

Inventory Management in the Hospitality Industry

Dr. Rajesh Kumar

Associate professor Commerce Seth Phool Chand Bagla (PG) College Hathras UP

Abstract

It's impossible to separate the many roles and responsibilities within a company or other organisation without creating chaos. Business delivery relies on a number of crucial subsystems, the backbone of which are supply chain management, logistics, and inventories. Therefore, both marketing managers and financial controllers place a premium on these roles. Management of stocks and supplies is crucial since it affects both revenue and expenses, making it a key indicator of a company's overall financial health. Every business works tirelessly to keep stock at just the right level to meet demand without having surpluses or shortages that could hurt profits. Inventories are dynamic and change constantly. Managing stock needs a steady stream of planning, review, and evaluation of both internal and external elements. Inventory planners are a specialised group within many businesses whose purpose it is to keep tabs on stock, keep it under control, review it often, and communicate with the manufacturing, purchasing, and finance teams. The purpose of this work was to investigate the many approaches to inventory control that are in use within the hospitality sector.

Keywords Hotel, Industries, Organization, Stock

I. Introduction: -

Inventory refers to a company's stockpile of goods that have yet to be packaged, processed, transformed, used, or sold but still have economic value. Any company engaged in manufacturing, distribution, retail, or service must keep a supply of raw materials on hand for use in the making, distribution, sale, and servicing of their product. Despite the fact that holding inventory is a hassle for any company, it's important to remember that there are a number of reasons why these companies keep stock on hand. The term "inventory" refers to a stockpile of any form of material that is stored for future use, typically in the manufacturing process. What is stored away today will be used to make something new tomorrow. Idle resources are what stocks are, but they also comprise semi-finished products waiting to be used in the next step and finished products ready to be released for sales. Inventories, then, are stocks of anything of economic value that is stored away for later use. Each manufacturing company needs some form of inventory on hand, but unchecked stock can quickly balloon out of control. Numerous tiny restaurants were discovered to have disorderly inventory systems and random ordering of products. Only the largest hotels were found to have a professionally managed inventory system. It is especially important for smaller businesses to keep appropriate inventory levels. Managing inventory effectively is essential to the success of any business, although many owners find it challenging to do so. I want you to visualise a tightrope walker at the circus when you think of inventory. The slightest nudge to one side will send them careening. The same may be said for inventory management. Having stock on hand is essential for running a business. However, if there is an abundance of product, it may cause operational difficulties.

Demerit of Excess Inventory

- In general, it's never good for businesses to have too much stock on hand. Extra inventory storage is not worthwhile for any business, no matter how large or little. Here are a few examples of why:

- **Blocking Capital**

Keeping too much stock results in leaving cash on the shelves. There's a lost chance to invest that cash right now that's being held up in stock. Stock on hand is a sort of investment, and as such, it should generate some acceptable profit.

- **Quality**

Operators in the food service industry are aware that perishable goods have a finite shelf life and make preparations accordingly. Store employees don't often realise how quickly dry products and frozen foods spoil, therefore extra care must be taken with them.

- **Difficulty to Service the Guest**

- In order to provide for the guest, the operations require supplies. It sends a terrible message, and the guest can be disappointed, if the food service company is unable to serve goods stated on the menu.

- **Costs of Ordering**

Too frequent orders will result in a lot of wasted time, effort, transportation expenses, and money.

Reasons Of Maintaining Inventory

Following are some reasons for maintaining inventory:-

(a) Protection against Fluctuating Demand

Demand is not fixed. It fluctuates on day-to-day basis e.g. in case of number of guest increasing on a particular day at a restaurant, it should be able to service the orders.

(b) Protection against Delayed Supplies

Supplies can be delayed for several reasons e.g. transport strike, traffic jams, supplier not able to supply etc. Buffer stocks have to be maintained to deal with such situations.

(c) Benefits of Large Quantities

Some times volume purchases mean lower cost of purchase and hence inventories may be kept to take advantage of discounts. This practice is generally not followed in the food service operations due to perishability of most food items.

(d) Savings on Ordering Cost

A fixed cost is associated with each order hence reducing the number of orders will reduce the cost of placing and processing orders.

Cyclic Process of Inventory Management

The inventory system involves a cyclic process. Following are concepts related to cyclic process of inventory system.

(a) Inventory Level

The item stocked in a storage area constitutes an inventory. The inventory level of an item is the inventory on hand.

(b) Demand and Depletion

Demand leads to depletion in inventory e.g. order of fruit salad in a restaurant will lead to depletion in fresh fruit stock in stores. With time, the inventory level reduces. The depletion rate depends on the rate of demand. Higher demand of certain products may lead to faster depletion of some stock items.

(c) Reordering

As the inventory reduces with time, it has to be reordered to replenish it. When the inventory level reduces to a certain point called reorder point, the order is placed(2). Other methods like periodic review system, par stock method are commonly used by operations to manage inventory. Lead-time is the time between ordering and receiving the items.

(d) Replenishment Shortages and Surpluses

Some basic inventory models assume that re-ordering is timed so that the items will arrive when the inventory in hand reaches zero. But this needs modification in actual practice. Fluctuation of demand or variations in lead time can lead to the situation of stock-out.

(e) Safety Stock: In order to prevent a stock-out situation, a buffer or safety stock must be created in the inventory system. The order must be calculated and placed so that stock levels are correct upon arrival. "Safety stock" refers to the amount of inventory kept on hand in case there is a delay between placing an order and receiving delivery.

Inventory Cost

There are four costs relevant to inventory

(a) Ordering Costs: It is considered that there are fixed costs associated with each order placed. Paperwork, typing, and sending costs, follow-up expenses including phone and telex charges, and receipt, inspection, and verification expenses are all included here.

b) Cost of Carrying Inventory

The cost of carrying inventory includes.

(i) Storage Costs: It costs to maintain storage space - rent, lights, heat, security, chilled storage, maintenance etc. make up the storage costs.

(ii) Salaries of Store Staff who work on record keeping and undertake physical stock taking etc.

(iii) Cost of Capital: The money invested in the inventory has an opportunity cost i.e. if invested elsewhere it will earn a return.

(iv) Obsolescence and Deterioration Costs.

(v) Taxes and Insurance.

(c) Stock-out Cost

When an item is out of stock and customer demand cannot be met, additional expenses may be incurred. Because of this, the company risks losing business or having disgruntled clients.

(d) Overstocking Cost

Overstocking will lead to increased inventory carrying costs.

Inventory Management Systems

The Two Bin System

In terms of inventory management systems, this is a classic example. Some items are stored in both containers. Whenever a supply runs low, more will be ordered and distributed from the second bin. Items from the second bin are used during the lead time. Once we get there, we'll put fresh stuff in both bins.

Maximum - Minimum Method

(a) Using this technique, you'll make sure your stock levels never drop below the minimum and never go past the maximum for each and every inventory item. Beverages and foods that can be stored for an extended period of time also benefit from this kind of packaging. If an item meets the following criteria, it can be prepared using this procedure in a commercial kitchen.

- (b) Item, which are standardised.
- (c) Quality of items is stable.
- (d) Supply is consistent.
- (e) AP prices are relatively stable.
- (f) Items are used in predictable quantities.
- (g) Product purchased in bulk.
- (h) When reasonable quantities do not represent excessive storage. Spaces and cost.
- (i) Products have reasonable shelf life.
- (j) Products in continuous use.

The reordering lead-time is factored in to determine the bare minimum. A larger minimum should be established if the lead time is uncertain. As with the maximum, the minimum is usage-based. The threshold ought to be raised in step with the growth in average consumption. The minimum level should be increased if the utilisation rate varies widely. Although the maximum-minimum system is simple to implement with the use of computers, it does not guarantee against stock-outs or overstocking because of the uncertainty of the assumptions made for safety stock and lead-time .

Periodic Review System

The inventory is checked at set intervals (every 15 days, every month, every quarter, etc.) under the fixed time or periodic review method. Every item's needs are recalculated and reordered at the time of the regular order cycle.

The use of this strategy is widespread among small and medium-sized independent hotels, as well as among stand-alone eateries. Operations typically conducts stocktakes every two weeks to a month.

Par-stock Method

The initial step in this process involves establishing the frequency of the supplier's deliveries (whether they occur daily, weekly, or monthly). The par-stock, or minimum inventory requirement to ensure uninterrupted product supply, is calculated on the basis of the delivery schedule. When there is more time in between shipments, more of a buffer stock is required. For example, when opening a bar, there is typically a minimum stock on hand (or "par stock") that must be deducted from when placing an order. It's common practise for bars to switch out empty bottles with full ones. When demand fluctuates, a buffer stock must be added to the par stock to prevent stock-outs, which in turn affects the par stock levels. The most widely used and effective strategy in the hospitality business is the par stock method. However, there are different ways to compute the optimal order size and order time.

The Practical Method

- A more precise and formal inventory system is required in very large-scale businesses, such as in chain food service outlets, where the quantity of goods maintained is substantial. There must be a balance between the right quantity and timing of the orders.

- **Right Size**

- The costs of warehousing and of ordering or administering the business will determine the optimal size. These two expenses must be weighed equally in order to establish the optimal order size. A sweet spot between storage and shipping expenses can be found at the point where these two curves meet. The Economic Order Quantity (EOQ) formula is another tool that may be used to find the sweet spot when placing an order. Economic order quantity calculations are a huge help to purchasers in settling on a manageable quantity to order of a certain good or service.

- **Right Time**

The lead-time is the time it takes from when an order is placed to when it is fulfilled. Accordingly, the order needs to be timed so that it goes through when supplies are still at a given point (re-order point). That quantity on hand will be established by the average daily consumption rate and the lead time.

By analysing factors like consumption behaviour, lead times, safety stocks, storage costs, etc., the theoretical technique computes the Economic Order Quantity and Re-order point. The re-ordering point will be off if this information is wrong.

The system has the drawback that utilisation rates and pricing are unpredictable and change daily. It presupposes, without guarantee, that the enterprise has sufficient storage facilities. As the EOQ is based on the assumption that the product will not spoil, it cannot be used for perishable goods. It is applicable to packaged foods, drinks, and dry items.

The method's benefits include the ability to evaluate a spectrum of alternative order sizes and provide hard data on the optimal order quantity. When used in conjunction with a computerised inventory control system, where data for each item can be immediately calculated, this method can provide crucial feedback for making informed purchasing decisions .

Perpetual Inventory System

This inventory system offers a tight control on inventory and relies on two documents - the bin card and the par stock records.

(a) Bin Card

There is a card in the bin for every item in stock. This card keeps track of all issues, returns, and deliveries, as well as the resulting balance. The indicated balance must coincide with the quantity of stock on hand.

(b) Par Stock

According to the consumption rate, the par stock must be established, and stock must be replaced at regular intervals to maintain the par level. The computerization of the food service industry has made the usage of a perpetual inventory system commonplace.

ABC Classification System

Organisations carry a large variety of inventory and it is impractical to exercise control over all these items. These items can be classified on the basis of analysis of their value and volume. The ABC classification segregates stock items into three groups.

(a) The A Group

Meats, seafood, and alcoholic beverages, for example, may be more expensive and represent the significant majority of this category, whereas cheaper commodities like soft drinks and paper goods make up a much smaller share of the total annual inventory cost for the organisation. Everything in this category requires extra care. Items in this group require the EOQ formula to be applied based on their perishability (5).

(b) The B Group

An additional tiny fraction (say 10%) of the entire inventory is made up of items in the B group, but these items are valued just a somewhat larger fraction (say 20%). This group's regulation might be looser than that of the A group.

(c) The C Group

It's possible that the remaining 80% of the inventory is only worth 10% of the total. Compared to the other two types, these should receive less focus. This categorization aids in giving more care to items in categories A and B; for example, things in category A require more precise calculations of EOQ and ROP, as well as close attention to portion management. This organisation is useful for managing stock levels and emphasising selective stock control in accordance with relative priority.

- FSN analysis, in which F stands for fast, S for slow, and N for non-moving items, is another inventory control system like ABC categorization.

- The VED framework categorises materials as valuable, necessary, or desirable.

Physical Inventory

Taking a physical inventory entails physically counting and evaluating the stock on hand, as well as recording the results. Equities on paper are contrasted to stocks in circulation. Taking a physical inventory can be a tedious process, but it's crucial. It is recommended that food service businesses conduct physical inventory at least once every six months but no more frequently than once every two months. An inventory can reveal useful details such as

(a) Compares actual stock and theoretical stock.

(b) Assessment of usage and cost of goods sold for the period.

- (c) Assesses value of stock in hand.
- (d) Monitors stock levels and turnover.

In case of overstocks, information can be passed to the kitchen to use stock by creating specials etc. When physical stocktaking is completed, discrepancies are recorded and stock records adjusted to reflect actual quantity of each item in stock.

Stores

Stores are vital in the operations of an establishment. The most important purpose served by the stores is to provide uninterrupted service to the manufacturing departments.

Important Functions Of Stores

- (A) Acquire and keep track of supplies, materials, parts, tools, and other stuff.
- (B) To ensure that things are kept safe and secure for as long as possible.
- (c) Issue items in a timely manner and keep track of how much each consuming department uses.
- d) To reduce waste caused by deterioration, excess, and discards through standardisation, preservation, and management.
- (e) Maintaining order in the warehouse to facilitate efficient stocking, receiving, issuing, and handling of materials.
- f) To verify and provide evidence for effective purchasing action.

Objectives Of Stores Management

Stores management must prevent three activities, which could flourish and lead to loss of merchandise if left unattended.

(a) Theft

The goal of any storage facility's security system should be to prevent theft from within the organisation. Theft can be reduced in storage facilities by making it difficult for thieves to commit their crimes: making stored items visible from the outside (through the use of transparent doors), locking storage areas when they are not in use, limiting the number of people who have access to store keys, rotating employees, etc.

(b) Pilferage is a serious problem in the hospitality industry and is referred to as '**inventory shrinkage**'. Eating on the job is also a form of pilferage. The management has to identify where the problem is and why pilferage is occurring. Unhappy and disgruntled staff generally commits pilferage and attention to grievances can prevent it to an extent. eg. by offering better working conditions like staff dining rooms etc.

(c) Spoilage

In the food service industry, perishables are stored in large quantities, and most products have limited availability. Prioritize the use of secondhand goods. To keep perishables in good condition, proper storage facilities are essential. These include the preservation of suitable temperature, proper handling, and strict cleaning processes. A common reason for food rotting is a lack of proper storage facilities. Spoilage can be kept to a minimum by avoiding careless and dangerous actions.

Attributes Of Good Storage Facility For Service Operation/ Hotel

(a) Adequate Space

What the operations may give in the future to the guests is heavily reliant on storage space, so it is crucial to make adequate arrangements for storage space whenever a new set up is being developed. Real estate is usually quite pricey in areas where restaurants are situated, thus storage facilities are usually the first to go.

The ideal conditions for storing food are good ventilation, a constant, cold temperature, and the absence of pests. All perishable goods must be stored in a cool, dry place out of direct sunlight and away from any other sources of heat or moisture.

(b) Adequate Temperature and Humidity

Management of food and its preparation is the focus of the food service industry. Storage areas should be available and meet the specifications for temperature and humidity. The business must buy freezers, refrigerators, and walk-in fridges as needed.

(c) Adequate Equipment

The storage area should be adequately equipped as per the requirements of the operation. Proper racks, shelves should be provided.

(d) Proximity of Storage Area to Receiving and Production Areas

The warehouse needs to be in close proximity to both the shipping and receiving areas and the manufacturing division. If you want to minimise the time spent transporting products and getting them back into their storage environment, having these three zones on the same level is ideal.

(e) Access to Proper Maintenance

If a freezer breaks down, it's crucial to have access to rapid repair services because delays can result in significant financial losses. Either in-house employees or an outside maintenance company can be used to keep the business running smoothly.

(f) Competent Personnel

There is no point in having state-of-the-art storage and distribution systems or detailed protocols for receiving, storing, and distributing items if the right person isn't there to handle them. Hence it is necessary that personnel working in the shops department are skilled. Nonetheless, life isn't always a rose. It's possible, for instance, that the business isn't big enough to warrant hiring a distinct team to handle the retail role.

(g) Sufficient Time to Perform Duties

There is a lot more to receiving, storing, and issuing than just weighing and putting things away. Control methods, hygienic conditions, stock rotation, and other such ego-centric tasks. In order to ensure that stockroom clerks have enough time to complete these fundamental jobs, it is vital that they not be overburdened with unrelated work.

(h) Store Room Rules

Establishing clear guidelines for who is permitted in stores is essential. Requisitions signed by proper authorities should be used to trigger the release of items in accordance with the established protocol.

CLASSIFICATION OF FOODS FOR STORAGE

Foods can be grouped into categories for storage purpose. Chemical and molecular properties of food determine their relative stability.

(a) Non-Perishables

Shelf stable foods like grain, pulses and dehydrated foods with low moisture content are non-perishable at room temperature.

(b) Perishables

These things require a cold storage environment at all times. Meat, dairy, fruit, and vegetable goods, among others, all need to be kept cold or frozen. Fresh foods only keep fresh in the fridge for about five to eight days, and anything that has to be stored for longer than that needs to be deep frozen.

(c) Semi-Perishables

These foods can be kept at room temperature for some time e.g. cheeses, eggs etc. The shelf life can be increased under refrigeration to about 30-90 days.

Basic Receiving Rules for Foods

The delivered goods must be compared to the order specifications and the delivery note by a knowledgeable person. It's important to double check that everything arrives in the right quantity, quality, and size. Tests for freshness are necessary before purchasing. Keeping an eye out for signs of age and rotting is essential.

The following points should be standard practice:

- Specifying and confirming with suppliers the appropriate reception times and temperature.

The delivery must be accepted by a designated individual, such as the head chef, manager, supervisor, or stores manager.

Notifying the intended recipient is essential. Two people are always better than one.

A receipt, the order book, and the item's requirements must all match before an item may be accepted.

- Make sure nothing has been changed, including the temperature, the expiration date, the quality, the damage, and the brand.
- The birthing space must be secure, sanitary, and free of potential germ breeding grounds.

The use of absorbent materials like cardboard should be avoided, thus discard any unnecessary packing. Wiping plastic wrap and vacuum-packed products with disinfectant is a good idea.

•

Quickly move things to their proper storage spaces. Set deadlines for moving things to their proper storage locations.

- It is important to perform random safety checks on delivery drivers and their vehicles.

If any of the aforementioned conditions are not met, the food should not be accepted.

Please complete paperwork including temperature readings, vehicle inspections, and delivery people.

Receiving Areas and Procedures

Multiple crucial aspects of the target region need to be taken into account. The items on this list should be used as a rough outline.

The area should be free of any chemicals or cleaning supplies, and it should be properly equipped with things like a table, spring balance scales, a temperature probe, sterile wipes, a knife, and storage containers.

File detailing purchasing guidelines and brands/items that can stand in for those that are out of stock; includes item numbers, copies of orders, and a returns book. There should also be a goods inward book to record what

was delivered, when it was delivered, who got it, what amount was delivered, and whether there were any changes, substitutes, or returns. In a bustling kitchen, simply verifying that the supplies were received in acceptable condition is sufficient; the control office will handle the finer points, such as cost, VAT, etc.

Discrepancies

It's possible to discover inconsistencies between the ordered and delivered goods during the delivery process. These inconsistencies may manifest as a lack of freshness or quality, an erroneous quantity, a substitute of lower quality, or an improper grading. The problem can be solved simply by contacting the supplier.

There was a disparity, so we filled out the report and forwarded it to the vendor. In other cases, the provider may not be able to prevent the problem from occurring due to factors outside of their control, such as the lack of production of a particular item. If issues persist with a given provider, it's time to find a new one. There is a common consensus that switching providers at will rarely results in a positive outcome and often creates new complications.

Security and Control

When just a select few are allowed to withdraw things from stores, security and control can be maintained. The store manager's primary responsibility is the maintenance of order and safety in the establishment's food service operations. When it comes to the financial stability of a food service business, theft or pilferage can become a big issue.

It is important to have secure locking options for storage facilities. Alarm systems, swipe cards for employee access, passwords for computer systems, video cameras, security lights, security shutters, etc., are all examples of modern technical systems that can be employed for security.

II. Conclusions:-

Information technology is used in many forms and contexts across the hospitality business.

Computers and telephone networks have emerged as the primary infrastructure, with the gradual introduction of software applications. It's also possible to improve purchasing and stockpiling with the help of numerous technological advancements. Business owners in the hospitality industry utilise computers for a variety of reasons, including managing costs and keeping track of inventory. Some of these business owners use complex spreadsheets to keep track of their stock. The last day of each month is set out for a full physical inventory count of all stock and work in progress, which is then recorded in an Excel spreadsheet.

Monthly costs of goods sold can be computed by compiling information about inventory, ending inventory, purchases, and other end-of-month adjustments from the previous month. Many establishments in the hospitality industry rely on commercially available inventory management systems. The operator's pas system can be integrated with several of these suites.

In the event that a hospitality business cannot find a suitable solution in an existing spreadsheet programme or off-the-shelf software, it can hire a software-consulting firm to create bespoke software specifically tailored to its needs. The distribution of resources should be strictly regulated. The benefits of smart purchasing and stockpile management could be nullified by sloppy issuing methods. While formal issuing procedures are used by large food service businesses, several smaller food service operations were discovered to have none at all. Authorized requisitions signed by the proper person are required before items can be distributed. One of the most effective methods of material management is the establishment of a good issuing procedure.

References

- [1]. Chauhan A, Shukla A, Negi P. Safety And Security Measures Adopted By The Hotels And Their Impact On Customer Relationship Management.
- [2]. Mehta D., Sharma J. K., and Mehta N. (2010) A Study of Customer Relationship
- [3]. Soni AN. e-Commerce in India: A Study.
- [4]. Akbar YH, Tracogna A. The sharing economy and the future of the hotel industry: Transaction cost theory and platform economics. *International Journal of Hospitality Management*. 2018;71:91-101.
- [5]. Kalia P, Kaur N, Singh T. E-Commerce in India: evolution and revolution of online retail. *Mobile Commerce: Concepts, Methodologies, Tools, and Applications*: IGI Global; 2018. p. 736-58.