

AC 202 Management Accounting

□ Overview of Managerial Accounting

□ Cost Concepts

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Learning Objectives

- Managerial Accounting (Garrison et al., 2015)
 - Chapter 1: Management Accounting and Business Environment
 - Chapter 2: Managerial Accounting and Cost Concepts
- After studying these chapters, you should be able to:
 - Identify the major differences and similarities between financial and managerial accounting.
 - Understand the work of management and the role of management accountants in an organization.
 - Understand the importance of upholding ethical standards.

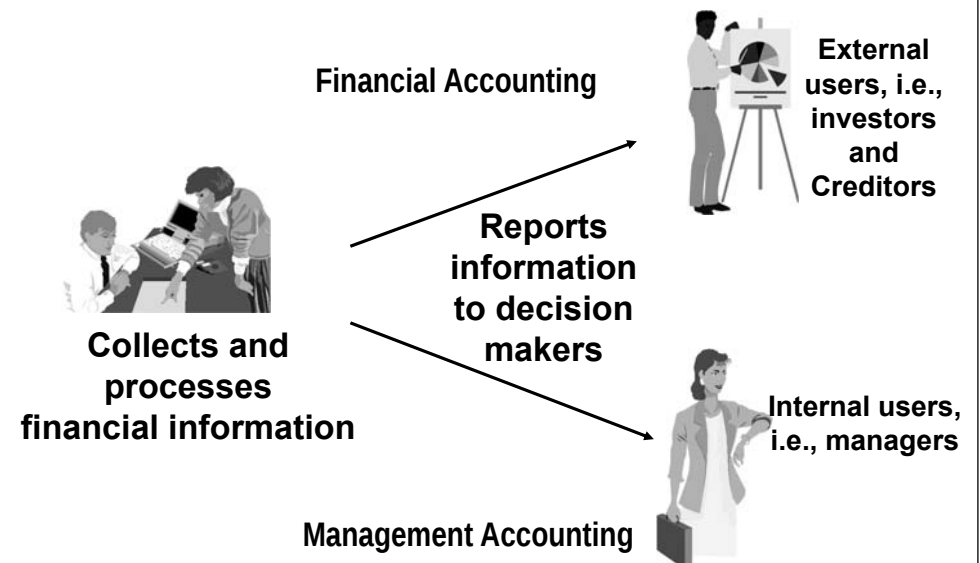
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Learning Objectives

- After studying these chapters, you should be able to:
 - Identify and give examples of each of the three basic manufacturing cost categories.
 - Distinguish between product costs and period costs.
 - Understand the differences between direct and indirect costs.
 - Understand the differences between variable costs and fixed costs.
 - Calculate cost of goods manufactured and cost of goods sold.

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The Accounting System



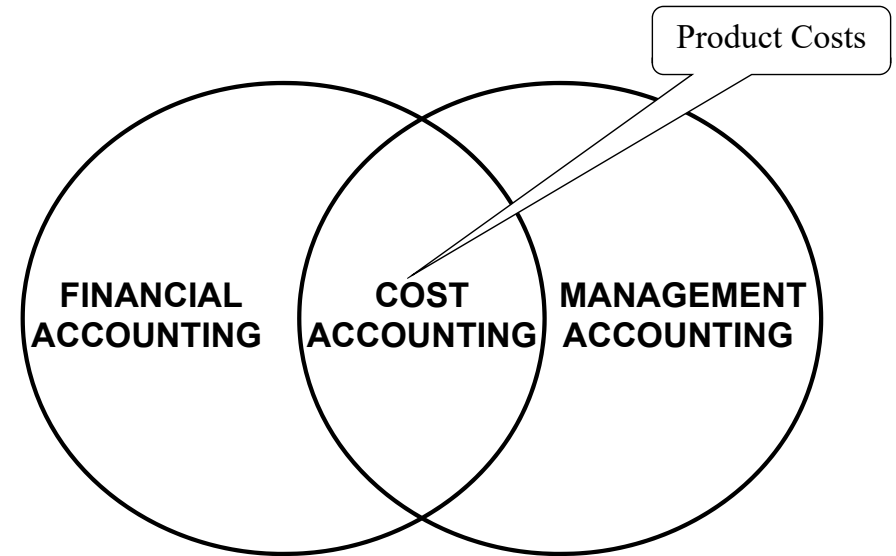
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The Accounting System

- *Financial accounting* measures and records business transactions. Its focus is on reporting to *external parties*. It provides financial statements based on *generally accepted accounting principles (GAAP)*.
- *Management accounting* measures and reports financial and nonfinancial information that helps *managers* make decisions to fulfill the goals of an organization. Managerial accounting *needs not be GAAP compliant*.
- *Cost accounting* provides information for both management accounting and financial accounting.

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Financial vs. Managerial vs. Cost Accounting



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Financial vs. Managerial Accounting: Key Differences

① Users:

- _____ External persons who make financial decisions
- _____ Managers who plan for and control an organization

② Time focus:

- _____ Both historical and future emphases
- _____ Historical perspective

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Financial vs. Managerial Accounting: Key Differences

③ Verifiability versus relevance:

- _____ Emphasis on verifiability and precision
- _____ Emphasis on relevance for planning and control and timeliness

④ Subject:

- _____ Primary focus is on the whole organization
- _____ Focuses on segments of an organization

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Financial vs. Managerial Accounting: Key Differences

5 Generally Accepted Accounting Principles (GAAP):

- _____ Need not follow GAAP or any prescribed format
- _____ Must follow GAAP and prescribed formats

6 Requirement:

- _____ Mandatory for external reports
- _____ Not mandatory

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Work of Management

- Managerial accounting helps managers carry out three main activities – planning, directing and motivating, and controlling.

Planning

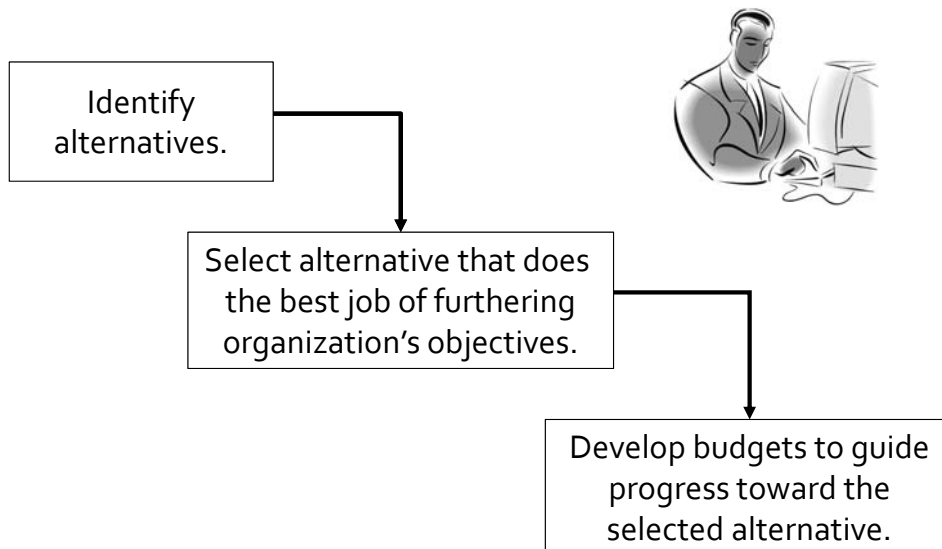
Directing and
Motivating

Controlling



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Planning



A budget is a detailed plan for the future that is usually expressed in formal quantitative terms.

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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.



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Controlling

The control function gathers feedback to ensure 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.



ON TARGET

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Business Ethics



- ⌘ Ethical behavior is merely making good business decisions based on an established "code of ethics".
- ⌘ Business ethics can create a positive image of a business that boosts the growth and sale by increasing employee morale, customer loyalty, and good public relations.
- ⌘ The Code of Ethics, which is set to comply with Section 47 of the Act*, follows the IFAC's** Code of Ethics for professional accountants. The Code is applied to both auditors and accountants.
 - ⌘ *Integrity* – to be straightforward and honest in all professional and business relationships.

*The Accounting Professions Act B.E.2547 of the Federation of Accounting Professions of Thailand

** International Federation of Accountants

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Code of Ethics



⌘ The Code of Ethics (con't)

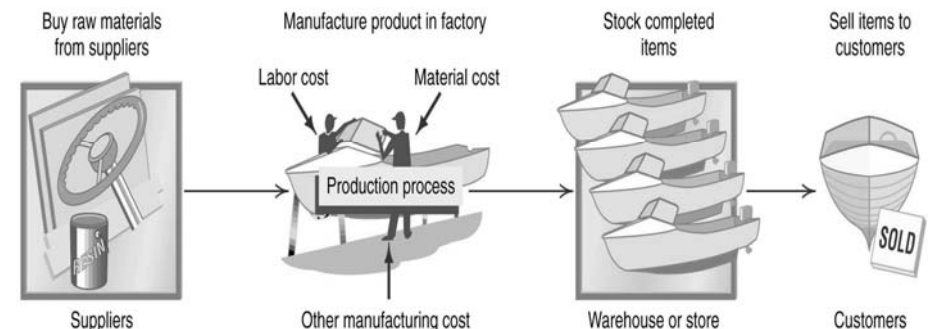
- ⌘ *Objectivity* – to not allow bias, conflict of interest or undue influence of others to override professional or business judgments.
- ⌘ *Professional competence & due care* – to maintain professional knowledge and skill at the level required to ensure that a client or employer receives competent professional services based on current developments in practice, legislation and techniques and act diligently and in accordance with applicable technical and professional standards.
- ⌘ *Confidentiality* – to respect the confidentiality of information acquired as a result of professional and business relationships and, therefore, not disclose any such information to third parties without proper and specific authority, unless there is a legal or professional duty to do so.
- ⌘ *Professional behavior* – to comply with relevant laws and regulations and avoid any action that discredits the profession.

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Types of Businesses and Inventories

- *Manufacturing companies* purchase materials and components and convert them into finished goods.

Manufacturing Firms (e.g., boat producer)



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3 Types of Inventory

Manufacturing companies typically have one or more of the following three types of inventories:

► Raw materials inventory

- Materials in stock and awaiting use in the manufacturing process



► Work in process inventory

- Goods partially worked on but not yet fully completed



► Finished goods inventory

- Fully completed but not yet sold

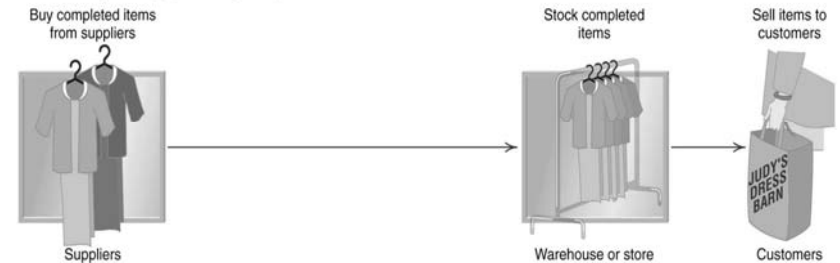


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Types of Businesses and Inventories

- Merchandising companies purchase and then sell tangible products *without* changing their basic form.

Merchandising Firms (e.g., clothing store)



Merchandising companies hold only one type of inventory – the product in its original purchased form.

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Types of Businesses and Inventories

- Service companies provide services or intangible products to their customers.

Service companies do not hold inventories of tangible products.



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The Statement of Financial Position

MERCHANDISER

Current Assets

- ◆ Cash
- ◆ Receivables
- ◆ Merchandise Inventory

MANUFACTURER

Current Assets

- ◆ Cash
- ◆ Receivables
- ◆ Inventories
 - Raw Materials
 - Work in Process
 - Finished Goods

The only difference is *inventory*.

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Basic Cost Terminology



- Cost is a resource sacrificed or forgone to achieve a specific objective.
- A *cost object* is anything for which a separate measurement of costs is desired.
 - Any product, machine, service or process for which cost information is accumulated
- *Cost accumulation* – The collection of cost data in some organized way through an accounting system.
- *Cost assignment* – The allocation of the costs of consumed resources to the cost objects
- *Cost driver* – a factor which causes the amount of cost incurred to change
 - Production costs are driven by the number of products produced, direct labor hours, number of setups required, the quality of material, etc.

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Cost Classification

- General cost classification of manufacturing companies
 - Manufacturing costs vs. nonmanufacturing costs
- Cost classification by function
 - Product costs (or inventoriable costs) vs. period costs
- Cost classification by traceability to the cost object
 - Direct costs vs. indirect costs
- Cost classification by behavior
 - Fixed costs vs. variable costs

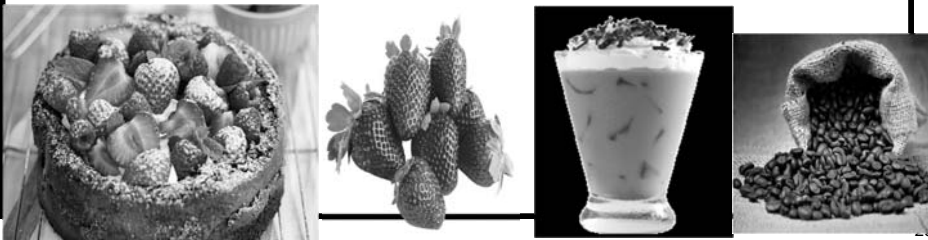
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Manufacturing Costs

- Most manufacturing companies separate manufacturing costs into 3 broad categories: *direct materials*, *direct labor*, and *manufacturing overhead*.

Direct Materials Costs (DM)

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



Manufacturing Costs

Direct Labor Costs (DL)

Labor costs that are clearly traceable to, or readily identifiable with, the finished product.



☒ Supervisor

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Manufacturing Costs

Manufacturing Overhead (MOH)

(or Indirect Manufacturing Costs)

All factory costs **except** direct material and direct labor.

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

Examples:

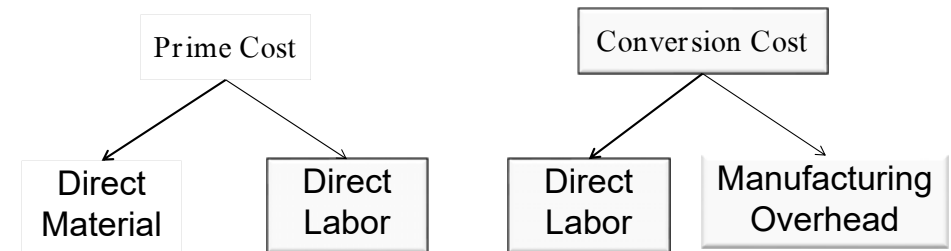
Indirect labor – maintenance
Indirect material – cleaning supplies
Factory utility costs
Supervisory costs



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Classifications of Costs

- Manufacturing costs are often combined as follows:
 - *Prime cost* is a term referring to all direct manufacturing costs (DM and DL).
 - *Conversion cost* is a term referring to direct labor and manufacturing overhead costs, collectively.



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Nonmanufacturing Costs

- Nonmanufacturing costs are often divided into 2 categories:
 - ① *Selling costs* → include all costs that are incurred to secure customer orders and get the finished product to the customer, i.e., advertising, sales commissions, and costs of finished goods warehouses.
 - ② *Administrative costs* → include all costs associated with the general management of an organization rather than with manufacturing or selling, i.e., executive compensation, accounting costs.

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Cost Classification by Function

- For financial accounting purposes:
- **Product costs (or inventoriable costs)** include all costs involved in acquiring or making a product.
 - Product costs are regarded as an asset when incurred and then become cost of goods sold when product sold.
 - *Manufacturing company* → all manufacturing costs (DM, DL, MOH).
 - *Merchandising company* → costs of purchasing goods resold in their same form.
 - *Service company* → no inventoriable costs because no inventories of product.

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Cost Classification by Function

- For financial accounting purposes:
- **Period costs**
 - All nonmanufacturing costs in the income statement other than cost of goods sold, i.e. selling costs, general and administrative costs.
 - Period costs are recorded as *expenses* of the accounting period in which they are incurred.



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Inventoriable Costs vs. Period Costs



Each of the following cost items pertains to one of these companies: GE (manufacturing), Big C (merchandising), and pantip.com (service)

- | | |
|--------------------------|--|
| ☐ | Mineral water purchased by Big C for resale |
| ☐ | Electricity used to provide lighting for assembly-line workers at a GE refrigerator-assembly plant |
| ☐ | Depreciation on pantip.com's computer equipment used to update directories of web sites |
| ☐ | Electricity used to provide lighting for Big C's store aisles |

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Inventoriable Costs vs. Period Costs

- | | |
|--------------------------|---|
| ☐ | Depreciation on GE's computer equipment used for quality testing of refrigerator components during the assembly process |
| ☐ | Salaries of Big C's marketing personnel planning local-newspaper advertising campaigns |
| ☐ | Costs incurred by GE in transporting its goods to customers |
| ☐ | Annual fire-insurance policy cost for GE's plant |

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Cost Classification by Traceability

- For purposes of assigning costs to cost objects, costs are classified as either *direct* or *indirect*.

Direct cost: A cost that can be easily and conveniently traced to the particular cost object under consideration.

Cost tracing - Assigning, or tracing, direct costs directly to cost objects

Indirect costs: Costs that *cannot* be traced to a cost object in an economically feasible way. Includes all costs not classified as direct.

Cost allocation - Assigning, or allocating, indirect costs to cost objects



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Direct Costs vs. Indirect Costs



The Fremont plant assembles two types of cars: Corollas and Geo Prisms. *Separate assembly lines* are used for each type of car.

- Cost object: Type of car assembled (Corolla or Geo Prism)
- ☐ Cost of tires used on Geo Prisms.
 - ☐ Salary of public relation manager for Fremont plant.
 - ☐ Annual awards dinner for Corolla suppliers.
 - ☐ Salary of engineer who monitors design changes on Geo Prisms.

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Direct Costs vs. Indirect Costs



- ☐ Freight costs of Corolla engines shipped from Toyota City, Japan, to Fremont, CA.
- ☐ Electricity costs for Fremont plant (single bill covers entire plant).
- ☐ Wages paid to temporary assembly-line workers hired in periods of high production (paid on hourly basis).
- ☐ Annual fire-insurance policy cost for Fremont plant.

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Classification by Behavior*: Fixed Costs

**Cost behavior refers to how a cost reacts to changes in the level of activity*

A **fixed cost**: A cost that remains constant, in total, regardless of changes in the level of activity.



Your monthly basic telephone bill probably does not change when you make more local calls.

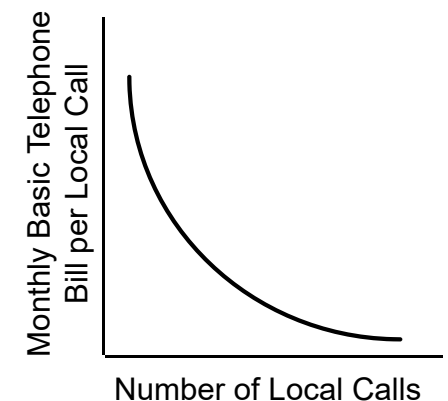
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Classification by Behavior: Fixed Costs

Fixed costs per unit changes when a cost driver changes.



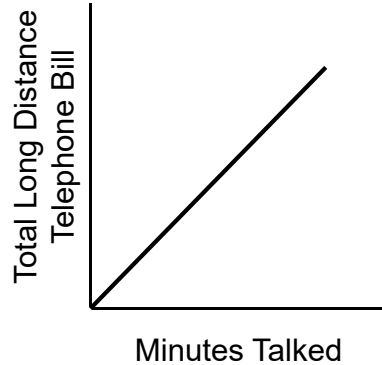
Your average cost per local call decreases as more local calls are made.



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Classification by Behavior: Variable Costs

A *variable cost*: A cost that varies, in total, in direct proportion to changes in the level of activity.



Your total long distance telephone bill is based on how many minutes you talk.

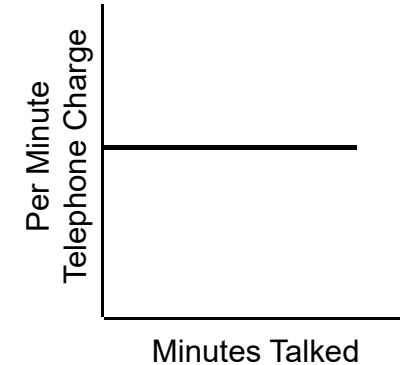
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Classification by Behavior: Variable Costs

Variable costs per unit do not change as activity increases.



The cost per long distance minute talked is constant. For example, 10 cents per minute.



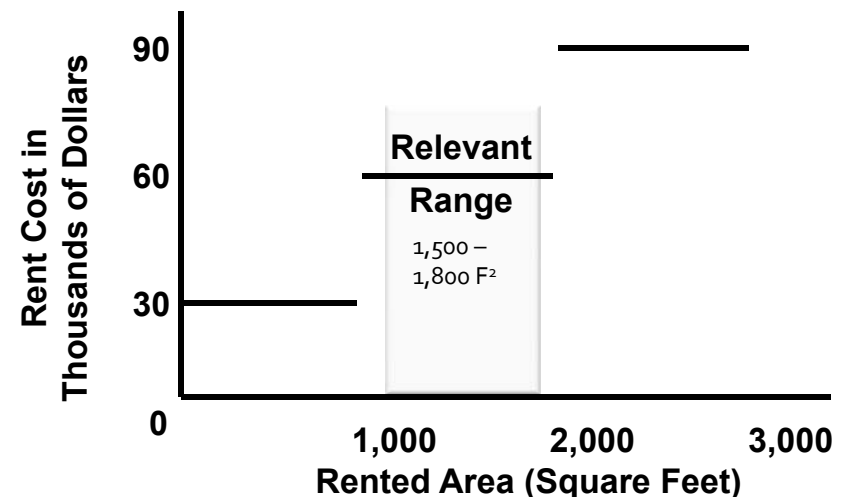
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Relevant Range

- When we say a cost is variable (or a cost is fixed), we mean it is variable (fixed) within some relevance range.
- The *relevant range* is the range of activity within which the assumptions about variable and fixed costs are valid.
- Outside the relevant range, the VC and FC relationships may not hold, i.e.,
 - VC per unit increases at high output levels due to overtime premium or machine breakdowns
 - FC in total increases at very high output levels due to capacity constraints

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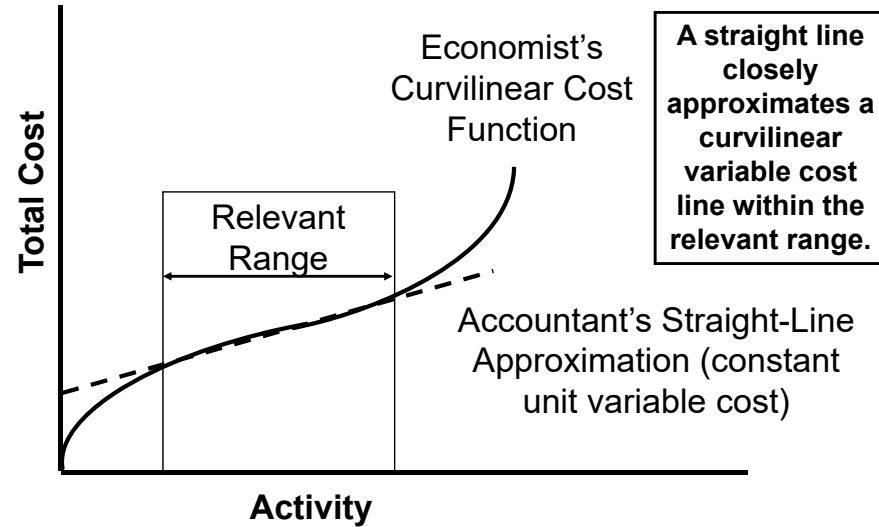
Relevant Range



Example: Office space is available at a rental rate of \$30,000 per year in increments of 1,000 square feet.

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Relevant Range



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Variable Costs vs. Fixed Costs



The Fremont plant assembles two types of cars: Corollas and Geo Prisms. Separate assembly lines are used for each type of car.

- Cost object:
- ☐ Cost of tires used on Geo Prisms.
 - ☐ Salary of public relation manager for Fremont plant.
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Variable Costs vs. Fixed Costs



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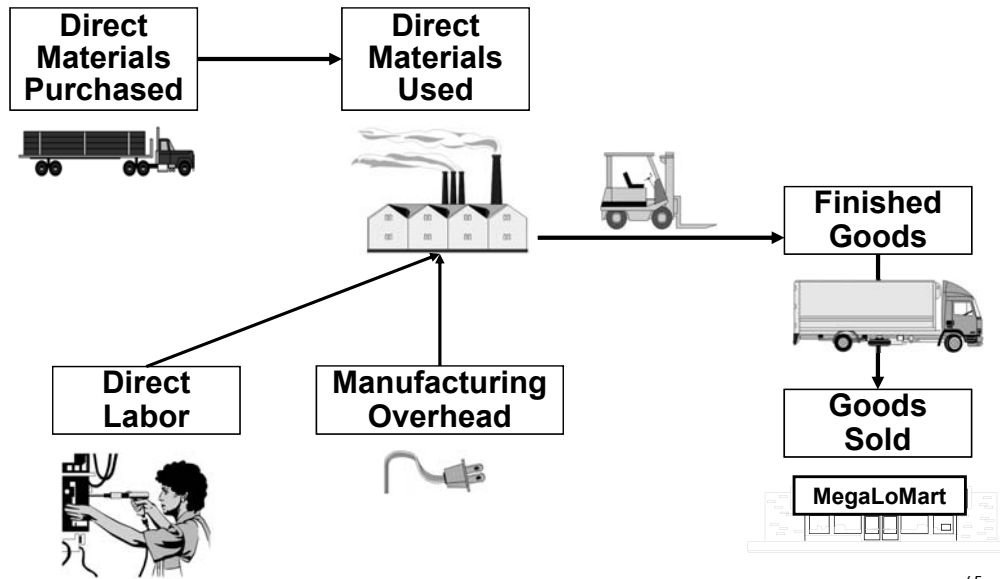
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Product Cost Review

- | | |
|--|--|
| <input type="text" value="DM = \$8"/> | Prime cost?
<input type="text"/> |
| <input type="text" value="DL = \$7"/> | Conversion cost?
<input type="text"/> |
| <input type="text" value="MOH = \$14"/> | |
| Direct cost?
<input type="text"/> | Indirect cost?
<input type="text"/> |
| Total Product Cost
<input type="text"/> | |

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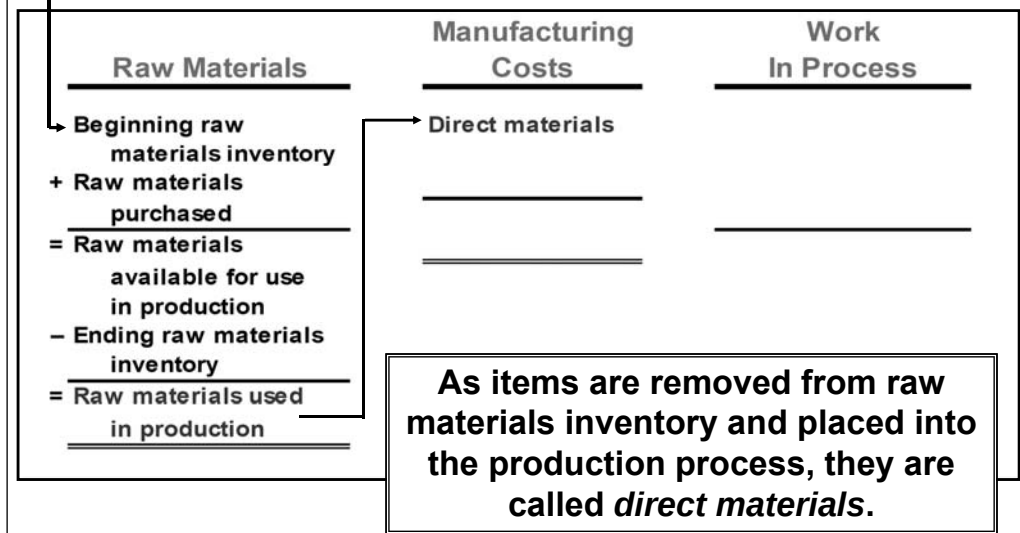
Flow of Physical Goods in Production



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Beginning inventory is the inventory carried over from the prior period.

Flow of Costs



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Flow of Costs Example

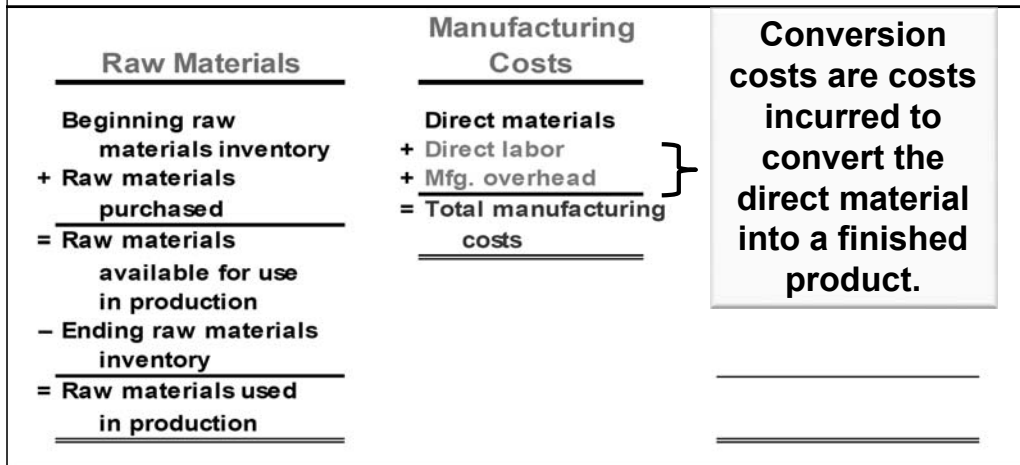
Bicycles by the Sea had \$50,000 of direct materials inventory at the beginning of the period. Purchases during the period amounted to \$180,000 and ending inventory was \$30,000. How much direct materials were used?

- A. \$260,000
- B. \$200,000
- C. \$180,000
- D. \$160,000

Materials	
50,000	?
180,000	
30,000	

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Flow of Costs



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Flow of Costs Example

Direct materials used in production totaled \$200,000. Direct labor costs incurred were \$105,500. Indirect manufacturing costs were \$194,500. What are the total manufacturing costs incurred?

- A. \$300,000
- B. \$305,500
- C. \$500,000
- D. Cannot be determined.

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Flow of Costs

<u>Raw Materials</u>	<u>Manufacturing Costs</u>	<u>Work In Process</u>
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
	= 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.

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Flow of Costs Example

Assume that the work in process inventory at the beginning of the period was \$30,000, and \$35,000 at the end of the period. Manufacturing costs incurred for the month were \$500,000. What is the cost of goods manufactured?

- A. \$495,000
- B. \$505,000
- C. \$565,000
- D. Cannot be determined.

<u>Work in Process</u>	
30,000	?
200,000	
105,500	
194,500	
35,000	

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Flow of Costs

<u>Work In Process</u>	<u>Finished Goods</u>
Beginning work in process inventory	Beginning finished goods inventory
+ Manufacturing costs for the period	+ Cost of goods manufactured
= Total work in process for the period	= Cost of goods available for sale
- Ending work in process inventory	- Ending finished goods inventory
= Cost of goods manufactured	Cost of goods sold

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Flow of Costs Example

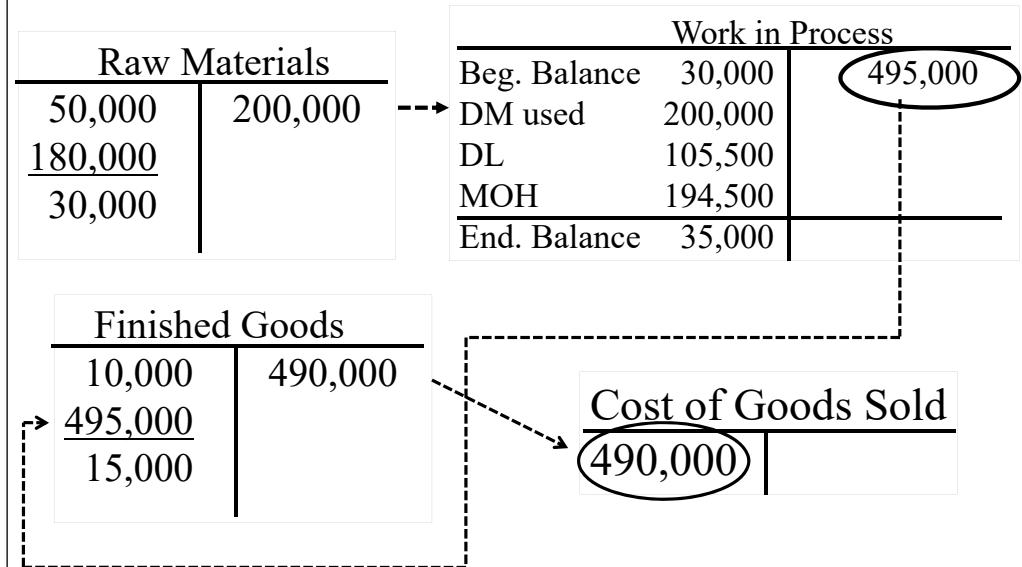
Assume that the finished goods inventory at the beginning of the period was \$10,000, and \$15,000 at the end of the period. The cost of goods manufactured for the month was \$495,000. What is the cost of goods sold?

- A. \$500,000
- B. \$490,000
- C. \$520,000
- D. Cannot be determined.

Finished Good	
10,000	?
495,000	
15,000	

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Flow of Costs Example



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Bicycles by the Sea Cost of Goods Manufactured Schedule For the Year Ended December 31, 2xxx

Work in process, January 1		\$ 30,000
Direct materials		
Raw materials inventory, January 1	\$ 50,000	
Raw materials purchases	<u>180,000</u>	
Total raw materials available for use	230,000	
Less: Raw materials inventory, Dec. 31	<u>30,000</u>	
Direct materials used		\$ 200,000
Direct labor		105,500
Manufacturing overhead		<u>194,500</u>
Manufacturing costs added this period		<u>500,000</u>
Total cost of work in process		530,000
Less: Work in process, December 31		<u>35,000</u>
Cost of goods manufactured		<u>\$ 495,000</u>

Bicycles by the Sea Partial Income Statement For the Year Ended December 31, 2XXX

Cost of goods sold	
Finished goods inventory, January 1	\$ 10,000
Cost of goods manufactured	<u>495,000</u>
Cost of goods available for sale	505,000
Finished goods inventory, December 31	<u>15,000</u>
Cost of goods sold	<u>\$ 490,000</u>

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The Income Statement

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

Manufacturing Company	
Cost of goods sold:	
Beg. finished goods inv.	\$ 10,000
+ Cost of goods manufactured	495,000
Goods available for sale	\$ 505,000
- Ending finished goods inventory	(15,000)
= Cost of goods sold	<u>\$ 490,000</u>

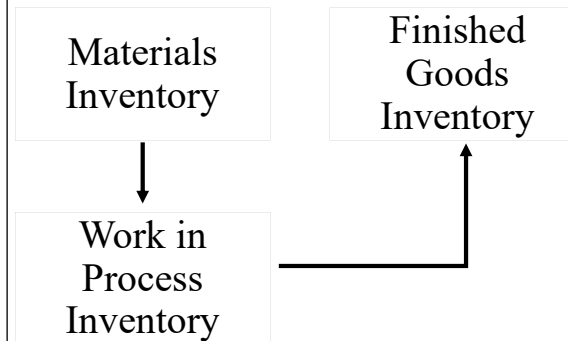
Merchandising Company	
Cost of goods sold:	
Beg. merchandise inventory	\$ 10,000
+ Purchases	495,000
Goods available for sale	\$ 505,000
- Ending merchandise inventory	(15,000)
= Cost of goods sold	<u>\$ 490,000</u>

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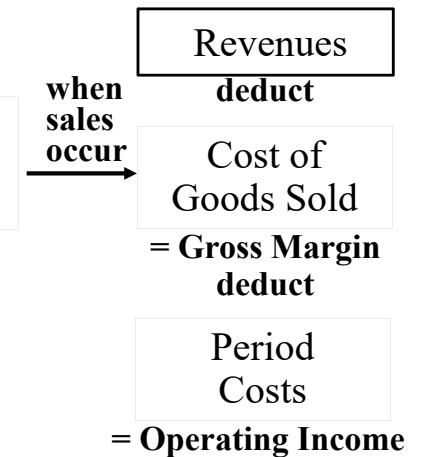
Manufacturing Company

Statement of Financial Position

Inventoriable Costs



Income Statement



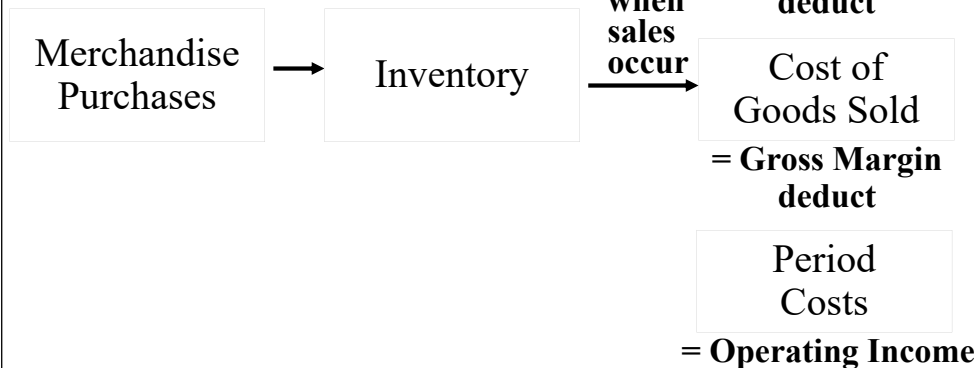
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Merchandising Company

Statement of Financial Position

Income Statement

Inventoriable Costs



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