A PEEP INTO INVENTORY CONTROL

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Abstract: - In this paper we have given a brief introduction of Inventory control. We have discussed some points as what the inventory control is and how many types of inventory control are there. We shall attract the attention of the readers on the point why we should use it and on which systems inventory control depends and with that we have focused on inventory control records, which are essential to make buy and sell decision.
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1.1 Introduction:-

Everyone is an inventory controller, at home and at work. We all keep food, clothes, domestic items, paper, pens and many other goods. We also have shortages and emergency purchases. Some people regularly have to throw out the contents of the refrigerator because they have been there a while and changed in character. So inventory control is a natural occupation that everyone undertakes, some more successfully than others.

Control of inventory, which typically represents 45% to 90% of all expenses for business, is needed to ensure that the business has the right goods on hand to avoid stock-outs, to prevent shrinkage (spoilage/theft), and to provide proper accounting. Many businesses have too much of their limited resource, **capital**, tied up in their major asset, **inventory**. Worse, they may have their capital tied up in the wrong kind of inventory. Inventory may be old, worn out, shopworn, obsolete, or the wrong sizes or colors, or there may be an imbalance among different product lines that reduces the customer appeal of the total operation.

Inventory control systems range from eyeball systems to reserve stock systems to perpetual computer-run systems. Valuation of inventory is normally stated at original cost, market value, or current replacement costs, whichever is lowest. This practice is used because it minimizes the possibility of overstating assets. Inventory valuation and appropriate accounting practices are worth a book alone and so are not dealt with here in depth.

The ideal inventory and proper merchandise turnover will vary from one market to another. Average industry figures serve as a guide for comparison. Too large an inventory may not be justified because the turnover does not warrant investment. On the other hand, because products are not available to meet demand, too small an inventory may minimize sales and profits as customers go somewhere else to buy what they want where it is immediately available. Minimum inventories based on reordering time need to become important aspects of buying activity. Carrying costs, material purchases, and storage costs are all expensive. However, stock-outs are expensive also. All of those costs can be minimized by efficient inventory policies.

1.2 The reasons for keeping stock

There are three basic reasons for keeping an inventory:

1. Time - The time lags present in the supply chain, from supplier to user at every stage, requires that you maintain certain amounts of inventory to use in this "lead time."

2. Uncertainty - Inventories are maintained as buffers to meet uncertainties in demand, supply and movements of goods.

3. Economies of scale - Ideal condition of "one unit at a time at a place where a user needs it, when he needs it" principle tends to incur lots of costs in terms of logistics. So bulk

buying, movement and storing brings in economies of scale, thus inventory.

All these stock reasons can apply to any owner or product stage.

- Buffer stock is held in individual workstations against the possibility that the upstream workstation may be a little delayed in long setup or change over time. This stock is then used while that changeover is happening. This stock can be eliminated by tools like SMED.

These classifications apply along the whole Supply chain, not just within a facility or plant.

Where these stocks contain the same or similar items, it is often the work practice to hold all these stocks mixed together before or after the sub-process to which they relate. This 'reduces' costs. Because they are mixed up together there is no visual reminder to operators of the adjacent sub-processes or line management of the stock, which is due to a particular cause and should be a particular individual's responsibility with inevitable consequences. Some plants have centralized stock holding across sub-processes, which makes the situation even more acute.

Three major approaches can be used for inventory control in any type and size of operation. The actual system selected will depend upon the type of operation, the amount of goods.

1.3 The Eyeball System

This is the standard inventory control system for the vast majority of small retail and many small manufacturing operations and is very simple in application. The key manager stands in the middle of the store or manufacturing area and looks around. If he or she happens to notice that some items are out of stock, they are reordered. In retailing, the difficulty with the eyeball system is that a particularly good item may be out of stock for sometime before anyone notices. Throughout the time it is out of stock, sales are being lost on it. Similarly, in a small manufacturing operation, low stocks of some particularly critical item may not be noticed until there are none left. Then production suffers until the supply of that part can be replenished. Such a systematic but simple retailers and manufacturers to their inherent disadvantage.

1.4 Reserve Stock (or Brown Bag) System

This approach is much more systematic than the eyeball system. It involves keeping a reserve stock of items aside, often literally in a brown bag placed at the rear of the stock bin or storage area. When the last unit of open inventory is used, the brown bag of reserve stock is opened and the new supplies it contains are placed in the bin as open stock. At this time, a reorder is immediately placed. If the reserve stock quantity has been calculated properly, the new shipment should arrive just as the last of the reserve stock is being used.

In order to calculate the proper reserve stock quantity, it is necessary to know the rate of product usage and the order cycle delivery time. Thus, if the rate of product units sold is 100 units per week and the order cycle delivery time is two weeks, the appropriate reserve stock would consist of 200 units (I00u x 2w). This is fine as long as the two-week cycle holds. If the order cycle is extended, the reserve stock quantities must be increased. When the new order arrives, the reserve stock amount is packaged again and placed at the rear of the storage area.

This is a very simple system to operate and one that is highly effective for virtually any type of organization. The variations on the reserve stock system merely involve the management of the reserve stock itself. Larger items may remain in inventory but be cordoned off in some way to indicate that it is the reserve stock and should trigger a reorder.

1.5 Perpetual Inventory Systems

Various types of perpetual inventory systems include manual, card-oriented, and computer-operated systems. In computer-operated systems, a programmed instruction referred to commonly as a trigger, automatically transmits an order to the appropriate vendor once supplies fall below a prescribed level. The purpose of each of the three types of perpetual inventory approaches is totally either the unit use or the dollar use (or both) of different items and product lines. This information will serve to help avoid stock-outs and to maintain a constant evaluation of the sales of different product lines to see where the emphasis should be placed for both selling and buying

Stock Control

A stock control system should keep you aware of the quantity of each kind of merchandise on hand. An effective system will provide you with a guide for what, when, and how much to buy of each style, color, size, price and brand. It will reduce the number of lost sales resulting from being out of stock of merchandise in popular demand. The system will also locate slow selling articles and help indicate changes in customer preferences. The size of your establishment and the number of people employed are determining factors in devising an effective stock control plan. Can you keep control by observation? Should you use on-hand/on-order/sold records? Detachable ticket stubs? Checklists? And/or physical inventory? If so, how often?. With the observation method (the eyeball system), unless the people using it have an unusually sharp sense of quantity and sales patterns, it is difficult to keep a satisfactory check on merchandise depletion. It means that you record shortages of goods or reorders as the need for them occurs to you. Without a better checking system, orders may only be placed at the time of the salesman's regular visit, regardless of when they are actually needed. Although it may be the simplest system, it also can often result in lost sales or production delays. Detachable stubs or tickets placed on merchandise provide a good means of control. The stubs, containing information identifying the articles, are removed at the time the items are sold. The accumulated stubs are then posted regularly to the perpetual inventory system by hand or through the use of an optical scanner.

A checklist, often provided by wholesalers, is another counting tool. The checklist provides space to record the items carried, the selling price, cost price, and minimum quantities to be ordered of each. It also contains a column in which to note whether the stock on hand is sufficient and when to reorder. This is another very simple device that provides the level of information required to make knowledgeable decisions about effective inventory management.

Smaller operations today, except for the very smallest, are using some form of a perpetual online system to record the movement of inventories into and out of their facilities. In a retail operation, the clerk at the register merely

scans the ticket with a reader, and the system shows the current price and removes the item from the inventory control system. A similar process occurs in a manufacturing operation, except that the "sale" is actually a transfer of the inventory from control to production. This is a particularly critical system in a large operation such as a grocery store where they regularly maintain 12,000 plus items. Often a vendor will provide on-site or computerized assistance needed to help their smaller customers maintain a good understanding of their own inventory levels and so keep them in balance.

1.6 Inventory Control Records

Inventory control records are essential to making buy-and-sell decisions. Some companies control their stock by taking physical inventories at regular intervals, monthly or quarterly. Others use a dollar inventory record that gives a rough idea of what the inventory may be from day to day in terms of dollars. If your stock is made up of thousands of items, as it is for a convenience type store, dollar control may be more practical than physical control. However, even with this method, an inventory count must be taken periodically to verify the levels of inventory by item.

Perpetual inventory control records are most practical for big-ticket items. With such items it is quite suitable to hand count the starting inventory, maintain a card for each item or group of items, and reduce the item count each time a unit is sold or transferred out of inventory.

Periodic physical counts are taken to verify the accuracy of the inventory card.

Out-of-stock sheets, sometimes called want sheets, notify the buyer that it is time to reorder an item. Experience with the rate of turnover of an item will help indicate the level of inventory at which the unit should be reordered to make sure that the new merchandise arrives before the stock is totally exhausted.

Open-to-buy records help to prevent ordering more than is needed to meet demand or to stay within a budget. These records adjust your order rate to the sales rate. They provide a running

account of the dollar amount that may be bought without departing significantly from the pre- established inventory levels. An open-to-buy record is related to the inventory budget. It is the difference between what has been budgeted and what has been spent. Each time a sale is made, open-to-buy is increased (inventory is reduced). Each time merchandise is purchased; open-to-buy is reduced (inventory is increased). The net effect is to help maintain a balance among product lies within the business, and to keep the business from getting overloaded in one particular area.

Purchase order files keep track of what has been ordered and the status or expected receipt date of materials. It is convenient to maintain these files by using a copy of each purchase order that is written. Notations can be added or merchandise needs updated directly on the copy of the purchase order with respect to changes in price or delivery dates.

Supplier files are valuable references on suppliers and can be very helpful in negotiating price, delivery and terms. Extra copies of purchase orders can be used to create these files, organized alphabetically by supplier, and can provide a fast way to determine how much business is done with each vendor. Purchase order copies also serve to document ordering habits and procedures and so may be used to help reveal and/or resolve future potential problems.

Returned goods files provide a continuous record of merchandise that has been returned to suppliers. They should indicate amounts, dates and reasons for the returns. This information is useful in controlling debits, credits and quality Issues.

Price books, maintained in alphabetical order according to supplier, provide a record of purchase prices, selling prices, markdowns, and markups. It is important to keep this record completely up to date in order to be able to access the latest price and profit information on materials purchased for resale.

1.7 Controlling Inventory

Controlling inventory does not have to be an onerous or complex proposition. It is a process and thoughtful inventory management. There are no hard and fast rules to abide by, but some extremely useful guidelines to help your thinking about the subject. A five step process has been designed that will help any business bring this potential problem under control to think systematically thorough the process and allow the business to make the most efficient use possible of the resources represented. The final decisions, of course, must be the result of good judgment, and not the product of a mechanical set of formulas.

STEP 1: Inventory Planning
Inventory control requires inventory planning. Inventory refers to more than the goods on hand in the retail operation, service business, or manufacturing facility. It also represents goods that must be in transit for arrival after the goods in the store or plant are sold or used. An ideal inventory control system would arrange for the arrival of new goods at the same moment the last item has been sold or used. The economic order quantity, or base orders, depends upon the amount of cash (or credit) available to invest in inventories, the number of units that qualify for a quantity discount from the manufacturer, and the amount of time goods spend in shipment.

STEP 2: Establish order cycles
If demand can be predicted for the product or if demand can be measured on a regular basis, regular ordering quantities can be setup that takes into consideration the most economic relationships among the costs of preparing an order, the aggregate shipping costs, and the economic order cost. When demand is regular, it is possible to program regular ordering levels so that stock-outs will be avoided and costs will be minimized. If it is known that every so many weeks or months a certain quantity of goods will be sold at a steady pace, then replacements should be scheduled to arrive with equal regularity. Time should be spent developing a system tailored to the needs of each business. It is useful to focus on items whose costs justify such control, recognizing that in some cases control efforts may cost more the items worth.

At the same time, it is also necessary to include low return items that are critical to the overall sales effort.

If the business experiences seasonal cycles, it is important to recognize the demands that will be placed on suppliers as well as other sellers.

A given firm must recognize that if it begins to run out of product in the middle of a busy season, other sellers are also beginning to run out and are looking for more goods. The problem is compounded in that the producer may have already switched over to next season's production and so is not interested in (or probably even capable of) filling any further orders for the current selling season. Production resources are likely to already be allocated to filling orders for the next selling season. Changes in this momentum would be extremely costly for both the supplier and the customer.

On the other hand, because suppliers have problems with inventory control, just as sellers do, they may be interested in making deals to induce customers to purchase inventories off-season, usually at substantial savings. They want to shift the carrying costs of purchase and storage from the seller to the buyer. Thus, there are seasonal implications to inventory control as well, both positive and negative. The point is that these seasonable implications must be built into the planning process in order to support an effective inventory management system.

STEP 3: Balance Inventory Levels
Efficient or inefficient management of merchandise inventory by a firm is a major factor between healthy profits and operating at a loss. There are both market-related and budget-related issues that must be dealt with in terms of coming up with an ideal inventory balance:
• Is the inventory correct for the market being served?
• Does the inventory have the proper turnover?
• What is the ideal inventory for a typical retailer or wholesaler in this business?

To answer the last question first, the ideal inventory is the inventory that does not lose profitable sales and can still justify the investment in each part of its whole.

An inventory that is not compatible with the firm's market will lose profitable sales.

Customers who cannot find the items they desire in one store or from one supplier are forced to go to a competitor. Customer will be especially irritated if the item out of stock is one they would normally expect to find from such a supplier. Repeated experiences of this type will motivate customers to become regular customers of competitors.

STEP 4: Review Stocks
Items sitting on the shelf as obsolete inventory are simply dead capital. Keeping inventory up to date and devoid of obsolete merchandise is another critical aspect of good inventory control. This is particularly important with style merchandise, but it is important with any merchandise that is turning at a lower rate than the average stock turns for that particular business. One of the important principles newer sellers frequently find difficult is the need to mark down merchandise that is not moving well. Markups are usually highest when a new style first comes out. As the style fades, efficient sellers gradually begin to mark it down to avoid being stuck with large inventories, thus keeping inventory capital working. They will begin to mark down their inventory, take less gross margin, and return the funds to working capital rather than have their investment stand on the shelves as obsolete merchandise. Markdowns are an important part of the working capital cycle. Even though the margins on markdown sales are lower, turning these items into cash allows you to purchase other, more current goods, where you can make the margin you desire.

Keeping an inventory fresh and up to date requires constant attention by any organization, large or small. Style merchandise should be disposed of before the style fades. Fad merchandise must have its inventory levels kept in line with the passing fancy. Obsolete merchandise usually must be sold at less than normal markup or even as loss leaders where it is priced more competitively. Loss leader pricing strategies can also serve to attract more' consumer traffic for the business thus creating opportunities to sell other merchandise as well as well as the obsolete items. Technologically obsolete merchandise should normally be removed from inventory at any cost.

Stock turnover is really the way businesses make money. It is not so much the profit per unit of sale that makes money for the business, but sales on a regular basis over time that eventually results in profitability. The stock turnover rate is the rate at which the average inventory is replaced or turned over, throughout a pre-defined standard operating period, typically one year. It is generally seen as the multiple that sales represent of the average inventory for a given period of time.

Turnover averages are available for virtually any industry or business maintaining inventories and having sales. These figures act as an efficient and effective benchmark with which to compare the business in question, in order to determine its effectiveness relative to its capital investment. Too frequent inventory turns can be as great a potential problem as too few. Too frequent inventory turns may indicate the business is trying to overwork a limited capital base, and may carry with it the attendant costs of stock-outs and unhappy and lost customers.

Stock turns or turnover is the number of times the "average" inventory of a given product is sold annually. It is an important concept because it helps to determine what the inventory level should be to achieve or support the sales levels predicted or desired. Inventory turnover is computed by dividing the volume of goods sold by the average inventory. Stock turns or inventory turnover can be calculated by the following equations:

$$Stock\ Turn = \frac{Cost\ of\ Goods\ Sold}{Average\ Inventory\ at\ Cost}$$

$$Stock\ Turn = \frac{Sales}{Average\ Inventory\ at\ Sales\ Value}$$

If the inventory is recorded at cost, stock turn equals cost of goods sold divided by the average inventory. If the inventory is recorded at sales value, stock turn is equal to sales divided by average inventory. Stock turns four times a year on the average for many businesses. Jewelry stores are slow, with two turns a year, and grocery stores may go up to 45 turns a year.

If the dollar value of a particular inventory compares favorably with the industry average, but the turnover of the inventory is less than the industry average, a further analysis of that inventory is needed. Is it too heavy in some areas? Are there reasons that suggest more inventories are needed in certain categories? Are there conditions peculiar to that particular firm? The point is that all markets are not uniform and circumstances may be found that will justify a variation from average figures.

In the accumulation of comparative data for any particular type of firm, a wide variation will be found for most significant statistical comparisons. Averages are just that, and often most firms in the group are somewhat different from that result. Nevertheless, they serve as very useful guides for the adequacy of industry turnover, and for other ratios as well. The important thing for each firm is to know how the firm compares with the averages and to deter-mine whether deviations from the averages are to its benefit or disadvantage.

STEP 5: Follow-up and Control

Periodic reviews of the inventory to detect slow-moving or obsolete stock and to identify fast sellers are essential for proper inventory management. Taking regular and periodic inventories must be more than just totaling the costs. Any clerk can do the work of recording an inventory. However, it is the responsibility of key management to study the figures and review the items themselves in order to make correct decisions about the disposal, replacement, or discontinuance of different segments of the inventory base.

Just as an airline cannot make money with its airplanes on the ground, a firm cannot earn a profit in the absence of sales of goods. Keeping the inventory attractive to customers is a prime prerequisite for healthy sales. Again, the seller's inventory is usually his largest investment. It will earn profits in direct proportion to the effort and skill applied in its management.

Inventory quantities must be organized and measured carefully. Minimum stocks must be assured to prevent stock-outs or the lack of product. At the same time, they must be

balanced against excessive inventory because of carrying costs. In larger retail organizations and in many manufacturing operations, purchasing has evolved as a distinct new and separate phase of management to achieve the dual objective of higher turnover and lower investment. If this type of strategy is to be utilized, however, extremely careful attention and constant review must be built into the management system in order to avoid getting caught short by unexpected changes in the larger business environment.

Conclusion:-   This   paper   provides   the importance of inventory control .The readers will be benefitted by reading this paper as it will

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let them know the uses of inventory in their business.

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