Emerging Opportunities In Planning & Review Of Inventory Control in Hotel Industries

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Abstract

In every company or organization, all functions are connected, linked and often superfluous. Some important aspects such as supply chain management, logistics and inventory are the backbone of business delivery possibilities. That is why these functions are very important for financial managers and marketing managers. Inventory management not only affects the financial health of the balance sheet, it is also a very important function in determining the health of the supply chain. Each organization constantly strives to maintain an optimal inventory to meet the requirements and to prevent surplus or inappropriate stock that could affect financial data. Stock is always dynamic. Inventory management requires continuous, careful assessment of external and internal factors through planning and assessment. Most organizations have separate departments or functions called inventory planners who constantly monitor, control and evaluate the inventory and link it to production, purchasing and finance departments. In this research report we have studied various techniques for inventory management in the hotel industry.

Research goals

1. Focus on various inventory management systems in the hotel sector.

2. To study a store, the functions and goals of the store are required.

Research methodology

The current study is entirely based on secondary data. Data collected from secondary sources such as research journals, books, newspaper articles, interviews with experts and suggestions from hoteliers. We have collected data by visiting digital sources, websites such as electronic reports and surveys.

Introduction:

Stock is an inactive inventory of physical goods with economic value and is stored in various forms by organizations waiting to be packaged, processed, transformed, used or sold in the future. Organizations that produce, trade, sell and maintain a product must have a variety of physical resources to help them consume and sell in the future. Stock is a necessary condition for such a company, but you can see that your organization has a stock for various reasons. Stock contains all kinds of material that are mainly stored for future use in the production process. So today's stock is
produced tomorrow. Semi-finished products that are waiting to be used in the next process and finished products waiting for release for sale, however, are also included in a broad inventory category with no stock. Stocks are all kinds of materials or sources of economic value that are waiting for conversion or are in use in the future. Stock is required for all production organizations, but it is usually not in stock without controlled stock. In fact, the order of items happened to be found in many small foodservice tasks. Inventory management is professionally managed only in large hotels. Small businesses must maintain an adequate stock level to improve efficiency. Stock is one of the most important factors in business operations, but it is really a struggle for many companies. I would like to draw a person in a circus who is on a tight rope when making an inventory. The hard movement to one side takes a wild ride. Stock is synonymous with balancing exercise. Operators must install and operate the product on a shelf. However, too many products can be a serious problem for business operations.

**Demerit of Excess Inventory**

Excess inventory is always harmful for all business organizations. Business is either big or small if you stored excess inventory it is not cost effective. Some reasons are as follows:-

- **Blocking Capital**

Maintaining excessive inventory means tying up money on the shelves. The money tied up in inventory has an opportunity cost. Inventory is a form of investment and it should give a reasonable return.

- **Quality**

Food service operators know that perishable items have limited shelf life and this is generally taken care of. The dry goods and frozen items should be taken care of since the stores people some times do not understand the limited life of these items.

- **Difficulty to Service The Guest**

The operations need supplies to service the guest. If the food service operation is not able to service items listed in the menu, it sends a very negative image and the guest may be disappointed.

- **Costs Of Ordering**

Placing orders costs time, labour, transportation, costs etc. And hence ordering too many times will involve lot of unnecessary costs.

**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 ego 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 ego 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 ego 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. 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**

A buffer or safety stock is built in the inventory system so that the stock out situation is avoided.

Hence, the order has to be computed and placed so that a certain level of inventory is in balance when the stock arrives. Stock needed to cover the lead-time between placing an order and receiving delivery is known as 'safety stock'.

**Inventory cost**

There are four costs relevant to inventory

(a) **Ordering Costs**

Certain costs are involved in placing orders and it is assumed that the cost per order is constant. These costs include paper work, typing and dispatching costs, follow up costs like telephone, telex bills, costs involved in receiving the order, inspection and checking.

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. Makeup 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**

Stock out costs happen when an item goes out of stock and the demand cannot be satisfied. This may result in a lost opportunity and cost the organisation its customers or result in dissatisfied customers.

(d) **Overstocking Cost**

Overstocking will lead to increased inventory carrying costs.

**Inventory Management Systems**

**The Two Bin System**

This is one of the earliest systems of inventory control. Two bins are used for one item. The items are issued from the first bin and when the first bin is empty the item is re-ordered. During the lead-time, items from the second bin are used. On arrival both bins are replenished.
Maximum - Minimum Method

In this method, for each inventory item, a maximum and minimum level is fixed i.e. The quantity should not rise above the maximum level and should not fall below the minimum level.

This method is used for non-perishable goods and also beverages & shelf stable food items.

In food service operation this method is used for items, which fulfill, the following conditions.

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

The minimum level is established by considering the lead-time for reordering. If the lead-time is unpredictable, the minimum level should be set at a higher level.

The minimum level also depends on the usage rate. If the usage rate increases, the minimum level should rise. If usage rate varies considerably, the minimum level should be higher to prevent stock out situation.

Maximum-minimum system can be easily applied by use of computer systems but since the assumptions made regarding safety stock and lead-time may not be accurate, situation of stock-out or overstocking can still result at times.

Periodic Review System

The fixed time or periodic review system involves a periodic auditing of inventory eg. Once in 15 days, a month, quarterly etc. At the time of periodic order, requirements of all items are worked out afresh and the items are ordered accordingly.

This is a very common method in small sized stand-alone food service operation and in small & medium sized independent hotels. Operations generally review the inventory on fortnightly or monthly basis.

Par-Stock Method

In this method, firstly the supplier's delivery schedule is determined i.e. Daily, weekly, or monthly delivery schedule. On the basis of the delivery schedule, the par-stock is determined, i.e. The inventory level to be held to maintain a continued supply of goods. Longer the period between deliveries, higher the level of par-stock needed to
suffice the period. While ordering, the stock-on-hand is deducted from the par-stock and a safety stock may be added eg. For bars, a par stock level is set which must he on hand before opening the bar. The system of replacing empty bottle with a full bottle is widely used for bars. The par stock levels also change with the level of sales i.e. If the demand is varying an extra amount of safety stock has to be added to the par stock to avoid stock-out situations. The par stock method is the most common method in the hospitality industry and works quite well. But there are other methods to determine the correct order size and order time.

**The Practical Method**

In very large-scale operations, like in chain food service outlets where inventory held is large, a more accurate and formal inventory system is needed. The orders need to be of the right size and made at the right time.

- **Right size**

The determination of right size depends on the storage costs and the ordering or administrative costs. To determine the optimum order size, these two costs have to be balanced. The intersection of storage cost curve and ordering cost curve represents a favourable balance between the two costs. Besides the graph method the economic order quantity (eoq) formula can also be used to determine the optimum order size. The calculation of economic order quantity greatly assists buyers to determine a practical order size for inventory.

- **Right time**

There is a time gap between the placement of order and it's delivery, which is called the lead-time. Hence the order should be timed when a certain level of stock (re-order point) is still available. This level of stock will be determined by the daily usage rate and the lead-time.

The theoretical method determines the economic order quantity and re-order point based on usage pattern, lead times, safety stocks, storage costs etc. If this data is inaccurate, the re-order point will also be inaccurate.

The disadvantages of this system are that usage rates & prices vary from day to day and cannot be calculated exactly. It assumes that the operation has adequate storage facilities, which may not be true. The eoq assumes that the product will not spoil and hence it is not suitable for perishables. It can be followed for dry goods, shelf stable goods and packaged beverages.

The advantages are that the method gives facts regarding the optimum order quantities and range of possible order sizes can be assessed. This system is suitable to computerised systems of inventory control where calculations for each item can be done quickly to provide important feedback for taking buying decision.

**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**

Each inventory item has a bin card. On this card is recorded each transaction eg. Issue, return, deliveries and after each transaction the balance is recorded. The balance shown should match with the actual physical inventory.

(b) **Par Stock**

The par stock has to be determined as per the usage rate and stock is replaced periodically to bring the level to the par. Perpetual inventory system is commonly used in food operation units and computerisation has made it easy to use this method.

**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**

This group contains a small percentage of items (eg. 10%) that account for a large percentage (eg. 70%) of the total annual inventory cost for the operation eg. Meats, sea food, alcoholic beverages may be more costly and form the major bulk rather than items like soft drinks or paper goods. Special attention has to be paid to items of this group. Application of eoq formula should be done for items of this category depending on the perishability factor.

(b) **The B Group**

Items in the b group constitute another small percentage (eg. 10%) but are worth a lesser percentage value (eg. 20%) of the total inventory value. The control of this group may be a little relaxed compared to the a group.

(c) **The C Group**

The remaining items, about 80% may account only for 10% of the inventory value. These deserve minimal attention compared to the other two categories. This classification helps in paying more attention to the a & b category items EGO for a items EOQ & ROP need to be calculated more accurately, portion control needs to be monitored etc. This classification helps in efficient management of inventories and emphasises selective inventory control as per importance.

Other inventory control systems similar to abc classification are:

- FSN analysis where F stands for fast, S for slow moving and N for non-moving materials.
VED analysis classifies materials into Valuable, Essential and Desirable.

Physical inventory

Physical inventory means physically counting and assessing the actual quantity of goods on hand & recording the stock levels. The stocks on paper and actual stock are compared. Physical inventory is quite time consuming but is an indispensable task. Food service operations may take physical stock on a bi-annual, quarterly, monthly or fortnightly basis. Stock taking gives valuable information like:

(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) To receive raw materials, components, tools, equipments and other items and account for them.
(b) To provide adequate & proper storage and preservation for various items.
(c) To meet demands of the consuming departments by proper issues and account for the consumption.
(d) To minimise obsolescence, surplus and scrap through proper codification, preservation and handling.
(e) To ensure good housekeeping so that material handling, material preservation, stocking, receipt and issue can be done adequately.
(f) To assist in verification and provide supporting information for effective purchase 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

Storage security should be designed to discourage employee theft. Storage facilities should be designed to make theft difficult. Ego general access storage should be clearly visible - transparent doors can be used, locking storage areas when not in use,
minimising number of persons having access to store keys, rotation of employees etc. Will minimise theft.

(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**

Food service operations store a lot of perishables and most items have a certain shelf life. Old items should be used first. To avoid spoilage, the right storage facilities are required - there should be maintenance of correct temperature, correct handling and rigid cleaning procedures should be followed. Often the cause of food spoilage is poorly located and constructed facilities. Negligent and unsafe practices must be avoided to minimize spoilage.

**Attributes of good storage facility for service operation/ hotel**

(a) **Adequate Space**

Adequate space for storage is important and if a new set up is being established, provisions should be made for extra storage space because what the operations can offer in future to the guests depends a lot on storage space. Where restaurants are located, real estate is generally expensive and the first thing to be compromised is storage space.

Food stores should be well ventilated, dry & cool and vermin proof. All food should be kept above floor level and away from heat & moisture sources like sunlight, hot water pipes etc.

(b) **Adequate Temperature And Humidity**

In food service operations, food is handled and prepared. There should be adequate storage areas that conform to the temperature and humidity requirements. The operation have to invest in refrigerators, freezers, walk-in refrigerators as per the requirements.

(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 storage area should be near to the receiving area as well as to the production department. These three areas should preferably be on the same floor to ensure that
products are quickly transported and are not out of their storage environment for excessive periods.

(e) **Access To Proper Maintenance**

Availability of immediate maintenance is important ego in case of a freezer breaking down, losses can be high if the problem is not fixed quickly. The establishment can go in for in-house maintenance personnel or maintenance contract.

(f) **Competent Personnel**

"The best designed receiving and storage facilities and receiving, storing and issuing procedures are all for naught if the fight person is not on the job." hence it is important that people working in the stores department are competent. But circumstances may not always be ideal. eg. The operation may not be large enough to afford separate staff for the stores function.

(g) **Sufficient Time To Perform Duties**

Receiving, storing and issuing have many other tasks besides weighing and putting things into storage. Ego monitoring control procedures, maintaining sanitation, rotating stock etc. it is important, not to load storeroom clerks with other unrelated tasks so as to give them time to perform these essential store duties.

(h) **Store Room Rules**

It is important to specify rules regarding persons allowed to enter stores. Item should be issued as per the prescribed procedure after obtaining requisitions signed by the authorised persons.

**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 items have to be maintained under constant low temperature. They have to be kept at chilled/frozen temperatures ego meat, dairy products, fruit & vegetables etc. Perishables can be kept under normal refrigeration for 5-8 days and for longer storage deep-freezing is required.

(c) **Semi-Perishables**

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

An experienced person should check the goods delivered against order specification and delivery note. All deliveries should be checked to see whether the correct quantity, quality and size have been delivered. It should be seen whether the goods are fresh. Inspection of products for staleness and spoilage is important.

The following points should be standard practice:

- The receiving times and correct temperature should be specified and confirmed with suppliers.
- A nominated person should be responsible for accepting the delivery, for example the head chef, manager, supervisor or stores manager.
- The person who is to receive the delivery should be notified. Having two people available is often an advantage.
- Items should be checked against specifications, the order book and the receipt.
- Check for temperatures, expiry dates (shelf-life), quality, damage, and substitution of different types or brands of item.
- The delivery area should be safe, clean and contamination-free.
- Remove non-essential packaging, especially absorbent materials such as cardboard. Plastic wrap and vacuum-packed items benefit from being wiped over with a sanitizer.
- Transfer items to designated storage areas as soon as possible. Time limits should be set for transferring items to correct storage.
- From time to time safety checks should be made on delivery personnel and vehicles.
- No food should be accepted if any of the above criteria are not met.
- Fill in documentation on recorded temperatures, checks on vehicles and delivery personnel.

Receiving areas and procedures

A number of important factors should be considered with regard to the receiving area. The following list is a general guide.

- The area should be clean and away from such items as chemicals and cleaning materials.
- It should be correctly equipped, ideally this should include a table, spring balance scales, a temperature probe, sterile wipes, a knife and storage containers.

Item numbers, copies of orders, a returns book, a folder containing purchasing specifications and acceptable substitute items/brands. In addition, there should be checklists for vehicle and delivery personnel, lists of acceptable temperatures on receipt and a goods inward book, which records what is delivered, any alterations, substitutions or returned items, when, (date/time), what quantity, and who received the delivery. In a busy kitchen it is enough to confirm that the goods were received in
good conditions and other details such as cost, vat, etc. Can be dealt with in the control office.

**Contradiction**

During the receipt of the goods you can notice differences between the ordered goods and the delivered goods. These differences can be about different quality or size, wrong amount, wrong article, poor rating, bad or damaged items. Contact the supplier and solve the problem. Create a discrepancy sketch and send it to the supplier. Sometimes the problem is beyond the control of the supplier. If you have a constant problem with your supplier, you must change your supplier. In general, suppliers are not allowed to switch randomly because they can cause problems instead of solving problems.

**Security and control**

Security and control are possible if only a small number of people mentioned can display goods in the store. Control and safety issues often occur at foodservice companies and are one of the most important aspects of tasks as a store manager. Theft or theft can be a major problem for the operation of meals. This can make a major contribution to the financial collapse of the foodservice activities. Storage space must be lockable. Alarm systems, access cards for employees, passwords for computer systems, video cameras, safety lights, security doors and more.

**Conclusion:**

In the hotel and catering industry, information technology is used at various locations in different industries. The most important tools are computer and telephone systems and software applications are increasingly being used. Many technologies are also used to improve the purchasing and inventory management process. Computer applications are used by catering companies for the ego of inventory management and cost control. Some operators develop advanced spreadsheets with all products in the inventory. The actual calculation of your store and in-process inventory is complete on the last day of the month and entered into your spreadsheet. You can use the inventory, stock breakdown, purchases and other reconciliation data before the end of the month of last month to calculate the monthly costs of your sold products. Many hotel operations use ready-to-use software packages that are specially designed to manage the inventory of the hotel industry. Most of these packages can be linked to the operator's pass system. If your spreadsheet program or standard software does not meet the needs of the hospitality provider, you can hire a software company and develop custom software for your activities. Appropriate controls must take precedence over the issue of articles. Poor issuance procedures can lead to loss of benefits through good purchasing and inventory management. Large-scale foodservice operations have introduced official issuance procedures, but some procedures for small foodservice operations do not exist. The person must issue a sword for an approved account signed by the appropriate person. Setting up the right publication procedures is an important way to manage data.

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