Audit of the Inventory and Warehousing Cycle

Chapter 21
Learning Objective 1

Describe the business functions and the related documents and records in the inventory and warehousing cycle.
### Flow of Inventory and Costs

<table>
<thead>
<tr>
<th>Raw Materials</th>
<th>Work-in-Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beginning inventory</td>
<td>Raw materials used</td>
</tr>
<tr>
<td>Purchases</td>
<td></td>
</tr>
<tr>
<td>Ending inventory</td>
<td></td>
</tr>
</tbody>
</table>

#### Direct Labor

<table>
<thead>
<tr>
<th>Actual</th>
<th>Applied</th>
</tr>
</thead>
</table>

#### Manufacturing Overhead

<table>
<thead>
<tr>
<th>Actual</th>
<th>Applied</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Finished Goods</th>
<th>Cost of goods sold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beginning inventory</td>
<td>Ending inventory</td>
</tr>
<tr>
<td>Cost of goods sold</td>
<td></td>
</tr>
</tbody>
</table>
Learning Objective 2

Describe how e-commerce affects inventory management.
How E-Commerce Affects Inventory Management

The Internet enables companies to provide complete descriptions of their inventory on a real-time basis.

The use of the Internet and other e-commerce applications may lead to financial reporting risks if access to inventory databases and systems is not adequately controlled.
Learning Objective 3

Explain the five parts of the audit of the inventory and warehousing cycle.
Functions in the Cycle

**Flow of Inventory**

- **Process purchase orders**
  - Receive raw materials
  - Store raw materials
  - Process the goods
  - Store finished goods
  - Ship finished goods

**Receive raw materials**
- Receive raw materials
- Put materials in storage
- Put materials in production
- Put completed goods in storage
- Ship finished goods
### Audit of Inventory

<table>
<thead>
<tr>
<th>Part of audit</th>
<th>Cycle in which tested</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acquire and record raw materials, labor, and overhead</td>
<td>Acquisition and payment plus payroll and personnel</td>
</tr>
<tr>
<td>Internally transfer assets and costs</td>
<td>Inventory and warehousing</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part of audit</th>
<th>Cycle in which tested</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ship goods and record revenue and costs</td>
<td>Sales and collection</td>
</tr>
<tr>
<td>Physically observe inventory</td>
<td>Inventory and warehousing</td>
</tr>
<tr>
<td>Price and compile inventory</td>
<td>Inventory and warehousing</td>
</tr>
</tbody>
</table>
Learning Objective 4

Design and perform audit tests of cost accounting.
Cost Accounting Controls

1. Physical controls over raw materials, work in process, and finished goods inventory

2. Controls over the related costs
Methodology for Designing Controls and Substantive Tests

<table>
<thead>
<tr>
<th>Understand internal control – cost accounting system</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assess planned control risk – cost accounting system</td>
</tr>
<tr>
<td>Determine extent of testing controls</td>
</tr>
<tr>
<td>Design tests of controls and substantive tests of transactions for the cost accounting system to meet transaction-related audit objectives</td>
</tr>
<tr>
<td>Audit procedures</td>
</tr>
<tr>
<td>Sample size</td>
</tr>
<tr>
<td>Items to select</td>
</tr>
<tr>
<td>Timing</td>
</tr>
</tbody>
</table>
Tests of Cost Accounting

- Physical controls over inventory
- Documents and records for transferring inventory
- Perpetual inventory master files
- Unit cost records
Learning Objective 5

Apply analytical procedures to the accounts in the inventory and warehousing cycle.
### Analytical Procedures: Inventory and Warehousing Cycle

<table>
<thead>
<tr>
<th>Analytical procedure</th>
<th>Possible misstatement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compare gross margin percentage with that of previous years</td>
<td>Overstatement or understatement of inventory and cost of goods sold</td>
</tr>
<tr>
<td>Compare inventory turnover (cost of goods sold divided by average inventory) with that of previous year</td>
<td>Obsolete inventory overstatement or understatement of inventory</td>
</tr>
</tbody>
</table>
### Analytical Procedures: Inventory and Warehousing Cycle

<table>
<thead>
<tr>
<th>Analytical procedure</th>
<th>Possible misstatement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compare unit costs of inventory with those of previous years</td>
<td>Overstatement or understatement of unit costs, which affect inventory and cost of goods sold</td>
</tr>
<tr>
<td>Compare extended inventory value with that of previous years</td>
<td>Misstatements in compilation, unit costs, or extensions, which affect inventory and cost of goods sold</td>
</tr>
</tbody>
</table>
### Analytical Procedures: Inventory and Warehousing Cycle

<table>
<thead>
<tr>
<th>Analytical procedure</th>
<th>Possible misstatement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compare current year manufacturing costs with those of previous years (variable costs should be adjusted for changes in volume)</td>
<td>Misstatements of unit costs of inventory, especially direct labor and manufacturing overhead, which affect inventory and cost of goods sold</td>
</tr>
</tbody>
</table>
Methodology for Designing Tests of Balances – Inventory

- Identify client business risks affecting inventory
- Set tolerable misstatement and assess inherent risk for inventory
- Assess control risk for several cycles

Phase I
Methodology for Designing Tests of Balances – Inventory

Design and perform tests of controls and substantive tests of transactions for several cycles
Methodology for Designing Tests of Balances – Inventory

<table>
<thead>
<tr>
<th>Phase III</th>
<th>Audit procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sample size</td>
</tr>
<tr>
<td></td>
<td>Items to select</td>
</tr>
<tr>
<td></td>
<td>Timing</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Design and perform analytical procedures for inventory</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Design tests of details of inventory to satisfy balance-related audit objectives</th>
<th>Audit procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sample size</td>
</tr>
<tr>
<td></td>
<td>Items to select</td>
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<tr>
<td></td>
<td>Timing</td>
</tr>
</tbody>
</table>

Learning Objective 6

Design and perform physical observation audit tests for inventory.
Controls Over Perpetual Inventory Master Files

- Proper instructions for the physical count
- Supervision by responsible personnel
- Independent interval verification of the counts
- Independent reconciliations of the physical counts with perpetual inventory master files
- Adequate control over count sheets or tags
Audit Decisions

- Timing
- Sample size
- Selection of items
Physical Observation Tests

The most important part of the observation of inventory is determining whether the physical count is being taken in accordance with the client’s instructions.
Balance-related Audit Objectives

Existence:
Inventory as recorded on tags exist.

Completeness:
Existing inventory is counted and tagged.

Accuracy:
Inventory is counted accurately.

Classification:
Inventory is classified correctly on the tags.
Balance-Related Audit Objectives

Cutoff:
Transactions are recorded in the proper period.

Realizable value:
Obsolete and unusable inventory items are excluded or noted.

Rights:
The client has rights to inventory recorded on tags.
Learning Objective 7

Design and perform audit tests of pricing and compilation for inventory.
Audit of Pricing and Compilation

**Inventory price tests**

- Pricing and compilation controls
- Pricing and compilation procedures
- Valuation of inventory
Balance-Related Objectives: Inventory Pricing and Compilation

- Detail tie-in
- Existence
- Completeness
- Accuracy
- Classification
- Realizable value
- Rights
Valuation of Inventory

- Pricing purchased inventory
- Pricing manufactured inventory
- Cost or market
Learning Objective 8

Integrate the various parts of the audit of the inventory and warehousing cycle.
Interrelationship of Various Audit Tests

Tests of acquisition and payment cycle

Raw materials
- Acquisitions of raw materials
  - Raw material used

Work in process
- Other manufacturing costs
  - Raw material used
Interrelationship of Various Audit Tests

Tests of payroll and personnel cycle

Work in process

Direct labor

Indirect labor

Work in process
Interrelationship of Various Audit Tests

**Inventory tests**
- Tests of cost accounting records
- Tests of physical inventory observation
- Tests of pricing and compilation

**Raw materials**
- Ending inventory

**Work in process**
- Ending inventory

**Finished goods**
- Ending inventory
Interrelationship of Various Audit Tests

**Work in process**

- Cost of goods manufactured

**Finished goods**

- Cost of goods manufactured

**Tests of sales and collection cycle**

- Finished goods
  - Cost of goods sold
End of Chapter 21