

## Chapter 9 – Inventory

*Inventory* can be a noun or a verb. As a noun, it means the quantity of goods and materials that an activity has on hand at any given time. As a verb, it means the process of counting those items.

But on-hand inventory can be thought of in another way: as money on the shelves instead of in the bank! Specifically, every dollar that you have tied up in supplies is a dollar not available for other purposes. For that reason alone, managing inventory is a vital management responsibility.

### Inventory Procedures (verb)

Two common types of inventories are taken in retail and hospitality operations: periodic and perpetual.

#### Periodic Inventory

*Periodic* inventory is an occasional counting of supplies, such as at the end of each accounting period. No continuous record of the inventory items is kept. For example, if you count all of your cleaning supplies at the end of each month, you may not know exactly what you have in stock on a given day within that month.

#### Perpetual Inventory

A *perpetual* inventory continuously updates the accounts. Every time merchandise is purchased or sold, the inventory account is adjusted. For example, if you are selling craft supplies, your accounting system will increase the account when you purchase new supplies, and decrease it every time an item is sold.

If kept accurately, the perpetual inventory gives you the most accurate, timely information. However, that's a big "IF!" In fact, in perpetual inventory systems, *periodic* inventories are also taken (often at the end of a year) in order to make adjustments for inaccuracies that seem to inevitably creep in.

### Inventory in accounting (noun)

*Inventory* is a unique accounting item. Although Inventory is a balance sheet account, it is also included on the income statement when *cost of goods sold* is calculated.

#### Cost of Goods Sold (CoGS)

*Cost of Goods Sold* is the cost of the things that you sell as shown on the financial statement. For example, if you sold 120 souvenirs coffee mugs, your CoGS would be your wholesale cost of those 120 mugs, including shipping and handling costs.

Continuing this simple example, let's say that your activity purchased a gross (twelve dozen, or 144) souvenir coffee mugs for \$144, including shipping and handling. That means that your cost per mug is exactly \$1.00 (Wouldn't it be nice if real life worked out this easily?) If you sold 120 of them for \$2.00 each, your sales would be \$240. This would more than cover your costs, but what about those other mugs? How will the accounting department show this on the financial

statement?

To compute CoGS, take your beginning inventory (0 mugs = \$0), plus your purchases (144 mugs = \$144), to get the cost of goods available for sale (\$144).

Subtract your ending inventory (14 mugs = \$14) from your cost of goods for sale (\$144) to get your CoGS (\$130).

The gross profit shown on your financial statements will therefore be \$110 (\$240 sales - \$130 CoGS).

Actually, it gets a little more complicated. For example, you may need to also subtract any goods used internally (such as employee gifts). But if you study this example, you should immediately see why an accurate inventory is so important.

### **The importance of an accurate *beginning* inventory**

When *beginning* inventory is *overstated*, the profit is *understated*. For example, what if a case of green beans is counted, assuming a full case as beginning inventory, but actually the case is nearly empty. That means that the cost of goods sold at the end of the accounting period (assuming an accurate ending count) will be computed with a higher cost (of green beans), so when subtracted from sales, the result will be a lower profit.

When beginning inventory is *understated*, the profit is *overstated*. For example, perhaps a case of corn has been moved out of the storeroom during cleaning, and the beginning inventory team doesn't include it in their count. That means that the cost of goods sold at the end of the accounting period will be less, since the cost of the corn won't be included (assuming an accurate ending count). With a lower cost of goods sold to subtract from sales, the computed profit will be greater but will reverse itself in the next accounting period, so that neither was a true reflection of the operation.

### **The importance of an accurate *ending* inventory**

When *ending* inventory is *overstated*, profit is also *overstated*. Take that nearly-empty case of green beans, counted as full (but this time only during ending inventory), as an example. Since this causes the cost of goods sold to decrease, when it is subtracted from sales, the profit will be higher.

When *ending* inventory is *understated*, profit is also *understated*. Failing to count a case of food increases the cost of goods sold computation, which when subtracted from sales produces a lower profit. This is bad for two reasons: (1) in the short run, you show a lower profit; and (2) there will be a related inaccuracy in the next accounting period.

The *ending* inventory for one accounting period becomes the *beginning* inventory for the next accounting period. So errors are compounded.

It is very important to count inventory in the same manner as it is purchased and/or valued. If purchased by weight, the item should be weighed during the physical inventory. If ordered by case, then it should be counted by case. If the order form breaks a case into individual items, then count individual items. And consistency from period to period is paramount.

***Conclusion: Accurate Inventory is always important because an accurate profit computation is the only viable goal.***

## **Inventory Valuation Methods**

Managers should understand these methods, and know what is in use in their activities, but they should also understand that these are only forms of accounting methodology...not necessarily the physical flow of assets through the activity.

### **(1) Specific Identification**

The *specific identification* method is used for valuing big ticket items such as high-end electronics in a retail outlet. Under this method, the amounts actually paid for each item determine their value at the end of the period.

### **(2) Weighted Average**

Under the *weighted average* method, the total number of units available for sale is divided into the total cost of the units available for sale. This method might be appropriate for retail items that fluctuate regularly in cost, such as fresh produce.

### **(3) First In-First Out (FIFO)**

The FIFO method assumes that the first units in inventory are the first units out of inventory. For example, in the case of perishable food items, it is important to use the oldest items first. The ending inventory therefore consists of the most *recent* purchases, whereas the CoGS computation will consist of the *earliest* purchases. When costs fluctuate, this can make a significant difference on the financial statement.

### **(4) First In-Last Out (LIFO)**

As you might now infer, the LIFO method assumes that the *last* units in inventory are the *first* units out of inventory. The ending inventory will therefore consist of the *earliest* purchases, and the CoGS computation will consist of the most *recent* purchases.

### **Does it matter which method you use?**

In your MWR/Services activity, you will probably be told which method of inventory valuation to use. (This is also true in large businesses in the civilian sector.) However, it is helpful to understand the effects of the method that you are using on net profit.

## **Inflation/Deflation**

In a period of rising prices, FIFO will result in a higher valuation for the ending inventory, reducing CoGS and thereby increasing net profit. In the same scenario, LIFO will result in a lower valuation for ending inventory, thereby increasing CoGS and reducing net profit. *Weighted average* will be somewhere in between, and *specific identification* is not affected by inflation.

In a period of falling prices, the opposite effects will transpire.

## Inventory Control

“NAFI internal control systems shall provide reasonable assurance of the effectiveness of organization; the efficiency and economy of operations; safeguards over assets; the propriety of receipts and disbursements; and the accuracy and reliability of records and reports.” (DODI 1015.15)

After this discussion of the effects of inventory accuracy and inventory valuation on your bottom line, you may be thinking about ways to control inventory. We discuss Internal Control procedures in Chapter 7. Here are a few more guidelines specific to physical inventory.

- ✓ Physical inventories must be taken periodically by disinterested parties. Typically, there should be pre-printed inventory forms for the actual count.
- ✓ Storage areas should be reorganized before the physical count, so that partially-full cases are clearly marked, and like items are together, and they are arranged in the same order as listed on the preprinted inventory forms.
- ✓ Significant overages or shortages must be reported to the appropriate authorities as soon as they are discovered. This might be during a periodic inventory, or any time a major discrepancy is suspected.
- ✓ A daily inventory should be taken of high-price items. Any shortages must be immediately reported to the appropriate authorities.
- ✓ The storeroom where the inventory is kept must be physically secured, with access limited to authorized personnel. Locks must be changed periodically, and any time there is a change in the access personnel.

Finally, inventory is money, and it should never sit for longer than necessary. This ties up resources better used elsewhere. Inventory Turnover Ratio is a financial tool which allows managers to see how often their inventory is used up and replaced, the results of which can be compared to a standard for that type of activity.

## Summary of Chapter 9

*Inventory* is the quantity of goods and materials that an activity has on hand, as well as the process of counting those items. There are two common types of inventory they are *periodic* (such as counting at the end of each accounting period) and *perpetual* (continuously updating the accounts).

To find out what you have actually sold and used from your inventory one must be able to determine their Cost of Goods Sold (CoGS) which is calculated by taking the beginning inventory, making any adjustments (such as adding additional purchases), and then subtracting the ending inventory. The common inventory valuation methods that are used include (1) specific identification, (2) weighted average, (3) FIFO, and (4) LIFO. FIFO (first in, first out) is normally used for perishable items. In order to control ones assets there is a need for stringent internal controls. One must also set goals for inventory turnover and these goals should be monitored on a continual basis.

### **Practice Problem**

Calculate your Cost of Goods Sold (dollar value) and Gross Profit in the following scenario:

The Golf Pro Shop had \$400 in logo jackets in inventory at the beginning of the accounting period, but a big tournament was coming up, so they purchased another \$1,000 worth from their supplier. Shipping cost was an additional \$100.

Sales were disappointing, with \$800 worth of logo jackets remaining at the end of the accounting period. The dollar value of sales from the jackets was \$1600.

***Don't look at the answers until you have worked the problems on your own!***

### **Answer to Practice Problem**

Cost of Goods Sold was \$700; producing a gross profit of \$900.

\$ 400 Beginning Inventory

+ 1100 Purchases (\$1,000 + \$100 shipping cost)

\$ 1500 Goods available for sale

- 800 Ending Inventory

\$ 700 Cost of Goods Sold (CoGS)

\$ 1600 Total Sales of jackets during period

- 700 CoGS

\$ 900 Gross Profit