Chapter 1

An Introduction to Managerial Accounting and Cost Concepts

Work of Management

Planning

Directing and Motivating

Controlling

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

Begin

Formulating long- and short-term plans (Planning)

Implementing plans (Directing and Motivating)

Measuring performance (Controlling)

Comparing actual to planned performance (Controlling)

Decision Making
### Comparison of Financial and Managerial Accounting

<table>
<thead>
<tr>
<th></th>
<th>Financial Accounting</th>
<th>Managerial Accounting</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Users</td>
<td>External persons who make financial decisions</td>
<td>Managers who plan for and control an organization</td>
</tr>
<tr>
<td>2. Time focus</td>
<td>Historical perspective</td>
<td>Future emphasis</td>
</tr>
<tr>
<td>3. Verifiability versus relevance</td>
<td>Emphasis on verifiability</td>
<td>Emphasis on relevance for planning and control</td>
</tr>
<tr>
<td>4. Precision versus timeliness</td>
<td>Emphasis on precision</td>
<td>Emphasis on timeliness</td>
</tr>
<tr>
<td>5. Subject</td>
<td>Primary focus is on the whole organization</td>
<td>Focuses on segments of an organization</td>
</tr>
<tr>
<td>6. GAAP</td>
<td>Must follow GAAP and prescribed formats</td>
<td>Need not follow GAAP or any prescribed format</td>
</tr>
<tr>
<td>7. Requirement</td>
<td>Mandatory for external reports</td>
<td>Not Mandatory</td>
</tr>
</tbody>
</table>

### Learning Objective

**LO1**

To identify and give examples of each of the three basic manufacturing cost categories

### Manufacturing Costs

- Direct Materials
- Direct Labor
- Manufacturing Overhead

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

Example: A radio installed in an automobile

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

Example: Wages paid to automobile assembly workers

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

Examples: Indirect materials and indirect labor

Materials used to support the production process.
Examples: lubricants and cleaning supplies used in the automobile assembly plant.

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

Manufacturing costs are often classified as follows:

- Direct Material
- Direct Labor
- Manufacturing Overhead
  - Prime Cost
  - Conversion Cost

Non-manufacturing Costs

- Selling Costs
  - Costs necessary to get the order and deliver the product.
- Administrative Costs
  - All executive, organizational, and clerical costs.

Learning Objective

LO2

To distinguish between product costs and period costs and give examples of each.
Product Costs Versus Period Costs

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

**Period costs** are not included in product costs. They are expensed on the income statement.

Quick Check ✓

Which of the following costs would be considered a period rather than a product cost in a manufacturing company?

A. Manufacturing equipment depreciation.
B. Property taxes on corporate headquarters.
C. Direct materials costs.
D. Electrical costs to light the production facility.
E. Sales commissions.

Quick Check ✓

Which of the following costs would be considered a period rather than a product cost in a manufacturing company?

A. Manufacturing equipment depreciation.
B. Property taxes on corporate headquarters.
C. Direct materials costs.
D. Electrical costs to light the production facility.
E. Sales commissions.
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

Merchandiser
Current assets
- Cash
- Receivables
- Prepaid expenses
- Partially complete products – some material, labor, or overhead has been added.

Manufacturer
Current Assets
- Cash
- Receivables
- Inventories:
  - Raw Materials
  - Work in Process
  - Finished Goods
- Materials waiting to be processed.
- Completed products awaiting sale.
Learning Objective

LO3

To prepare an income statement including calculation of the cost of goods sold

The Income Statement

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

<table>
<thead>
<tr>
<th>Merchandising Company</th>
<th>Manufacturing Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of goods sold:</td>
<td>Cost of goods sold:</td>
</tr>
<tr>
<td>Beg. merchandise inventory</td>
<td>Beg. finished goods inv.</td>
</tr>
<tr>
<td>+ Purchases</td>
<td>+ Cost of goods manufactured</td>
</tr>
<tr>
<td>Goods available for sale</td>
<td>Goods available for sale</td>
</tr>
<tr>
<td>- Ending merchandise inventory</td>
<td>- Ending</td>
</tr>
<tr>
<td>= Cost of goods sold</td>
<td>finished goods inventory</td>
</tr>
<tr>
<td></td>
<td>= Cost of goods sold</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Beginning balance</th>
<th>+ Additions to inventory = Ending balance</th>
<th>+ Withdrawals from inventory</th>
</tr>
</thead>
</table>
Quick Check

If your inventory balance at the beginning of the month was $1,000, you bought $100 during the month, and sold $300 during the month, what would be the balance at the end of the month?

A. $1,000.
B. $ 800.
C. $1,200.
D. $ 200.

$1,000 + $100 = $1,100
$1,100 - $300 = $800

Learning Objective

To prepare the schedule of cost of goods manufactured

LO4
### 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.**

#### Raw Materials

<table>
<thead>
<tr>
<th>Beginning raw materials inventory</th>
<th>Raw materials purchased</th>
<th>Raw materials available for use in production</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Ending raw materials inventory</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Raw materials used in production</td>
</tr>
</tbody>
</table>

The direct materials cost is not simply the cost of materials purchased during the period—rather it is the cost of materials used during the period.

#### Conversion Costs

<table>
<thead>
<tr>
<th>Direct materials</th>
<th>Direct labor</th>
<th>Total manufacturing costs</th>
</tr>
</thead>
</table>

Conversion costs are costs incurred to convert the direct material into a finished product.

As items are removed from raw materials inventory and placed into the production process, they are called direct materials.
### Schedule of Cost of Goods Manufactured

<table>
<thead>
<tr>
<th>Raw Materials</th>
<th>Manufacturing Costs</th>
<th>Work In Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beginning raw materials inventory + Raw materials purchased = Raw materials available for use in production – Ending raw materials inventory = Raw materials used in production</td>
<td>Direct materials + Direct labor + Mfg. overhead = Total manufacturing costs</td>
<td>Beginning work in process inventory + Total manufacturing costs = Total work in process for the period</td>
</tr>
</tbody>
</table>

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

### Schedule of Cost of Goods Manufactured

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<td>Beginning work in process inventory + Total manufacturing costs = Total work in process for the period</td>
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Costs associated with the goods that are completed during the period are transferred to finished goods inventory.

### Cost of Goods Sold

<table>
<thead>
<tr>
<th>Work In Process</th>
<th>Finished Goods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beginning work in process inventory + Manufacturing costs for the period = Total work in process for the period – Ending work in process inventory = Cost of goods manufactured</td>
<td>Beginning finished goods inventory + Cost of goods manufactured + Cost of goods available for sale – Ending finished goods inventory = Cost of goods sold</td>
</tr>
</tbody>
</table>
Quick Check ✓

Beginning raw materials inventory was $32,000. During the month, $276,000 of raw material was purchased. A count at the end of the month revealed that $28,000 of raw material was still present. What is the cost of direct material used?

A. $276,000
B. $272,000
C. $280,000
D. $2,000

Beg. raw materials 32,000 $  
+ Raw materials purchased 276,000 $  
= Raw materials available for use in production 308,000 $  
− Ending raw materials inventory 28,000 $  
= Raw materials used in production 280,000 $
Direct materials used in production totaled $280,000. Direct labor was $375,000 and factory overhead was $180,000. What were total manufacturing costs incurred for the month?

A. $555,000
B. $835,000
C. $655,000
D. Cannot be determined.

Direct Materials $280,000
+ Direct Labor 375,000
+ Mfg. Overhead 180,000
_______
Mfg. Costs Incurred for the Month $835,000

Beginning work in process was $125,000. Manufacturing costs incurred for the month were $835,000. There were $200,000 of partially finished goods remaining in work in process inventory at the end of the month. What was the cost of goods manufactured during the month?

A. $1,160,000
B. $ 910,000
C. $ 760,000
D. Cannot be determined.
Quick Check

Beginning work in process was $125,000. Manufacturing costs incurred for the month were $835,000. There were $200,000 of partially finished goods remaining in work in process inventory at the end of the month. What was the cost of goods manufactured during the month?

A. $1,160,000
B. $910,000
C. $760,000
D. Cannot be determined.

\[
\begin{align*}
\text{Beginning work in process inventory} & \quad \text{\$125,000} \\
\text{Manufacturing costs incurred for the period} & \quad \text{\$835,000} \\
\text{Total work in process during the period} & \quad \text{\$960,000} \\
\text{Ending work in process inventory} & \quad \text{\$200,000} \\
\text{Cost of goods manufactured} & \quad \text{\$760,000}
\end{align*}
\]

Quick Check

Beginning finished goods inventory was $130,000. The cost of goods manufactured for the month was $760,000. And the ending finished goods inventory was $150,000. What was the cost of goods sold for the month?

A. $20,000.
B. $740,000.
C. $780,000.
D. $760,000.

\[
\begin{align*}
\text{Beginning finished goods inventory} & \quad \text{\$130,000} \\
\text{Cost of goods manufactured for the month} & \quad \text{\$760,000} \\
\text{Ending finished goods inventory} & \quad \text{\$150,000} \\
\text{Cost of goods sold} & \quad \text{\$740,000}
\end{align*}
\]
Learning Objective

To define and give examples of variable costs and fixed costs

Cost Classifications for Predicting Cost Behavior

How a cost will react to changes in the level of business activity.

- Total variable costs change when activity changes.
- Total fixed costs remain unchanged when activity changes.

Total Variable Cost

Your total long distance telephone bill is based on how many minutes you talk.
Variable Cost Per Unit

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

<table>
<thead>
<tr>
<th>Per Minute Telephone Charge</th>
<th>Minutes Talked</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total Fixed Cost

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

<table>
<thead>
<tr>
<th>Number of Local Calls</th>
<th>Monthly Basic Telephone Bill</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Fixed Cost Per Unit

The average fixed cost **per local call** decreases as more local calls are made.

<table>
<thead>
<tr>
<th>Number of Local Calls</th>
<th>Monthly Basic Telephone Bill per Local Call</th>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Cost Classifications for Predicting Cost Behavior

<table>
<thead>
<tr>
<th>Behavior of Cost (within the relevant range)</th>
<th>Cost</th>
<th>In Total</th>
<th>Per Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable</td>
<td>Total variable cost changes as activity level changes.</td>
<td>Variable cost per unit remains the same over wide ranges of activity.</td>
<td></td>
</tr>
<tr>
<td>Fixed</td>
<td>Total fixed cost remains the same even when the activity level changes.</td>
<td>Average fixed cost per unit goes down as activity level goes up.</td>
<td></td>
</tr>
</tbody>
</table>

Quick Check

Which of the following costs would be variable with respect to the number of cones sold at a Baskins & Robbins shop? (There may be more than one correct answer.)
A. The cost of lighting the store.
B. The wages of the store manager.
C. The cost of ice cream.
D. The cost of napkins for customers.
Learning Objective

LO6

To define and give examples of direct and indirect costs

Assigning Costs to Cost Objects

Direct costs
- Costs that can be easily and conveniently traced to a unit of product or other cost object.
- Examples: direct material and direct labor

Indirect costs
- Costs that cannot be easily and conveniently traced to a unit of product or other cost object.
- Example: manufacturing overhead

Learning Objective

LO7

To define and give examples of cost classifications used in making decisions: differential costs, opportunity costs, and sunk costs
Cost Classifications for Decision Making

- Every decision involves a choice between at least two alternatives.
- Only those costs and benefits that differ between alternatives are relevant in a decision. All other costs and benefits can and should be ignored.

Differential Costs and Revenues

Costs and revenues that differ among alternatives.

Example: You have a job paying $1,500 per month in your hometown. You have a job offer in a neighboring city that pays $2,000 per month. The commuting cost to the city is $300 per month.

Differential revenue is:
\[
$2,000 - $1,500 = $500
\]

Differential cost is:
\[
$300
\]

Opportunity Costs

The potential benefit that is given up when one alternative is selected over another.

Example: If you were not attending college, you could be earning $15,000 per year. Your opportunity cost of attending college for one year is $15,000.
Sunk Costs

Sunk costs cannot be changed by any decision. They are not differential costs and should be ignored when making decisions.

Example: You bought an automobile that cost $10,000 two years ago. The $10,000 cost is sunk because whether you drive it, park it, trade it, or sell it, you cannot change the $10,000 cost.

Quick Check

Suppose you are trying to decide whether to drive or take the train to Portland to attend a concert. You have ample cash to do either, but you don’t want to waste money needlessly. Is the cost of the train ticket relevant in this decision? In other words, should the cost of the train ticket affect the decision of whether you drive or take the train to Portland?

A. Yes, the cost of the train ticket is relevant.
B. No, the cost of the train ticket is not relevant.
Quick Check ✔

Suppose you are trying to decide whether to drive or take the train to Portland to attend a concert. You have ample cash to do either, but you don’t want to waste money needlessly. Is the annual cost of licensing your car relevant in this decision?
A. Yes, the licensing cost is relevant.
B. No, the licensing cost is not relevant.

Quick Check ✔

Suppose that your car could be sold now for $5,000. Is this a sunk cost?
A. Yes, it is a sunk cost.
B. No, it is not a sunk cost.
Quick Check ✓

Suppose that your car could be sold now for $5,000. Is this a sunk cost?

A. Yes, it is a sunk cost.

B. No, it is not a sunk cost.

Summary of the Types of Cost Classifications

- Financial reporting
- Predicting cost behavior
- Assigning costs to cost objects
- Decision making

End of Chapter 1