# chapter 

## 6

## Accounting for Merchandising Businesses

## OPENING COMMENTS

Chapter 6 introduces the merchandising form of business. It opens by contrasting the income statements of service and merchandising businesses. The majority of the chapter is focused on the presentation of inventory, purchase of inventory, and sale of inventory including returns, discounting, and freight charges.

The 27th edition of Accounting focuses on the perpetual inventory method, since computerized accounting and inventory systems have made it feasible for even small merchandisers to track each purchase and sale of inventory. The text illustrates how to record transactions related to the purchase and sale of merchandise under the perpetual inventory system. It also presents a chart of accounts and an overview of the accounting cycle for a merchandiser using a perpetual inventory system. The chapter then presents the financial statements for a merchandising business and summarizes the essential differences between the periodic and perpetual inventory systems.

A summary of the closing process as it differs in a merchandising environment is provided to assist students in identifying additional income statement accounts to include in the closing process.

A presentation of the asset turnover that illustrates how effectively a business is using its assets to generate sales follows and explains its relevance to a company from year to year or as a comparison to its industry average.

The appendix explains and illustrates the use of the periodic inventory system. It also contains a table that displays how the same business transaction would be journalized differently between perpetual and periodic inventory systems.

After studying the chapter, your students should be able to:

1. Distinguish between the activities and financial statements of service and merchandising businesses.
2. Describe and illustrate the accounting for merchandise transactions.
3. Describe and illustrate the adjusting process for a merchandising business.
4. Describe and illustrate the financial statements of a merchandising business.
5. Describe and illustrate the use of asset turnover in evaluating a company's operating performance.

## KEY TERMS

administrative expenses (general expenses)
asset turnover
cash refund
cost of merchandise sold
credit memorandum (credit memo)
credit period
credit terms
customer allowance
customer discounts
customer refunds payable
debit memorandum (debit memo)
estimated returns inventory
FOB (free on board) destination
FOB (free on board) shipping point
gross profit
income from operations (operating income)
inventory shrinkage (inventory shortage)
invoice
merchandise inventory
multiple-step income statement
operating cycle
other expense
other revenue
periodic inventory system
perpetual inventory system
physical inventory
purchases discounts
purchases returns and allowances
sales
sales discounts
selling expenses
single-step income statement
trade discounts
wholesalers

## STUDENT FAQS

- How do you handle a business that is primarily a service business but has some merchandising aspects?
- In a merchandising (retail) type business, how can you use the periodic inventory method and still use a computer to monitor inventory?
- Which method is more current or is more correct so that what is in inventory can be determined at any given time?
- When viewing a chart of accounts, how can you determine if it is for a periodic or perpetual inventory system?
- What accounts are in the chart of accounts of a periodic inventory system?
- What accounts are in the chart of accounts of a perpetual inventory system?
- Which inventory method will yield the most net income?
- Which inventory method will yield the least net income?
- How can a business have gross profit but end up with a net loss for the year?
- Why not debit the sales account directly for any adjustments?
- Why do you add transportation in and do not deduct delivery expense when determining the cost of merchandise purchased?
- Why does it matter that we identify other revenues and expenses on the income statement? It doesn't impact the overall net income or net loss.
- Why can't we deduct credit card expense from sales? After all, it reduces the cash we receive from the sale.
- Why don't discount terms apply to the total amount we may owe a supplier when the supplier prepays the freight for us?
- Why do we record the sales tax separately from the sales amount? Wouldn't it be easier to credit Sales for the total amount (sales and tax) and then debit Sales when we remit the sales tax?
- When computing asset turnover, why is there a choice about which value of assets to use? Does it matter?


## OBJECTIVE 1

Distinguish between the activities and financial statements of service and merchandising businesses.

## SYNOPSIS

The differences between service and merchandising businesses are discussed in this chapter. The first objective describes the operating cycle process for merchandising businesses in Exhibit 1. The time in
days of this operating cycle differs vastly depending on the type of merchandise sold. Financial statements reflect the differences between these types of businesses. The income of a services business is often reported as fees earned; for a merchandising business, it is reported as sales. Condensed income statements from a service business (H\&R Block) and a retail business (The Home Depot) illustrate how these statements differ.

## Key Terms and Definitions

- Cost of Merchandise Sold - The cost that is reported as an expense when merchandise is sold.
- Gross Profit - Sales minus the cost of merchandise sold.
- Merchandise Inventory - Merchandise on hand (not sold) at the end of an accounting period.
- Operating Cycle - The process by which a company spends cash, generates revenues, and receives cash either at the time the revenues are generated or later by collecting an accounts receivable.
- Sales - The total amount charged customers for merchandise sold, including cash sales and sales on account.


## Relevant Example Exercise and Exhibit

- Exhibit 1 - The Operating Cycle for a Merchandising Business
- Example Exercise 6-1 - Gross Profit


## SUGGESTED APPROACH

The goal of Objective 1 is to introduce the student to the basic skeleton of the income statement for the merchandiser.

Sales<br>- Cost of Merchandise Sold<br>Gross Profit<br>- Operating Expenses<br>Net Income

To demonstrate the need for this new format, ask your students the following question: What is the largest expense incurred by a retail store, such as Target or Old Navy? (Answer: the cost of the merchandise that is sold to the customer)

Because this cost is the retailer's major expense, it is shown separately from the operating expenses when preparing the income statement. The cost of merchandise sold is deducted from sales to get the subtotal gross profit. This amount is the profit left after "paying for" the merchandise that was sold to the customer. It must be used to "pay" the retailer's operating expenses, such as salaries, rent, utilities, and advertising. It might be beneficial to clarify up front that a merchandising business both buys and sells merchandise inventory. Make sure the student can put on the buyer's hat and the seller's hat and distinguish between the two activities.

Objective 1 also introduces Merchandise Inventory, explaining that this account is reported as a current asset on the balance sheet.

## OBJECTIVE 2

## Describe and illustrate the accounting for merchandise transactions.

## SYNOPSIS

NetSolutions becomes a retailer in this chapter, and its transactions are illustrated by using a simplified general journal. Using a perpetual inventory system, the merchandise available for sale and the cost of goods sold are continuously updated. As computerized inventory is widely used, this method has become more common. When merchandise is purchased by the retailer, an inventory account is debited and the credit goes to either Cash or Accounts Payable. The terms laying out how the merchandise is to be paid for are called credit terms. If payment on delivery is required, the terms are cash or net cash. If the buyer is permitted an amount of time to pay, it is called the credit period. The credit period usually begins with the date of the invoice. Terms expressed as $2 / 10, \mathrm{n} / 30$ mean a discount of 2 percent will be given if the invoice is paid within 10 days and the net amount is due within 30 days. Exhibit 3 shows a typical invoice with credit due terms, and Exhibit 4 illustrates how to count days for the credit terms. Discounts taken by the buyer are called purchase discounts. Under the perpetual inventory system, the buyer debits Merchandise Inventory and credits Accounts Payable assuming all purchase discounts are taken. In this way, merchandise inventory shows the net amount paid to the buyer.

If a retailer returns any merchandise, the retailer may request an allowance for merchandise returned. From the buyer's perspective, these returns are called purchases returns and allowances. The buyer sends the seller a debit memo, which shows the seller the amount the buyer is requesting to debit to Accounts Payable and also the reasons for the request. The buyer then debits Accounts Payable and credits Merchandise Inventory. If the buyer is granted the allowance prior to paying the invoice, the amount is deducted before computing any discounts.

Cash sales are recorded as a debit to Cash and a credit to Sales for the amount of the sale. Using the perpetual inventory system, the decrease in inventory must also be recorded at the same time. Cost of Goods Sold is debited, and Inventory is credited for the amount the inventory cost the buyer. If a credit card is used, the transaction is recorded as a cash sale and the credit card processing fee charged the retailer is paid periodically by the retailer. Credit card companies charge retailers a processing fee, which when paid is recorded as a debit to an expense account and a credit to Cash. If the retailer sells on account, Accounts Receivable is debited, Sales is credited, and the cost of merchandise sold and merchandise inventory are recorded as above. If the seller is offering the buyer credit terms, it will reduce the amount of sales. If the product is returned, it will also reduce the amount of sales.

Purchases and sales of merchandise often involve freight costs. FOB (free on board) shipping point means that ownership of the merchandise passes to the buyer when it is picked up by the freight carrier. This also means that the buyer will be paying the shipping costs. FOB destination means ownership of the merchandise does not pass to the buyer until it is physically received. This means that shipping costs are usually paid by the seller. In the first case, shipping costs are paid by the buyer and debited directly to the inventory account. When freight costs are paid by the seller, the cost of the freight is debited to an expense account. These freight terms are summarized in Exhibit 8. Exhibit 9 summarizes how these transactions are journalized using T accounts.

Another topic that is addressed in the chapter is sales tax. When a retailer sells merchandise to the end consumer, a liability for sales tax is incurred. The seller collects the taxes at the time of sale. Accounts Receivable is debited for the total amount, Sales is credited for only the price of the merchandise, and an additional amount is credited to the sales tax payable account. Businesses that sell to other businesses for resale do not charge sales taxes. These businesses may offer trade discounts to other businesses that are not offered to consumers. Usually, only the net price is recorded in this type of transaction.

## Key Terms and Definitions

- Cash Refund - An amount paid by the seller to the buyer for merchandise that is defective, is damaged during shipment, or does not meet the buyer's expectations.
- Credit Memorandum (Credit Memo) - A form used by a seller to inform the buyer of the amount the seller proposes to credit to the account receivable due from the buyer.
- Credit Period -The amount of time the buyer is allowed in which to pay the seller.
- Credit Terms - Terms for payment on account by the buyer to the seller.
- Customer Allowance - Returns to the seller by the customer or reductions from the initial selling price due to defective or damaged merchandise or goods that did not meet the customer's expectations.
- Customer Discounts - A variety of discounts offered by the seller as incentive for the customer to act in a way benefiting the seller.
- Customer Refunds Payable - A liability account for estimated refunds and allowances that will be paid or granted customers in the future.
- Debit Memorandum (Debit Memo) - A form used by a buyer to inform the seller of the amount the buyer proposes to debit to the account payable due the seller.
- Estimated Returns Inventory - A current asset that is reported on the balance sheet after inventory.
- FOB (Free on Board) Destination - Freight terms in which the seller pays the transportation costs from the shipping point to the final destination.
- FOB (Free on Board) Shipping Point - Freight terms in which the buyer pays the transportation costs from the shipping point to the final destination.
- Invoice - The bill that the seller sends to the buyer.
- Periodic Inventory System - The inventory system in which the inventory records do not show the amount available for sale or sold during the period.
- Perpetual Inventory System - The inventory system in which each purchase and sale of merchandise is recorded in an inventory account.
- Physical Inventory - A detailed listing of merchandise on hand.
- Purchases Discounts - Discounts taken by the buyer for early payment of an invoice.
- Purchases Returns and Allowances - From the buyer's perspective, returned merchandise or an adjustment for defective merchandise.
- Sales Discounts - From the seller's perspective, discounts that a seller may offer the buyer for early payment.
- Trade Discounts - Discounts from the list prices in published catalogs or special discounts offered to certain classes of buyers.
- Wholesalers - Companies that sell merchandise to other businesses rather than to the public.


## Relevant Example Exercises and Exhibits

- Exhibit 2 - Chart of Accounts for NetSolutions as a Merchandising Business
- Exhibit 3 - Invoice
- Exhibit 4 - Credit Terms
- Exhibit 5 - Debit Memo
- Example Exercise 6-2 - Purchases Transactions
- Exhibit 6 - Credit Memo
- Exhibit 7 - Journal Entries to Record Customer Refunds, Allowances, and Returns
- Example Exercise 6-3 - Sales Transactions
- Exhibit 8 - Freight Terms
- Example Exercise 6-4 - Freight Terms
- Exhibit 9 - Recording Merchandise Inventory Transactions
- Exhibit 10 - Illustration of Merchandise Inventory Transactions for Seller and Buyer
- Example Exercise 6-5 - Transactions for Buyer and Seller


## SUGGESTED APPROACH

This objective demonstrates to the student that merchandising businesses engage in purchasing and selling of merchandise inventory. First, the purchase of inventory is demonstrated using the perpetual method of accounting for inventory. Note that the periodic method is demonstrated in the appendix to the chapter.

The second part of this objective covers the entries to record sales in a perpetual inventory system. Begin by stressing that selling merchandise to a customer requires two entries-one to record the sales revenue and another to remove the item sold from merchandise inventory.

## DEMONSTRATION PROBLEM—Entries for Merchandise Purchases

Purchases of merchandise for resale to a customer are recorded in the merchandise inventory account. Point out that this account is an asset. Therefore, it is debited whenever inventory is increased and credited whenever inventory is decreased.

Handout 6-1 lists purchase-related transactions for S \& V Office Supply Company. Read the first transaction to your students and ask them to journalize it in their notes. After giving them a minute to work, show them the correct journal entry. Proceed with the other transactions listed on the handout. The correct journal entries are listed on Handout 6-2. Use transaction 5 to explain the concept of a debit memo in regard to returned merchandise.

The transactions on Handout 6-1 do include references to credit terms (e.g., 2/10, n/30). Remind students that all merchandise purchases are recorded at the net purchase price; the buyer debits Merchandise Inventory for the amount of the invoice less the discount, if a discount is offered.

## DEMONSTRATION PROBLEM—Entries to Record Merchandise Sales

Handout 6-3 presents a matrix that explains the new accounts related to sales. Review these accounts with your class.
Handout 6-4 lists several sales-related transactions for S \& V Office Supply Company. One method to present this material is to give the students examples of the entries to record the sale of inventory items in lecture format. Another is to allow students to decipher the entries on their own. Try reading the first transaction to your students and ask them to journalize it in their notes. After giving them a minute to work, show them the correct journal entry. Proceed with the other transactions listed on the handout. The correct journal entries are listed on Handouts 6-5 and 6-6. Use transaction 4 to demonstrate the use of a credit memo for acknowledgement of returned merchandise.

## WRITING EXERCISE—Recording Merchandise Sales

To emphasize some of the operational considerations in recording sales, ask your students to write answers to one or more of the following questions.

1. Why would a retailer offer customers a discount for timely payment?
2. If you owned a merchandising business, how would you decide which credit cards, if any, to accept?
3. Which of the following credit terms would be more generous to your customers: $\mathrm{n} / 30$ or $\mathrm{n} /$ eom?

Possible responses: (1) Retailers offer discounts to customers to encourage them to pay early to improve cash flow. (2) A large expense for merchandisers is credit card fees. These costs would come into the decision-making process. On the other hand, the convenience of consumers using credit cards and those cards that the majority of buyers carry will also factor into this decision process. (3) The only time that $\mathrm{n} / \mathrm{eom}$ is more favorable is when an invoice is issued on the first day of the month in a month that has 31 days.

## LECTURE AID—Discounts

For many students, a 2 percent discount doesn't sound very impressive. They may need a little help understanding the true financial impact of taking discounts on purchases. The following questions will stress the savings of taking discounts:

1. What is the net savings from borrowing at a 12 percent interest rate in order to take the discount on a $\$ 10,000$ purchase, terms $1 / 10, \mathrm{n} / 30$ ? Answer: $\$ 34[\$ 100-(\$ 9,900 \times 20 / 360 \times 12 \%)]$.
2. What is the interest rate earned on taking a discount with terms $3 / 15, n / 60$ ? Answer: 24 percent $(3 \% \times$ 360/45).

## LECTURE AID-Transportation Costs on Sales

If merchandise is sold FOB destination, the seller is responsible for paying the shipping cost. The cost is debited to Freight Out or Delivery Expense. For example, assume goods costing $\$ 100$ are sold to a customer on account for $\$ 250$, terms FOB destination. The freight cost paid to have these goods delivered is $\$ 25$. The following entries are needed to record this sale and the transportation costs:

```
Accounts Receivable........... }25
    Sales....................
Cost of Merchandise Sold...... 100
    Merchandise Inventory 100
Delivery Expense............. }2
    Cash
        25
```

FOB (free on board) terms identify (1) when legal title to goods passes from seller to buyer and (2) who is responsible for paying transportation costs. Handout 6-7 lists the operational implications of FOB terms.

Notice that Handout 6-7 points out that the buyer bears the risk of loss during transportation when merchandise is shipped FOB shipping point. Therefore, the buyer should make sure that the merchandise is insured against loss during shipment.

A couple of points related to shipping terms usually need special emphasis. First, when merchandise is shipped FOB shipping point, the seller frequently prepays the transportation costs and adds this amount to the buyer's invoice. Second, remind students that transportation costs are not eligible for early payment discounts. Those discounts apply only to the cost of the merchandise purchased. To test their understanding of these concepts, ask them to compute the cash to be paid in the following problem.

Logan Appliances purchased $\$ 8,000$ of merchandise, $2 / 10, \mathrm{n} / 30$, FOB shipping point. The seller prepaid the shipping charges of $\$ 200$. If Logan pays for this merchandise within the discount period, how much should Logan remit to the seller? (Answer: $\$ 8,040$ )

## DEMONSTRATION PROBLEM—Transportation Costs on Purchases

Ask your students to record the transactions related to the purchase of merchandise and transportation costs on Handout 6-8. The correct entries are listed on Handout 6-9.

## TEACHING SUGGESTION—Chart of Accounts, Trade Discounts, and Sales Tax

Chart of Accounts: After explaining the text's system, it is interesting to point out the variety in charts of accounts and their numbering systems by providing some real-world examples. Ask students to bring in copies of charts of accounts for merchandising businesses. Students may have access to charts of accounts through their job or the job of a relative. There are also several websites that provide sample charts of accounts to various industries. These can be found by searching for "chart of accounts" using an Internet
search engine. Many industry trade organizations will provide these samples on their website. As an alternative, you may want to describe the chart of accounts for a local company with which you are familiar.

In discussing the chart of accounts for a merchandising firm, the text uses a three-digit account number. This reflects the growing number of accounts required by the increased complexity of a merchandiser's accounting transactions.

Under the three-digit chart of accounts, the first digit represents the account classification (1 for assets, 2 for liabilities, etc.). The second digit represents the subclassification (11 for current assets and 21 for current liabilities). The third digit identifies the specific account.

Trade Discounts: To introduce trade discounts to your students, you need only to define the term and give a quick example. A trade discount is a discount off the normal (or list) price of merchandise given to a certain class of buyers, such as customers buying wholesale, not-for-profits, or governmental agencies, etc. If merchandise with a list price of $\$ 700$ is sold to a customer entitled to a 25 percent trade discount, the selling price is reduced to $\$ 525(\$ 700 \times 25 \%=\$ 175 ; \$ 700-\$ 175=\$ 525)$. Remind students that trade discounts are not shown separately in journal entries. The amount credited to Sales (and debited to Cash or Accounts Receivable) is simply the discounted price.

Sales Tax: Unless your students have lived exclusively in a state that does not charge sales tax, they will already be familiar with this concept. Remind students that when sales tax is collected by a merchandiser at the time of a sale, it is recorded in a liability account (Sales Tax Payable); the merchandiser is obligated to remit the sales tax collected to the appropriate government authority. You may want to refer to the journal entries related to sales tax in the text.

## OBJECTIVE 3

## Describe and illustrate the adjusting process for a merchandising business.

## SYNOPSIS

Using the perpetual inventory system, the inventory account is constantly updated. This means the amount in the inventory account should be equal to the amount of merchandise available for sale at any point in time. However, retailers often experience loss from shoplifting, employee theft, or errors, and this causes discrepancies between the inventory account and the merchandise actually available for sale. The physical inventory on hand at the end of the accounting period in usually less than shown in the inventory account. This difference is called inventory shrinkage or shortage. This shrinkage is recorded by an adjusting entry: Cost of Merchandise Sold is debited and Merchandise Inventory is credited. After the adjusting entry is recorded, the merchandise inventory account should reflect the physical inventory count. If this amount becomes too large, a business may decide to record this in a separate account called Merchandise Inventory Shrinkage.

Two adjusting entries are necessary for estimated allowances and returns. The first adjusting entry debits Sales and credits Customer Refunds Payable. The second entry debits Estimated Returns Inventory and credits Cost of Merchandise Sold.

## Key Term and Definition

- Inventory Shrinkage (Inventory Shortage) - The amount by which the merchandise for sale, as indicated by the balance of the merchandise inventory account, is larger than the total amount of merchandise counted during the physical inventory.


## Relevant Example Exercises

- Example Exercise 6-6 - Inventory Shrinkage
- Example Exercise 6-7 - Customer Allowances and Returns


## SUGGESTED APPROACH

This objective introduces the adjusting entry for inventory shrinkage. Remind students that merchandisers also record any of the adjusting entries introduced in Chapter 3 that are applicable (e.g., supplies used, insurance expired, wages owed to employees, fees earned, etc.). It also discusses closing entries; point out to students that closing entries for a merchandising business are similar to those for a service business. Discuss the new merchandising accounts that are added as part of the closing process. Cost of merchandise sold is an all new merchandising account that gets closed along with the already familiar expense accounts. The revenue account for a merchandising business is the sales account and requires a debit entry to close the account.

The adjusting process may require Merchandise Inventory to be adjusted for various causes (see text). Ask students to name a few. Large shortages can exist due to spoilage and shrinkage or maybe theft (employee, customer, unknown). The related expenses are Cost of Merchandise Sold, and likewise, Merchandise Inventory has disappeared, so it must be reduced (credited). Large shrinkage/shortages may be put in a separate expense account, but they still increase Cost of Merchandise Sold. Physical inventory and book inventory must agree at the end of the period.

## LECTURE AID—Adjusting Entry for Inventory Shrinkage

Unfortunately, inventory shrinkage is considered a normal cost of operations for a retailer. Theft of inventory (shoplifting), damaged inventory, and mistakes in recording inventory can never be totally eliminated. Therefore, the inventory account must be adjusted prior to preparing financial statements. Any shrinkage is recorded as an expense.

For example, assume a company's perpetual inventory records show that there should be $\$ 89,500$ of inventory on hand. (Emphasize that the perpetual records show what should be in inventory based on merchandise purchased and sold during the year.) However, a physical inventory count reveals that only $\$ 87,000$ is actually on hand at year-end. Ask your students to determine the amount of shrinkage. (Answer: \$2,500)

This shrinkage is recorded as follows:

Cost of Merchandise Sold
Merchandise Inventory.... 2,500 2,500

You may want to point out that if the amount of shrinkage is unusually large, it is better to record it in a separate account, such as Loss from Merchandise Inventory Shrinkage; stress that all companies must do a physical inventory count at least once per year to verify the information in the perpetual inventory records.

## LECTURE AID—Adjusting Entries for Customer Refunds, Allowances, and Returns

The amounts reported on the financial statements must accurately reflect the position of the company. Sellers usually experience customer returns and/or grant allowances as part of doing business. Therefore, the financial statements should reflect the anticipation of these returns and allowances.

Companies are required to estimate returns and allowances at the end of the accounting period and prepare two adjusting entries. The first entry decreases sales to the amount of sales that the company actually expects to earn. It also creates a liability account to estimate the amount that will be paid to customers. The second entry reduces Cost of Merchandise Sold for the amount of inventory expected to be returned. Since the inventory is still in the hands of the customer, the inventory account cannot be increased. Instead, the estimated cost of inventory to be returned is recorded in Estimated Returns Inventory. The adjusting entries are recorded as follows. Assume the estimated amount of returns is $\$ 1,500$ and the cost of inventory related to those returns is $\$ 900$.

Sales. $\qquad$ 1,500
Customer Refunds Payable..... 1,500

Estimated Returns Inventory............. 900
Cost of Merchandise Sold 900

In Objective 2, we saw the journal entries required when a customer returns merchandise. You may want to review those at this time. Journal entry 4 on Handout 6-6 shows the following:

S \& V Office Supply Company accepted a return of $\$ 50$ worth of merchandise from a cash customer. The cost of the merchandise returned was $\$ 30$. The customer received a cash refund.

> Customer Refunds Payable. 50
> Cash 50
> Merchandise Inventory
> Cost of Merchandise Sold 30

Remind the students that if $\mathrm{S} \& \mathrm{~V}$ allowed the customer to keep the inventory, only the first entry is required.

## OBJECTIVE 4

## Describe and illustrate the financial statements of a merchandising business.

## SYNOPSIS

Merchandising businesses have a few unique items in their financial statements. First, let's take a look at the multiple-step income statement shown in Exhibit 11. The first section shows sales. The cost of merchandise sold is subtracted from sales to calculate gross profit. The Operating expenses section is divided in two parts: selling expenses and administrative expenses. The total expenses are subtracted from gross profit to calculate income from operations, and then there is a small section for other revenue and expense before arriving at net income. Exhibit 12 displays the same information in a single-step income statement. The statement of owner's equity for a merchandising business does not differ from the service business statement shown in previous chapters. The balance sheet may be presented two ways. In the account form, the Assets section is displayed on the left side, and the liabilities and owner's equity are on the right. The balance sheet may also be presented in a downward sequence of three sections known as the report form. The balance sheet for NetSolutions in report form is shown in Exhibit 14.

Closing entries are similar to a service business. Debit each revenue account for its balance, credit each expense account for its balance, and credit owner's capital account for net income. Debit the owner's capital account for a net loss. Cost of merchandise sold is a temporary account and is closed like an expense account. Debit the owner's capital account for the balance of the drawing account and credit the drawing account. After the closing entries and post-closing trial balance are prepared, only permanent accounts are shown on the post-closing trial balance.

## Key Terms and Definitions

- Administrative Expenses (General Expenses) - Expenses incurred in the administration or general operations of the business.
- Income from Operations (Operating Income) - Revenues less operating expenses and service department charges for a profit or an investment center.
- Multiple-Step Income Statement - A form of income statement that contains several sections, subsections, and subtotals.
- Other Expense - Expenses that cannot be traced directly to operations.
- Other Revenue - Revenue from sources other than the primary operating activity of a business.
- Selling Expenses - Expenses that are incurred directly in the selling of merchandise.
- Single-Step Income Statement - A form of income statement in which the total of all expenses is deducted from the total of all revenues.


## Relevant Exhibits

- Exhibit 11 - Multiple-Step Income Statement
- Exhibit 12 - Single-Step Income Statement
- Exhibit 13 - Statement of Owner's Equity for Merchandising Business
- Exhibit 14 - Balance Sheet for Merchandising Business


## SUGGESTED APPROACH

This objective introduces the multiple-step income statement. This income statement format contains various sections, subsections, and subtotals, which increase the length and complexity of the income statement. Point out that the benefit of this more detailed format is greater flexibility in analyzing a company's performance. For example, the gross profit percentage (gross profit divided by sales) is used to analyze the markup above cost charged by retailers.

The trap that many students fall into is blindly attempting to memorize the multiple-step income statement line by line. Instead, they need to approach it as a series of pieces (sections) that must be fit together to provide a total picture of a company-similar to fitting together pieces of a jigsaw puzzle. Note: The format of the multiple-step income statement is significantly different in the area of Cost of Merchandise Sold when periodic inventory is used than when perpetual inventory is used.

## GROUP LEARNING ACTIVITY—Multiple-Step Income Statement

Before digging into the multiple-step income statement, you will need to define the new terms for your students.

Sales: The total amount charged customers for merchandise sold. (This is a revenue account.)
Cost of Merchandise Sold: The cost to purchase the inventory being sold.
Gross Profit: Proceeds available for selling and administrative expenses.
Selling Expenses: Costs directly incurred in selling the merchandise, such as the cost of advertising or commissions paid to salespersons.
Administrative Expenses: Costs incurred in the administration or general operations of the business, such as the cost of office supplies or the salary paid to an accountant.
Income from Operations: Profit earned by the conducting company's primary business of buying and selling merchandise.
Other Revenue: Revenue from sources other than the company's primary business, such as interest revenue on a checking account or rent revenue from leasing unused space.
Other Expense: Costs incurred from activities other than the company's primary business of buying and selling its product, such as interest expense on business loans.

You may want to demonstrate how intuitive the calculations are on the income statement by asking the following question:

Assume a retailer sold $\$ 100$ in merchandise to a customer on account. That customer returned $\$ 10$ of the merchandise. The customer also paid for the remaining merchandise early, entitling her to a $\$ 5$ discount. What amount of revenue was really earned on the sale? (Answer: \$85)

Handout 6-10 shows the individual sections of the multiple-step income statement and how they interrelate. Review this handout with the class, explaining each section and its placement in the statement.

Handout 6-11 shows an adjusted trial balance for Gem City Music. Divide students into small groups and ask them to prepare an income statement for this retailer. A completed income statement is shown on Handout 6-12.

## GROUP LEARNING ACTIVITY—Statement of Owner's Equity and Balance Sheet

Point out that there are no differences between the statements of owner's equity for a service business and a merchandiser. Remind students that the only difference on the balance sheet is that a merchandising company will show Merchandise Inventory and Estimated Returns Inventory as current assets and Customer Refunds Payable as a current liability on its balance sheet. If time permits, your students can review these financial statements by preparing a statement of owner's equity and balance sheet from the adjusted trial balance for Gem City Music on Handout 6-11. See Handouts 6-13 and 6-14 for the completed financial statements.

## LECTURE AID—Closing Process for Merchandising Business

The process of closing entries has not changed from Chapter 4; there are simply more accounts to close. In a perpetual inventory system, the cost of merchandise sold account is closed to the owner's capital account, along with the other debit balance accounts shown in the Income Statement column of the end-of-period spreadsheet (work sheet). The sales account is the revenue account which is also closed to the owner's capital account.

## OBJECTIVE 5

Describe and illustrate the use of asset turnover in evaluating a company's operating performance.

## SYNOPSIS

To measure how effectively a company uses its assets to generate sales, the asset turnover (Sales/Average Total Assets) is computed. This objective gives an example of asset turnover and shows the calculation for average assets to be the average of the assets at the beginning and end of the year.

## Key Term and Definition

- Asset Turnover - A measure of how effectively a business is using its assets to generate sales.


## Relevant Example Exercise

- Example Exercise 6-8 - Asset Turnover


## SUGGESTED APPROACH

Explain to students that the assets of a company are "used up" as a normal part of conducting business. How efficiently a company uses those assets to generate sales is another good indicator of the company's operating performance. As the text indicates, the value of the assets used to compute the asset turnover may be the total assets at the end of the year, the average between the beginning and the end of the year, or the average of the monthly assets.

## APPENDIX-The Periodic Inventory System

## SYNOPSIS

The periodic inventory system may be used for businesses that use a manual accounting system. In the periodic system, the cost of merchandise sold is determined at the end of the period. An example is shown in Exhibit 17. Additional accounts used in this system are shown in the chart of accounts in Exhibit 15. Using the periodic system, instead of recording merchandise purchases in the inventory account, purchases, purchases discounts, purchase returns and allowances, and freight in accounts are used. The adjusting process is the same under this system with the exception of the adjustment for shrinkage. Since the inventory account is not kept up to date, shrinkage can be determined only indirectly in the cost of merchandise sold. The closing process is the same under the periodic system except that the names of the accounts change. Examples of the closing entries are shown in Exhibit 18.

## Relevant Exhibits

- Exhibit 15 - Chart of Accounts Under the Periodic Inventory System
- Exhibit 16 - Transactions Using the Periodic Inventory System
- Exhibit 17 - Determining Cost of Merchandise Sold Using Periodic Inventory
- Exhibit 18 - Closing Entries: Periodic Method


## SUGGESTED APPROACH

Chapter 6 assumes that a merchandising business uses a perpetual inventory system. Some businesses may still use a periodic inventory system, and this appendix points out the differences in the two systems. Point out Exhibit 16 in the text, and emphasize the difference in accounts and timing of recording Cost of Merchandise Sold between the periodic and perpetual inventory systems.

Problems 6-8A or $6-8 \mathrm{~B}$ in the textbook can be used to demonstrate the entries and differences between the two inventory methods.

## LECTURE AID—Calculating Cost of Merchandise Sold Using the Periodic Inventory System

This activity presents a brief comparison of the perpetual and periodic inventory systems. Handouts 6-15 through 6-17 contrast the two inventory systems, show the costs and benefits of a perpetual inventory
system, and offer insight on how businesses choose an inventory system. To illustrate the essence of a perpetual inventory system, relate it to a checkbook. Maintaining a checkbook register for a bank account is a type of perpetual inventory system. By tracking increases (deposits) and decreases (withdrawals or checks written) in the checkbook register, you can keep a running balance of your cash.

A merchandiser that uses the periodic inventory system must compute cost of merchandise sold when preparing an income statement. This calculation is based on the amount of inventory purchased and the amount in inventory at the beginning and end of the period. The following story will illustrate this calculation.
Assume that you are a "Twinkies junkie." Whenever you study, you eat Twinkies. One evening, before a big accounting test, you go to your cupboard and find that you have only three Twinkies left. You know that three Twinkies will never get you through the night, so you head off to the grocery to buy another box. The box contains 12 Twinkies. You then proceed to study and eat, study and eat, and study and eat. The next morning, you decide to figure out how many Twinkies you ate while studying. You didn't count the Twinkies as you ate them, but you know the old box is empty and the new box has only five Twinkies left. How many Twinkies did you eat? (After waiting for a response, continue the illustration.)

Let's review your calculation using accounting terminology. You started with a beginning inventory of three Twinkies. You then purchased 12 Twinkies. This gave you 15 Twinkies available for consumption. Since five Twinkies were left in ending inventory, you must have eaten 10.

This is essentially the calculation of cost of merchandise sold under a periodic inventory system:
Merchandise Inventory on hand at the beginning of the year

+ Cost of Merchandise Purchased
Merchandise Available for Sale
- Merchandise Inventory left at the end of the year

Cost of Merchandise Sold

When purchasing merchandise inventory, a business may be required to pay transportation costs to have the merchandise delivered from the supplier. The purchaser may also receive early payment discounts or make returns of unwanted merchandise. Therefore, the cost of merchandise purchased must be calculated as follows:

Purchases<br>- Purchase Returns and Allowances<br>- Purchase Discounts<br>Net Purchases<br>+ Transportation In<br>Cost of Merchandise Purchased

Handout 6-18 shows these calculations and how they fit together.
Handout 6-19 provides a practice problem related to the calculation of cost of merchandise sold in the periodic system. Ask your students to calculate the cost of merchandise purchased (answer: \$975) and the cost of merchandise sold (answer: \$905).

## PURCHASE TRANSACTIONS FOR S \& V OFFICE SUPPLY COMPANY

1. $\mathrm{S} \& \mathrm{~V}$ purchased $\$ 500$ worth of merchandise for cash.
2. S \& V purchased $\$ 4,000$ of merchandise on account; terms $\mathrm{n} / 30$.
3. $\mathrm{S} \& \mathrm{~V}$ paid for the merchandise purchased in transaction 2.
4. S \& V purchased $\$ 2,000$ of merchandise from its supplier on account; terms 3/15, n/45.
5. S \& V returned $\$ 100$ worth of the merchandise purchased in transaction 4 because it was damaged.
6. S \& V paid for the merchandise purchased in transaction 4, less the amount returned in transaction 5 . This invoice was paid within the discount period.

## PURCHASE TRANSACTIONS FOR S \& V OFFICE SUPPLY COMPANY

(Solution)

1. $\mathrm{S} \& \mathrm{~V}$ purchased $\$ 500$ worth of merchandise for cash. Merchandise Inventory 500
Cash
2. S \& V purchased $\$ 4,000$ of merchandise on account; terms $\mathrm{n} / 30$.
$\qquad$
Accounts Payable
4,000
3. S \& V paid for the merchandise purchased in transaction 2. Accounts Payable ..... 4,000
Cash

$\qquad$
4. S \& V purchased $\$ 2,000$ of merchandise from its supplier on account; terms 3/15, n/45.
$\qquad$Accounts Payable1,940
5. S \& V returned $\$ 100$ worth of the merchandise purchased in transaction 4 because it was damaged.
Accounts Payable ..... 97Merchandise Inventory97
6. S \& V paid for the merchandise purchased in transaction 4, less the amount returned in transaction 5. This invoice was paid within the discount period.
Accounts Payable ..... 1,843Cash .....................................................................1,843

## MERCHANDISE SALES

The following are used to record sales of merchandise to customers:

| Account | Purpose | Account Classification | Normal Balance |
| :---: | :---: | :---: | :---: |
| Sales | Used to record sales revenue whenever a sale is made to a cash or credit customer. | Revenue | Credit |
| Cost of Merchandise Sold | Used to record the cost of inventory items sold to customers. The inventory items sold must be removed from the merchandise inventory account. | Expense | Debit |
| Credit Card Expense | Used to record the service fee charged by credit card companies. | Expense | Debit |
| Sales Tax <br> Payable | Used to record sales tax collected by the seller; these taxes must be paid to the appropriate tax authority (e.g., state or county). | Liability | Credit |

# SALES TRANSACTIONS FOR S \& V OFFICE SUPPLY COMPANY 

1. Sold $\$ 500$ in merchandise to a cash customer. The cost of the merchandise sold was $\$ 280$.
2. Sold $\$ 1,200$ worth of merchandise to a customer who charged the merchandise to her VISA card. The cost of the merchandise sold was \$950. [Hint: Bank card sales (VISA and MasterCard) are treated the same as cash sales because the retailer may deposit the credit card slips directly into his or her bank account.]
3. Sold $\$ 2,000$ in merchandise to a credit customer on a store account. The terms of the sale are $2 / 10, \mathrm{n} / 30$. The cost of the merchandise sold was $\$ 1,600$.
4. Accepted a return of $\$ 50$ worth of merchandise from the cash customer in transaction 1. The cost of the merchandise returned was $\$ 30$. The customer received a cash refund.
5. Received payment from the credit customer in transaction 3 within the discount period.
6. Paid the service fee on VISA and MasterCard sales to Third National Bank, \$75.

# SALES TRANSACTIONS FOR S \& V OFFICE SUPPLY COMPANY 

## (Solution)

1. Sold $\$ 500$ in merchandise to a cash customer. The cost of the merchandise sold was $\$ 280$.
Cash ..... 500
Sales ..... 500
Cost of Merchandise Sold ..... 280
Merchandise Inventory ..... 280
2. Sold $\$ 1,200$ worth of merchandise to a customer who charged the merchandise to her VISA card. The cost of the merchandise sold was $\$ 950$.
Cash ..... 1,200
Sales
$\qquad$1,200
Cost of Merchandise Sold ..... 950
Merchandise Inventory ..... 950
3. Sold $\$ 2,000$ in merchandise to a credit customer on a store account.The terms of the sale are $2 / 10, \mathrm{n} / 30$. The cost of the merchandise soldwas $\$ 1,600$.
Accounts Receivable ..... 1,960
Sales ..... 1,960
Cost of Merchandise Sold ..... 1,600
Merchandise Inventory ..... 1,600

# SALES TRANSACTIONS FOR S \& V OFFICE SUPPLY COMPANY 

## Solution (Concluded)

4. Accepted a return of $\$ 50$ worth of merchandise from the cash customer in transaction 1. The cost of the merchandise returned was $\$ 30$. The customer received a cash refund.
Customer Refunds Payable ..... 50
Cash ..... 50
Merchandise Inventory ..... 30
Cost of Merchandise Sold ..... 30
5. Received payment from the credit customer in transaction 3 within the discount period.Cash1,960
Accounts Receivable ..... 1,960
6. Paid the service fee on VISA and MasterCard sales to Third National Bank, \$75.Credit Card Expense75Cash75

## FREIGHT TERMS

## FOB <br> Shipping Point

FOB
Destination

Ownership (title)
passes to buyer when merchandise
is
Delivered to
freight carrier
Received
by buyer
Transportation
costs are paid
by
Buyer
Risk of loss during
transportation
belongs to.
Buyer
Seller

## PURCHASE TRANSACTIONS FOR S \& V OFFICE SUPPLY COMPANY—FREIGHT TERMS

1. $\mathrm{S} \& \mathrm{~V}$ purchased $\$ 1,000$ worth of merchandise on account; terms $2 / 10, n / 30$, FOB shipping point. The freight costs of $\$ 50$ were prepaid by the seller and added to the invoice.
2. $\mathrm{S} \& \mathrm{~V}$ paid for the merchandise purchased in transaction 1 within the discount period. (Hint: The discount does not apply to the transportation costs.)

# PURCHASE TRANSACTIONS FOR S \& V OFFICE SUPPLY COMPANY-FREIGHT TERMS 

(Solution)

1. $\mathrm{S} \& \mathrm{~V}$ purchased $\$ 1,000$ worth of merchandise on account; terms $2 / 10, n / 30$, FOB shipping point. The freight costs of $\$ 50$ were prepaid by the seller and added to the invoice.

2. $\mathrm{S} \& \mathrm{~V}$ paid for the merchandise purchased in transaction 1 within the discount period.
Accounts Payable................................................ 1,030
Cash ..................................................................
1,030

# THE INCOME STATEMENT—AN EXPANDED VIEW 

Single-Step Multiple-Step<br>Income Income<br>Statement Statement<br>(Chapters 1-4) (Chapter 6)

Revenues Revenue from Sales

- Expenses - Cost of Merchandise Sold Gross Profit

|  | - Operating Expenses | Operating Expenses: <br> Selling Expenses <br> + Administrative Expenses <br> Total Operating Expenses |
| :---: | :---: | :---: |
|  | Income from Operations <br> + Other Revenue (i.e., Interest, Rent) <br> - Other Expenses <br> (i.e., Interest) |  |
| Net Income | Net Income |  |

## ADJUSTED TRIAL BALANCE

# Gem City Music Adjusted Trial Balance December 31, 20Y1 

Cash ..... 11,000
Accounts Receivable ..... 15,800
Merchandise Inventory ..... 9,000
Estimated Returns Inventory ..... 600
Office Equipment ..... 23,000
Accumulated Depreciation- Office Equipment ..... 9,200
Accounts Payable ..... 15,000
Customer Refunds Payable ..... 1,000
Salaries Payable ..... 1,250
M. Marx, Capital ..... 11,500
M. Marx, Drawing ..... 12,800
Sales187,100
Cost of Merchandise Sold ..... 100,000
Rent Expense ..... 7,800
Sales Salaries Expense ..... 17,700
Office Salaries Expense ..... 22,550
Depreciation Expense-Office Equipment2,800
Interest Expense ..... 2,000
Total ..... 225,050

## INCOME STATEMENT

## Gem City Music <br> Income Statement <br> For the Year Ended December 31, 20Y1

Sales ..... \$187,100
Cost of merchandise sold ..... 100,000Gross profit\$ 87,100
Operating expenses:
Selling expenses:
Sales salaries expense ..... $\$ 17,700$
Total selling expenses

$\qquad$ ..... \$17,700
Administrative expenses:
Rent expense ..... \$ 7,800
Office salaries expense ..... 22,550
Depr. expense-office equip. ..... 2,800
Total administrative expenses ..... 33,150
Total operating expenses

$\qquad$

Income from operations $\qquad$
Other expense:Interest expense
$\qquad$2,000

Net income

# STATEMENT OF OWNER'S EQUITY <br> Gem City Music <br> Statement of Owner's Equity <br> For the Year Ended December 31, 20Y1 

| M. Marx, capital, January 1, 20Y1................... |  | \$11,500 |
| :---: | :---: | :---: |
| Net income for the year | \$ 34,250 |  |
| Withdrawals | $(12,800)$ |  |
| Increase in owner's equity. |  | 21,450 |
| M. Marx, capital, December 31, 20 Y1 .......... |  | \$32,950 |

# BALANCE SHEET 

Gem City Music<br>Balance Sheet<br>December 31, 20Y1

## Assets

Current assets:
Cash ..... \$11,000
Accounts receivable ..... 15,800
Merchandise inventory ..... 9,000
Estimated returns inventory ..... 600
Total current assets\$36,400
Property, plant, and equipment: Office equipment ..... \$23,000
Less accumulated depreciation9,200Total property, plant, and equipment ..Total assets
$\qquad$

## Liabilities

Current liabilities:
Accounts payable ..... \$15,000
Customer refunds payable ..... 1,000
Salaries payable ..... 1,250Total liabilities
$\qquad$

## Owner's Equity

M. Marx, capital32,950Total liabilities and owner's equity ..... \$50,200

## TWO INVENTORY SYSTEMS

## PERPETUAL:

- The merchandise inventory account is increased when inventory is purchased.
- The merchandise inventory account is decreased when inventory is sold to a customer.
- Therefore, the merchandise inventory account always (perpetually) shows the amount of inventory on hand.


## PERIODIC:

- Purchases of inventory are recorded in a purchases account.
- Inventory is not removed from the accounting records when it is sold.
- Therefore, the amount of inventory on hand must be determined by taking a physical inventory count.


## SUMMARY:

The perpetual inventory system requires more accounting entries, but it provides more up-to-date information for managing inventory.

## COST-BENEFIT ANALYSIS IMPLEMENTING A PERPETUAL INVENTORY SYSTEM

Benefits:

1. Accounting records always show the amount of inventory on hand. This will assist in:
a. Determining when to reorder inventory.
b. Determining how much inventory to reorder.
c. Analyzing whether an item of inventory is a "hot seller" or "slow mover."
d. Making decisions on markdowns or special promotions.
2. A physical inventory count is necessary only at year-end. This count validates the perpetual inventory records.

Costs:

1. Hiring extra accounting personnel or increased fees paid to an accounting service as the result of a greater number of transactions that must be recorded and processed.

## OR

2. Purchasing optical scanners and computerized equipment to track purchases and sales of inventory items.

## CHOOSING AN INVENTORY SYSTEM

| Size of <br> Retailer | Unit Cost of <br> Inventory Items | Probable <br> Choice |  | Reason |
| :--- | :---: | :---: | :---: | :--- | | Low |
| :--- |
| Small |

# CALCULATING COST OF MERCHANDISE SOLD UNDER A PERIODIC INVENTORY SYSTEM 

\author{
Merchandise Inventory, Beg. of Year

+ Cost of Merchandise Purchased
Merchandise Available for Sale
- Merchandise Inventory, End of Year $\quad$\begin{tabular}{l}
Purchases <br>
- Purchase Returns and <br>
Allowances <br>

-| Purchase Discounts |
| :--- |
| Net Purchases |
| + |
| Transportation In |
| Cost of Merchandise |
| Purchased |

\end{tabular} <br> Cost of Merchandise Sold

}

## CALCULATING COST OF MERCHANDISE SOLD UNDER A PERIODIC INVENTORY SYSTEM

Christopher's Gourmet Chocolates is a small retail store that uses a periodic inventory system. Compute Christopher's cost of merchandise sold for November based on the following information:

Inventory on November 1 ................ \$ 280
Merchandise purchased
1,000

Merchandise returned due
to quality problems ..... 50
Discounts on merchandise purchased ..... 20
Delivery costs for merchandise purchased ..... 45
Inventory on November 30 ..... 350

