

LECTURE NOTES ON MATERIAL MANAGEMENT:- *INVENTORY MANAGEMENT*

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(Lecture No. -33)

Recapitulate

Learning Outcomes

After this session students will be able to:

- Describe the “Material Management”.
- Discuss the function of Material Management.
- Explain the objective of Inventory Management.
- Define Inventory.
- Describe the importance of Inventory Management.

1 Introduction to Material Management

Material Management is a function, which aims for integrated approach towards the management of materials in an industrial undertaking. Its main objective is cost reduction and efficient handling of materials at all stages and in all sections of the undertaking.

Material Management’s functions include several important aspects connected with materials, such as purchasing, storage, inventory control, materials handling, standardization, etc.

Material Management covers a very wide field and deals with materials cost, its supply, utilization and handling. It is concerned with the planning and programming of materials and equipment, market research for purchase, procurement of materials (capital goods, raw materials, components and semi-finished items), packaging, storage and inventory control, transportation of materials, salvage, material handling, disposal of scrap and surplus, etc.

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According to Bethel, “Material Management is a term used to connote controlling the kind, amount, location, movement and timing of the various commodities used in and produced by the industrial enterprise.”

Material Management follows a systematic and integrated approach (Functions) that involves various activities. These activities are as follows:

1.1 Materials Planning

Determine the needs of customers in advance.

1.2 Make or Buy Decision

It decide which items can be produced at home plant and which should be obtained from the outside sources based on the total cost available for production.

1.3 Purchasing

It provides constant supply of raw materials, parts, components and consumables to meet the target of the production.

1.4 Receiving & Inspection

Collects materials and inspect them to ensure their quality. This helps to decide whether the materials should be accepted or not for further production.

1.5 Storage

Provide right place to store materials, uses proper methods of preservation and also provides proper security against theft and malpractices.

1.6 Inventory Control

Maintains optimum investment in inventories and also ensures supply materials, which are required for the production, at the right time.

1.7 Distribution of Materials

Ensures the fastest and efficient supply of materials to the customers.

1.8 Transportation

It ensures efficient movements of incoming and outgoing materials.

1.9 Developing new sources of Supply

Locate, select and develop new sources to supply materials for improving the product quality and reducing the total cost of production.

1.10 Import Substitution

Discover indigenous sources of supply of materials to save foreign exchange.

1.11 Material Research

Analyse all factors such as economic analysis, market analysis, price analysis, transportation analysis, lead-time analysis, etc. that affects the functions of materials management.

1.12 Waste management

Minimizes the wastage of materials by determining the causes for rejection and scrap of materials. Thus, Material management is a scientific technique, concerned with Planning, Organizing & Control of flow of materials, from their initial purchase to destination.

2 Inventory Management (No Numerical)

Before we talk about the Inventory Management, it is important to know, “what is Inventory”.

Inventory: Inventory is the collection of unsold products waiting to be sold. Inventory is listed as a current asset on a company’s balance sheet.

In other words, it is a detailed list of movable goods in such as raw materials, materials-in-process, finished products, general supplies, and equipments, etc.

2.1 Types of Inventory

Inventory is generally categorized as raw materials, work-in-progress, and finished goods.

Raw materials: They include raw materials and other supplies, parts and components which enter into the product during the production process. Examples of raw materials include aluminum and steel for the manufacture of cars, flour for bakeries production of bread, and crude oil held by refineries, etc.

Work-in-progress: These are the *partially finished goods* waiting for completion and resale; work-in-progress inventory is otherwise known as inventory on the production floor. For example, a half-assembled airliner or a partially completed yacht would be work-in-process.

Finished goods: These are complete finished products ready for sale.

3 Meaning of Inventory Management

Inventory management involves keeping track of a company’s stocked goods. It monitors their weight, dimensions, amounts and location. This helps business owners to know when it is time to replenish products, or buy more materials to manufacture them.

Effective inventory management is essential for ensuring a business has enough stock on hand to meet customer demand. If inventory management is not handled properly it can result in a business either losing money on potential sales that can’t be filled or wasting money

by stocking too much inventory. An inventory management system can help to prevent these mistakes.

3.1 Importance of Inventory Management

Management of inventory is important for maintain the optimal inventory. Possessing too high amount of inventory for a long time is usually not advantageous for a business, because of *storage costs, spoilage costs, and the threat of obsolescence*. On the other hand, possessing of too little inventory is also not advantageous for a business, because, the business runs at the risk of market share erosion and losing-profit from potential sales.

There are five reasons companies maintain inventories:

1. To meet an anticipated increase in demand.
2. To protect against unanticipated increases in demand.
3. To take advantage of price breaks for ordering raw materials in bulk.
4. To prevent the idling of a whole factory if one part of the process breaks down.
5. To keep a steady stream of material flowing to retailers rather than making a single shipment of goods to retailers.

4 Objectives of Inventory Management:

The main objective of inventory management is to maintain the inventory at appropriate level to avoid excessive or shortage of inventory because both the cases are undesirable for business.

4.1 To supply the required materials continuously:

There should be a continuous available of materials in the factory or finished goods for trade. Thus, the main objective of inventory management is to maintain required inventory so that production and sales process run smoothly.

4.2 To minimize the risk of under and over stocking of material:

If a company keeps inventory without proper analysis, there will be a chance of overstocking, which will increase the cost of carrying the inventory and under stocking of inventory that create problem in smooth operation of a business. So, it is important to minimize the risk caused due to under and over stocking of inventory.

4.3 To maintain systematic record of inventory:

Management needs different information regarding inventory for planning and decision-making. A systematic records of inventory helps to provides information regarding the current status of inventory.

4.4 To reduce losses, damages and misappropriation of materials:

Inventory management aims to reduce the losses and misappropriate of materials. This is done by maintaining the proper stocks of materials with utmost care.

4.5 To minimize the cost associated with inventory:

The proper maintenance of the information regarding inventory helps to make decisions like whether to take discounts or not, the size of order to be placed, when to order etc.

4.6 To make stability in price:

An effective inventory management system minimizes the effects of regular price fluctuation. And it helps to maintain the stability of selling price.

5 Conclusion

During this session, we have discussed and learned that Material Management & Inventory Management are essential to maintain the uninterrupted supply of goods, prepare the business for unexpected demand and keep the business profitable.

5.1 Questions for Self-Assessment

1. Describe the "Material Management".
2. Discuss the function of Material Management.
3. Explain the objective of Inventory Management.
4. What is Inventory?
5. Describe the importance of Inventory Management.

5.2 Glossary

Inventory: Inventory is the collection of unsold products waiting to be sold.

References

- [1] Banga T.R. & Sharma S.C. (2015), Industrial Organization & Engineering Economics, Khanna Publishers, New Delhi. (Chapter-39)
- [2] Garg P. (2015) Production & Operation Management, S.K.Kataria & Sons, (Chapter-14)