

8

Purchasing, Receiving, Storing, and Issuing

INSIDE THIS CHAPTER

- Professional Beverage Management Practices
- Beverage Inventory Assessment
- Purchasing Beverages
- Receiving Beverages
- Storing Beverages
- Issuing Beverages



CHAPTER LEARNING OBJECTIVES

After completing this chapter, you should be able to:

- Explain the difference between physical and perpetual inventory systems.
- List the two key objectives of an effective beverage purchasing program.
- Explain the purpose of effective beverage receiving and storage practices.
- Describe the purpose of an issue requisition.
- Explain how to calculate an inventory turnover rate.

KEY TERMS

average inventory,
p. 207

capital, p. 197

cash flow, p. 197

control state, p. 194

cost of goods sold (COGS),
p. 207

first in, first out (FIFO),
p. 193

inventory turnover rate,
p. 207

last in, first out (LIFO),
p. 193

lead time, p. 198

license state, p. 194

order point, p. 198

perpetual inventory,
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physical inventory, p. 191

rotation, p. 201

safety level, p. 198

CASE STUDY

“How can you run out of my favorite gin?”, demanded the customer.

Marco, the bartender at the Votive Restaurant, tried to explain. “We really don’t sell much of that brand. It looks like we forgot to restock it and we ran out. I can get you another brand.”

Marco knew this guest, who was usually friendly and tipped well. But not today.

“Young man,” grumbled the customer, getting up to leave, “if I wanted bad gin, I would have gone somewhere else. I came here because you usually have the best bar selection in town.”

“This happens way too often,” thought Marco. “Last week we ran out of a premium vodka. And the week before that, we ran out of our most popular draft beer.”

Both times some customers got mad, and it showed up in lower tips. Marco wondered why the manager couldn’t keep the right products in the right amounts on hand at the right time.

1. How do you think the lack of popular beverages affects the customers and the employees of an establishment?
2. What will happen in an establishment if it continually runs out of the beverage brands or products its customers prefer?

PROFESSIONAL BEVERAGE MANAGEMENT PRACTICES

Managers face a variety of challenges in securing and maintaining the products needed to serve drinks. They must consider which beverage products to buy. They must also consider the amount of beverage products needed to meet customer demand. After placing orders, managers must ensure that beverage products are properly received. The receiving process entails matching the products ordered with those delivered. It also means ensuring that the products have arrived in good condition. After the product is delivered, managers must safely store products, issuing them from storage as needed.

The entire process of managing beverage products in storage involves several separate tasks:

- Inventory assessment
- Purchasing
- Receiving
- Storing
- Issuing

BEVERAGE INVENTORY ASSESSMENT

Managers seeking to understand beverage purchasing, receiving, storing, and issuing must begin by first understanding beverage inventory procedures. Most operations will have several inventories. These inventories include alcoholic beverages, glassware and dishes, food items, nonalcoholic beverages, and cleaning and office supplies. An operation's inventory accounts for both the amount and the value of the products held in the operation. These inventory levels are also known in the industry as the amount "on hand."

The quantity of products on hand impacts decisions about when and how much more to purchase. Beverage managers should assess their inventory levels on a regular basis. The frequency of inventory assessment will vary based on the size of an operation. It will also depend on the operation's volume level. All beverage operations will benefit from a regular assessment of inventory, because the inventory process allows managers to make several key decisions related to the following:

- Maintaining product quality
- Determining what to buy
- Determining how much to buy

- Determining when to buy
- Determining costs
- Reducing theft

Restaurant and foodservice professionals often use two basic systems as they manage the products held in inventory: physical inventory and perpetual inventory.

Physical Inventory

Managers typically assess the amount of products they have on hand by taking a physical inventory. In a **physical inventory** system, managers count and record the amounts of each product in storage. Typically, they also determine the value of the products held in inventory. In some operations, managers require that two people, working together, take the physical inventory. They do this to help ensure accuracy and to reduce control problems, such as theft.

Exhibit 8.1 shows a physical inventory form that identifies the information typically collected for each inventoried item.

Note that seven bottles of Old Hoshler whiskey were in the beverage storeroom when the manager took the inventory count. Each bottle has a purchase price of \$17.50. This was known because the cost per bottle was recorded when the product was delivered. Therefore, the total inventory cost of this product is \$122.50:

$$\begin{array}{rcccl}
 7 & \times & \$17.50 & = & \$122.50 \\
 \text{Total bottles} & & \text{Cost per bottle} & & \text{Cost price}
 \end{array}$$

Exhibit 8.1

PHYSICAL INVENTORY FORM

Item	Purchase Unit	No. of Units in Inventory	Purchase Price	Total Cost
Old Hoshler Whiskey	Bottle (750 ml)	7	\$ 17.50	\$ 122.50
Joliet Gin	Bottle (1 L)	4	22.75	91.00
Total				\$ 213.50

Exhibit 8.2



When managers complete a physical beverage inventory, they know the amounts and value of all products on hand. This information will be needed prior to determining what, if any, new products must be ordered.

Some nonbeverage items used in a bar may be inventoried regularly to determine when they must be reordered. Examples include fruit, juices, and dairy products (*Exhibit 8.2*). A physical beverage inventory should be taken as often as is needed to assist managers in their purchasing tasks. It is normally taken at least once per month to determine the dollar value of beverage products on hand. This inventory is typically taken on the last day

of the month or accounting period and information from it is used to prepare the cost of beverages sold portion of the operation's profit and loss statement (see chapter 9).

Perpetual Inventory System

A **perpetual inventory** system is a *continuous* count of the number of items in inventory. The amounts of product in a perpetual inventory system are not continually determined by a physical count, but by keeping a running total of purchases, or deposits, and usage, or withdrawals. Actual physical inventory counts are, however, taken periodically to ensure the accuracy of the perpetual inventory system. The key advantage of a perpetual inventory system is that the managers always know the quantity of products that should be available.

Managers use a perpetual inventory system just like a checkbook. With a checkbook, as money is deposited in the bank, the balance on the account goes up. Likewise, as products are delivered to the storeroom, the perpetual

inventory record increases. Conversely, as money is withdrawn from the bank, the balance in the bank decreases. The same is true for the inventory. As products are issued for use, the quantity of product in storage decreases. When their record keeping is good, managers know the quantity of beverage products that should be in inventory all the time.

Exhibit 8.3 shows the typical format for a perpetual inventory form.

Exhibit 8.3

PERPETUAL INVENTORY FORM

Item: Old Hatter Scotch (750 ml)

Date	No. of Purchase Units		Balance
	In	Out	
			7
9/15	—	5	2
9/16	12	4	10

Notice that there were 7 bottles of Old Hatter Scotch available at the beginning of the inventory period. On the first date of 9/15, 5 bottles were issued, so only 2 bottles should have remained in inventory.

$$7 \quad - \quad 5 \quad = \quad 2$$

Bottles beginning inventory **Bottles issued on 9/15** **Bottles remaining**

On the next day, 12 bottles were purchased and 4 bottles were issued. There was then a net balance of 10 bottles.

$$2 \quad + \quad 12 \quad - \quad 4 \quad = \quad 10$$

Bottles beginning inventory **Bottles purchased on 9/16** **Bottles issued on 9/16** **Bottles remaining**

When using a perpetual inventory system, the manager should spot-check the number of bottles in the storage area periodically. This ensures that the number of bottles on hand actually equals the balance indicated on the perpetual inventory form.

Note that it is necessary to keep track of the quantity only, not the cost, of products available in a perpetual inventory system. That is because a perpetual inventory system cannot be relied on to provide actual inventory and cost data used to prepare an operation's financial summaries. Eliminating the need to collect unnecessary information helps reduce the time required for the perpetual inventory process. This makes the procedure more attractive to busy beverage managers.

Use of a perpetual inventory system allows the beverage manager to better control beverage products. When verified with a regularly scheduled physical count, the beverage manager knows whether there is a discrepancy between recorded information and physical count. As a result, he or she is able to take corrective action on a timely basis.

Calculating Inventory Values

Managers should also know the value of the products they have in inventory. Recall from *Exhibit 8.1* that a physical inventory form includes a space for recording the value of products in inventory. Establishing the value of an inventory is more complex than it first appears. That is so because there are four basic ways that values of beverage inventories can be assigned:

- **FIFO:** The **first in, first out (FIFO)** method assumes that products are withdrawn from inventory in the order in which they are received and entered into storage. Therefore, the products that remain in storage are judged to be the most recently purchased items. The value of inventory becomes the cost of the most recently purchased products.
- **LIFO:** The **last in, first out (LIFO)** method assumes the reverse of the FIFO method: The products most recently purchased are used first. The value of inventory is represented by the unit cost of items in inventory the longest.



RESTAURANT TECHNOLOGY

Computerized systems are available to help with inventory counts and to help establish inventory values. For example, optical scanners can be used to read bar codes on bottles of products held in storage. Managers simply use the scanner to “count” each bottle and the program uses current prices paid for products to calculate total inventory values.

Technology-driven approaches provide fast and accurate methods to determine inventory values. As a result, technology is increasingly used to replace the manual inventory systems currently deployed in many establishments.

- **Actual cost:** This method of inventory valuation considers the actual price paid for each product in inventory. The inventory value is the sum of the actual unit costs.
- **Weighted average:** This method of inventory valuation considers the quantity of each product purchased at different unit prices. The inventory value is priced on the basis of average prices paid for each product, and the average price is weighted according to the number of products purchased at each price.

Managers choose one valuation system when taking a physical inventory and should use that same system consistently. This is because there are tax implications and restrictions on changing inventory valuation methods. Normally, the beverage manager, working with another responsible employee, will determine the quantities and values of inventoried items. In small operations the manager-owner, working alone, may conduct inventory counts and assess product values.

PURCHASING BEVERAGES

Purchasing involves the series of activities that begin when beverage and supply needs are determined and ends after these items are sold or used by the operation. This definition is broader than the common idea that purchasing simply means buying. Professional beverage purchasers must determine what they need to buy, how much to buy, and when to buy it.

Buying alcoholic beverages is very different from buying food products. Unlike with food products, government regulations often affect sources of alcoholic beverage supply. States can be either **control states** or **license states**. In control, or monopoly, states the state is the sole supplier of liquor. All individuals and retail establishments must purchase liquor directly from state stores. In license states, the state frequently licenses wholesalers, distributors, and sometimes manufacturers to sell alcoholic beverages.

Liquor purchasing is considerably more complex in license states than in control states. Wholesalers do not carry all brands in all quantities. Distributors usually have exclusive sales authority over certain brands. Some manufacturers have their own distribution networks.

These distribution networks can differ greatly. One beverage manufacturer may have its own distribution system, while another may give exclusive territorial rights to certain distributors. Still other manufacturers sell only to wholesalers. The end result of these different distribution networks is that no single supplier carries a complete selection of all available brands and items. For this reason, purchasers must order from several supply sources.

The pricing of beverage products sold to restaurant and foodservice operations is also different from food products. Because of the strict control imposed by government alcoholic beverage agencies, there is often very little flexibility in their purchase price. Strict minimum wholesale price requirements severely limit discounting in some states. In addition to pricing control, many states impose strict payment and credit controls.

In some states the matter of credit is not negotiable. State regulations vary from allowing no credit to extending 30-day credit with requirements about the manner of repayment. Even in states where suppliers are allowed a choice within the state's requirements, many suppliers require prompt payment and short terms. The usual credit term is 30 days. Failure to pay on time in certain states is punishable by fines and even loss of a liquor license.

Regardless of the manner in which beverages are sold in a state, a manager's relationship with suppliers must be professional at all times. Buyers may be offered cash, attendance at holiday parties, or other gifts to increase a supplier's business. In all cases, managers must be ethical in their purchasing activities.

Managers responsible for purchasing must identify and obtain the products that allow their organization to meet the wants and needs of their customers. The process is never-ending because customers' preferences change, new product alternatives are continually introduced, and ensuring quality is always a concern. When purchasing beverage products, managers have two primary concerns: what and how much to buy.

What to Buy

The beverage products that managers should purchase depend on the type of operation and the characteristics of an operation's target customers. Managers need to consider who the guests are and what needs they have. They must also consider products that complement the facility's décor and theme. Managers assessing what to buy must make many decisions:

- What are the regulations that govern the types of beverages an operation may sell?
- What are the profit goals for the operation?
- What alcoholic beverages should be offered? Distilled spirits? Beer? Wine?
- If spirits are offered: How broad should the selection be? What is the desired quality of well liquors? What proof liquors should be sold?
- If beer is offered: Will draft beer be stocked? How many brands? What bottled and canned brands should be carried?
- If wines are sold: What should be the extent of the selection?
- Will house wines be offered? If so, what quality should they be? Will they be sold only by the glass? Carafe?

Popular beverages should always be available, and bars should be stocked to provide a reasonable assortment of drinks. Upscale tastes will mean a wider range of offerings; more modest demands will usually result in a less extensive number of offerings.

Managers must carefully consider if they can afford to stock seldom requested beverages. A product that sells infrequently represents money that could have been more profitably used elsewhere. However, many establishments do carry a certain number of slow-moving items that are stocked as a favor to regular guests. Depending on their operations, beverage buyers may make different purchasing decisions regarding beers, wines, and spirits.

BEER ON DRAFT, BOTTLED, OR CANNED

Keg beer typically has a higher profit margin than canned or bottled beer. However, keg beer is not pasteurized and is more fragile. There must be adequate refrigeration space for beer kegs, and beer lines and taps must be cleaned frequently. If keg beer is stocked, it must be in response to a demand that ensures sufficient turnover to warrant the investment in equipment and maintenance. Most bar and beverage facilities offer several of the most popular canned and bottled beers. In recent years, buyers have also had to consider a variety of imports and low-calorie and nonalcoholic products.

WINE

Wine selection can be more complicated than choosing other alcoholic beverages. A good wine list can be assembled from well-known, well-regarded products from both domestic and foreign wineries. Purchasing lesser-known

wines requires in-depth knowledge of product offerings, what constitutes value, and a feeling for what customers want to buy. When an extensive wine list is desired, some operations hire wine list consultants to help make purchasing recommendations.

SPIRITS

The spirit selection that should be offered varies greatly by establishment. Some bar and beverage facilities are completely stocked and it is a source of pride to them that almost every drink request can be filled (*Exhibit 8.4*). Other establishments go to the other extreme and restrict guest choices by offering very limited spirit selections.

Managers select their well brands and call brands based on what they know about their guests' preferences and on market conditions. Quality and value relative to the price charged the guest are major factors in determining which well brands to buy. Other important factors include supplier prices, discounts, terms,

Exhibit 8.4



services, product reputation, and product availability. The operation's concept and needs and brands used by competitors are additional concerns. Suggestions from knowledgeable spirit consultants including supplier representatives can be of great value.

Since most establishments cannot offer every possible call liquor, managers must make good brand decisions. Generally, they attempt to stock appropriate well brands and those call brands most frequently requested by their guests. Also, they monitor inventory levels carefully so that brands that have lost popularity can be used up and deleted from the purchasing list.

How Much to Buy

Managers must be concerned about buying too much or too little as they make beverage purchasing decisions. Most operations serve the same types of products on a regular basis, so specific product needs do not change rapidly. However, the quantity of beverages needed can change because of different estimates of the number of customers to be served.

Managers typically use different procedures to determine purchase quantities for different products. Highly perishable items such as dairy products used in mixes and fruit or vegetables used for garnishes, for example, are most often purchased in quantities that will be used over a several-day period. Draft beer may be purchased to be used in a week or less. Spirits can be purchased for several months' usage. Some wines may be purchased with the intent that they will be held for many years.

Problems can occur when beverage products are not purchased in the right amounts. For example, problems can arise when an excessive quantity is purchased:

- The purchase ties up **capital**, or the amount of the owner's money invested in the business, that could be used for other purposes.
- The purchase impacts **cash flow**, or the amount of money needed to pay bills when due.
- More space must be available to store products.
- There is an increased risk of product theft, damage, or destruction.
- Quality deterioration may occur with perishable products.
- Handling costs increase. For example, additional time is required to receive and store products and conduct inventory counts.

Inadequate purchase quantities can also create serious problems caused by the inability to meet guests' drink requests and those guests' resulting disappointments. The actual amount of products needed is the primary

THINK ABOUT IT ...

Vendors are usually experts in the products they provide, and their assistance can provide real value to managers. What types of information might vendors provide to managers to help them make beverage purchasing decisions?

consideration when deciding how much to buy, but there are other important considerations:

- **Minimum orders:** Some vendors may specify a minimum dollar value of products for delivery. Most wine vendors, for example, would not deliver only one bottle of wine.
- **Anticipated increases or decreases in product prices:** When product prices are increasing, products may be purchased in larger-than-normal quantities. When prices are decreasing, buyers may purchase in smaller quantities to take advantage of lower prices when future purchases are made.
- **Promotions:** Larger quantities may be purchased when, for example, vendors or manufacturers offer promotional discounts to introduce new products or to quickly sell products they wish to stop offering in the future.
- **The amount of time between deliveries:** When the time between deliveries is longer, purchase amounts must be larger. When the time between deliveries is shorter, purchase amounts can be smaller.

Determining what to buy is essential, but knowing exactly how much to buy is just as critical. The amount of product purchased should be based on a carefully planned system of ordering. This way the operation neither ties up excessive amounts of cash in inventory, nor fails to have products and supplies available to meet guest demand.

Experienced beverage managers review purchase, inventory, and sales records to estimate the amount of products that will be used within a specified time period. Proper inventory levels can then be set for each type of beer, wine, or spirit based on these records.

Also, managers should consider **lead time**, expressed in purchase units, to allow for the amount of product used between the time of ordering and delivery. The manager must also establish a **safety level**, a minimum inventory level below which inventory should not fall to allow for greater than anticipated sales or longer than anticipated delivery times. The **order point** or minimum inventory level is the estimated number of units used between the order and delivery dates, or lead time, plus the number of units required to maintain the safety level.

The actual number of units to order at the order point is based on estimated future usage. For example, if deliveries are weekly, the number of units to order is the number to be used in the coming week plus any units required to bring the inventory to its desired safety level. See chapter 9 to learn about forecasting beverage usage.

To illustrate, assume an operation needs five cases of house wine in inventory at all times to avoid running out. Five cases is the safety level. The operation uses two cases between the time an order is placed and the time it is received. With these facts known, managers can calculate the order point.

$$\begin{array}{rcccl} 5 \text{ cases} & + & 2 \text{ cases} & = & 7 \text{ cases} \\ \text{Safety level} & & \text{Lead time} & & \text{Order point} \end{array}$$

In this example, house wine should be ordered when inventory levels are at seven cases.

When determining how much to buy, several factors can impact a manager's decision. He or she must consider the operation's needs in these situations:

- When vendors are not dependable
- When the operation is in a remote location and delivery delays are common
- When market situations cause unpredictable conditions that affect product availability, and the potential for back-orders of some items

RECEIVING BEVERAGES

It does little good to make smart purchasing decisions unless there is follow-through at the time of product receiving. It is necessary to ensure that products that are ordered are, in fact, received. Most suppliers are ethical, but they are all human. Human error can cause extensive and costly losses to beverage operations that do not consistently and effectively check to ensure that there are no problems at the time beverages are delivered. To properly prepare for receiving beverages, managers take specific actions:

- Provide adequate space for receiving.
- Provide needed receiving equipment such as carts and dollies.
- Establish allowable delivery periods and communicate these to vendors.
- Identify and train receiving personnel.
- Develop a records system for recording the acceptance of delivered products.

The list of issues that can occur when products are received is seemingly endless. It is important for the beverage manager to first design a receiving system that incorporates basic control principles, and second to consistently ensure that these procedures are practiced.

Exhibit 8.5 shows the key aspects of an effective receiving system.



MANAGER'S MATH

Assume an operation wants to maintain eight cases of a popular bottled beer to avoid running out of it. Deliveries come every three days. The operation typically uses one and a third cases a day. What is the product order point for this item?

(Answer: 12 cases)

Exhibit 8.5

OVERVIEW OF THE RECEIVING PROCESS

Check Against Purchase Orders

Check Against Delivery Invoices

Accept Products

Move to Storage Area(s)

Complete Receiving Tasks and Records

Checking Against Purchase Orders

To properly oversee beverage product deliveries the beverage manager, or those who are responsible for product receiving, must know the specifics of each order. This becomes easier when written purchase orders, not verbal phone orders, are in use. Written purchase orders can then be checked to ensure that the products being received meet the specifics of the purchase order.

A copy of the purchase order or purchase record that was agreed on at the time of purchasing should be available in the receiving area. Personnel with receiving responsibilities will then know what to expect, including the following:

- Which supplier will be delivering?
- What day is the delivery expected?
- What products are coming in?
- In what volume or quantity will they arrive?
- What is the size of the purchase unit?
- What is the agreed-on price?
- What quality is expected?

By checking the quantity and quality of products delivered against purchase orders, receiving personnel can ensure that they do not accept items that were not ordered or are in damaged condition. They also must not sign delivery invoices if only partial or no delivery of expected items occurs. Finally, they must accept only items of proper brand and quality.

Checking Against Delivery Invoices

The delivery invoice provided by the vendor becomes important after products have been checked against written purchase orders (*Exhibit 8.6*). The delivery invoice will be the basis on which payment claims from the supplier will be made. It is critical that all items on the delivery invoice are received in the correct quantity and at the correct prices. If there are no problems with the delivery invoice, it can be signed. One copy must be routed by the receiver to the appropriate beverage or other manager for later verification with other information at times of payment processing. If there are rejections of products or variations between ordered and delivered items that should result in corrections or alternations to the invoice, a written record of that fact must be made. For example, if items on the invoice are not delivered in the correct quantity or quality, a note should be included on the invoice.

Accepting Products

After the previous steps have been carefully and correctly completed, the delivery invoice should be signed to note acceptance of the product. Typically, beverage products become the property of the beverage operation at this point.

Exhibit 8.6



Sometimes delivery personnel exert pressure on receiving staff to speed up the receiving process. It does take time to count and complete proper product inspection. However, receiving staff must invest the time necessary to do their jobs well. It is for this reason that managers often state that no deliveries are to be made during specified time periods. If, for example, all employees are busy during lunch, they will not have time to correctly complete the receiving process and so no deliveries should be accepted then.

Moving to Storage Area(s)

After completing the receiving process, staff should move products to the proper storage area(s). At this stage, managers should enforce several important storage principles:

- Movement of product to inventory areas should be undertaken by beverage employees, not by delivery personnel. There is an increased chance of theft when nonbeverage delivery staff members are allowed into beverage storage areas containing large quantities of expensive and theft-prone products.
- Prompt removal to storage areas reduces the chance for theft when products are left in unprotected delivery areas.
- Spoilage becomes less of an issue when products are moved from delivery areas to storage areas maintained at the correct storage temperatures.

Completing Receiving Tasks and Records

Large operations may use a special receiving report to provide a record of products received. They may also create a record of product transfers from receiving to storage areas if different staff members perform these tasks.

When products are placed in storage, many managers require staff to mark the date of delivery on the incoming products. They also must require that products be rotated. **Rotation** is the process used to ensure the use of the oldest products first by placing all incoming products behind or under those items already in inventory.

If a perpetual inventory system is in use, these records are updated at the time products are placed in storage. Finally, receiving records can, with invoices attached, be used as an authorizing source for payment of the products that have been received. These records, including the signed delivery invoice, should be submitted to the appropriate person for payment immediately or on at least a daily basis.

Managers should minimize opportunities for employee and supplier theft when receiving and placing products into storage. The complete receiving system

THINK ABOUT IT . . .

Sometimes delivery persons want to rush the receiving staff and make adjustment later, if needed. What would your policy be if delivery personnel tried to rush your receiving staff?

should be designed for security. To help guard against theft, experienced managers incorporate several key strategies into the receiving process:

- The person responsible for purchasing should not also do the receiving, unless the owner or manager performs both of those duties.
- Selected staff members should be trained to receive and should always perform this task.
- Product delivery should be made at nonbusy times so that receiving personnel have the opportunity to complete all required tasks.
- Deliveries should be made to a specified area of the beverage operation.
- Products should be immediately moved to storage after the receiving process is complete.
- Nonbeverage personnel should not be allowed in back-of-house areas including storage spaces.
- The outside door to storage areas should be kept locked when not in use.

STORING BEVERAGES

After purchasing and receiving beverage products, managers most often must store products until the products are issued to the bar area. Just as purchasing involves more than calling in an order and receiving requires more than putting things in the storeroom, so must the beverage manager be concerned about proper storage and issuing practices.

A beverage operation's financial goals are directly affected by storage practices. If products are stored correctly, all of the products that are purchased will be used to generate revenue. However, if products are not properly stored they can be broken, damaged, or stolen. Any of those outcomes will result in increased costs. When products are purchased and paid for but then not used, more products will have to be purchased at additional cost to generate the same amount of revenue.

Product quality and cost concerns must be addressed when managers plan storage procedures. If this is not done, all of the efforts to maintain quality and cost standards when products were purchased and received will have been wasted. Fortunately, the best storage procedures do not require excessive time or costs to implement and maintain.

Most beverage products are relatively nonperishable. Unlike perishable food products such as dairy items and produce, most properly stored beverages can be held for long periods of time without this concern. Managers must, however, implement procedures to keep products secure, to maintain quality, and to provide information necessary for accounting systems. Each of these concerns is addressed separately.

THINK ABOUT IT ...

In some operations, storage areas are kept unlocked during the workday when employees are present and locked when the operation is closed. Does this practice make sense to you? Why or why not?

Keeping Inventory Secure

Security at the time of beverage storage requires managers to address several important questions:

- How much product should be available?
- How much product is available?
- What procedures are needed to keep unauthorized personnel from gaining access to storage areas?

Managers use a variety of procedures to help reduce the possibility of product theft while it is in storage:

- Access to storage areas should be limited to the fewest possible number of staff members needing this access.
- Keep storage areas locked when possible. In some operations, beverage storage areas are always locked except during times when products are issued (*Exhibit 8.7*).
- Use separate and locked refrigerated storage areas for beverage products. If possible, separate wines that need to be chilled, for example, from other refrigerated products. In some cases, one compartment of a reach-in refrigerator can be used for this purpose. Or alternatively, a lockable shelving unit within a walk-in refrigerator can be used.
- Practice effective inventory control procedures. It is critical that the manager know the amount of each product that is—and should be—available in storage areas.
- If beverage products must be issued during the shift, a manager or supervisor should be the one to do this, if possible. Not only does this practice encourage effective issuing, but it also helps maintain control over door keys and access to storage areas.
- Storage areas must be effectively designed. Doors and walls must extend to the ceiling; windows are unnecessary. Storage area alarm systems should be considered.
- Use other control practices, if needed. Some operations, for example, keep the most expensive items locked in areas within lockable storage areas. Closed-circuit television systems and motion detectors are also used in some operations.

Retaining Product Quality

Beverage products should remain in storage areas for the shortest reasonable amount of time possible. However, it is still necessary to practice effective storage strategies to retain product quality during storage. These

Exhibit 8.7



KEEPING IT SAFE

Storeroom safety procedures protect products and employees. There are several keys to keeping storage areas safe:

- Provide employees with wheeled carts or dollies, if possible, to minimize injury due to lifting and carrying heavy loads.
- Keep storage areas neat and free of clutter and trip hazards.
- Place all items in an orderly fashion on shelving with heavier items placed near the bottom and lighter items on top.
- Wipe up any spills immediately. Place warning signs near any wet floor areas.
- Repair damaged flooring areas immediately.
- Provide adequate lighting for all storage area tasks.
- Train employees to walk carefully when carrying items into or out of storage areas.

are practices that help maintain product quality when beverages are in storage:

- Mark incoming products. Put the date of delivery on cases or bottles of beverage products.
- Rotate beverage products. With the date of entry into storage areas clearly marked on the bottle or case, it becomes possible to ensure that the products in inventory the longest are issued first.
- Keep storage areas clean. Routine cleaning is important; so are regular pest control efforts. Maintain effective lighting so that the results of cleaning programs can be easily inspected.
- Maintain product-specific storage temperatures for beers, wines, and spirits.

BEER STORAGE

Beer has the shortest storage life of any alcoholic beverage. Canned and bottled beer may generally be stored at temperatures between 40°F and 70°F (4.5°C and 21°C). However, all but the strongest beers should not be stored for longer than three to four months. Beers with ABVs above 8 percent can be stored and aged for longer time periods. Most beers kept in storage too long will lose their flavor and their aroma. In addition, unpasteurized beer should be refrigerated at all times and all beer should be kept out of direct sunlight.

Beer bottles should be stored upright to avoid leakage. Beer cans packaged in cases may be stacked. All bottles and cans should be stored in a way that minimizes the chance for dirt and dust to come into contact with the beer containers. Keg beers should be stored in a manner that allows for easy keg movement and for ease in tapping. Beer storage areas should also allow for easy product rotation and ease of taking inventory.

WINE STORAGE

The most important factor in wine storage is even temperature. Temperature fluctuation in wine storage areas should be avoided. There is no single best temperature for storing wines. Rather there are a range of acceptable temperatures that vary based on the length of time the wine is expected to be held in storage.

Many wine experts agree that wines are best served at cellar temperature, generally considered to be between 65°F and 70°F (18°C and 21°C). The best temperatures for long-term storage of five or more years for red wines is lower, usually between 55°F and 60°F (13°C and 16°C).

For shorter-term red wine storage of less than five years, and for storing white wines, temperatures up to 70°F (21°C) are acceptable. It is not advisable to store any wine in areas where temperatures exceed this level. White wines may be stored under refrigeration temperatures of approximately 41°F (5°C) for several months with no loss of quality.

In addition to proper temperature control, managers must ensure humidity control in wine storage areas. If the humidity level is too high, meaning the air is too damp, molds may grow and damage labels, foil wrappings, and corks. If humidity levels are too low, corks may dry out and cause leakage. Humidity levels between 50 and 70 percent are best for most wines. Air-conditioned storage areas generally can provide proper temperature and humidity control.

Sunlight is the enemy of proper wine storage. While most wines are stored in colored glass to minimize the effects of light (*Exhibit 8.8*), care must still be taken to keep wines out of direct sunlight. Bottles of still and sparkling wines should be stored on their sides so that wine is always in full contact with the bottle's cork. This contact with the wine keeps the cork moist and expanded, and prevents it from drying out and causing wine spoilage.

Fortified wines and any spirits closed with cork should be stored upright as the higher alcohol content of these products can, over time, damage the corks and cause leakage. Wines and spirits closed with plastic or metal stoppers or screw caps may also be stored upright. Wine products in cases should be stored off the floor to permit air circulation and prevent mold.



SPIRITS STORAGE

In general, spirits may be stored for several years at common dry storage temperatures between 50°F and 70°F (10°C and 21°C). Bottles should be stored upright with their labels facing out for ease of taking inventory. Spirits storage areas should be kept clean and secure.

OTHER PRODUCT STORAGE

In addition to dry storage areas for bar supplies such as extra glassware, carbonated beverages, napkins, straws and the like, bars most often will require additional refrigerator and freezer storage areas. Storage for refrigerated items must include adequate space for fruit and vegetables for garnishes, mixers, and dairy products such as milk and cream. Freezer storage is needed for ice creams and sherbets as well as some concentrated drink mixes.

ISSUING BEVERAGES

Issuing is the process of moving products from storage rooms to drink production and service areas. The correct quantity of products must be issued to meet estimated guest demand. This process must be carefully controlled to minimize product misuse and so managers can match issues of items with the amount of revenues they should produce.

Importance of Effective Issuing

Should there be some relationship between the quantity of drinks sold by the operation and the quantity of products removed from storage areas? Of course there should be, and effective issuing practices best ensure that this happens.

Some managers allow any employee who needs something from storage to retrieve what is needed at any time. When this tactic is used, every employee is really in charge of issuing. For example, bartenders obtain spirit products, dining-room servers may retrieve wines, and other employees may be permitted to enter storage areas to obtain additional glassware or other items. In each of these cases, the security of products is put at risk.

Beverage managers must do all that is practical to control beverage products at the time of issue. Beverage costs are increased if there is a lack of control in this process. Given the importance of security, it is difficult to justify the open-door policies that exist in some operations.

Beverage operations come in all sizes. Large operations may have a full-time receiving and issuing staff member whose duties involve only these two tasks. The vast majority of beverage operations, however, do not employ staff members with only receiving or storing duties. As a result, control at time of product issue in these organizations can become a challenge.

In most cases, beverages should be issued from product storage areas on a regular schedule. For example, bars can be stocked at the beginning of the day, end of the day, or between busy shifts. If regularly scheduled stocking of bars takes place, the number of emergency issues during busy bar shifts should be minimized.

Managers must ensure that their employees use basic procedures for issuing beverage products:

- Bottles should be issued on a bottle-for-bottle basis to reestablish production area par levels.
- The bartender readying the area for stocking can complete an issue requisition, but the beverage manager should then sign it prior to any product issuing. *Exhibit 8.9* shows a sample beverage issue requisition. Note that the bartender would fill out the first three columns of the

Manager's Memo

Although *cost of goods sold (COGS)* is the industry term for the amount of product used to generate revenue, a more accurate term might be *cost of goods gone (COGG)*! That is because there are a variety of situations in which goods (beverages) are gone, but not sold:

- When beverages are stolen from inventory, they are gone, but not sold!
- When beverage bottles are broken in storage the products they contained are gone, but not sold!
- When beverages are allowed to spoil or deteriorate in quality and must be discarded they are gone, but not sold!
- When beverages are deceitfully consumed by employees, they are gone, but not sold!

In all of these cases the products were purchased and thus must be added to the operation's costs, but they did not generate sales. For that reason all beverage products must be carefully handled, stored, and secured.

form. Either the storage area personnel or the manager fills out the remaining two columns. Once completed, beverage issue requisitions can be used for calculating daily beverage costs and for completing perpetual inventory records.

Exhibit 8.9

SAMPLE BEVERAGE ISSUE REQUISITION

Shift: Tuesday p.m. Date: 5/7

Beverage outlet: Tiki Bar Completed by: S. Larson

Product	Number of Bottles	Bottle Size	Bottle Cost	Total Cost
Murphy's Dark Rum	2	750 ml	\$12.50	\$25.00
Herron Hill Vodka	1	1 L	10.75	10.75

Total 3 \$35.75

Issued by: K. Gray Authorized by: J. Belloit

Received by: S. Larson

Inventory Turnover Rate

One way to better manage the size of a beverage inventory is to calculate the **inventory turnover rate**: the number of times each accounting period, typically a month, that the quantity of beverages in inventory must be purchased to generate the beverage revenue for that time period.

Inventory turnover rates measure the frequency with which beverages are ordered and sold. The formula for the inventory turnover rate is:

$$\frac{\text{Cost of goods sold (COGS)}}{\text{Average amount in inventory}} = \text{Inventory turnover rate}$$

The **cost of goods sold (COGS)** is the cost to purchase the beverage products that generated beverage revenue within a specific time period. The calculations required to determine COGS are addressed in detail in chapter 9. **Average inventory** is the value, or amount, of products in inventory at the beginning of the period plus the amount of inventory at the end of the period, divided by two. Recall from the start of the chapter that there are multiple methods for determining inventory value.

THINK ABOUT IT . . .

How important do you think taking inventory is from the view of most employees who may be asked to assist in the task? If you were a manager, would you tell employees why the counting of inventory is so important? Why or why not?

To illustrate how to calculate an inventory turnover rate, assume a manager conducts a physical inventory of the beverage products in all storage areas on the first day of every month using the physical inventory system procedures addressed earlier in this chapter. This manager uses the LIFO valuation system. The manager determines the following from counts taken on July 1 and August 1. Remember that the beginning inventory of one month is also the ending inventory of the previous month, so the August 1 inventory is both the end of month inventory for July and the beginning of the month inventory for August:

- Cost of beverage inventory on July 1 (beginning of July) = \$39,500
- Cost of beverage inventory on August 1 (end of July) = \$37,500
- Beverage cost (COGS) for the month = \$88,000*

In this example, the beverage inventory turnover rate is calculated as follows:

$$\frac{\$88,000}{\text{Beverage Cost (COGS)}} \div \left(\frac{[\$39,500 + \$37,500]}{\text{Beginning Inventory} + \text{Ending Inventory}} \div 2 \right) = 2.3 \text{ (rounded)}$$

If the inventory turns over approximately 2.3 times per month, the beverage products in inventory will last about 13 days (30 days in an average month ÷ 2.3 inventory turns = 13 days).

It is difficult to state what the “ideal” beverage inventory turnover rate should be. In those operations that hold a large number of slow selling but expensive wines in inventory, the monthly inventory turnover rates may be quite low, as little as 2 to 4 times per month. In those operations without extensive wine or spirits holdings, inventory turnover rates of 10 or more are common. It is important to note that the inventory turnover rate for a specific month may not, by itself, be especially helpful to the manager. Noting changes in inventory turnover rates from one time period to another, however, can be very helpful.

The ideal inventory turnover rates will vary by operation. Managers need to determine the ideal cost needed to ensure that all inventory is always available. These decisions are based on concerns about the challenges faced if too little or too much inventory is on hand at all times.

Regardless of the target established for the operation, the managers should note the changes between inventory turnover rates each time the inventory turnover rate is calculated. Managers need to ask why the inventory turnover rate is increasing or decreasing. What are the implications? What is the desired trend that the inventory turnover rate should take? The answers to these and related questions can help better control the beverage inventory and the costs of managing it.

To increase the usefulness of the calculation, some beverage managers calculate a separate inventory turnover rate for beers, wines, and spirits. Others combine all beverages into a single calculation.

*The calculation of the formula for determining COGS is addressed in detail in chapter 9.



MANAGER'S MATH

Roberta is the manager of the Logjam Steakhouse. She has calculated the following information about her operation:

Cost of beverage inventory at beginning of month: \$18,250

Cost of beverage inventory at end of month: \$17,550

Beverage COGS for the month: \$89,500

What is her beverage inventory turnover rate for the month?

(Answer: 5)

SUMMARY

1. Explain the difference between physical and perpetual inventory systems.

In a physical inventory system, managers count the number and record the amounts of each product in inventory. Typically, they also determine the monetary value of the products at the same time. The key advantage of a physical inventory system is its accuracy.

A perpetual inventory system is a continuous count of the number of items in inventory. Managers determine the perpetual inventory by first establishing the actual amount of product on hand. Then they add to that number all purchased units and subtract all issued units. The key advantage of a perpetual inventory system is that the managers always know the quantity of product that should be available in inventory.

2. List the two key objectives of an effective beverage purchasing program.

When purchasing beverage products, managers have two primary concerns: what to buy and how much to buy. Buying the wrong products can damage the operation's ability to properly serve its target market. Buying too much ties up capital, impacts cash flow, and requires additional storage space. It also increases the risk of theft and quality deterioration. Buying too little can create product outages that impact drink production and lead to disappointed customers.

3. Explain the purpose of effective beverage receiving and storage practices.

The purpose of proper receiving practices is to ensure products ordered are delivered in the amount and quality indicated on the purchase order. In addition, the price of products delivered is verified at the time they are received and any variations in price are noted in writing. The purpose of proper storage is to ensure the security and quality of products stored until they are needed. Storage areas should always be maintained at the proper temperature to ensure product quality, and locked to ensure product security.

4. Describe the purpose of an issue requisition.

Effective issuing helps ensure that products removed from storage generate the expected amount of revenue. Issue requisitions provide a written record of the products that have been moved from storage areas to drink production or service areas. Bartenders complete issue requisitions as they ready their areas for stocking. Managers approve requisitions prior to any product issuing. The requisition document can be used to calculate daily beverage costs. Issue requisitions can also serve as the source of information used in updating perpetual inventory records.

REVIEW YOUR LEARNING



Select the best answer for each question.

1. The amount of money needed to pay bills when they are due is called
 - A. capital.
 - B. revenue.
 - C. cash flow.
 - D. net income.
2. When beverage products are delivered, the vendor's delivery invoice should be compared with the
 - A. credit memo.
 - B. purchase order.
 - C. purchase specification.
 - D. purchase requisition.
3. Which document transfers product ownership from the vendor to the property?
 - A. Credit memo
 - B. Purchase order
 - C. Delivery invoice
 - D. Purchase requisition
4. What is the formula that managers use to determine the order point of an inventory item?
 - A. Lead time + Usage rate
 - B. Lead time + Safety level
 - C. Safety level + Usage rate
 - D. Safety level + Vendor minimum
5. Which inventory value system is in use when products are valued at the cost of the most recently received products?
 - A. LIFO
 - B. FIFO
 - C. FILO
 - D. FFFO
6. What is the recommended range for humidity levels in wine storage areas?
 - A. 0 to 20%
 - B. 30 to 50%
 - C. 50 to 70%
 - D. 70 to 90%
7. What is the formula used to calculate average inventory?
 - A. Purchases + Beginning inventory = Average inventory
 - B. $(\text{Beginning inventory} + \text{Ending inventory}) \times 2 = \text{Average inventory}$
 - C. $(\text{Beginning inventory} + \text{Ending inventory}) \div 2 = \text{Average inventory}$
 - D. $(\text{Beginning inventory} + \text{Purchases}) - \text{Ending inventory} = \text{Average inventory}$
8. A beverage operation's inventory turnover rate is 3. Approximately how many days will the beverage products in inventory last?
 - A. 6
 - B. 8
 - C. 10
 - D. 12
9. What document authorizes an employee to remove products from storage?
 - A. Issue requisition
 - B. Storage removal claim
 - C. Deduction authorization request
 - D. Inventory adjustment record
10. Assume a beginning inventory of \$24,000 and ending inventory of \$26,000. Assume Beverage Cost (COGS) of \$100,000 for the same period. What was the inventory turnover rate for the period?
 - A. 2
 - B. 3
 - C. 4
 - D. 5