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A Study of Techniques in Inventory Control

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Introduction:

Inventory is the first and most important element of cost. In many of the manufacturing organisations, materials form the single largest component of cost. Inventory means any commodity or substance which is processed in a factory in order to be converted into finished product. Inventory control is a system, which facilitates that right quality of material, is available in the right quantity, at the right time and right place with the right amount of investment. The proper co-operation and co-ordination among the departments involved in purchasing, receiving and inspection, storage, sales, production and accounting is very essentials for material control. Material control focuses on eliminating or minimising any type of waste or losses while the material is procured, handled, stored, issued or being consumed. Many techniques are used for planning, procuring and holding of material, which help in implementing effective material cost control.

- **Objective of the study:**

The research paper has the following objectives:

1. To understand the concept of Inventory control.
2. To study the need of inventory control.
3. To study of essentials of inventory control.
4. To study the techniques of inventory control.

- **Research Methodology:**

The present study is explanatory cum descriptive in nature. It is based on secondary data which are available from the various journals, internet, books and articles etc.

Inventory control is accomplished through functional organisation, assignment of responsibility and documentary evidence obtained in various stages of operations. Inventory control involves recording of all steps and movements which occur in the acquisition and utilisation of materials. The effective inventory requires various techniques and the systematic preparation of periodic summaries and various reports.

- **Inventory:**

The institute of Chartered Accountant of India (ICAI) has well defined Inventory is tangible property held,

1. For sale in ordinary course of business
2. In the process of production for such sale, or
3. In the form of maintenance or supplies to be consumed in the production process or rendering of services.

- **Inventory Control:**

Gordon B. Carson defines Inventory Control as,

"The process whereby the investment in materials and parts carried in stock is regulated within predetermined limits set in accordance with inventory policy established by the management."

- **Need of Inventory Control**:

1. Fixation on the limits within which the inventories are to be held.
2. Laying down of inventory policies
3. Setting out the investment pattern keeping in view the individual and collected requirements.
4. Avoiding abnormal wastage by exercising the direct control
5. Providing efficient warehousing facilities.

- **Essentials of inventory control**:

1. Production schedules are to be properly forecasted.
2. There must be proper co-operation and co-ordination among various departments like Purchase, Inspection, Storage, Accounts and cost.
3. A good method of issue of materials to various jobs, orders or processes should be followed.
4. A suitable procedure be laid down to guide managers in performance evaluation and decision-making.

A well organised system of reporting to management regarding materials, purchase, storage, utilisation, return, spoilage, defective goods, obsolete stock and inventory balances.

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Techniques of Inventory Control:

A number of techniques are used at planning, procuring and holding stage of material which help in exercising and effecting material cost control, which are:

1.Level Setting
2.Determination of Economic Order Quantity
3.Just-in-time Inventory System
4.ABC Analysis
5.Perpetual Inventory System
6.Double Bin System
7.Input-Output Ratio
8.Inventory Turnover Ratio
9.FNSD Analysis
10. Inventory Cost Reports

The above techniques have been discussed further in brief:

1.**Level Setting:** In order to have proper control on inventory this technique is very important. The (a) Re-order Level (b) Minimum Level (c) Maximum Level (d) Danger Level and (e) Average Stock Level are set for effective control of inventory.

2.**Economic Order Quantity**: The quantity of material to be ordered at one time is known as economic ordering quantity. The quantity is fixed in such a manner as minimise the cost of carrying and ordering the stock. Carrying Cost means the cost of holding the materials in the store and ordering cost means the cost of placing orders for the purchase of material.

3.**Just-in-Time Inventory:** Just-in-time (JIT) purchasing is the purchase of material or goods in such a way that delivery of purchased items is assured before their use or demand. Just-in-time purchasing recognises too much carrying costs associated with holding high inventory levels. It advocates developing good relations with suppliers and making timely purchases from proven suppliers who can make ready delivery of goods available as and when need arises. The advantages of JIT are reduction of Investment in inventory, reduction in Carrying cost, reduction in inspection cost and reducing waste of time of the work force.

4.**ABC Analysis:** This technique is useful to divide materials into three categories for the purpose of exercising selective control on inventory. An analysis of the material costs will show that smaller percentages of items of materials in the stores may contribute to a large extend of the value of consumption and on the contrary, a large percentage of items may represent a smaller extend of the value of consumption. They are divided into three categories according to their importance.

'A' Category of items consists of only a small percentage i.e. about 10% of total items handles by the stores but require heavy investment about 70% of inventory value, because of their high price or heavy requirement.

'B' category of items are relatively less important- 20% of the total items of material handled by stores and percentage of investment required is about 20% of total investment in inventories.

'C' category- of items consists 70% of total items handled and 10% of value.

This technique of inventory control, inventories are listed in 'A', 'B' and 'C' categories in descending order based on money value of consumption.

5.**Perpetual Inventory System:** A perpetual inventory system is a system of records maintained by the controlling department, which reflects the physical movements of stocks and their current balance. Bin cards and the stores ledger help the management in maintaining a record of the physical movements of the stock on the receipts and issues of the materials and also reflect the balance in the store.

6.**Double Bin System:** This system is used in small organisations which cannot afford expensive techniques of inventory control. In this technique the storekeeper has to divide the materials in to two bins in such a manner that production does not hamper for the want of material.

7.**Input-Output Ratio:** This technique judge the efficiency in the usage of material. The ratio shows the relation between the quantity of material put in for production to the quantity of finished product.

$$Input - Output\ Ratio = \frac{Units\ of\ Input}{Units\ of\ Output}\ x100$$

Units of Output

8.**Inventory Turnover Ratio:** The inventory turnover ratio is calculated as follows:

$$\frac{Cost\ of\ materials\ consumed\ during\ the\ period}{Cost\ of\ average\ stock\ held\ during\ the\ period}$$

To compare the turnover of different kinds of material to find out the items which are slow moving, this helps management to avoid keeping capital locked up in such items.

9.**FNSD Analysis:** FNSD analysis divides the items of stores into four categories in the descending order of importance of their usage rate. 'F' indicates fast moving items which are consumed in a short span of time. 'N'indicates for normal moving items, which areconsumed over a period of one year. 'S'indicates slow moving items that are not used at frequently and are expected to be exhausted over a period of two years or more. 'D' means dead items; the consumption of such items is almost zero.

10. **Inventory Cost Reports:** This technique of inventory control help the management in exercising effective inventory control and taking appropriate decisions. Inventory cost report serve as means of communications usually in the written form of facts relating to materials which should be brought to the attention of the various levels of management who can use them to take suitable action for the purpose of inventory control.

Conclusion

Inventory control system not only facilitate the correct amount of stock for production but it also reduces the cost of production and increase profitability of the organisation. The techniques studied in this paper can be used as per the area of business of the organisation. A blend of two or more techniques can prove to be very effective. Inventory control techniques are very essential for small-scale businesses as well, because cost cutting in inventory will lead to higher profit. This will ensure that business in running in the proper course of direction. At the end, this paper will also be helpful for the researchers to explore furthermore on Inventory control.

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