MBA(HA) 2nd Semester

MHA-206 Financial Management

Unit-5

Inventory Management

A proper planning of purchasing of raw material, handling, storing and recording is to be considered as a part of inventory management. Inventory management means, management of raw materials and related items. Inventory management considers what to purchase, how to purchase, how much to purchase, from where to purchase, where to store and when to use for production etc.

Objectives of Inventory Management

Inventory occupy 30–80% of the total current assets of the business concern. It is also very essential part not only in the field of Financial Management but also it is closely associated with production management. Hence, in any working capital decision regarding the inventories, it will affect both financial and production function of the concern. Hence, efficient management of inventories is an essential part of any kind of manufacturing process concern.

The major objectives of the inventory management are as follows:

- To efficient and smooth production process.
- To maintain optimum inventory to maximize the profitability.
- To meet the seasonal demand of the products.
- To avoid price increase in future.
- To ensure the level and site of inventories required.
- To plan when to purchase and where to purchase
- To avoid both over stock and under stock of inventory.

Kinds of Inventories

Inventories can be classified into five major categories.

A. Raw Material

It is basic and important part of inventories. These are goods which have not yet been committed to production in a manufacturing business concern.

B. Work in Progress

These include those materials which have been committed to production process but have not yet been completed.

C. Consumables

These are the materials which are needed to smooth running of the manufacturing process.

D. Finished Goods

These are the final output of the production process of the business concern. It is ready for consumers.

E. Spares

It is also a part of inventories, which includes small spares and parts.

Cost of Holding Inventory

While calculating the cost of holding inventory, the following costs are included:

The total cost of the stock and other sums directly linked with the inventory like capital and opportunity cost of money tied up with the inventory.

Cost of the physical space engaged in preserving the inventory which includes depreciation, rent, taxes, utility costs, insurance, etc.

Cost of handling the items, deterioration cost, cost of damaged goods, and obsolescence cost.

In most of the accounting systems, all the above-mentioned costs are calculated for the whole year and then expressed in percentage on the cost of inventory items. For example, the holding cost maybe 25% which means, if the company has Rs.400,000 as inventory cost, the inventory holding cost is Rs. 100,000 for the whole year.

The holding cost of inventory depends on many aspects including the perish ability of the product, availability of stock place, cost of transportation, and demand for the product in the market. If a company has a lump-sum investable fund, large storage space, no other option of investment, and the product is not perishable in nature, then the cost of inventory holding will be low for the company.

Benefits of Holding Inventory

There are various benefits of holding inventory:

1. Holding inventory helps in incessant supply of the products leading to a minimum or no loss of sales.
2. Holding inventory reduces the shortage of
3. If it is possible to hold raw materials on a large volume, the suppliers are pleased to offer discounts.
4. In inventory management, order cost takes time and money. When the inventory is good enough, a reseller will be able to place large order thereby reducing the order cost to a certain amount which is not otherwise possible.
5. Large inventory enables optimum output thereby reducing production cost. In this situation, overhead expenses reduce drastically.

Benefits of holding inventory are really enormous; however, the company needs to calculate what should be the optimum level of inventory and what allied factors may incur a loss.

Techniques of Inventory Management

Inventory management consists of effective control and administration of inventories. Inventory control refers to a system which ensures supply of required quantity and quality of inventories at the required time and at the same time prevent unnecessary investment in inventories. It needs the following important techniques. Inventory management techniques may be classified into various types:

A. Techniques based on the order quantity of Inventories

Order quantity of inventories can be determined with the help of the following techniques:

Stock Level

Stock level is the level of stock which is maintained by the business concern at all times. Therefore, the business concern must maintain optimum level of stock to smooth running of the business process. Different level of stock can be determined based on the volume of the stock.

Minimum Level

The business concern must maintain minimum level of stock at all times. If the stocks are less than the minimum level, then the work will stop due to shortage of material.

Re-order Level

Re-ordering level is fixed between minimum level and maximum level. Re-order level is the level when the business concern makes fresh order at this level.

Re-order level=maximum consumption × maximum Re-order period.

Maximum Level

It is the maximum limit of the quantity of inventories, the business concern must maintain.

If the quantity exceeds maximum level limit then it will be overstocking.

Maximum level = Re-order level + Re-order quantity – (Minimum consumption × Minimum delivery period)

Danger Level

It is the level below the minimum level. It leads to stoppage of the production process.

Danger level=Average consumption × Maximum re-order period for emergency purchase

Average Stock Level

It is calculated such as,

Average stock level= Minimum stock level + ½ of re-order quantity maximum level

Lead Time

Lead time is the time normally taken in receiving delivery after placing orders with suppliers.

The time taken in processing the order and then executing it is known as lead time.

Safety Stock

Safety stock implies extra inventories that can be drawn down when actual lead time and/ or usage rates are greater than expected. Safety stocks are determined by opportunity cost and carrying cost of inventories. If the business concerns maintain low level of safety stock, it will lead to larger opportunity cost and the larger quantity of safety stock involves higher carrying costs.

Economic Order Quantity (EOQ)

EOQ refers to the level of inventory at which the total cost of inventory comprising ordering cost and carrying cost. Determining an optimum level involves two types of cost such as ordering cost and carrying cost. The EOQ is that inventory level that minimizes the total of ordering of carrying cost.

EOQ can be calculated with the help of the mathematical formula:

$EOQ = \sqrt{2ab/c}$

Where,

a = Annual usage of inventories (units)

b = Buying cost per order

c = Carrying cost per unit

TECHNIQUES BASED ON THE CLASSIFICATION OF INVENTORIES

A-B-C analysis

It is the inventory management techniques that divide inventory into three categories based on the value and volume of the inventories; 10% of the inventory's item contributs to 70% of value of consumption and this category is known as A category. About 20% of the inventory item contributes about 20% of value of consumption and this category is called category B and 70% of inventory item contributes only 10% of value of consumption and this category is called C category.

Inventory Breakdown Between Value and Volume

Category	Volume (%)	Value (%)
A	10	70
B	20	20
C	70	10
Total	100	100

Aging Schedule of Inventories

Inventories are classified according to the period of their holding and also this methodbhelps to identify the movement of the inventories. Hence, it is also called as, FNSD analysis—

where,

F = Fast moving inventories

N = Normal moving inventories

S = Slow moving inventories

D = Dead moving inventories

This analysis is mainly calculated for the purpose of taking disposal decision of the inventories.

VED Analysis

This technique is ideally suited for spare parts in the inventory management like ABC analysis. Inventories are classified into three categories on the basis of usage of the inventories.

V = Vital item of inventories

E = Essential item of inventories

D = Desirable item of inventories

HML Analysis

Under this analysis, inventories are classified into three categories on the basis of the value of the inventories.

H = High value of inventories

M = Medium value of inventories

L = Low value of inventories

TECHNIQUES ON THE BASIS OF RECORDS

A. Inventory budget

It is a kind of functional budget which facilitates the estimated inventory required for the business concern during a particular period. This budget is prepared based on the past experience.

B. Inventory reports

Preparation of periodical inventory reports provides information regarding the order level, quantity to be procured and all other information related to inventories. On the basis of these reports, Management takes necessary decision regarding inventory control and Management in the business concern.

Valuation of Inventories

Inventories are valued at different methods depending upon the situation and nature of manufacturing process. Some of the major methods of inventory valuation are mentioned as follows:

1. First in First Out Method (FIFO)
2. Last in First Out Method (LIFO)
3. Highest in First Out Method (HIFO)
4. Nearest in First Out Method (NIFO)
5. Average Price Method
6. Base Stock Method
7. Standard Price Method
8. Market Price Method