DEPT. MANAGEMENT & LAW
BACHELOR DEGREE IN BUSINESS ADMINISTRATION & ECONOMICS

COURSE
Cost Analysis for Business Decisions

Managerial Accounting, Planning & Control

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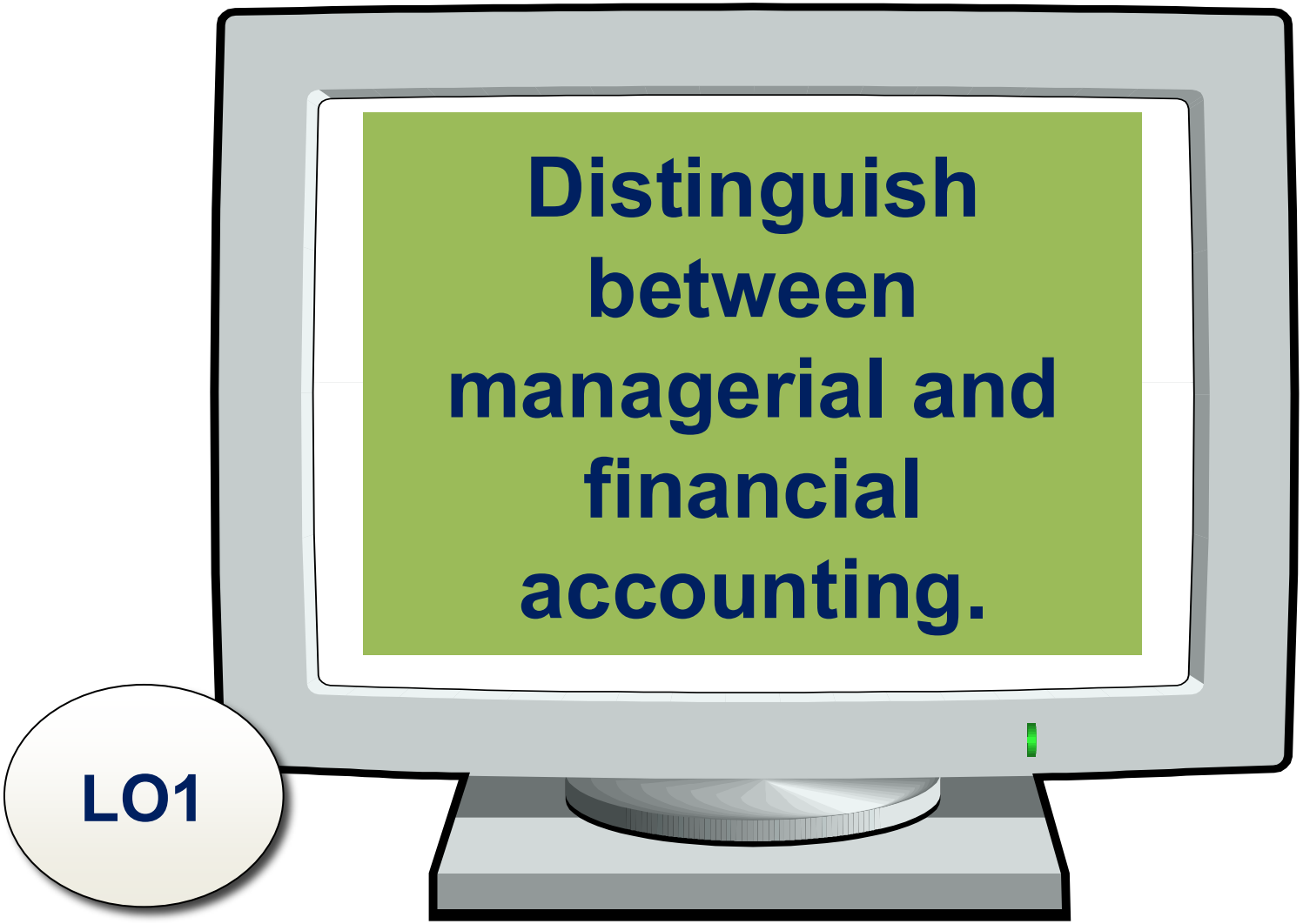
Learning Objective



Managerial Accounting

What is Managerial Accounting?

It is the process of identifying, measuring, accumulating, analyzing, preparing, interpreting, and communicating information that managers use to fulfill organizational objectives.

What is a Cost?

Cost is a sacrifice of resources.

Presentation of Costs in Financial Statements

RPE ASSOCIATES
Income Statement
For the Year Ended December 31, Year 2
($000)

Revenues	$32,000
Cost of services sold	23,500
Gross margin	$ 8,500
Marketing and administrative costs	4,300
Operating profit	$ 4,200

Cost of billable hours

The excess of operating revenue over costs necessary to generate those revenues related to services provided

Presentation of Costs in Financial Statements

SOUTHWEST OFFICE PRODUCTS
Income Statement
For the Year Ended December 31, Year 2
($000)

Sales revenue		$3,225
Cost of goods sold (see following statement)		1,775
Gross margin		$1,450
Marketing and administrative costs		825
Operating profit		$ 625

Cost of Goods Sold Statement
For the Year Ended December 31, Year 2
($000)

Beginning inventory		$ 300
Cost of goods purchased		
Merchandise cost	$1,830	
Transportation-in costs	90	
Total cost of goods purchased		1,920
Cost of goods available for sale		$2,220
Less cost of goods in ending inventory		445
Cost of goods sold		$1,775

Expense assigned to products sold during a period

The excess of operating revenue over costs necessary to generate those revenues

Presentation of Costs in Financial Statements

Cost incurred to manufacture the product sold

Product costs recorded as "inventory" when cost is incurred

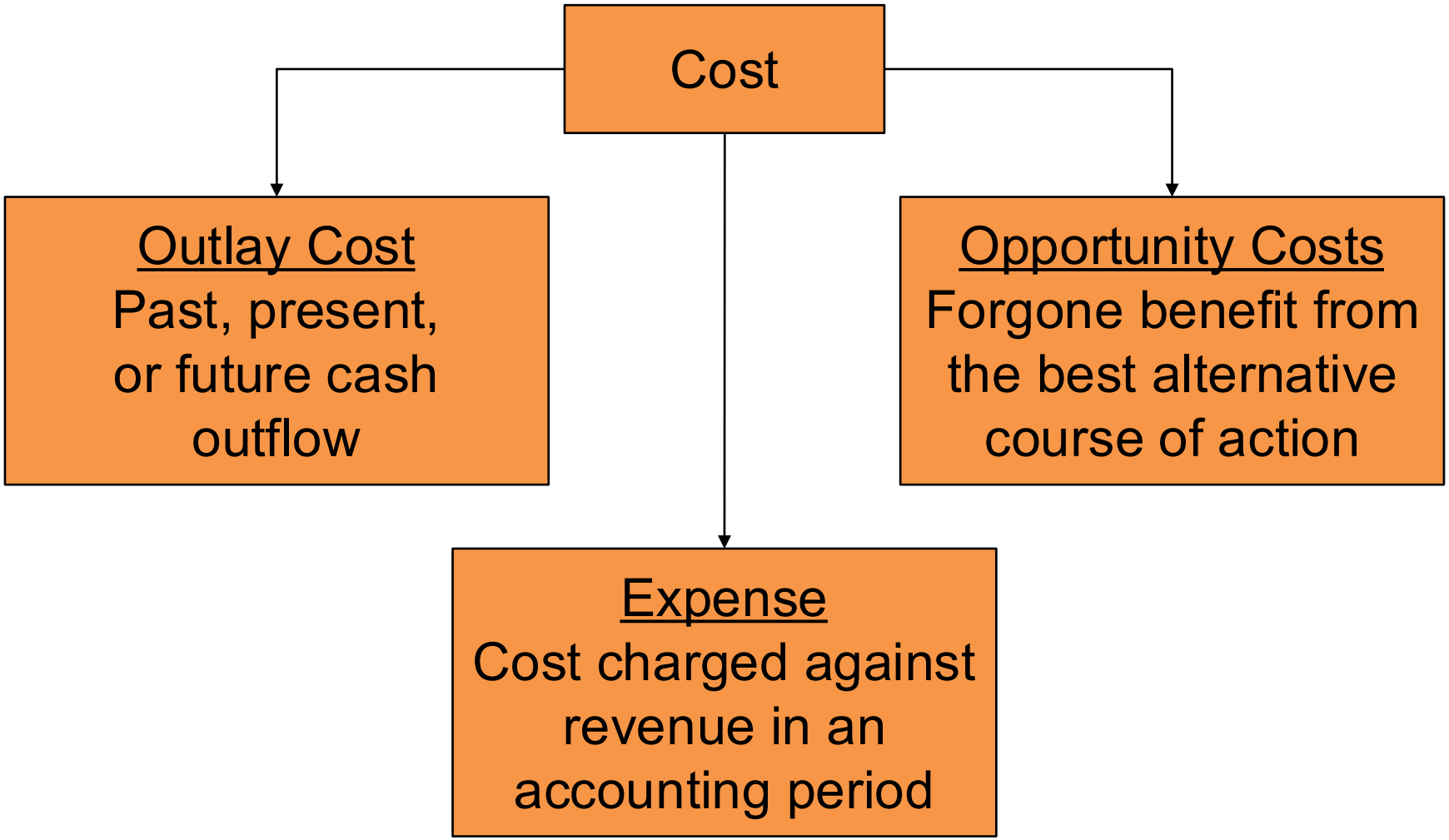
Expense when sold

JACKSON GEARS
Income Statement
For the Year Ending December 31, Year 2
($000)

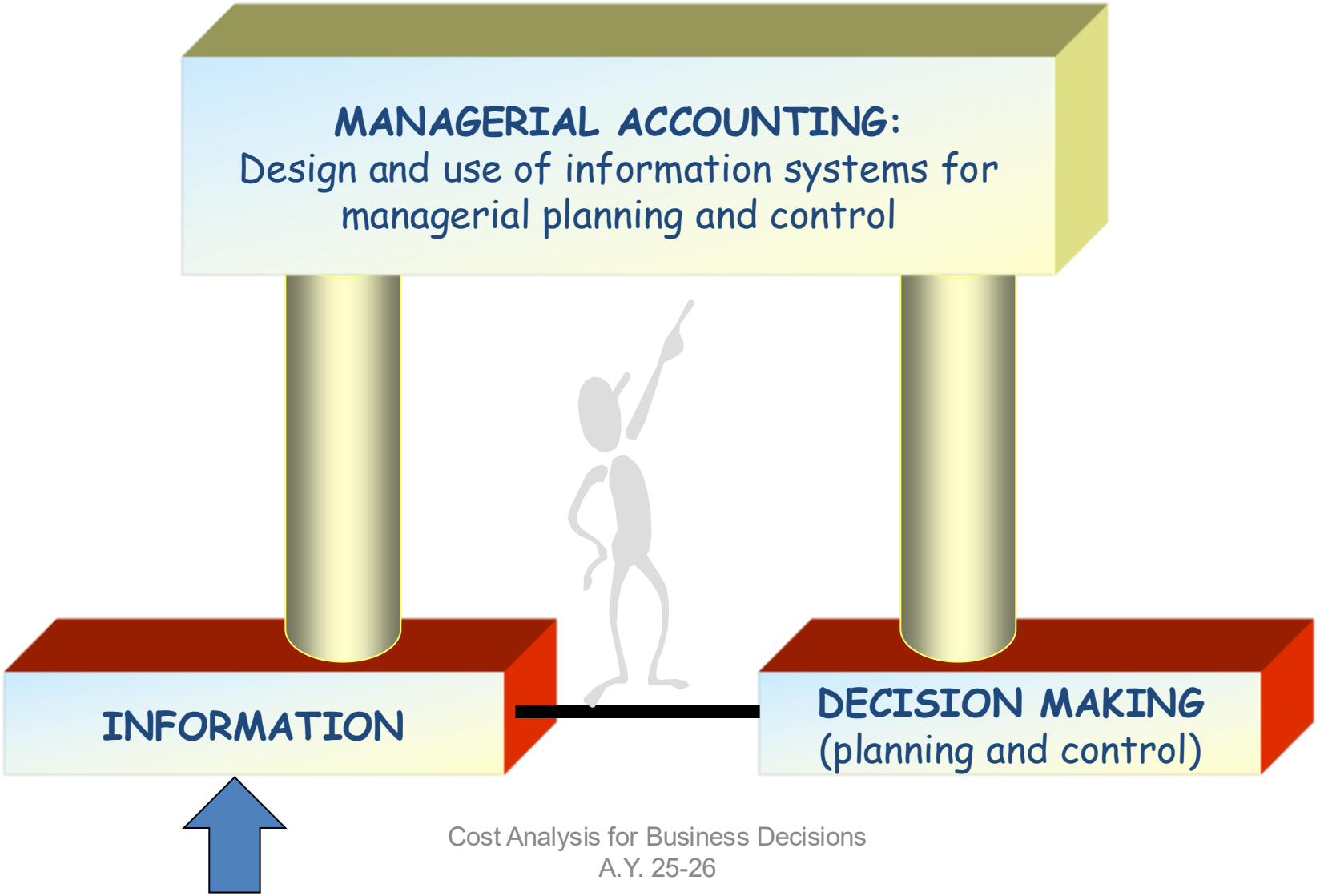
Sales revenue	$20,450
Cost of goods sold	13,100
Gross margin	$ 7,350
Less marketing and administrative costs	3,850
Operating profit before taxes	$ 3,500

Period costs recorded as an expense in the period the cost is incurred

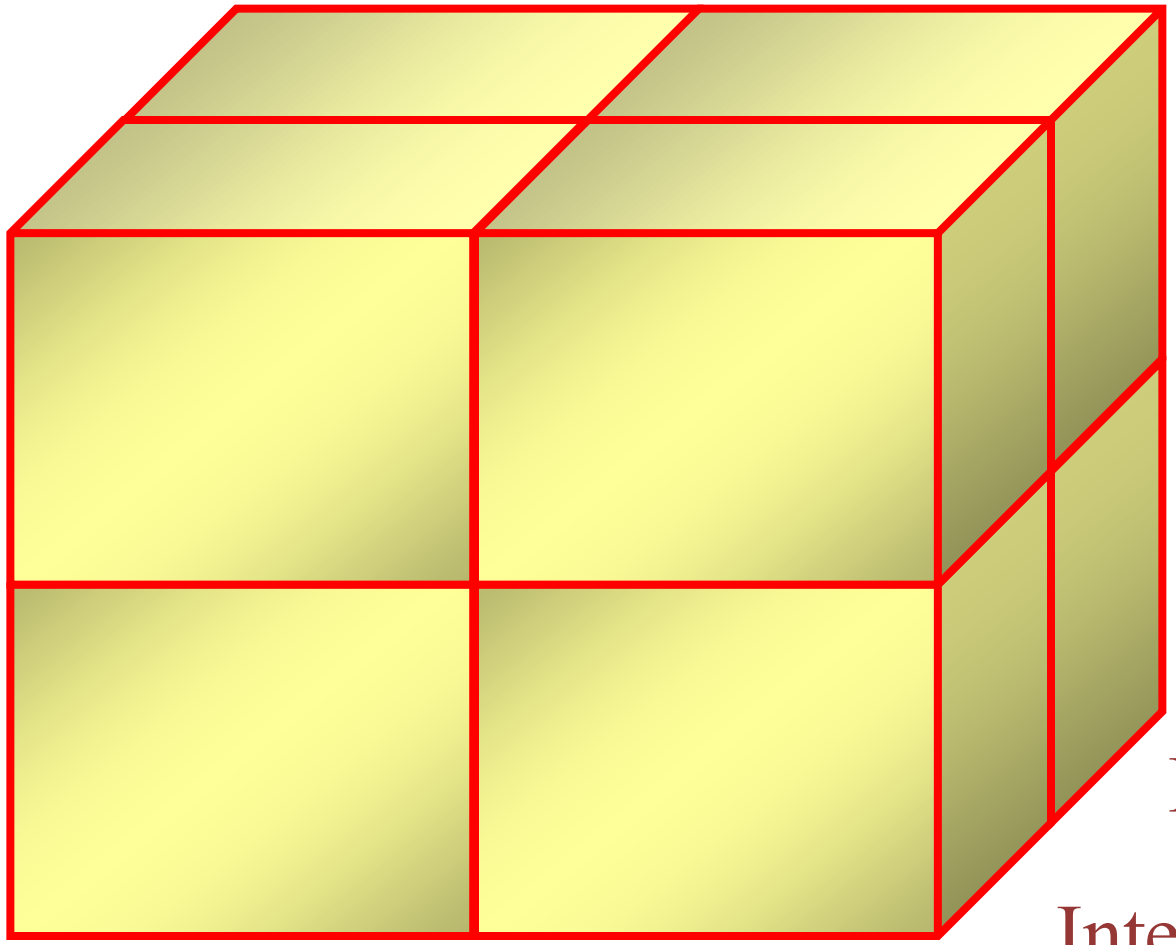
Cost versus Expenses



Managerial Accounting



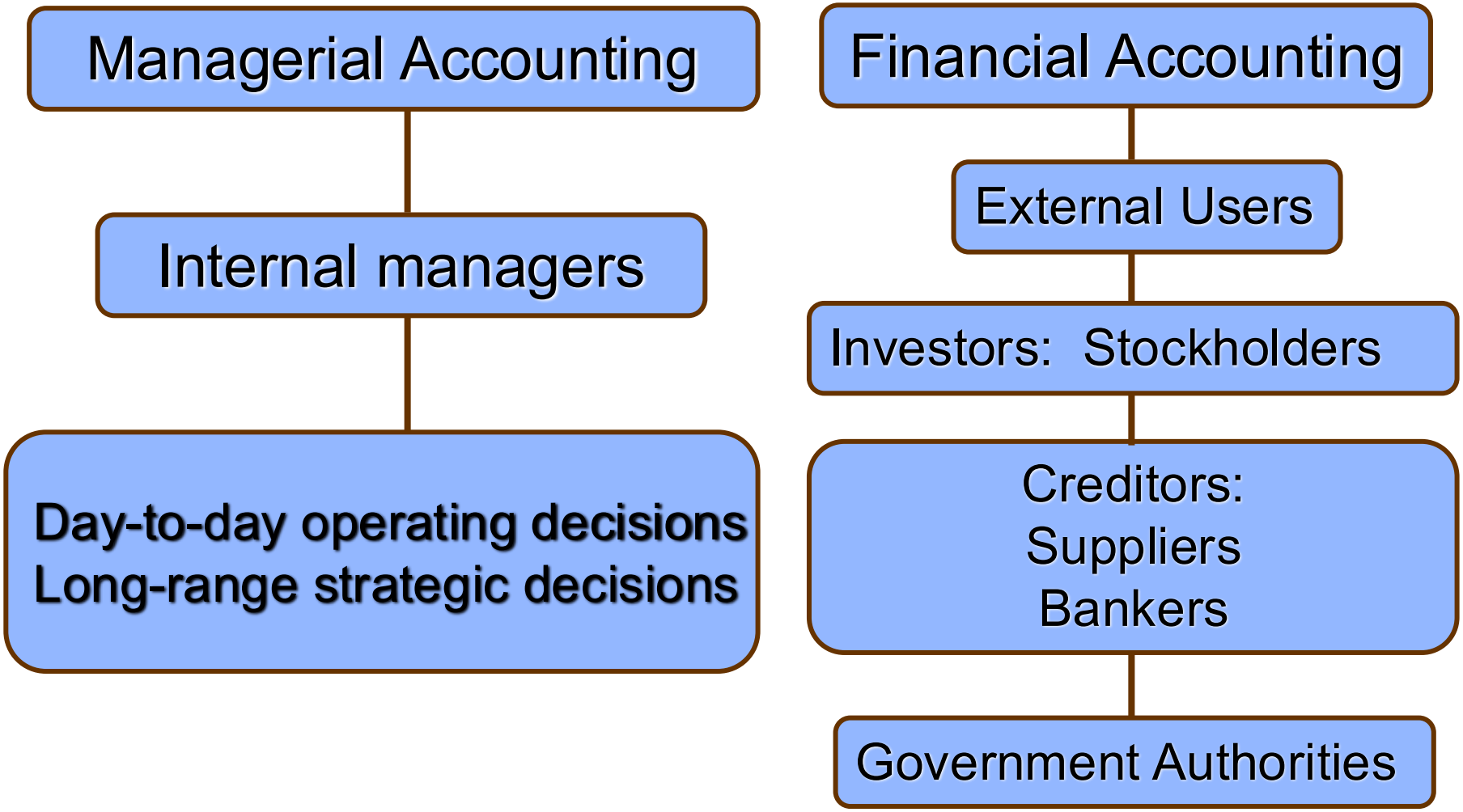
Three-Way Classification Scheme of Information



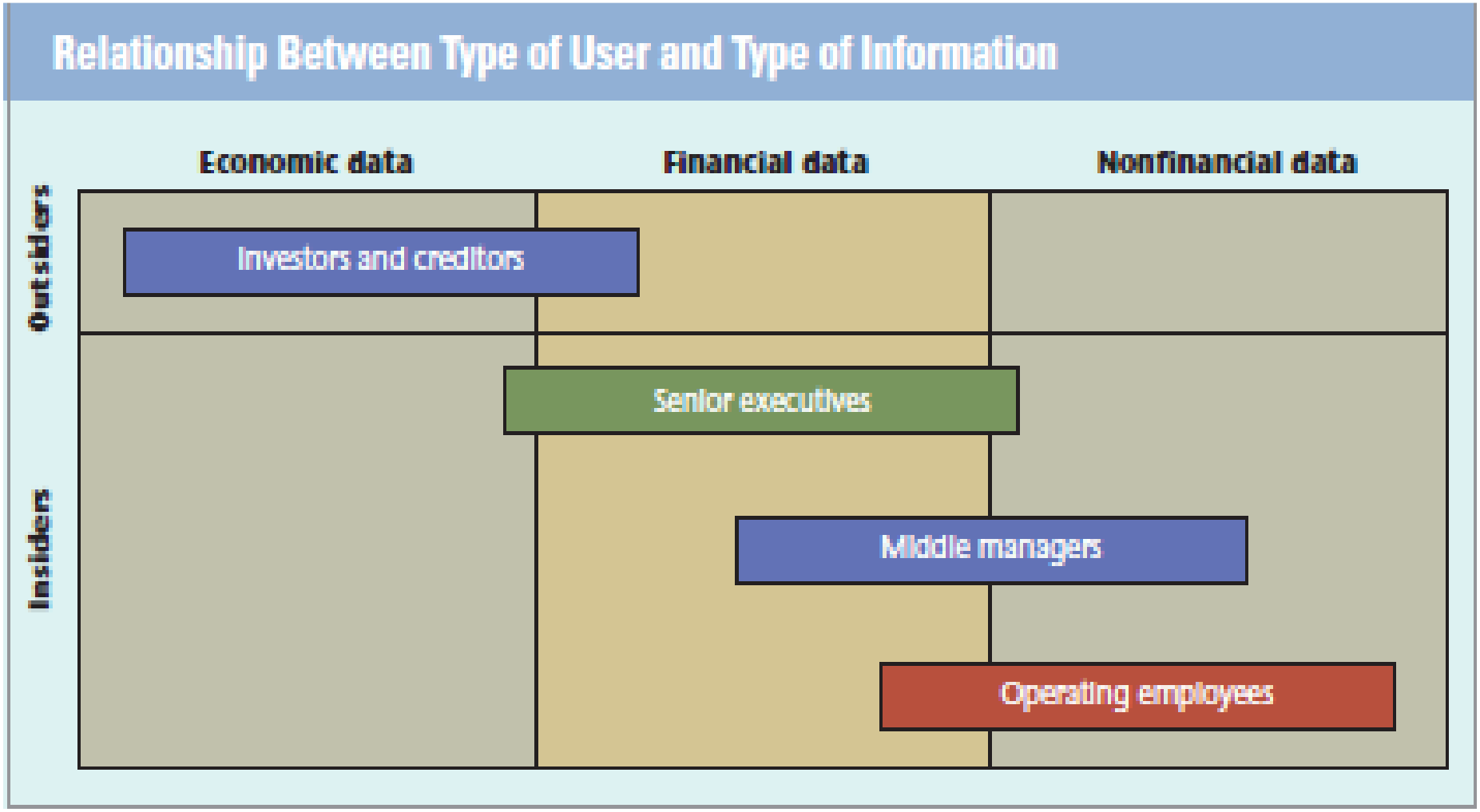
Accounting Information System

Process of gathering, organizing, and Communicating financial information

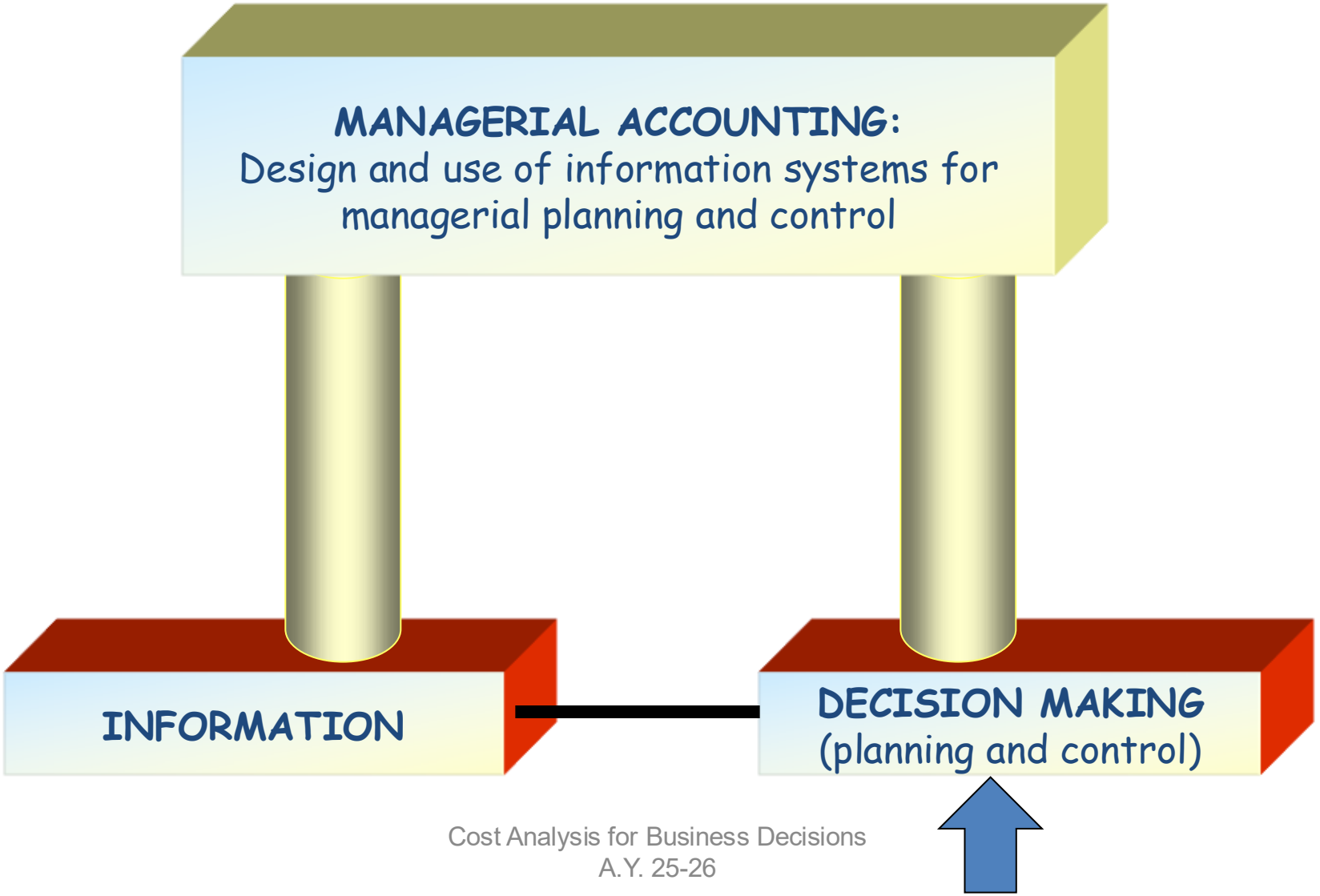
Users of Accounting Information



Comparison of Financial and Managerial Accounting



Managerial Accounting



Planning and Controlling Process

What is decision making?

It is the purposeful choice from among a set of alternative courses of action designed to achieve some objective.

This is the core of the management process.

Decision Making

Scorekeeping: Evaluate Organizational Performance

Attention Directing: Compare Actual Results to Expected

Problem Solving: Assess Possible Courses of Action

Work of Management

Planning

Identify alternatives.

Select alternative that does the best job of furthering organization's objectives.

Develop budgets to guide progress toward the selected alternative.

Directing and Motivating

Directing and motivating involves managing day-to-day activities to keep the organization running smoothly.

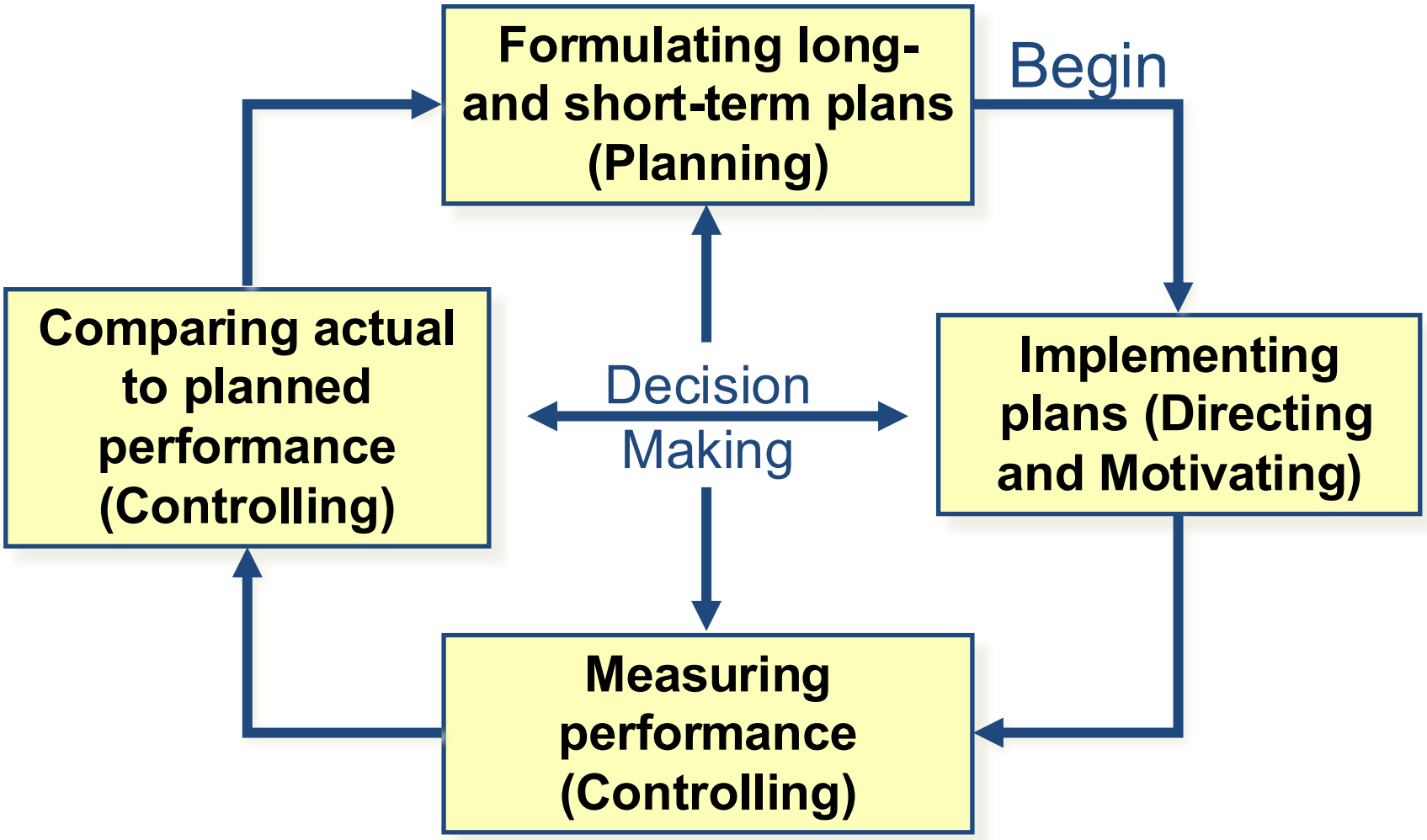
- Employee work assignments.
- Routine problem solving.
- Conflict resolution.
- Effective communications.

Controlling

The control function ensures that plans are being followed.

Feedback in the form of performance reports that compare actual results with the budget are an essential part of the control function.

Planning and Control Cycle



Comparison of Financial and Managerial Accounting

Comparative Features of Managerial versus Financial Accounting Information

Features	Managerial Accounting	Financial Accounting
Users	Insiders including executives, managers, and operators	Outsiders including investors, creditors, government agencies, analysts, and reporters
Information type	Economic and physical data as well as financial data	Financial data
Level of aggregation	Local information on subunits of the organization	Global information on the company as a whole
Regulation	No regulation, limited only by the value-added principle	Regulation by SEC, FASB, and other determiners of GAAP
Information characteristics	Estimates that promote relevance and enable timeliness	Factual information that is characterized by objectivity, reliability, consistency, and accuracy
Time horizon	Past, present, and future	Past only, historically based
Reporting frequency	Continuous reporting	Delayed with emphasis on annual reports

Exercise 1-1A *Identifying financial versus managerial accounting items*

Required

Indicate whether each of the following items is representative of managerial or of financial accounting.

a. Information is based on estimates that are bounded by relevance and timeliness.

b. Information is historically based and usually reported annually.

c. Information is local and pertains to subunits of the organization.

d. Information includes economic and nonfinancial data as well as financial data.

e. Information is global and pertains to the company as a whole.

f. Information is provided to insiders, including executives, managers, and employees.

g. Information is factual and is characterized by objectivity, reliability, consistency, and accuracy.

h. Information is reported continuously and has a current or future orientation.

i. Information is provided to outsiders, including investors, creditors, government agencies, analysts, and reporters.

j. Information is regulated by the SEC, FASB, and other sources of GAAP.

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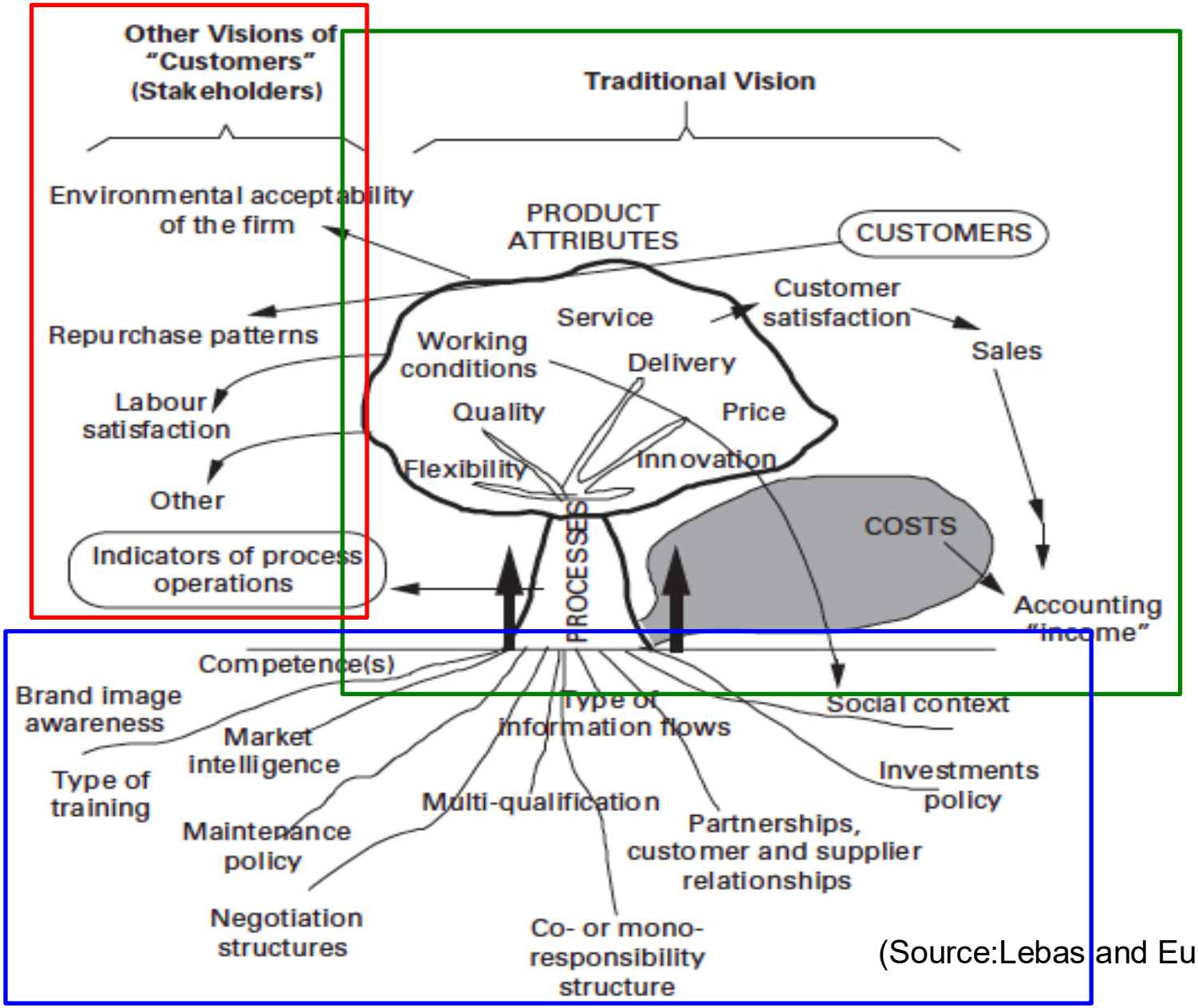
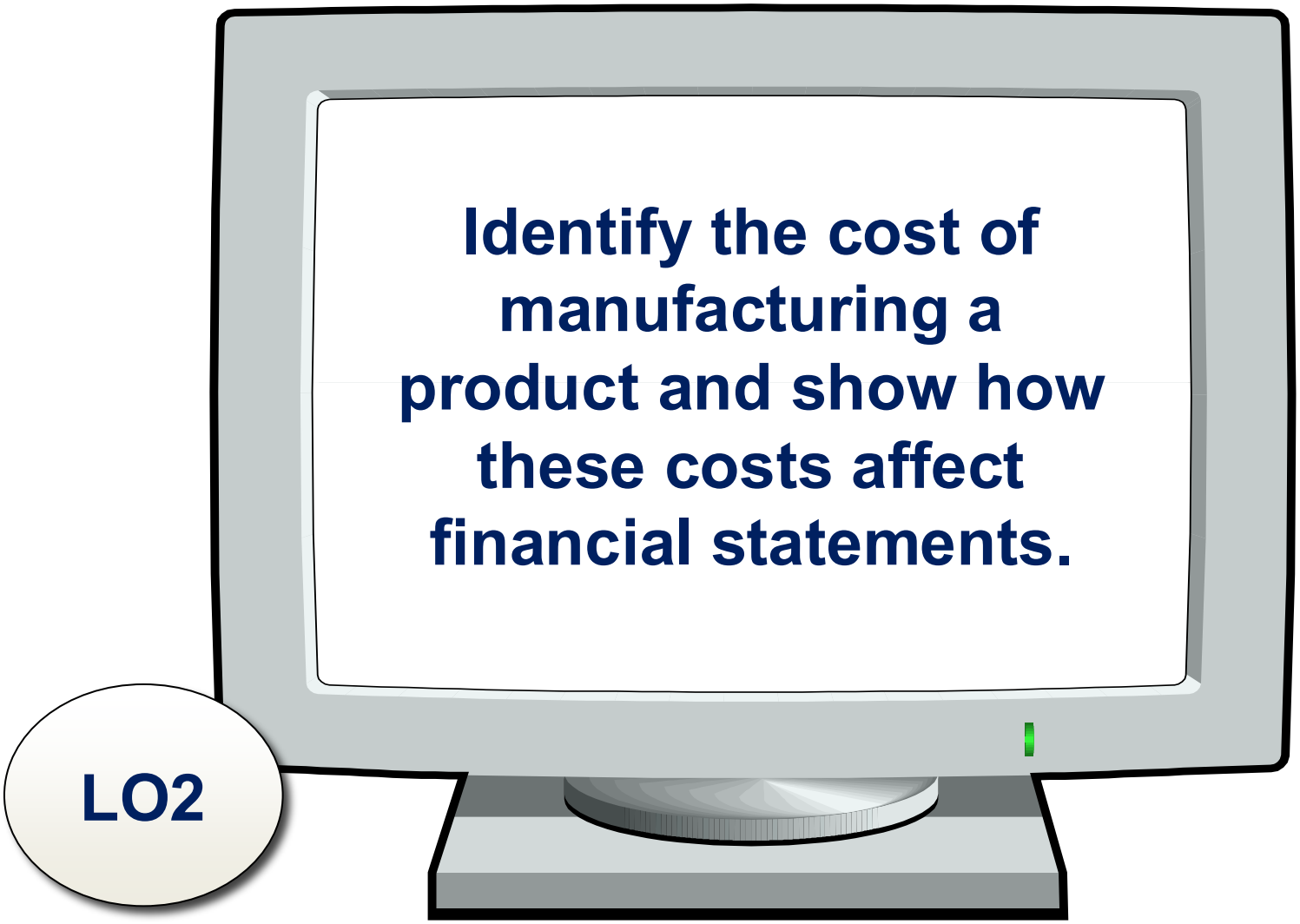
The Performance Tree



(Source:Lebas and Euske, 2002)

Learning Objective

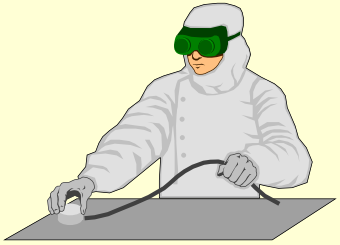


Traditional Manufacturing Company

Forecast Sales

Order components

Store Inventory

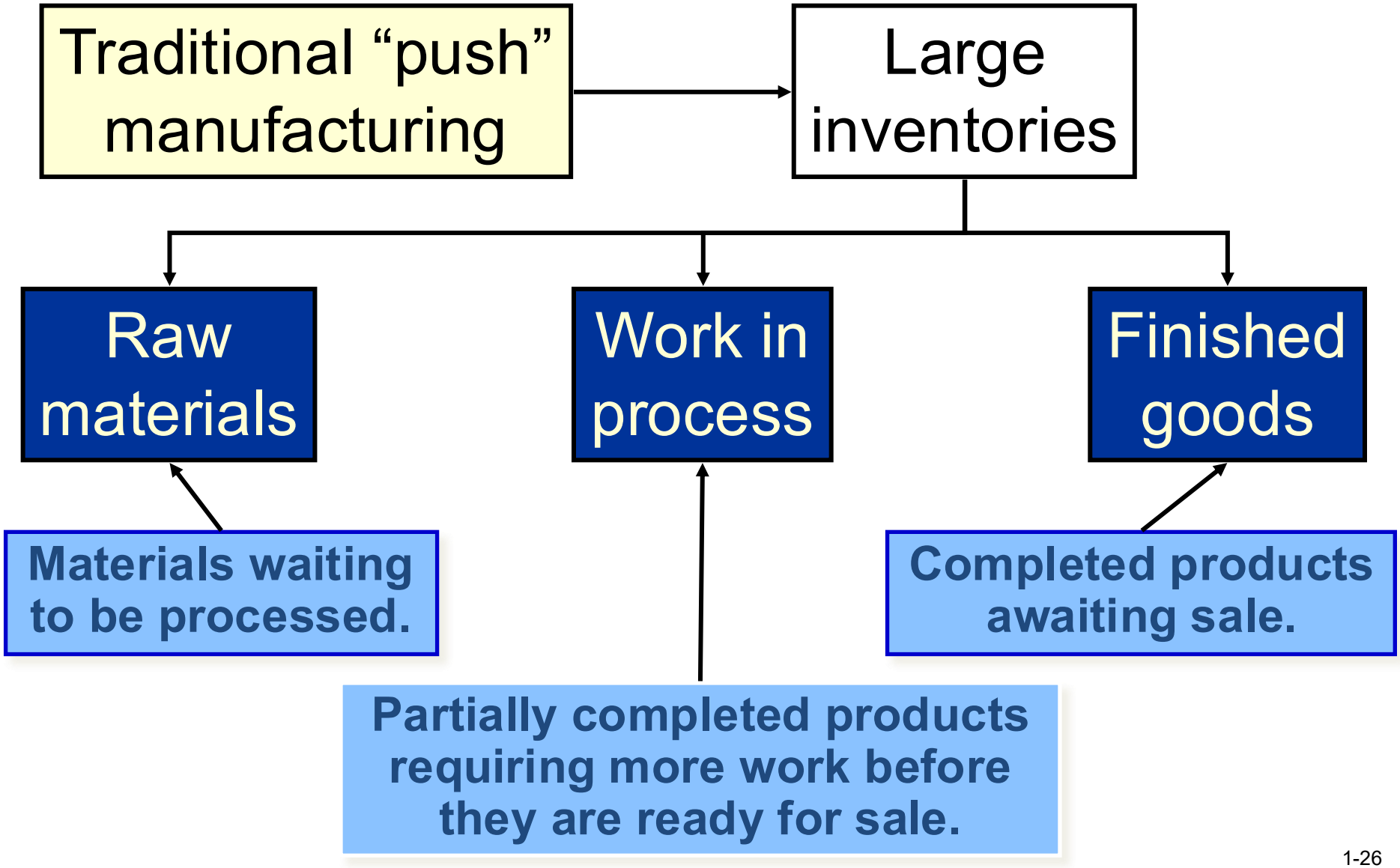


Produce goods in Anticipation of Sales

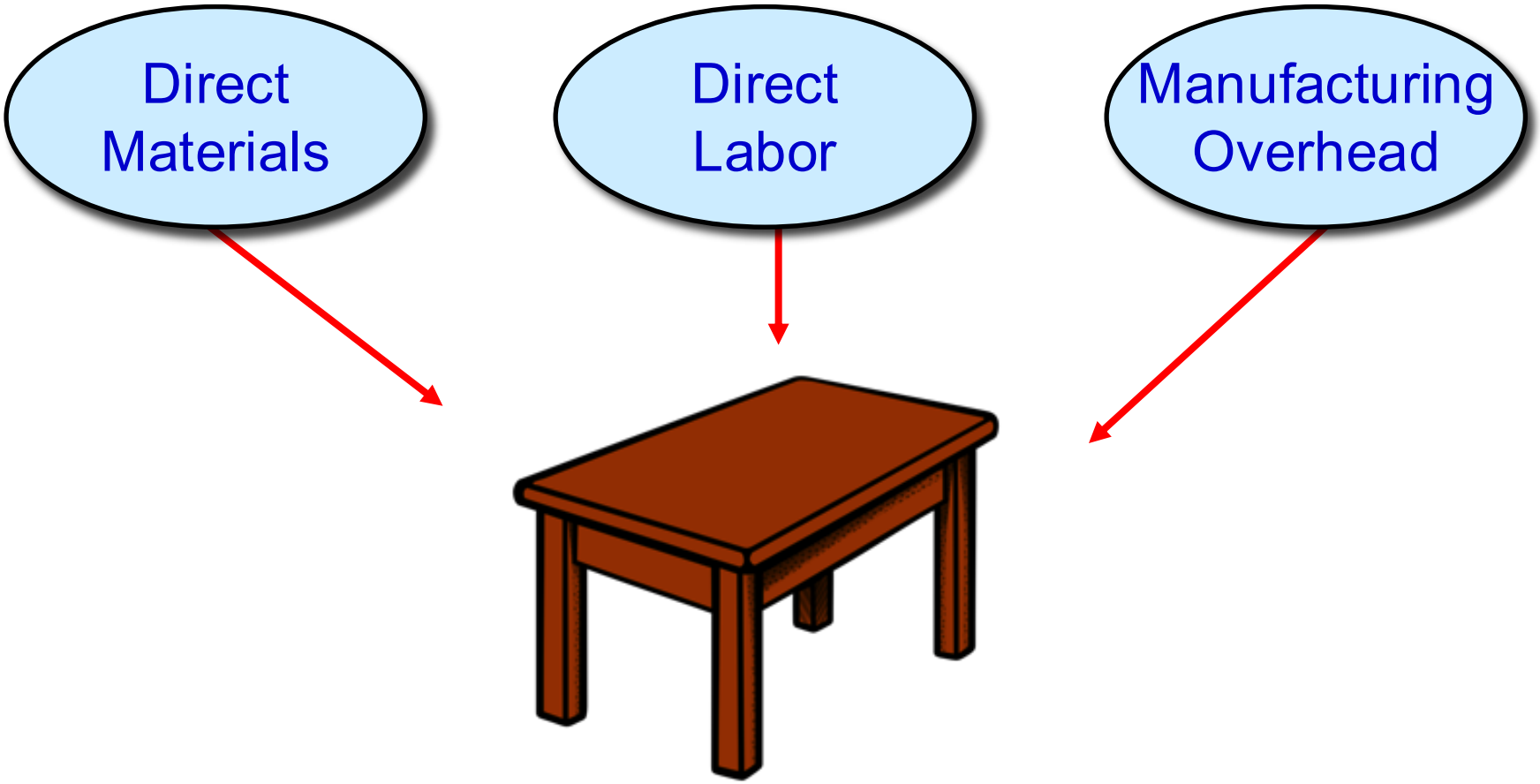
Store Inventory

Make Sales from Finished Goods Inventory

Traditional Manufacturing Company



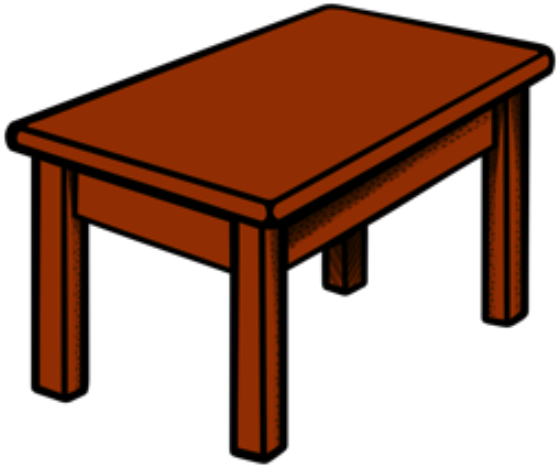
Manufacturing Costs



The Product

Direct Materials

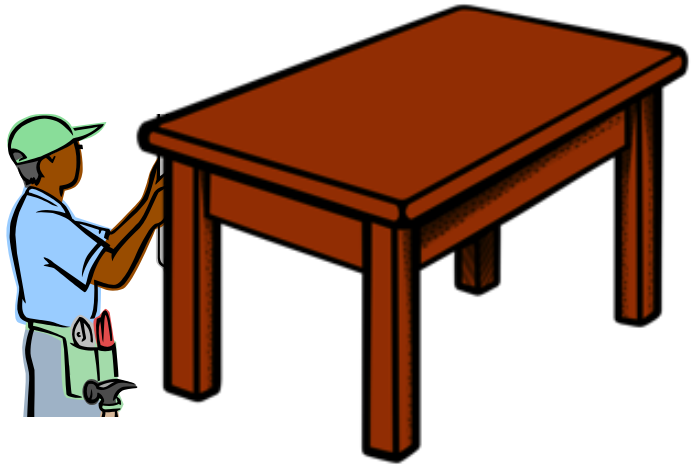
Raw materials that become an integral part of the product and that can be conveniently traced directly to it.



Example: **the amount of wood ($) needed to produce the table**

Direct Labor

Those labor costs that can be easily traced to individual units of product.



Example: Wages paid ($) to table assembly workers

Manufacturing Overhead

Manufacturing costs that cannot be traced directly to specific units produced.

Examples: Indirect labor and indirect materials

Wages paid to employees who are not directly involved in production work.
Examples: maintenance workers, janitors and security guards.

Materials used to support the production process.

Examples: polish and cleaning supplies used in the table assembly plant.

Non-manufacturing Costs

Selling Costs

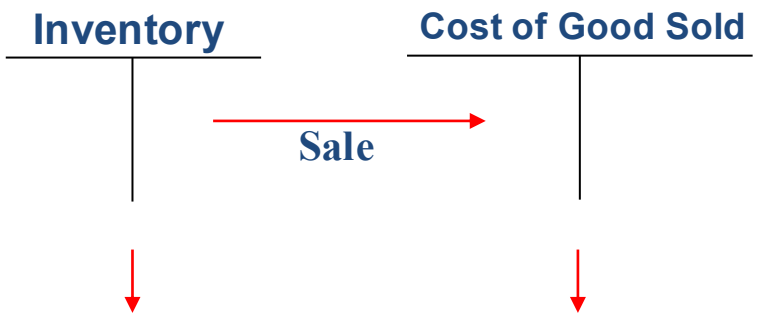
Costs necessary to get the order and deliver the product.

Administrative Costs

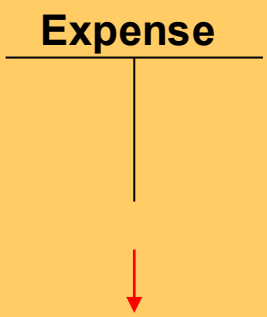
All executive, organizational, and clerical costs.

Product Costs Versus Period Costs

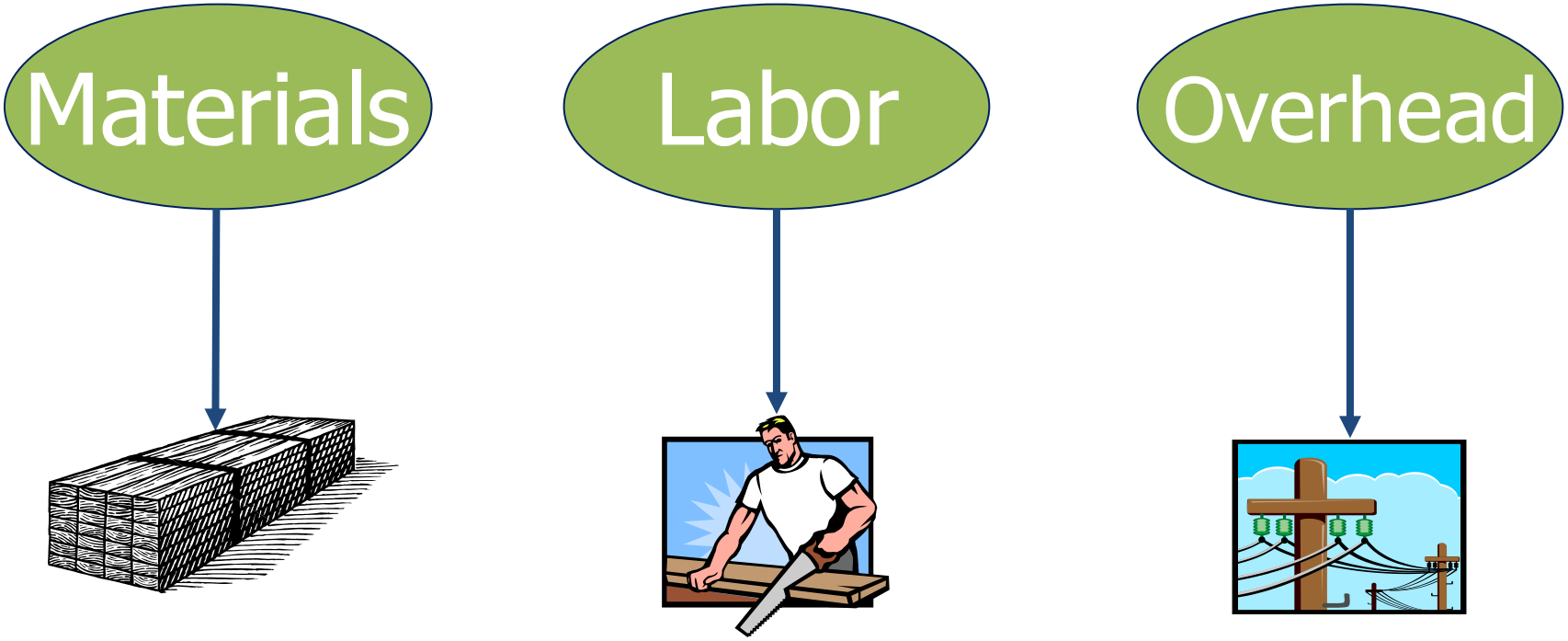
Product costs include direct materials, direct labor, and manufacturing overhead.



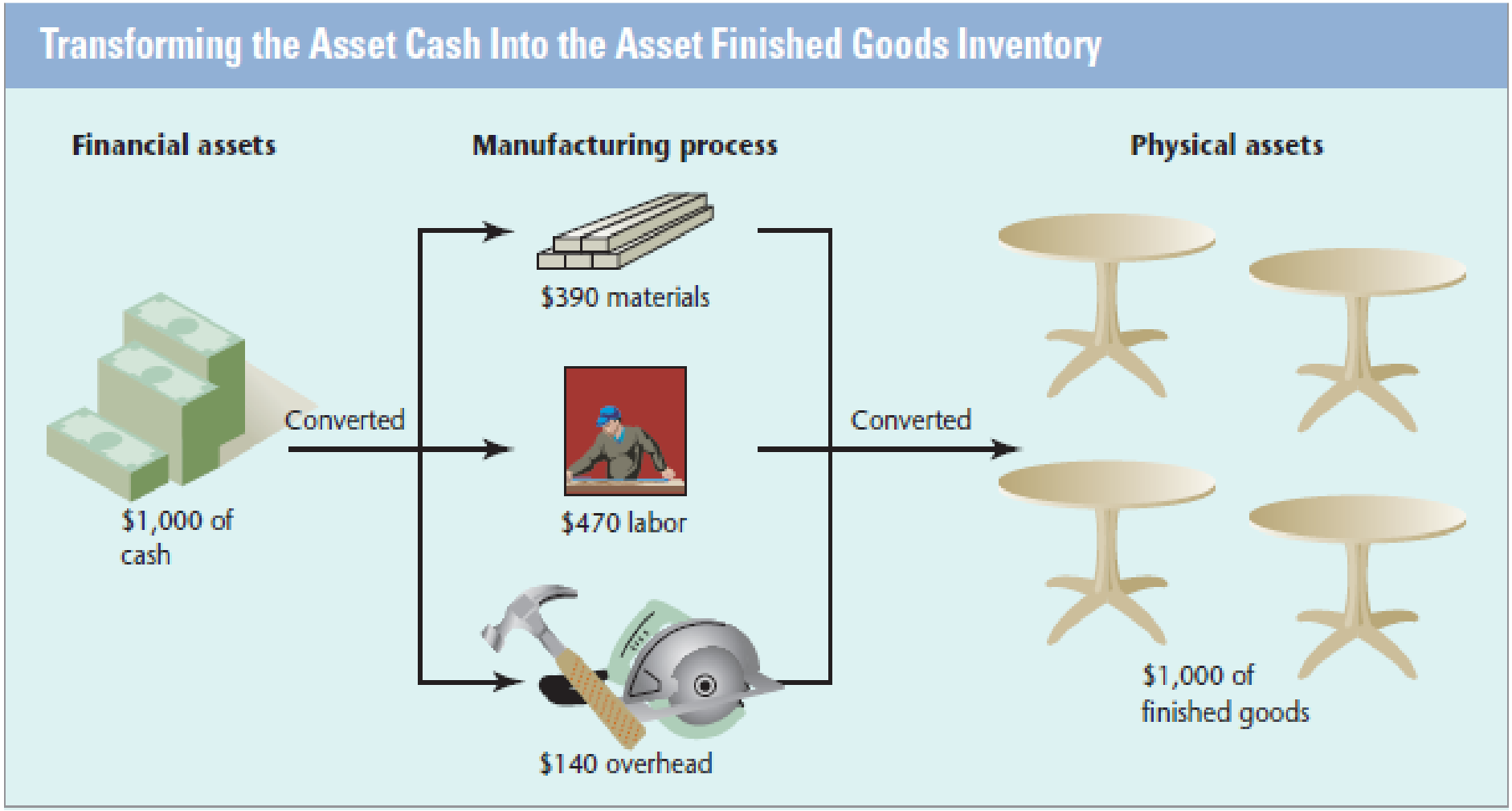
Period costs include all selling costs and administrative costs.



Components of Product Cost



Components of Product Cost



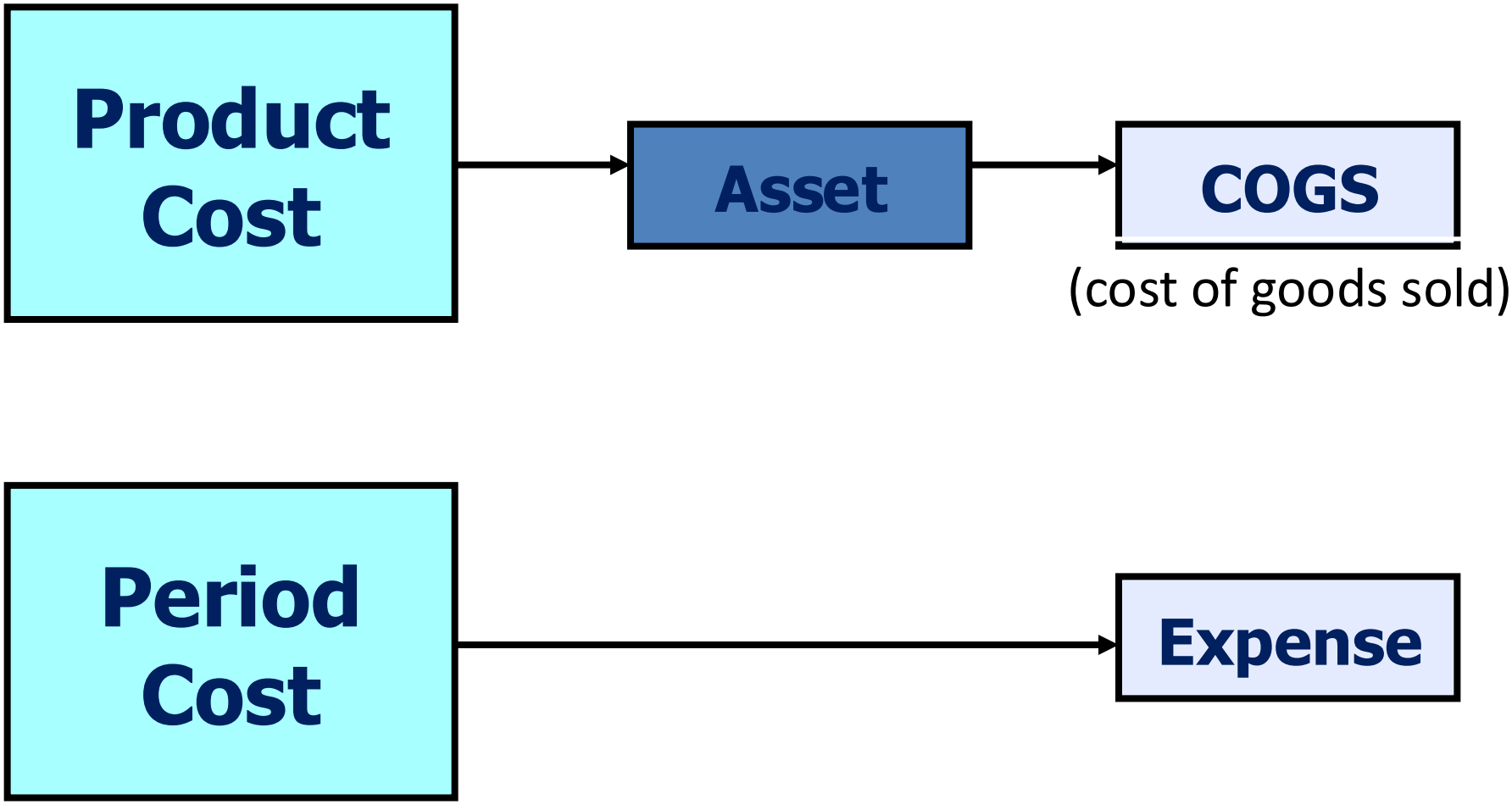
Average Cost per Unit

$$\frac{\text{Total Cost}}{\text{Number of Units}} = \text{Average Cost per Unit}$$

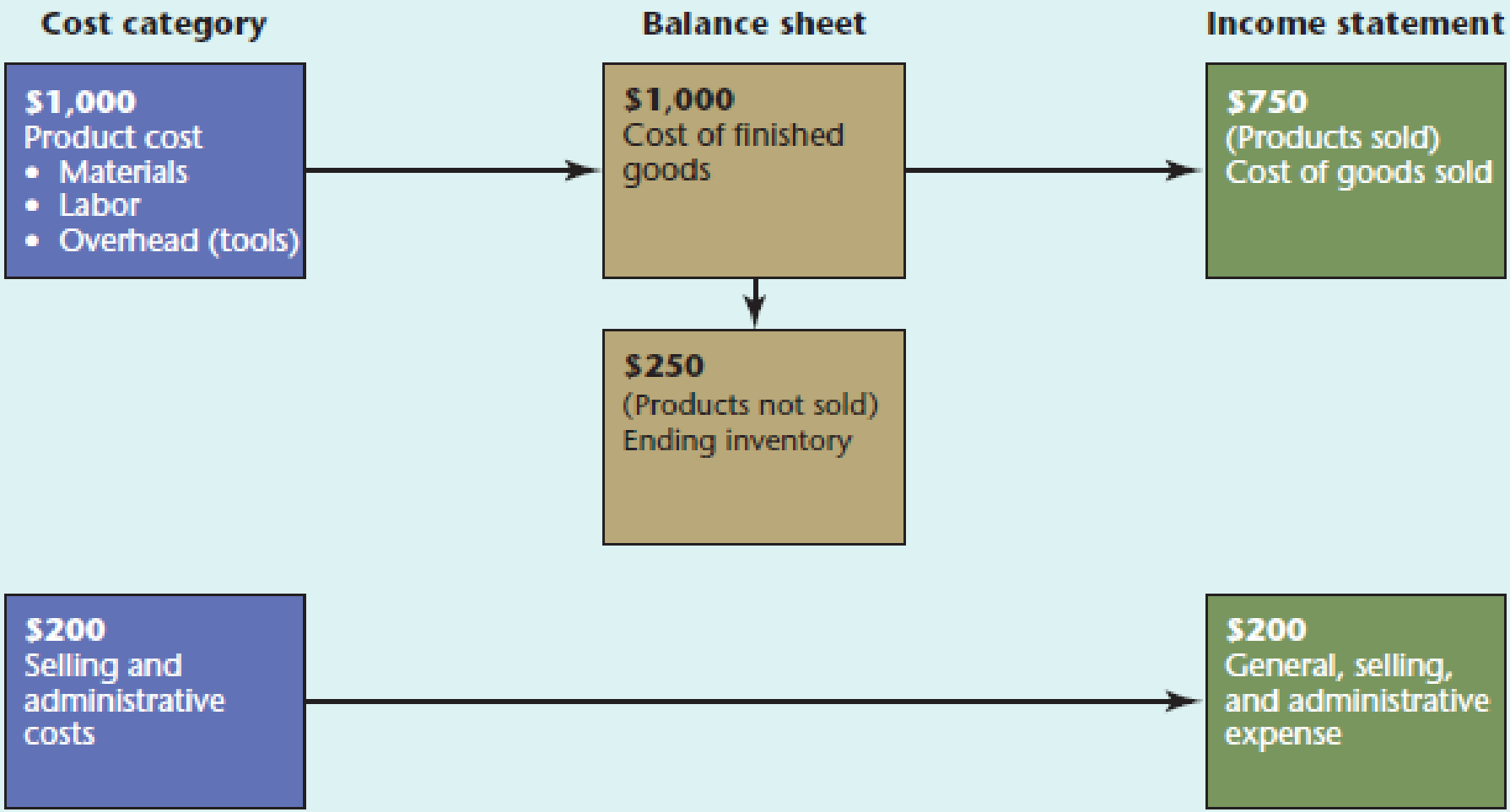
For example, Average Cost Per Unit

$$\frac{\$1{,}000}{4} = \$250$$

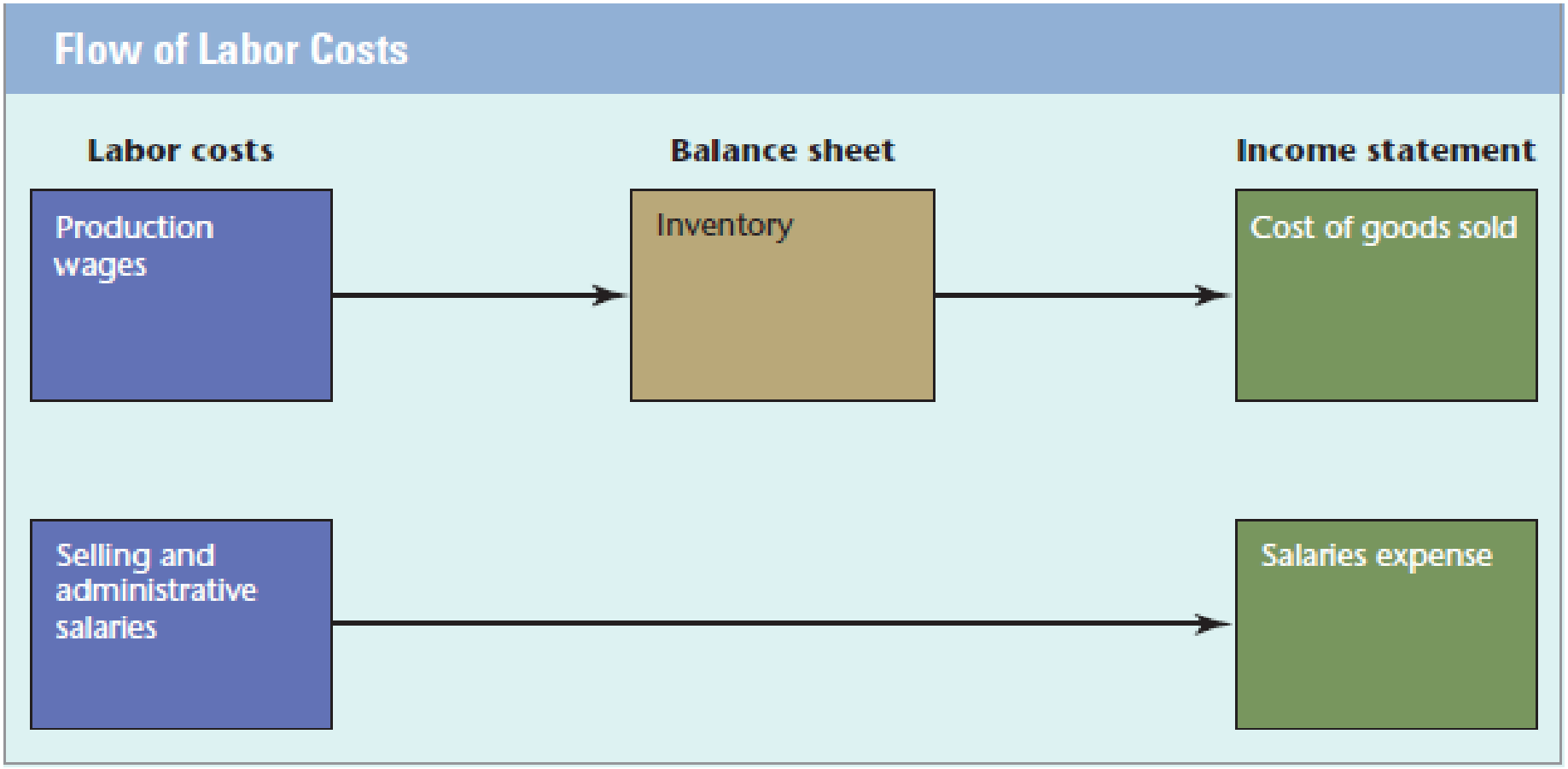
Remember that cost can be: Assets or Expenses



Cost Classification for Tabor Manufacturing Company



Labor Costs


Flow of Labor Costs
Labor costs
Balance sheet
Income statement
Production wages
Inventory
Cost of goods sold
Selling and administrative salaries
Salaries expense

Example: Patillo, experienced the following accounting events during its first year of operation. Register them:
(please assume that all transactions except 6, 8, and 10 are cash outflow)

1. Acquired $15,000 cash by issuing common stock.
2. Paid $2,000 for materials that were used to make products. All products started were completed during the period.
3. Paid $1,200 for salaries of selling and administrative employees.
4. Paid $3,000 for wages of production workers.
5. Paid $2,800 for furniture used in selling and administrative offices.
6. Recognized depreciation on the office furniture purchased in Event 5. The furniture was acquired on January 1, had a $400 estimated salvage value, and a four-year useful life. The annual depreciation charge is $600 [($2,800 – $400) ÷ 4].
7. Paid $4,500 for manufacturing equipment.
8. Recognized depreciation on the equipment purchased in Event 7. The equipment was acquired on January 1, had a $1,500 estimated salvage value, and a three-year useful life. The annual depreciation charge is $1,000 [($4,500 – $1,500) ÷ 3].
9. Sold inventory to customers for $7,500 cash.
10. The inventory sold in Event 9 cost $4,000 to make.

Solution

Effect of Product versus Selling and Administrative Costs on Financial Statements

Event No.	Assets									=	Equity			Rev.		Exp.	=	Net Inc.
	Cash	+	Inventory	+	Office Furn.*	+	Manuf. Equip.*				Com. Stk.	+	Ret. Earn.					
1	15,000									=	15,000							
2	(2,000)	+	2,000															
3	(1,200)									=			(1,200)		–	1,200	=	(1,200)
4	(3,000)	+	3,000															
5	(2,800)	+			2,800													
6					(600)					=			(600)		–	600	=	(600)
7	(4,500)	+					4,500											
8			1,000	+			(1,000)											
9	7,500									=			7,500	7,500			=	7,500
10			(4,000)							=			(4,000)		–	4,000	=	(4,000)
Totals	9,000	+	2,000	+	2,200	+	3,500	=	15,000	+	1,700	7,500	–	5,800	=	1,700		

*Negative amounts in these columns represent accumulated depreciation.

Total Product Cost

Schedule of Inventory Costs

Materials	$2,000
Labor	3,000
Manufacturing overhead*	1,000
Total product costs	6,000
Less: Cost of goods sold	(4,000)
Ending inventory balance	$2,000

*Depreciation [($4,500 − $1,500) ÷ 3]

PATILLO MANUFACTURING COMPANY
Financial Statements

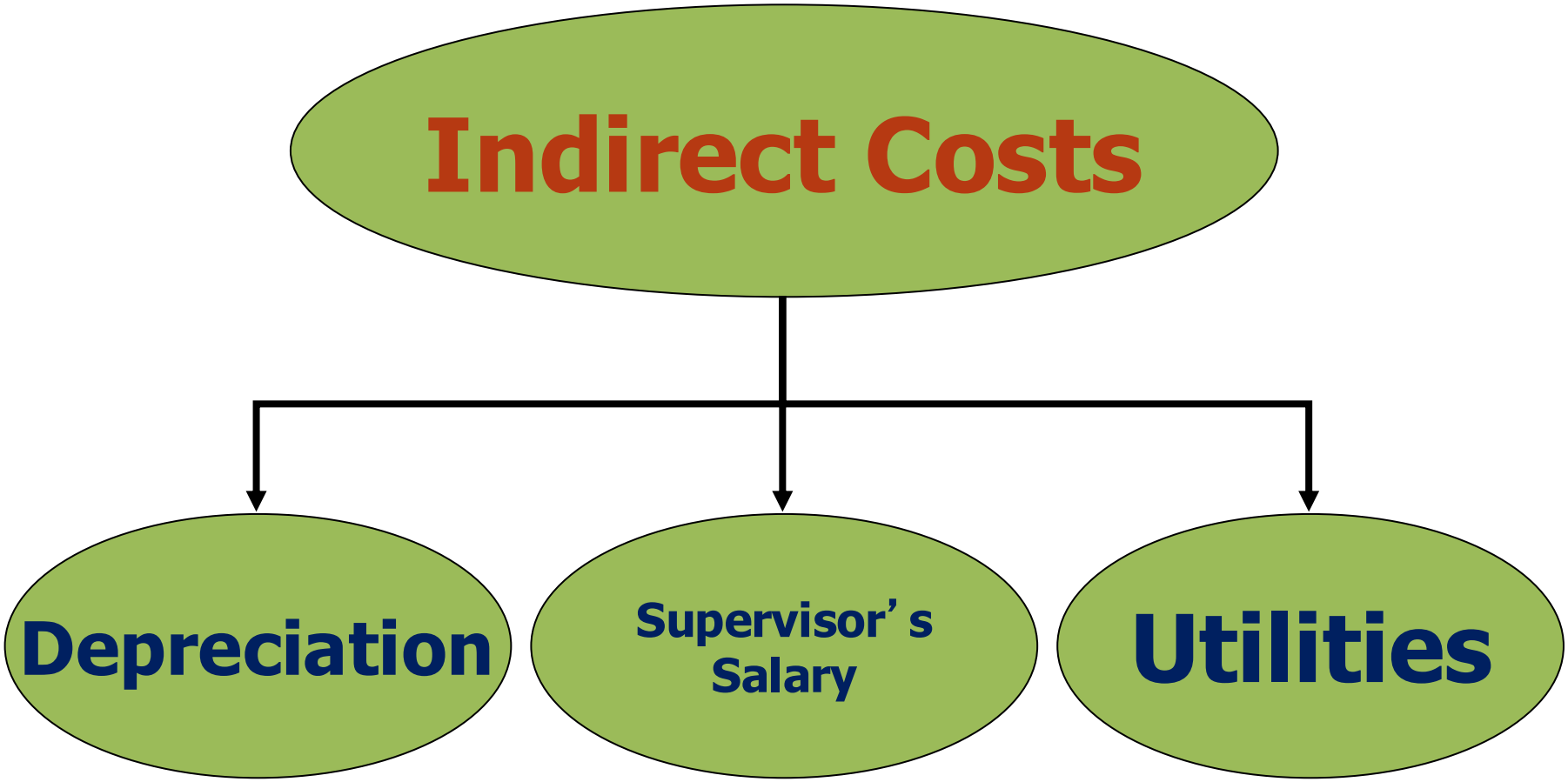
Income Statement for 2016

Sales revenue	$ 7,500
Cost of goods sold	(4,000)
Gross margin	3,500
SG&A expenses	
Salaries expense	(1,200)
Depreciation expense—office furniture	(600)
Net income	$ 1,700

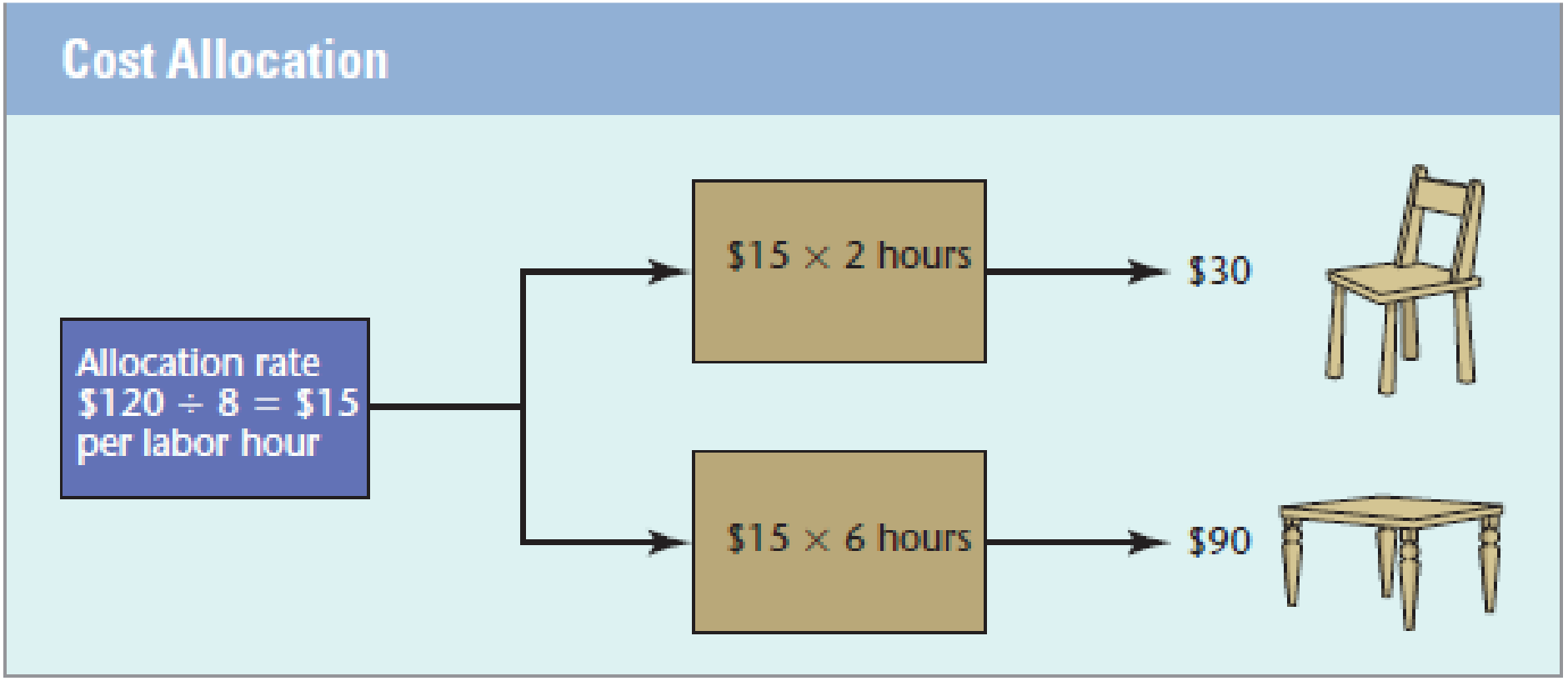
Balance Sheet as of December 31, 2016

Cash		$ 9,000
Finished goods inventory		2,000
Office furniture	$2,800	
Accumulated depreciation	(600)	
Book value		2,200
Manufacturing equipment	4,500	
Accumulated depreciation	(1,000)	
Book value		3,500
Total assets		$16,700
Stockholders' equity		
Common stock		$15,000
Retained earnings		1,700
Total stockholders' equity		$16,700

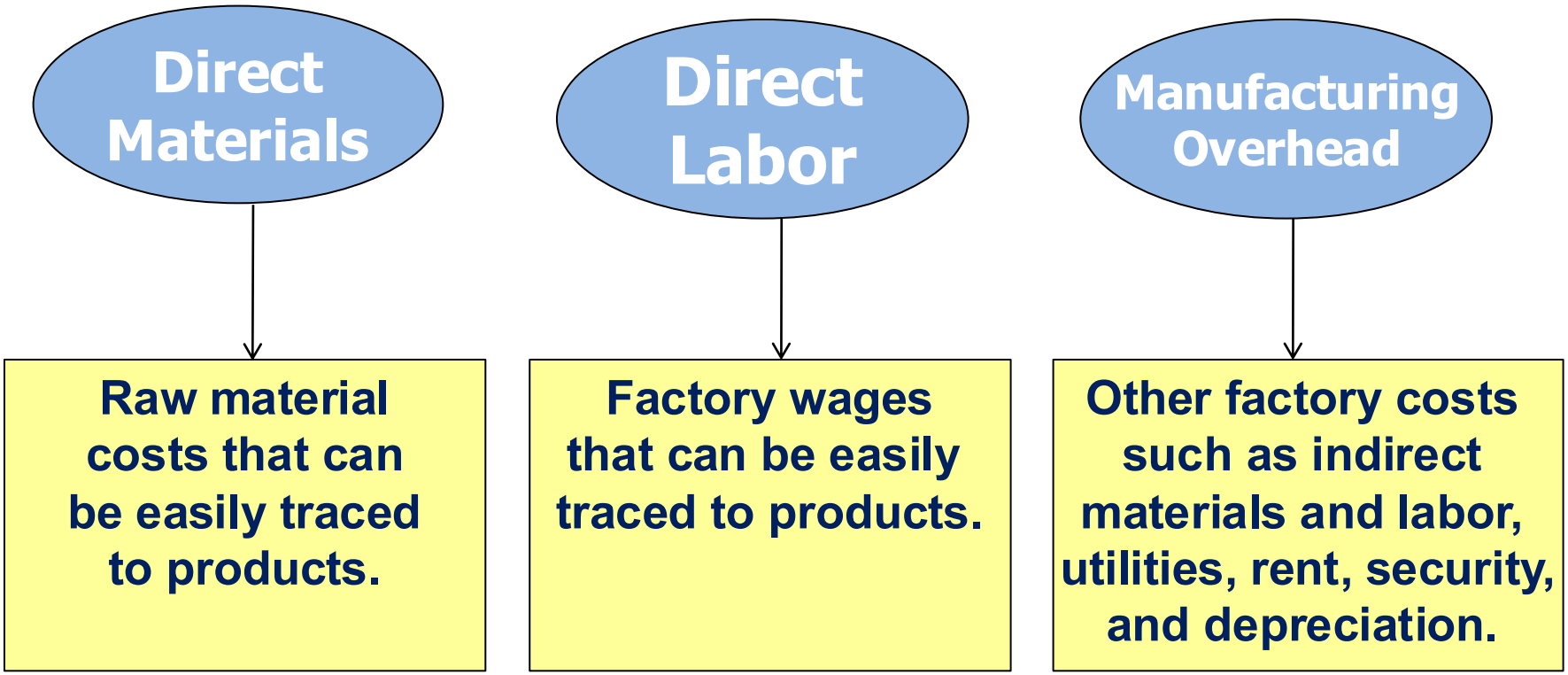
Overhead Costs: A Closer Look



Indirect Cost Allocation



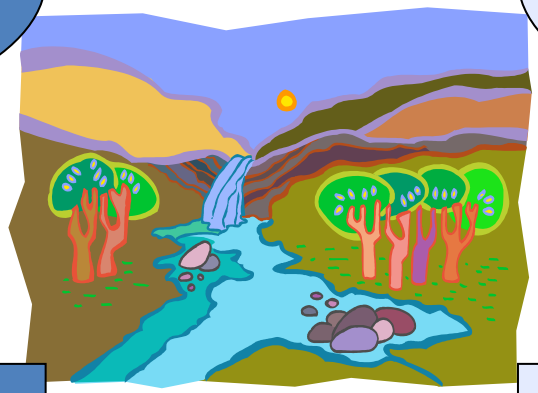
Manufacturing Product Cost Summary



Upstream and Downstream Costs

Upstream Costs

Occur before the manufacturing process begins.



Downstream Costs

Occur after the manufacturing process begins.

Product Costing in Service and Merchandising Companies

Service Companies

Provide products to customers that are consumed immediately

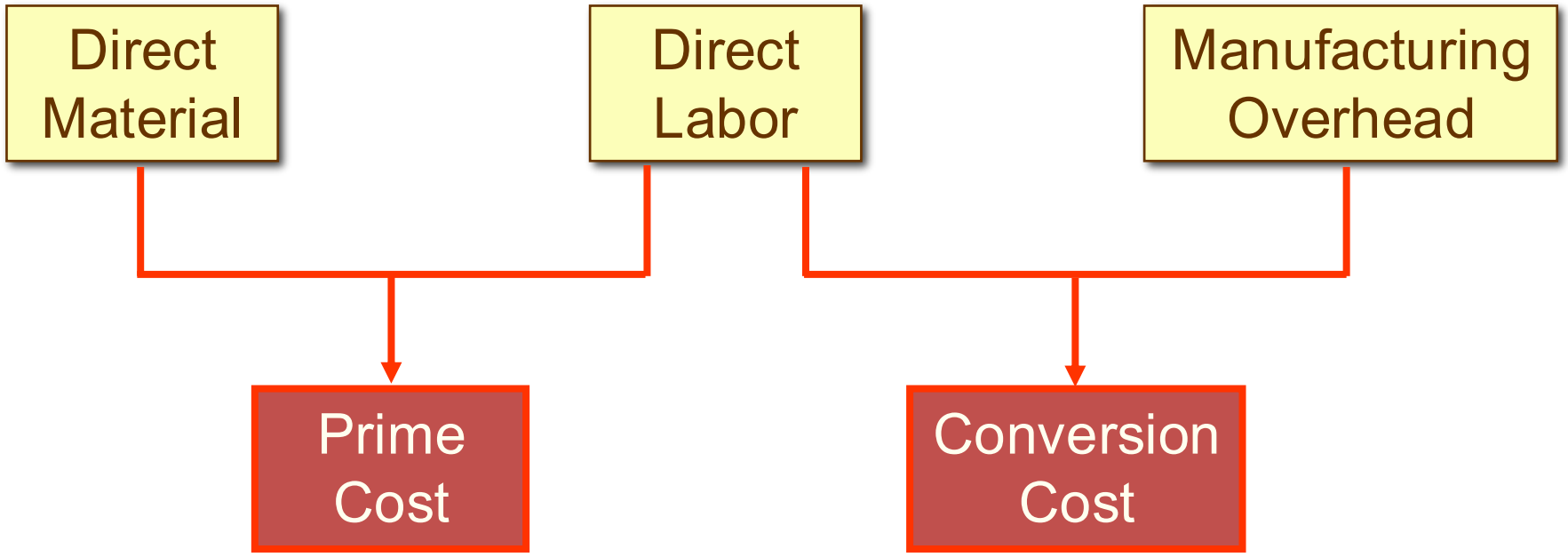
Merchandising Companies

Sell products other companies make

Service and merchandising companies also incur labor and overhead costs. However, these costs are normally treated as general, selling and administrative expenses rather than accumulated in inventory accounts.

Classifications of Costs

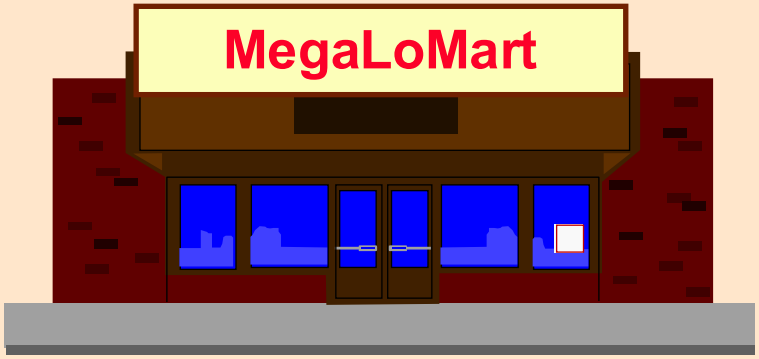
Manufacturing costs are often classified as follows:



Comparing Merchandising and Manufacturing Activities

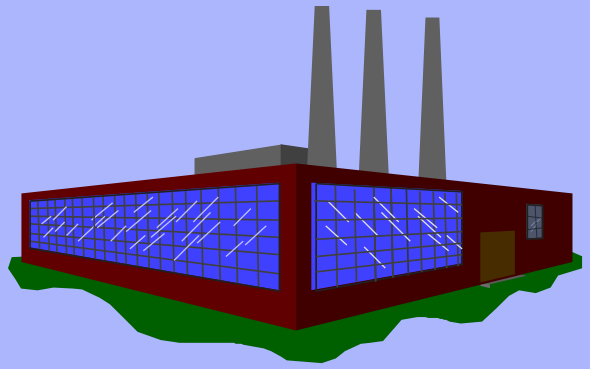
Merchandisers . . .

- Buy finished goods.
- Sell finished goods.



Manufacturers . . .

- Buy raw materials.
- Produce and sell finished goods.



Balance Sheet

Merchandiser

Current assets

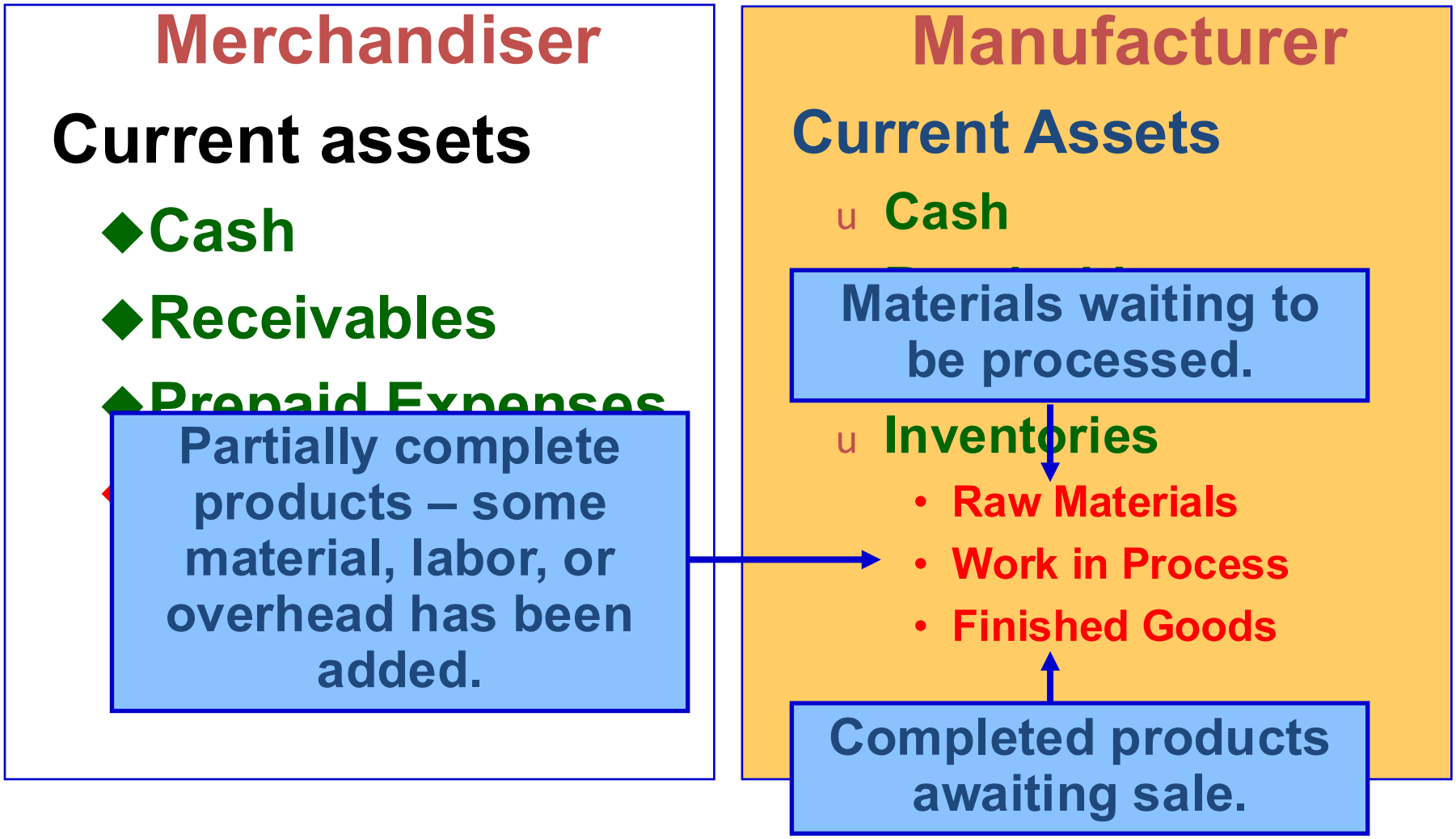
- Cash
- Receivables
- Prepaid Expenses
- Merchandise Inventory

Manufacturer

Current Assets

- Cash
- Receivables
- Prepaid Expenses
- Inventories
  - Raw Materials
  - Work in Process
  - Finished Goods

Balance Sheet



The Income Statement

Cost of goods sold for manufacturers differs only slightly from cost of goods sold for merchandisers.

Merchandising Company

Cost of goods sold:	
Beg. merchandise inventory	**$ 14,200**
+ Purchases	**234,150**
Goods available for sale	**$ 248,350**
- Ending merchandise inventory	**(12,100)**
= Cost of goods sold	**$ 236,250**

Manufacturing Company

Cost of goods sold:	
Beg. finished goods inv.	**$ 14,200**
+ Cost of goods manufactured	**234,150**
Goods available for sale	**$248,350**
- Ending finished goods inventory	**(12,100)**
= Cost of goods sold	**$236,250**

Basic Equation for Inventory Accounts

Beginning balance + **Additions to inventory** = **Ending balance** + **Withdrawals from inventory**

Schedule of Cost of Goods Manufactured

Calculates the cost of raw material, direct labor and manufacturing overhead used in production.

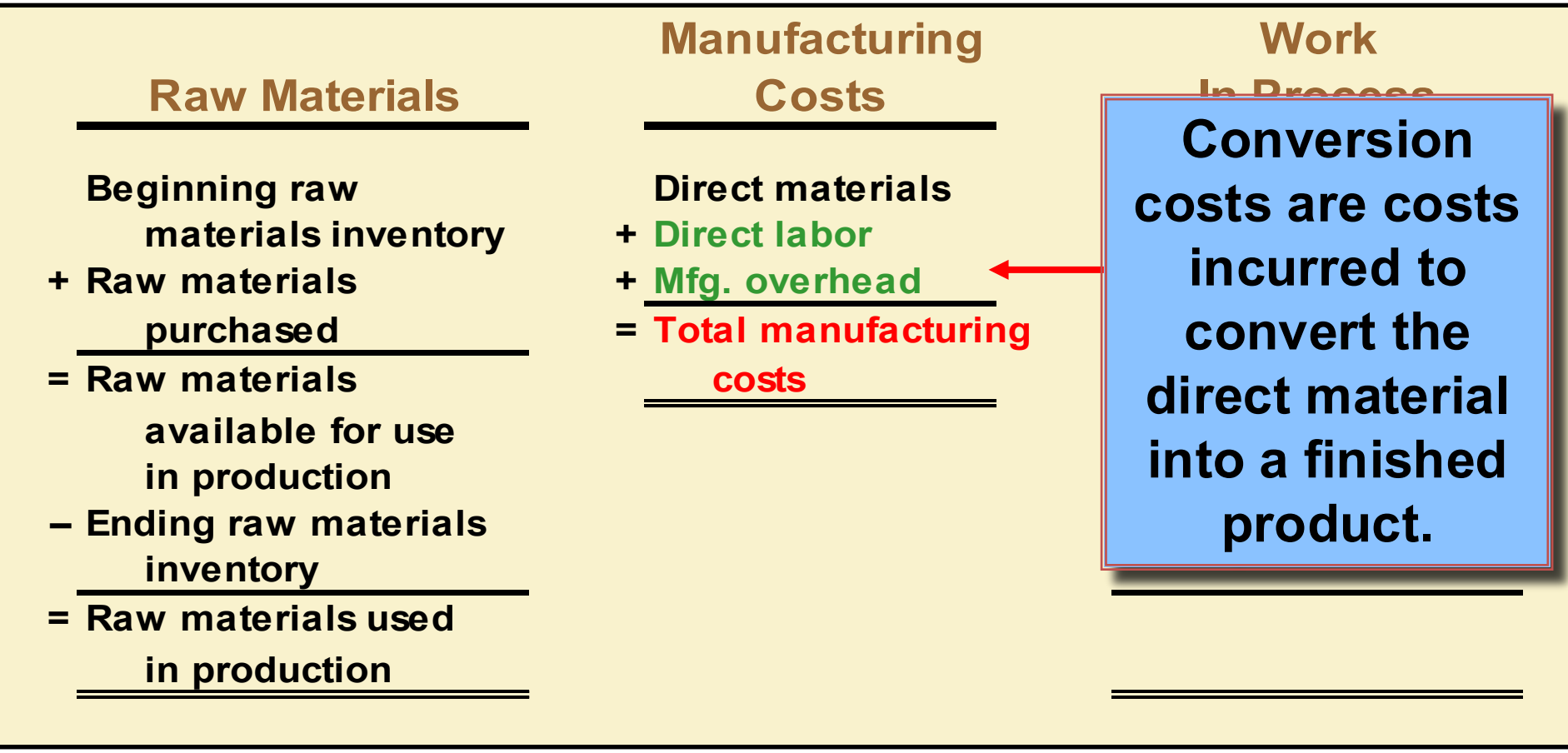
Calculates the manufacturing costs associated with goods that were finished during the period.

Product Cost Flows

Raw Materials	Manufacturing Costs	Work In Process
Beginning raw materials inventory	Direct materials	
+ Raw materials purchased		
= Raw materials available for use in production		
– Ending raw materials inventory		
= Raw materials used in production		

As items are removed from raw materials inventory and placed into the production process, they are called direct materials.

Product Cost Flows



Product Cost Flows

Raw Materials	Manufacturing Costs	Work In Process
Beginning raw materials inventory	Direct materials	Beginning work in process inventory
+ Raw materials purchased	+ Direct labor	+ Total manufacturing costs
= Raw materials available for use in production	+ Mfg. overhead	= Total work in process for the period
– Ending raw materials inventory	= Total manufacturing costs	
= Raw materials used in production		

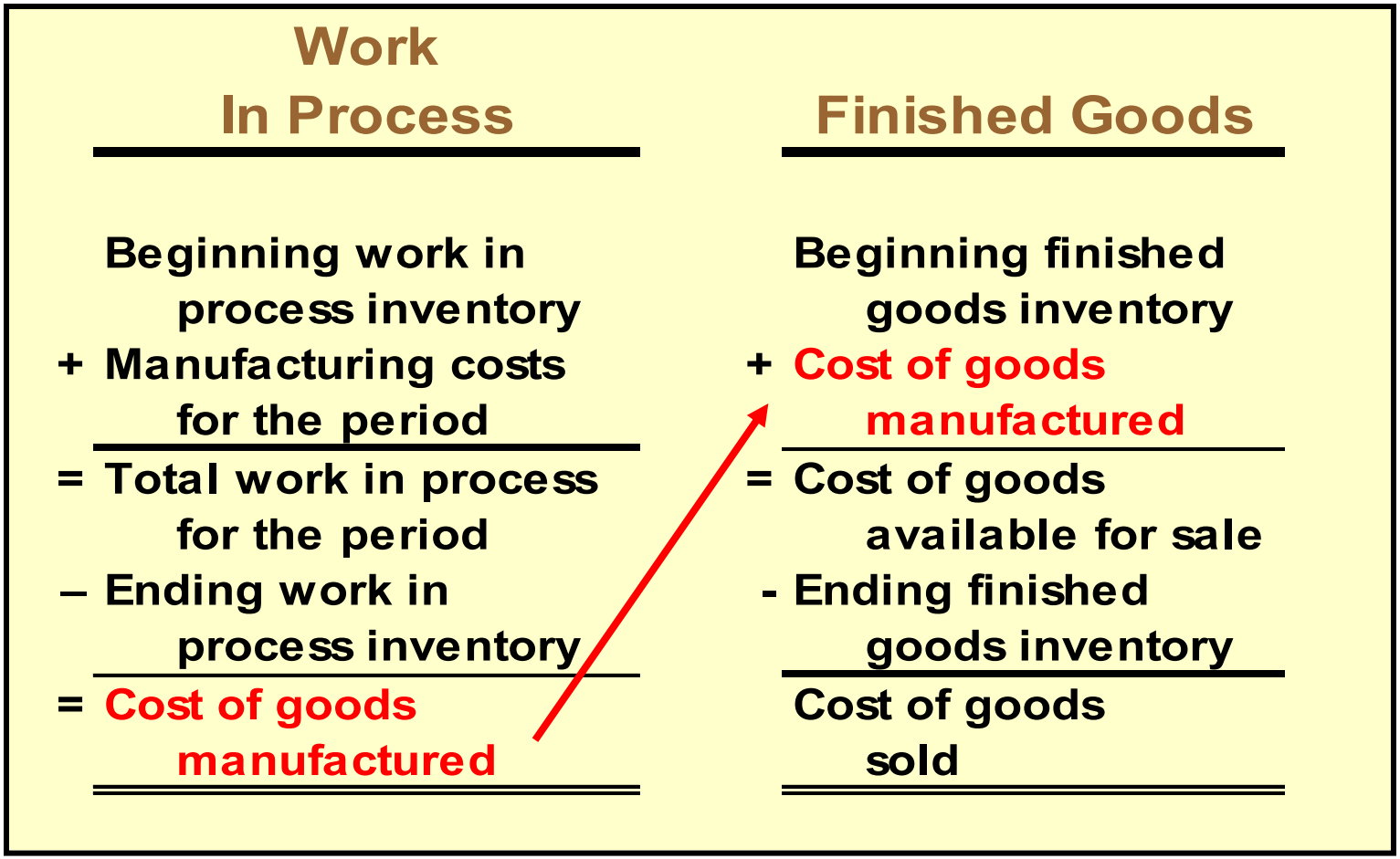
All manufacturing costs incurred during the period are added to the beginning balance of work in process.

Product Cost Flows

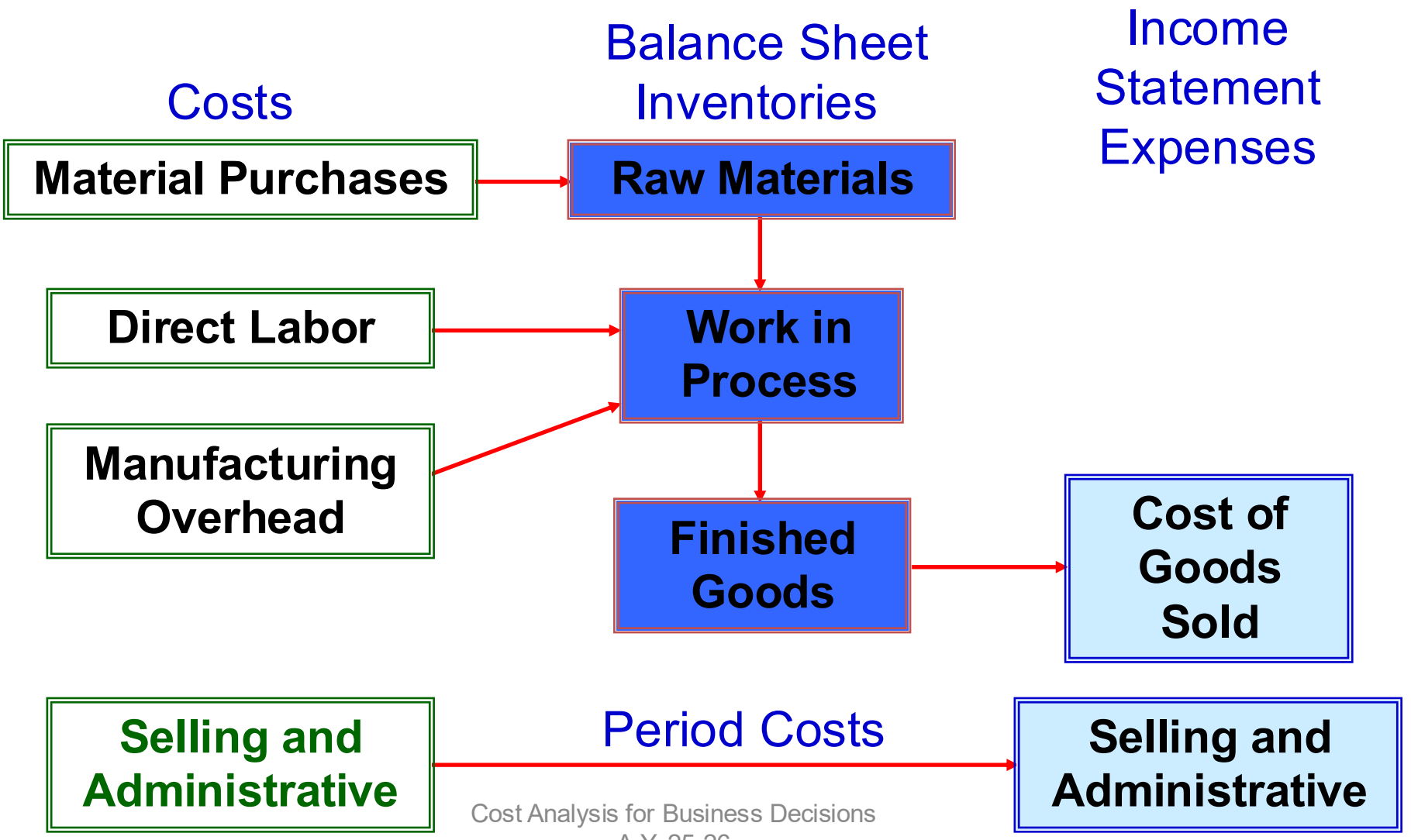
Raw Materials	Manufacturing Costs	Work In Process
Beginning raw materials inventory	Direct materials	Beginning work in process inventory
+ Raw materials purchased	+ Direct labor	+ Total manufacturing costs
= Raw materials available for use in production	+ Mfg. overhead	= Total work in process for the period
– Ending raw materials	= Total manufacturing costs	– Ending work in process inventory
		= Cost of goods manufactured

Costs associated with the goods that are completed during the period are transferred to finished goods inventory.

Product Cost Flows



Manufacturing Cost Flows



Exercise: Demonstration Problem 1

Eiffel Manufacturing Company makes small replicas of major landmarks that it sells to souvenir shops. The company was started on January 1, 2014, when it acquired $60,000 cash from the issue of common stock. During 2014, the company purchased and used raw materials that cost $16,000 cash. It paid wages of $22,000 cash to the workers who made the replicas. Finally, manufacturing overhead costs, including rental fees paid for facilities and equipment, amounted to $12,000 cash. The company started and completed the production of 1,000 replicas during 2014.

Required:

a. Determine the amount of expense Eiffel incurred in 2014, assuming none of the replicas was sold in 2014.

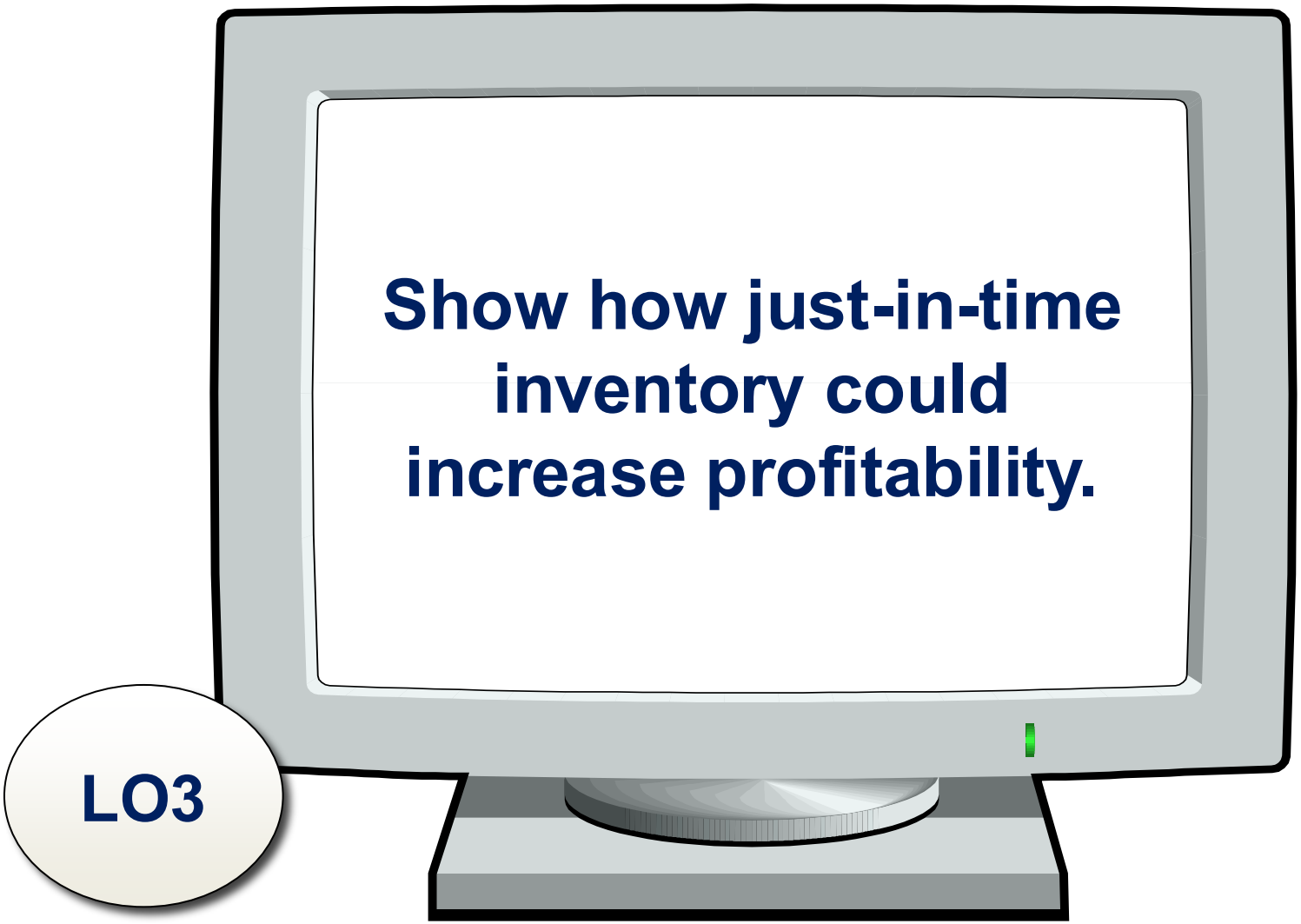
b. Record the accounting events associated with making the 1,000 replicas in a financial statements model (please use the Horizontal Statement Model)

c. Determine the cost per unit of the 1,000 replicas. Determine the sales price per unit assuming the products are sold for cost plus 40% of cost.

d. Record the sale of 800 replicas.

e. Record the payment of a $4,000 sales commission to the salesperson who sold the replicas

Learning Objective

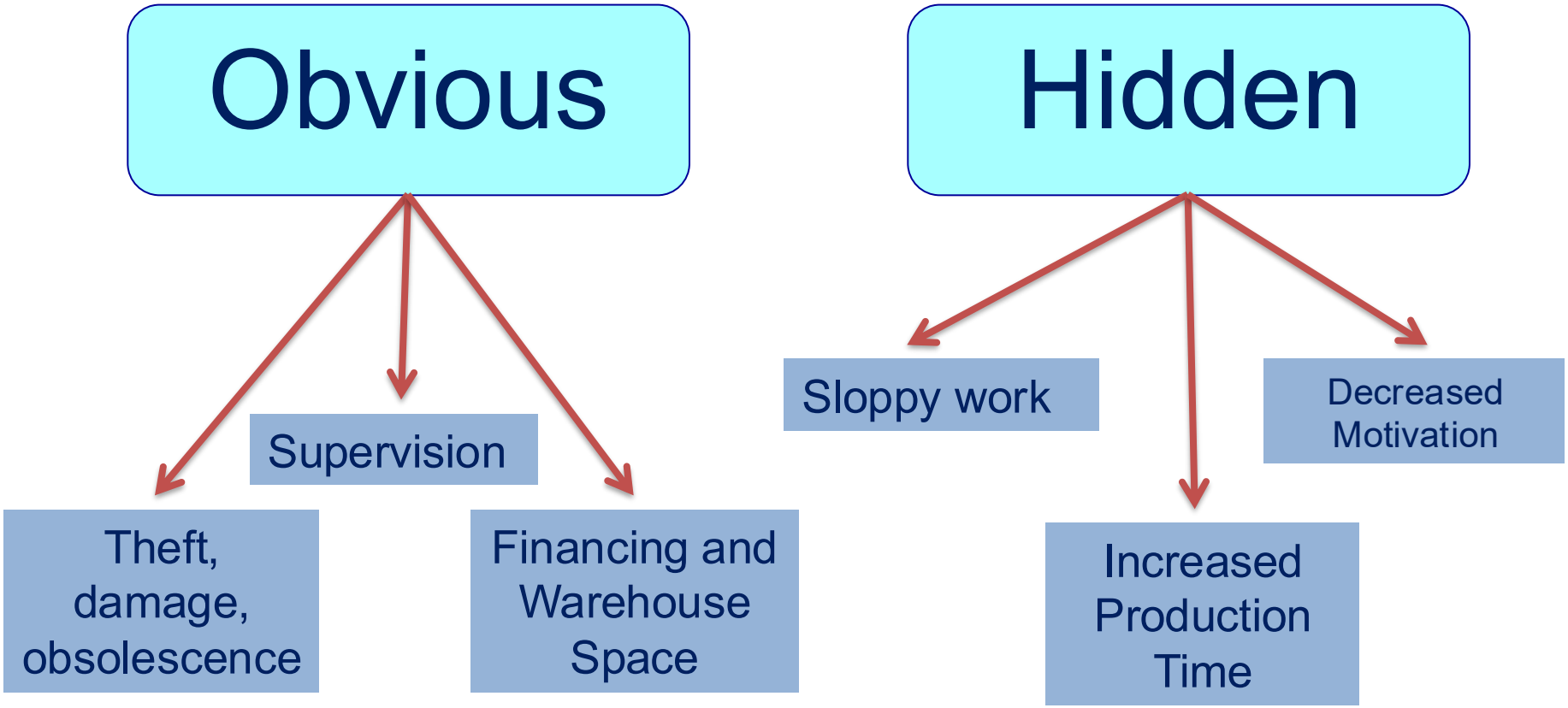


Just-in-Time

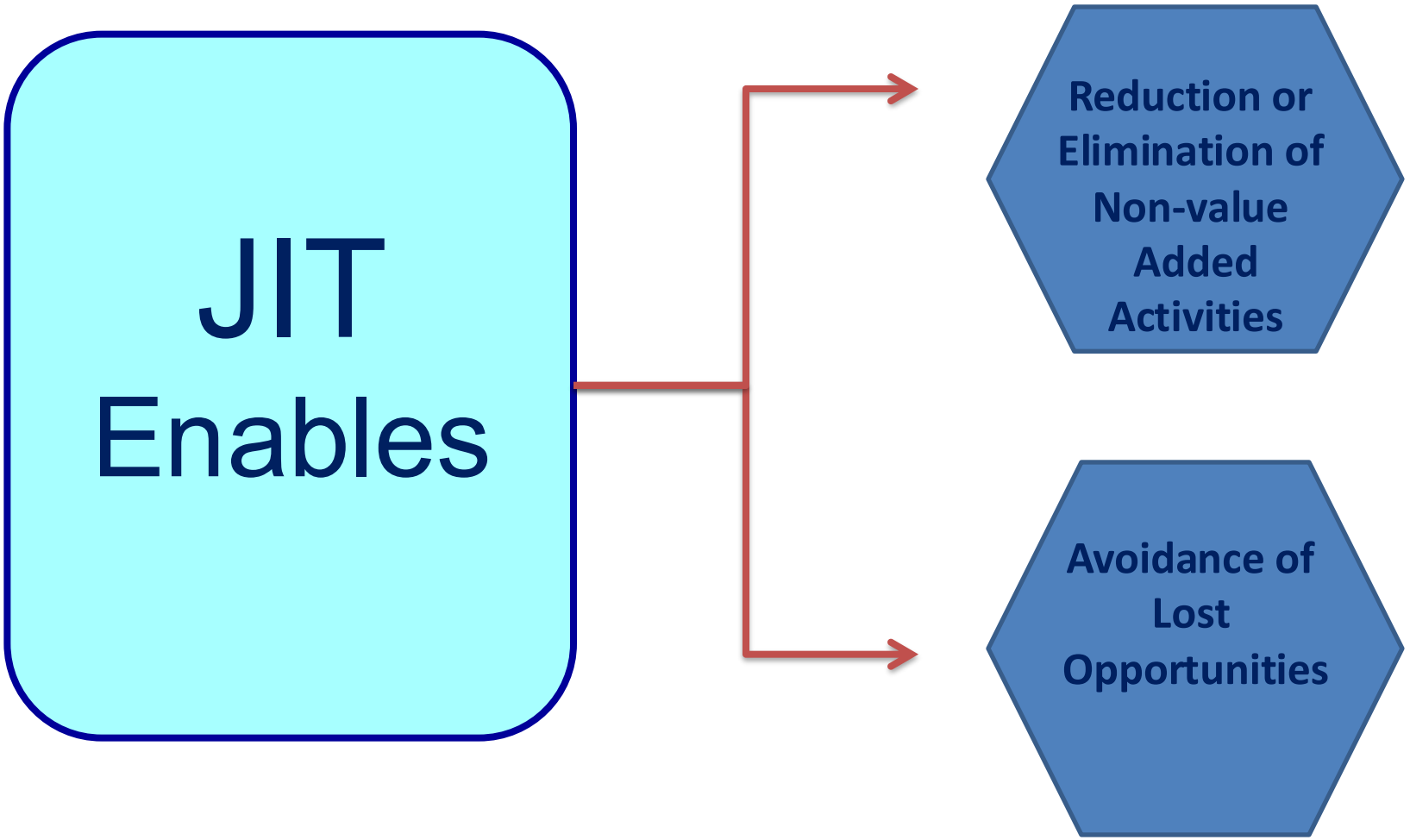
Many businesses have been able to simultaneously reduce their inventory holding costs and increase customer satisfaction by making products available just-in-time (JIT) for customer consumption.

For example, hamburgers that are cooked to order are fresher and more individualized than those that are prepared in advance and stored until a customer orders one.

Inventory Holding Costs



Just-in-Time Inventory

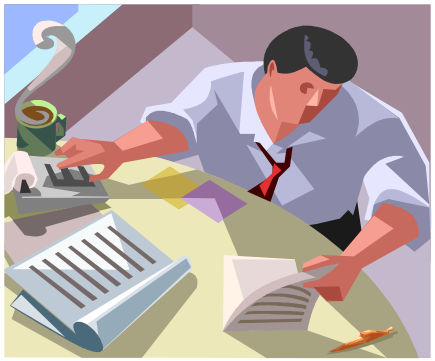


Learning Objective

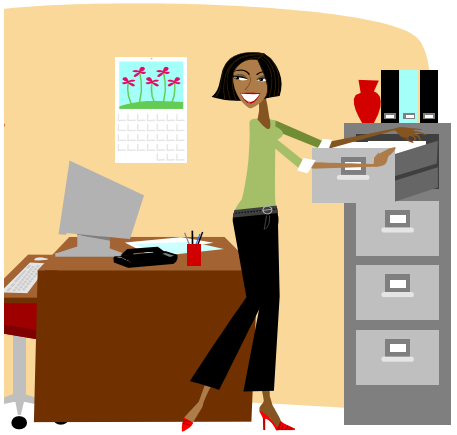
Corporate Governance

Corporate governance is a set of relationships between the board of directors, management, shareholders, auditors, and other stakeholders that determine how a company is operated.

Board of Directors



Auditors



Management

The Motive to Manipulate

Strong Financials

Promotions
Pay raises
Bonuses
Stock options

Weak Financials

Passed over for promotions
Demoted
Fired

Marion Manufacturing Company

Marion Manufacturing Company (MMC) had the following transactions:

1. MMC was started when it acquired $12,000 from issuing common stock.
2. MMC incurred $4,000 of costs to design its product and plan the manufacturing process.
3. MMC incurred specifically identifiable product costs of $8,000.
4. MMC made 1,000 units of product and sold 700 of the units for $18 each.

Let's look at two scenarios for MMC.

Marion Manufacturing Company

Scenario 1

The $4,000 of design and planning costs are classified as selling and general and administrative.

Scenario 2

The $4,000 of design and planning costs are classified as product costs, meaning they are first accumulated in the inventory account and then expensed when the goods are sold.

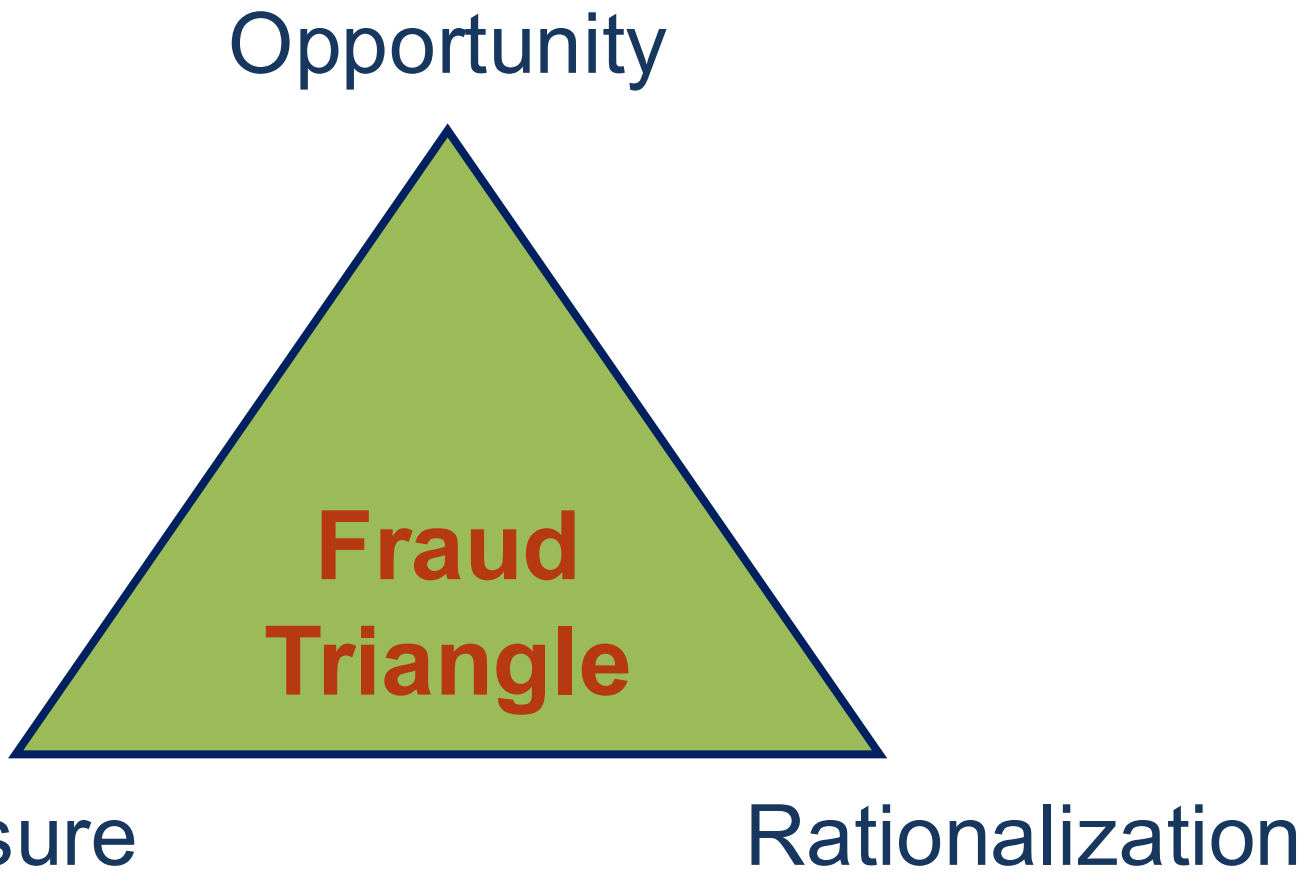
Financial Statements Under Alternative Cost Classification Scenarios

Income Statements	Scenario 1	Scenario 2
Sales revenue (700 × $18)	$12,600	$12,600
Cost of goods sold	(5,600)[1]	(8,400)[3]
Gross margin	7,000	4,200
Selling and administrative expense	(4,000)	0
Net income	$ 3,000	$ 4,200
Balance Sheets		
Assets		
Cash	$12,600	$12,600
Inventory	2,400[2]	3,600[4]
Total assets	$15,000	$16,200
Stockholders' equity		
Common stock	$12,000	$12,000
Retained earnings	3,000	4,200
Total stockholders' equity	$15,000	$16,200

Ethical Considerations

- Certified Management Accountants are guided by the IMA *Statement of Ethical Professional Practice*
- The statement provides standards on
  - Competence
  - Confidentiality
  - Integrity
  - Credibility
  - Resolution of ethical conflict

Common Features of Criminal and Ethical Misconduct



Internal Control Practices

Exercise: Demonstration Problem 2

Klyn Manufacturing Company experienced the following accounting events during its first year of operation.
Except for the depreciation adjusting entries, all transactions are cash transactions.

1. Acquired $50,000 cash from the issue of common stock.
2. Paid $6,800 for the materials that were used to make its products. All products started were completed during the period.
3. Paid salaries of $4,300 to selling and administrative employees.
4. Paid wages of $7,200 to production workers.
5. On January 1, paid $9,000 to buy furniture used in selling and administrative offices.
6. Recorded annual depreciation on the furniture referred to in Event 5. The furniture had a $1,000 estimated salvage value and a 5-year useful life.

..continue..

Exercise: Demonstration Problem 2

..continue..

7.On January 1, paid $23,000 to buy manufacturing equipment.
8.Recorded annual depreciation on the equipment referred to in Event 7. It had a $3,000 estimated salvage value and a 4-year useful life.
9.Completed 4,000 units of product. Determine the cost per unit and the sales price per unit assuming the sales price is cost plus 60% of cost. Record the sale of 3,000 units of product.
10.Code the recognition of cost of goods sold for the units sold in Event 9.

Required

Show how these events would affect the balance sheet and income statement by recording them in a horizontal financial statements model (by equation method).