materials inventory	4,500	
	Accounts payable		4,500

Chapter 2 - Section 2

How do we account for the purchase of raw materials?

- This purchase of raw materials is further illustrated in the T-accounts that follow. Assume the beginning balance for raw material inventory is \$25,000. Beginning balances are only provided for inventory accounts since the focus of this chapter is on manufacturing costs that flow through these accounts.

Raw Materials Inventory		Accounts Payable	
Beg. bal.	25,000	Beg. bal.	XX
(May 2)	4,500	4,500	(May 2)

Chapter 2 - Section 2

How are raw materials requisitioned for production?

- Materials Requisition Form is used to track materials ordered for each job.
- The following form is used at Custom

Furniture Company
to order materials
for job 50:

Materials Requisition
Form for Custom
Furniture Company

Date May 3

Job Number Charged 50

Materials Requisition No. 205

Quantity	Item Number	Description	Total Cost
40 feet	C230	Cherry wood planks	\$240
25 feet	M120	Mahogany trim	\$130
Total			<u>\$370</u>

Supervisor's Signature _____

Chapter 2 - Section 2

How do we account for the transfer of raw materials to production as direct materials?

- Journal entry assuming Custom Furniture Company transferred \$370 in direct materials out of raw materials inventory into production for job 50:

May 3	WIP inventory Raw materials inventory	370	370
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Chapter 2 - Section 2

- This flow of direct materials from one account to another is further illustrated in the T-accounts that follow. Assume the beginning balance for work-in-process inventory is \$35,000.

Raw Materials Inventory				WIP Inventory			
Beg. bal.	25,000			Beg. bal.	35,000		
(May 2)	4,500	370	(May 3)	(May 3)	370		

Chapter 2 - Section 2

What is a job cost sheet and how is it used?

- A job cost sheet tracks manufacturing costs for each job.
- Serves as the subsidiary ledger for the WIP Inventory account.
- Custom Furniture Company job cost sheet for job 50 with direct materials:

Job Cost Sheet for Job No. <u>50</u>						
Customer <u>Diana Sanchez</u>		Date Started <u>May 3</u>				
Description <u>Cherry wood dining room table with mahogany trim</u>		Date Completed _____				
Date <u>5/3</u>	Direct Materials*		Direct Labor			Manufacturing Overhead
	Req. No <u>205</u>	Cost <u>\$370</u>	Timesheet No.	Hrs.	Rate	Cost
						<u>\$30 per direct labor hour</u>
Summary of Costs:						
	Direct Materials	\$				
	Direct Labor					
	Mfg. Overhead					
	Total Cost	\$				

*\$370 comes from the total in Figure 2.2

Chapter 2 - Section 2

How do we account for the use of direct labor in production?

- Journal entry assuming Custom Furniture Company used \$120 in direct labor for job 50:

May 4	WIP inventory	120	
	Wages payable		120

Chapter 2 - Section 2

- Recording these direct labor costs is further illustrated in the T-accounts that follow. Again, beginning balances are only provided for inventory accounts since the focus of this chapter is on manufacturing costs that flow through these accounts.

WIP Inventory		Wages Payable	
Beg. bal.	35,000	Beg. bal.	XX
(May 3)	370	120	(May 4)
(May 4)	120		

Chapter 2 - Section 2

How do we track direct labor hours used in production?

- Information is tracked using a timesheet for each employee.
- The following timesheet is for one employee at Custom Furniture Company:

Name Tim Wallace
Date May 4

Timesheet No. 311

Job Number	Hours	Rate	Total Cost
50	6	\$15	\$ 90
51	2	15	\$ 30
Total			<u>\$120</u>

Supervisor's Signature _____

Chapter 2 - Section 2

What does the updated job cost sheet look like for job 50?

Job Cost Sheet for Job No. 50

Customer Diana Sanchez Date Started May 3
Description Cherry wood dining room table Date Completed _____
with mahogany trim

Direct Materials			Direct Labor*				Manufacturing Overhead
Date	Req. No	Cost	Timesheet No.	Hrs.	Rate	Cost	\$30 per direct labor hour
5/3	205	\$370					
5/4			311	6	\$15	\$90	

Summary of Costs:
Direct Materials \$ _____
Direct Labor _____
Mfg. Overhead _____
Total Cost \$

Chapter 2 - Section 3

Understand how manufacturing overhead costs are assigned to jobs.

Chapter 2 - Section 3

What costs are included in manufacturing overhead?

- All costs related to production other than direct materials and direct labor.
- Examples:
 - Factory rent
 - Factory utilities
 - Indirect labor (production supervisors)
 - Indirect materials
 - Factory equipment depreciation
 - Factory maintenance

Chapter 2 - Section 3

How do we account for manufacturing overhead costs?

- Predetermined overhead rate is used to allocate manufacturing overhead to jobs (this is called *normal costing*).
- Predetermined overhead rate typically uses direct labor hours, direct labor costs, or machine hours as the allocation base.

Chapter 2 - Section 3

- Predetermined overhead rate is calculated as:
$$\text{Estimated overhead costs} / \text{Estimated activity in allocation base}$$
- Predetermined rate calculation for Custom Furniture Company:
$$= \$1,140,000 \text{ estimated overhead costs} / 38,000 \text{ estimated direct labor hours}$$
$$= \$30 \text{ per direct labor hour}$$

Chapter 2 - Section 3

How is the predetermined overhead rate used to apply manufacturing overhead costs to jobs?

- Journal entry assuming six direct labor hours were charged to job 50 using the rate of \$30 per direct labor hour:

May 4	WIP inventory	180	
	Manufacturing overhead		180

Chapter 2 - Section 3

- Recording the application of overhead costs to a job is further illustrated in the T-accounts that follow.

Manufacturing Overhead		WIP Inventory	
	180 (May 4)	Beg. bal.	35,000
		(May 3)	370
		(May 4)	120
		(May 4)	180

Chapter 2 - Section 3

What does the updated job cost sheet look like for job 50?

Job Cost Sheet for Job No. 50

Customer Diana Sanchez Date Started May 3
 Description Cherry wood dining room table with mahogany trim Date Completed _____

	Direct Materials	Direct Labor	Manufacturing Overhead
	<u>Req. No</u> <u>Cost</u>	<u>Timesheet No.</u> <u>Hrs.</u> <u>Rate</u> <u>Cost</u>	<u>\$30 per direct labor hour</u>
<u>Date</u> 5/3	<u>205</u> <u>\$370</u>		
5/4		311 6 \$15 \$90	\$180*

Summary of Costs:

Direct Materials	\$ 370
Direct Labor	90
Mfg. Overhead	180
Total Cost	\$ <u>640</u>

Overhead applied

↑

\$180*

*\$180 = \$30 per direct labor hour × 6 direct labor hours.

Chapter 2 - Section 3

What information flows through the Manufacturing Overhead account?

- Actual overhead costs are recorded as a debit to Manufacturing Overhead.
- Overhead costs applied to jobs are recorded as a credit to Manufacturing Overhead.
- The Manufacturing Overhead account is a clearing account.

Manufacturing Overhead	
(debit)	(credit)
Actual overhead costs incurred	Overhead costs applied to jobs

Chapter 2 - Section 3

What do the terms overapplied and underapplied overhead mean?

- Underapplied overhead: As shown in the manufacturing overhead account at the end of the reporting period, actual overhead costs are *higher* than overhead costs applied to jobs.
- Overapplied overhead: As shown in the manufacturing overhead account at the end of the reporting period, actual overhead costs are *lower* than overhead costs applied to jobs.

Chapter 2 - Section 3

How is the manufacturing overhead account closed at the end of the period?

- Companies typically close the manufacturing overhead account to cost of goods sold at the end of the period if the amount is not significant.
- If overhead is *underapplied* by \$2,000, the journal entry to close the account is:

Cost of goods sold	2,000	
Manufacturing overhead		2,000

Chapter 2 - Section 3

- If overhead is *overapplied* by \$3,000, the journal entry to close the account is:

Manufacturing overhead	3,000	
Cost of goods sold		3,000

Chapter 2 - Section 4

Apply job costing methods to service organizations.

Chapter 2 - Section 4

How does job costing work in a service company setting?

- Same as manufacturing except service companies use fewer materials and the account names are slightly different.

Table 2.2 Accounts Used in Service Organizations and Manufacturing Organizations

Manufacturing Organization Account Name	Service Organization Account Name	Financial Statement
Raw materials inventory	Parts inventory or supplies	Balance sheet (asset)
Work-in-process inventory	Work in process*	Balance sheet (asset)
Finished goods	(Not applicable)	Balance sheet (asset)
Cost of goods sold	Cost of services (or other expense accounts)	Income statement (expense)
Manufacturing overhead	Overhead (or service overhead)	None (clearing account)
*Some service companies do not use a work-in-process account but instead simply charge costs directly to expense accounts.		

Chapter 2 - Section 5

Use a job costing system to track costs and evaluate profitability for each job.

Chapter 2 - Section 5

How is job costing used to perform job profitability analysis at Custom Furniture Company?

	Job 40		Job 44		Job 45	
	Estimate	Actual ^a	Estimate	Actual ^a	Estimate	Actual ^a
Sales price ^b	\$ 18,360	\$ 18,360	\$ 27,030	\$ 27,030	\$ 13,260	\$ 13,260
Direct materials	\$ 1,500	\$ 3,500	\$ 2,800	\$ 3,800	\$ 1,100	\$ 2,500
Direct labor	3,300	3,800	4,500	4,700	2,400	2,300
Manufacturing overhead	6,000	6,200	8,600	8,900	4,300	4,100
Total production costs	\$ 10,800	\$ 13,500	\$ 15,900	\$ 17,400	\$ 7,800	\$ 8,900
Gross profit	\$ 7,560	\$ 4,860	\$ 11,130	\$ 9,630	\$ 5,460	\$ 4,360
Gross profit as percent of total production cost ^c	70%	36%	70%	55%	70%	49% ^d

^a Product costs are from the job cost sheet, and the sales price is based on the original bid.

^b Based on 70 percent markup of estimated total production costs. For example, job 40's sales price of \$18,360 = \$10,800 × 170 percent.

^c Equals gross profit divided by total production costs. Company target is 70 percent.

^d Rounded.