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A Review on Implementation of Inventory Management Technique in Manufacturing Industry

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Abstract- To achieve optimum inventory replenishment is significantly difficult due inherent uncertainties in demands and supply which resulting in loss of sales or keeping excessive inventories. An unkempt inventory can take up to one-third of an organization's annual investment. Therefore, in order to compete with invariably erratic demands, it is not only challenging to develop an intelligent system to maintain and control an optimum level of inventory but has also become mandatory.

Keywords- ABC Analysis, Inventory Control, FSN Analysis.

I. INTRODUCTION

Inventory management is significant for effective and efficient organization. It is also important in the control of inventories that have to be stored for later use in case of production. The goal of inventory management involves having to balance the conflicting economics of not wanting to hold too much stock.

Inventory management is the activity involved in developing and managing the inventory levels of raw materials, semi-finished materials (work-in-process) and finished goods so that adequate supplies are available and the costs of over or under stocks are low.

The studied Company is a public sector wheel manufacturing company. It is observed that more parts damage and reduced company's revenue. It was also observed that company does not always adopt inventory optimization model to evaluate their inventory using raw materials as a parameter for measurement.

This paper intends to discuss the inventory control technique for a manufacturing company by using the ABC analysis to promote a better material management policy that would affect the company's profit.

Following are the objectives of this research-:

- To study and understand inventory control techniques in industry.
- To determine whether or not inventory management in company, can be evaluated and understood using ABC-analysis in inventory management.

II. LITERATURE REVIEW

Inventory management is the accurate tracking of all materials in the company's inventory. The company has purchased these items from another supplier.

There are three possible areas of loss that are reduced through effective inventory management: shrinkage, misplacement, and short shipments. There are various types of inventory control analysis techniques. Here we shall focus on the ABC analysis. It is possible to utilize the concept of ABC model in formation of rational inventory policy which should give the best possible service level to production while minimizing investment costs.

ABC analysis tends to measure the significance of each item of inventory in terms of value. According to Onwubolu and Dube (2006), when ABC analysis is applied to an inventory situation, it shows the importance of items and level of control placed on the items.

ABC classification is a method of classifying inventory items according to the money value to a firm. Class 'A' items normally range from 10% to 15% of all inventory items and account for between 70% and 75% of total annual consumption value. The class 'B' items normally range from 15% to 20% of all inventory items and account for 20% of total annual consumption value. The Class 'C' items normally constitute 70% to 75% of all inventory items and account for 5% to 10% of total annual consumption value.

Steps for implementation of ABC analysis are:

- Prepare the list of items and estimate their annual consumption (units).
- Determine unit price (or cost) of each item.
- Multiply each annual consumption by its unit price (or cost) to obtain its annual consumption in rupees (annual usage).
- Arrange items in the descending order of their annual usage starting with the highest annual usage down to the smallest usage.
- Calculate cumulative annual usages and express the same as cumulative usage percentages. Also express the number of items into cumulative item percentages.

- Graph cumulative usage percentages against cumulative item percentages and segregate the items into A, B and C categories.
- To separate items into A, B and C categories, first few items which contribute between 70% –75% of cumulative usage can be considered as A category, next few items which together with A category items segregated earlier contribute between 80% – 90% of cumulative usage can be considered B category, and left over items can be taken as C category.

1. Advantages of ABC Analysis:

- It ensures a closer and a more strict control over such items, which have high investment.
- It releases working capital, which would otherwise have been locked up for a more profitable channel of investment.
- It reduces inventory-carrying cost.
- It enables the relaxation of control for the 'C' items and thus makes it possible for a sufficient buffer stock to be created.

III. FSN ANALYSIS

Classification based on Frequency of Issues/Use:
F, S & N stand for fast moving, slow moving and Normal moving items. This form of classification identifies the items frequently issued, less frequently issued for use and the items which are not issued for longer period.

This classification helps spare parts management in establishing most suitable stores layout by locating all the fast moving items near the dispensing window to reduce the handling efforts. Also, attention of the management is focused on the Non-Moving items to enable decision as to whether they are required in the future or they can be salvaged.

Experience shows that many industries which are more than 15 years old have more than50% of the stock as non-moving spares. Even if a few of them are disposed off and the locked up capital is made available, it will make available additional working capital to the organization. Action for disposal should be taken based on the value of each item of spare.

IV. CONCLUSION

Inventory management is very essential in any organization setting, because holding stock is just like holding cash, and cash is life blood of the firm.

Also in the context of inventory management, the organization is faced with the problem of reconciling two conflicting need; to maintain a large inventory for smooth production run and to maintain a minimum inventory to maximize profitability by having the lowest carrying cost. And the problem associated with the decision on when and how to order materials for smooth run of the (business) production.Every organization needs inventory for smooth running of its activities. It serves as a link between production and distribution processes.

The investment in inventories constitutes the most significant part of current assets/working capital in most of the undertakings. Thus, it is very essential to have proper control and management of inventories. The purpose of inventory management is to ensure availability of materials in sufficient quantity as and when required and also to minimize investment in inventories.

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