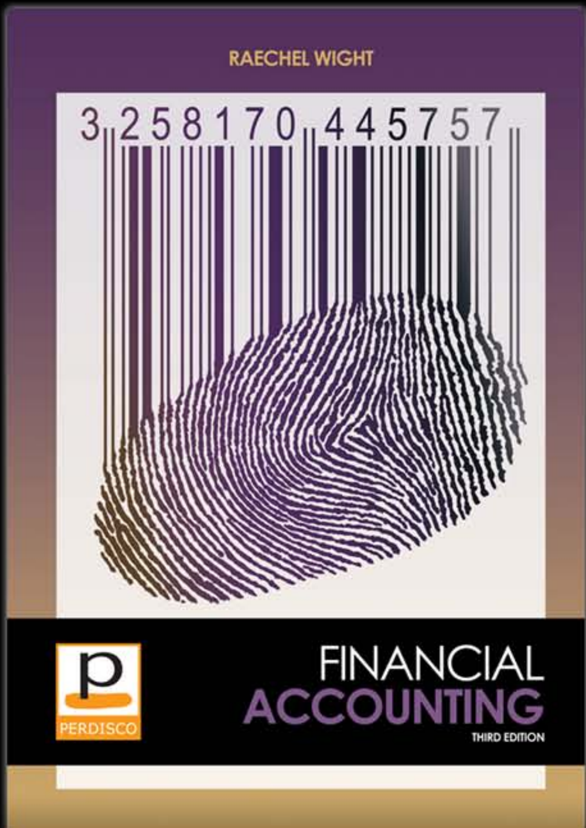

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Financial Accounting, Third Edition

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Chapter 5

Accounting for merchandising operations

Appendix 5A:

Periodic inventory system

Learning objectives

1. Record purchase and sales transactions under the periodic inventory system
2. Prepare adjusting and closing entries under the periodic inventory system

Learning objective 1

Record purchase and sales transactions under the periodic inventory system

Periodic inventory system

- Periodic inventory system does **not** continuously keep track of the value of inventory on hand and the cost of inventory sold
- Instead, it calculates these amounts only once at the end of the accounting period
- This conceptual difference results in practical differences between the periodic and the perpetual inventory systems:
  - Accounts used
  - How transactions are recorded

Accounts used in periodic system

- Instead of constantly updating the Merchandise Inventory account several temporary accounts are used to record inventory transactions:

Temporary Account	Description
Purchases	Used to accumulate the value of all purchases of merchandise made during the accounting period.
Purchase Returns and Allowances	Used to record a purchase return or allowance received from a supplier.
Purchase Discounts	Used to record discounts received for early payment of an account.
Transportation In	Used to record shipping charges paid by the buyer.

Accounts used in periodic system

- Purchase Returns and Allowances and Purchase Discounts are contra accounts to the Purchases account

Accounts used in periodic system

- Let's now illustrate how these accounts are used to record transactions under the periodic inventory system
- We illustrate how to record purchases in the accounts of the buyer and sales in the accounts of the seller
- The perpetual inventory system is also illustrated to compare the differences and similarities between the journal entries under each inventory system

Purchases

- Periodic inventory system records purchases of inventory in a separate Purchases account rather than directly in the Merchandise Inventory account
- For example, purchased 20 mittens on credit for \$20 each (20 x \$20 = \$400)

Periodic:

Periodic		
Purchases	400	
Accounts Payable		400

Perpetual:

Perpetual		
Merchandise Inventory	400	
Accounts Payable		400

Purchase returns and allowances

- Periodic inventory system records the purchase return or allowance in the Purchase Returns and Allowances account rather than in the Merchandise Inventory account
- For example, returned 5 mittens costing $20 each (5 x $20 = $100)

Periodic:

Periodic		
Accounts Payable	100	
Purchase Returns & Allowances		100

Perpetual:

Perpetual		
Accounts Payable	100	
Merchandise Inventory		100

Trade discounts on purchases

- Trade discounts are not recorded in the accounts
- The journal entry uses the same **accounts** as in the purchase transaction previously illustrated
- The only difference is that the **amount** of the journal entry is the purchase price after the trade discount has been deducted

Trade discounts on purchases

Example:

- List price = $170
- Trade discount = $40

Periodic:

Periodic		
Purchases	130	
Accounts Payable		130

Perpetual:

Perpetual		
Merchandise Inventory	130	
Accounts Payable		130

Purchase discounts

- Periodic inventory system records purchase discounts in a separate Purchase Discounts account rather than as a credit to Merchandise Inventory

Purchase discounts

Example:

Invoice total = $400

Purchase returns = $100

Credit terms = 2/10 n/30

$$\text{Discount} = \left(\begin{array}{c}\text{Invoice}\\ \text{total}\end{array} - \begin{array}{c}\text{Purchase Returns}\\ \text{and Allowances}\end{array} \right) \times \text{discount \%}$$

$$= (\$400 - \$100) \times 2\%$$

$$= \$300 \times 0.02$$

$$= \$6$$

Purchase discounts

For payment within the discount period:

- Discount = $6
- Accounts Payable = $400 - $100 = $300
- Cash payment = $300 - $6 = $294

Periodic:

Periodic		
Accounts Payable	300	
Purchase Discounts		6
Cash		294

Perpetual:

Perpetual		
Accounts Payable	300	
Merchandise Inventory		6
Cash		294

Transportation costs

- Transportation costs under FOB shipping point are recorded in the accounts of the **buyer**
- Periodic inventory system records transportation costs in a separate Transportation In account rather than as a debit to Merchandise Inventory
- For example, buyer paid $90 for transportation costs

Periodic:

Periodic		
Transportation In	90	
Cash		90

Perpetual:

Perpetual		
Merchandise Inventory	90	
Cash		90

Transportation costs

- Transportation costs under FOB destination are recorded in the accounts of the **seller**
- Journal entry identical under both inventory systems
- For example, seller paid $90 for transportation costs

Periodic:

Periodic		
Delivery Expense	90	
Cash		90

Perpetual:

Perpetual		
Delivery Expense	90	
Cash		90

Sales of merchandise

- Periodic inventory system requires only one journal entry to record the revenue earned from the sale
- Cost of Goods Sold and Merchandise Inventory are **not** updated at the time of the sale

Sales of merchandise

Example:

- Sold 10 mittens
- Selling price = $80 each (10 x $80 = $800)
- Cost = $20 each (10 x $20 = $200)

Periodic:

Periodic		
Accounts Receivable	800	
Sales Revenues		800

Perpetual:

Perpetual		
Accounts Receivable	800	
Sales Revenues		800
Cost of Goods Sold	**200**	
Merchandise Inventory		**200**

Sales returns and allowances

- Periodic inventory system requires only one journal entry to record reduction in the selling price for both a sales return or a sales allowance
- No journal entry is recorded to update the Merchandise Inventory account regardless whether the goods are returned or not
- The value of the returned inventory (including the value of damaged goods) is included in the inventory count taken at the end of the accounting period

Sales returns

Sales return example:

- Customer returned 5 mittens (good condition)
- Selling price = $80 each (5 x $80 = $400)
- Cost = $20 each (5 x $20 = $100)

Periodic:

Periodic		
Sales Returns and Allowances	400	
Accounts Receivable		400

Perpetual:

Perpetual		
Sales Returns and Allowances	400	
Accounts Receivable		400
Merchandise Inventory	**100**	
Cost of Goods Sold		**100**

Sales allowances

Sales allowance :

- Merchandise is not returned to the seller
- Journal entry the same under both inventory systems
- For example, seller granted a sales allowance of $50 for damaged goods

Periodic:

Periodic		
Sales Returns and Allowances	50	
Accounts Receivable		50

Perpetual:

Perpetual		
Sales Returns and Allowances	50	
Accounts Receivable		50

Trade discounts on sales

- Trade discounts are not recorded in the accounts
- The journal entry uses the same **accounts** as in the sales transaction previously illustrated
- The only difference is that the **amount** of the journal entry is the sales price after the trade discount has been deducted

Trade discounts on sales

Example:

- List price = $90
- Trade discount = $20
- Cost = $40

Periodic:

Periodic		
Accounts Receivable	70	
Sales Revenues		70

Perpetual:

Perpetual		
Accounts Receivable	70	
Sales Revenues		70
Cost of Goods Sold	**40**	
Merchandise Inventory		**40**

Sales discounts

- Sales discounts are discounts offered to customers to encourage early payment of their account
- Do not affect the Merchandise Inventory account
- Recorded in the same way under both the periodic and perpetual inventory systems:
  - Debit Cash
  - Debit Sales Discounts
  - Credit Accounts Receivable

Learning objective 2

Prepare adjusting and closing entries under the periodic inventory system

Adjusting entries

- No adjusting entry required under periodic inventory system because the Merchandise Inventory account is updated with closing entries

Example:

	Periodic $	Perpetual $
Merchandise Inventory - beginning balance	2,000	2,000
Merchandise Inventory - ending balance *(before any adjustments)*	2,000	1,500
Inventory count – value of inventory on hand *(end of period)*	1,000	1,000
Value of adjusting entry	-	500

- Perpetual adjusting entry = $1,500 – $1,000 = $500

Adjusting entries

Periodic:

Periodic - no adjusting entry for shrinkage		
No adjusting entry required		

Perpetual:

Perpetual - adjusting entry for shrinkage		
Cost of Goods Sold	500	
Merchandise Inventory		500

Closing entries

- Closing entries under the periodic inventory system include additional line items to close the temporary accounts specific to the periodic inventory system
- Merchandise Inventory is updated by:
  - Crediting the opening balance of the Merchandise Inventory account against the Income Summary account
  - Debiting the Merchandise Inventory account against the Income Summary account for the value of the inventory on hand

Closing entry to credit Income Summary

Periodic:

Closing entry to credit Income Summary		
Sales Revenues	6,700	
Merchandise Inventory (ending)	1,000	
Purchase Returns & Allowances	400	
Purchase Discounts	700	
Income Summary		8,800

Perpetual:

Closing entry to credit Income Summary		
Sales Revenues	6,700	
Income Summary		6,700

Closing entry to debit Income Summary

Periodic:

Closing entry to debit Income Summary		
Income Summary	7,000	
Sales Returns & Allowances		300
Sales Discounts		500
Merchandise Inventory (open)		2,000
Purchases		3,400
Transportation In		200
Other Expenses		600

Perpetual:

Closing entry to debit Income Summary		
Income Summary	4,900	
Sales Returns & Allowances		300
Sales Discounts		500
Cost of Goods Sold		3,500
Other Expenses		600

Closing entries – ledger account

- After the first two closing entries are posted, the balance of the Income Summary account is the same under both the periodic and perpetual inventory systems

Periodic:

Income Summary				No. 310
Date	Description	Debit	Credit	Bal.
Aug. 31	Closing (1)		8,800	8,800 Cr
31	Closing (2)	7,000		**1,800 Cr**

Perpetual:

Income Summary				No. 310
Date	Description	Debit	Credit	Bal.
Aug. 31	Closing (1)		6,700	6,700 Cr
31	Closing (2)	4,900		**1,800 Cr**

Closing entries

- The remaining closing entries are now the same under both the periodic and perpetual inventory systems
  - Close the Income Summary account to equity
  - Close Withdrawals account to equity

Calculating COGS – periodic inventory

- The cost of the inventory sold is calculated at the end of the accounting period

Calculation of the Cost of Goods Sold under the periodic inventory system	
	$
Opening inventory	2,000
Add: Purchases	3,400
Less: Purchase Returns and Allowances	*400*
Less: Purchase Discounts	*700*
Add: Transportation In	200
Equals: Cost of merchandise available for sale	4,500
Less: Ending inventory	*1,000*
Equals: Cost of Goods Sold	3,500

Financial statements – periodic inventory

- Financial statements the same except Cost of Goods Sold in the income statement
- Periodic inventory system separately displays the items that comprise the cost of the goods sold
- Gross profit is the same under both

Income Statement (extract) – periodic inventory		
	$	**$**
Sales revenues		6,700
Sales returns and allowances	(300)	
Sales discounts	(500)	(800)
Net sales		5,900
Cost of goods sold:		
Opening inventory	2,000	
Purchases	3,400	
Purchase Returns and Allowances	*(400)*	
Purchase Discounts	*(700)*	
Transportation In	200	
Cost of merchandise available for sale	4,500	
Ending inventory	*(1,000)*	
Cost of Goods Sold		(3,500)
Gross Profit		2,400

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