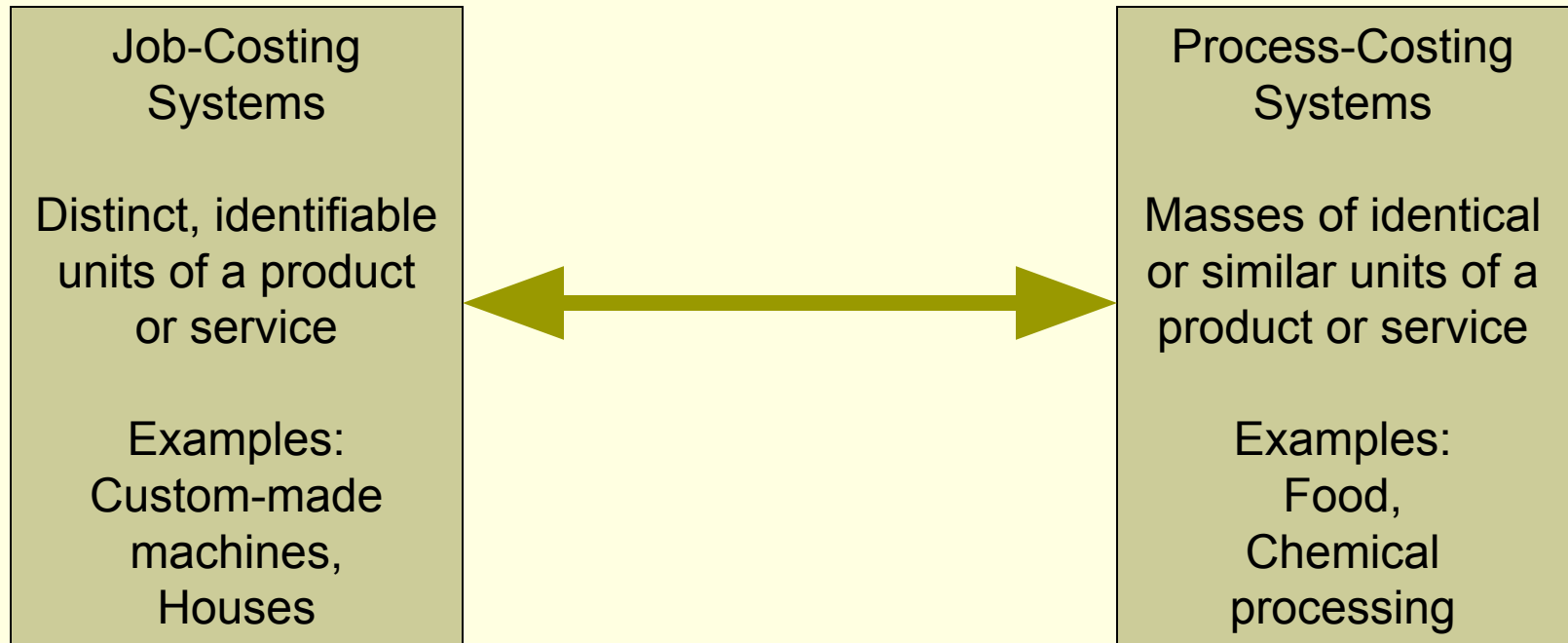


CHAPTER 17

Process Costing

Job-Costing and Process Costing: Opposite Ends of a Continuum



Process Costing

- Process costing is a system where the unit cost of a product or service is obtained by assigning total costs to many identical or similar units
- Each unit receives the same or similar amounts of direct materials costs, direct labor costs, and manufacturing overhead
- Unit costs are computed by dividing total costs incurred by the number of units of output from the production process

Process-Costing Assumptions

- Direct Materials are added at the beginning of the production process, or at the start of work in a subsequent department down the assembly line
- Conversion Costs are added equally along the production process

Five-Step Process-Costing Allocation

1. Summarize the flow of physical units of output
2. Compute output in terms of equivalent units
3. Compute cost per equivalent unit
4. Summarize total costs to account for
5. Assign total costs to units completed and to units in ending Work in Process

Equivalent Units

- A derived amount of output units that:
 1. Takes the quantity of each input in units completed and in unfinished units of work in process and
 2. converts the quantity of input into the amount of completed output units that could be produced with that quantity of input
- Are calculated separately for each input (direct materials and conversion cost)

Weighted-Average Process-Costing Method

- Calculates cost per equivalent unit of all work done to date (regardless of the accounting period in which it was done)
- Assigns this cost to equivalent units completed and transferred out of the process, and to incomplete units still in process

Weighted-Average Process-Costing Method

- Weighted-average cost is the total of all costs in the Work-in-Process account divided by the total equivalent units of work done to date
- The beginning balance of the Work-in-Process account (work done in a prior period) is blended in with current period costs

Steps 1 - 5

Weighted-Average Method

Step 1: Summarize Output

Step 2: Compute Equivalent Units

Flow of Production	STEP 1	STEP 2	
	Physical Units	Equivalent Units	
		Direct Materials	Conversion Costs
Beginning Work in Process	25		
Units Started during the current period	75		
Total Units to Account For	100		
Units Completed and Transferred Out During the Current Period: 100%	90	90	90
Ending Work in Process	10		
Ending WIP is: 100% complete as to materials		10	
10% complete as to conversion costs			1
Units Accounted For	100		
Work Done in Current Period Only		100	91

Step 3: Compute Cost per Unit

Step 4: Summarize Total Costs

	STEP 4	STEP 3	
	Total Product Costs	Direct Materials	Conversion Costs
Beginning Work in Process	\$ 4,000	\$ 1,000	\$ 3,000
Current Period Costs Added	14,000	4,000	10,000
Total Costs to Account For	<u>\$ 18,000</u>	5,000	13,000
Divide by Equivalent Units from Step 2		100	91
Cost per Equivalent Unit		<u>\$ 50.00</u>	<u>\$ 142.86</u>

Step 5: Assign Costs to Units Completed and Ending Work in Process

Cost Assignment:			
Multiply Equivalent Units from Step 2 by Cost per Unit from Step 3	Direct Materials	Conversion Costs	Total Costs
Units Completed and Transferred Out			
Direct Materials: 90 X \$50.00	\$ 4,500		
Conversion Costs: 90 X \$142.86		\$ 12,857	\$ 17,357
Ending Work in Process			
Direct Materials: 10 X \$50.00	500		
Conversion Costs: 1 X \$142.86		143	643
Total Cost Accounted For			\$ 18,000
(Ties to Step 4, rounded to nearest \$)			

Result of the Process (as before)

- Two critical figures arise out of Step Five of the cost allocation process:
 1. The amount of the Journal Entry transferring the allocated cost of units completed and sent from Work-in-Process Inventory to Finished Goods Inventory
 2. The ending balance of the Work-in-Process Inventory account that will appear on the Balance Sheet

Standard Costing and Process Costing

- Teams of design and process engineers, operations personnel, and management accountants work together to determine separate standard costs per equivalent unit on the basis of different technical processing specifications for each product
- Standard costs replace actual costs in equivalent unit calculations

Transferred-in Costs

- Are costs incurred in previous departments that are carried forward as the product's cost when it moves to a subsequent process in the production cycle
- Also called Previous Department Costs
- Journal entries are made to mirror the progress in production from department to department
- Transferred-in costs are treated as if they are a separate type of direct material added at the beginning of the process