A Study on Inventory Management System: A Case Study of Hindustan Aeronautics Limited (HAL), Nashik

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Abstract—*Inventory management is a challenging problem area in supply chain management. The companies want to have inventories in warehouses to fulfill customer demand, meanwhile, these inventories have holding costs and this is the frozen fund that can be lost. Therefore, the task of inventory management is to find the number of inventories that will fulfill the demand, avoiding overstocks.This paper presents a case study for Hindustan Aeronautics Limited (HAL), on inventory management. The relationship between the inventory management and company performance wasdetermined based on inventory days and return on asset (ROA) analysis and Inventory for the year and Creditor for the year. The study also demonstrated that there was a significant relationship between return on asset (ROA) and inventory days.*

Keywords: *Inventory Management, ROA, Inventory days, the creditor.*

INTRODUCTION

Inventory is the source of raw materials, partially finished goods called work-in-progress, and finished goods, an organization maintains to meet its operational needs. It signifies a sizeable investment and a potential source of waste that needs to be carefully controlled. Inventory is well-defined as a stock of goods that is maintained by a business in anticipation of some future demand. The quantity to which inventory must fall to signal that an order must be placed to replenish an item. An extension of a standard inventory-dependent demand model provides a suitable characterization of products that require early replenishment. The optimum cycle time is largely governed by the conventional trade-off between ordering and holding costs, whereas the reorder point relates to a promotions-oriented cost-benefit perspective. The optimal policy produces significantly higher profits than cost-based inventory policies, underscoring the importance of profit-driven inventory management. To work near-perfect order metrics, there has to be aggressive inventory management, restructuring supply chain operations, and updating standards to the perfect standard. When bringing up-to-date metrics, this would include the cases shipped vs.the orders on-time delivery, data bringing together, damages, and unusable products, days in supply, the ordering time cycle, and shelf level of service. Inventory problems of too excessive or too small quantities on hand can cause business failures. If an organization understandings stock-out of a critical inventory item, production halts could result. Inventory management indicates thebroad framework of managing inventory. The inventory management technique is more useful indetermining the optimum level of inventory and finding answers to the problem of safety stock

and lead time. Inventory management has become very stable to meet the growing challenges in most Corporate entities and this is in response to the fact that inventory is an asset of the distinct feature.
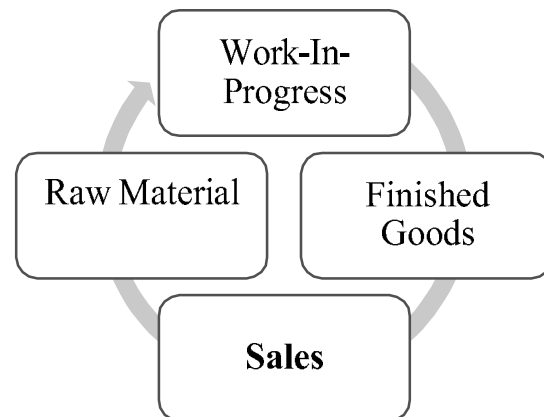

Figure-1: Production Cycle

OBJECTIVES:

1. To minimize capital investment in inventory by eliminating excessive stocks

2. To provide a scientific basis for planning inventory needs.

3. To tide over the demand fluctuation by maintaining reasonable safety stock.

4. To minimize the risk of loss due to obsolescence, deterioration, etc.

HAL INVENTORY MANAGEMENT:

In the HAL company in-store/inventory department, the department followed the Weighted Average Method for the issuing material or parts of the related department

Weighted Average Cost

In this method, the total number of items in stock divides the total cost of all the materials. The price calculated in this way will be used for the issue of materials up to the time a fresh purchase has not been made. After a fresh purchase, the quantity will be added to the earlier balance quantity, and materials cost will be added to the earlier cost. A fresh price is calculated by dividing the changed total cost by the number of units in the stock after the purchase. A new price is calculated where even a new purchase is made. The method is suitable when price fluctuations are frequent because it smoothes out fluctuations by taking into account total cost and total quantity materials.

FINANCIAL YEAR	INVENTORY
Year 1	6,173.60
Year 2	5,553.91
Year 3	4,033.88

Data of Total Purchase and Total Creditors of HAL, Nashik

Estimated (Amounts in Cr.)

YEAR	TOTAL CEDITORS	TOTAL PURCHASE
Year 1	750.50	1247.02
Year 2	306.20	1225.44
Year 3	310.60	1240.52

Financial Position and GST Effects

Amounts in Cr.

Particulars	Year 1 (Estimated)	Year 2 (Fig. as per AR)	Year 3 (Fig.as per AR)
Turnover	17,248.76	16,736.49	15,621.18
Exports	459.68	449.28	490.12
Pbt(Profit Before Tax)	3,306.68	3,288.46	3,172.52
Provision For Tax	1,832.01	1,634.69	784.47
Pat(Profit After Tax)	1,474.67	1,182.28	1,042.43
Appropriation			
Interim Dividend On Equity Share	550.00	510.00	480.00

Proposed Final Dividend On Equity Share	152.00	117.32	---
Total Dividend	702.00	627.32	480.00
Tax On Dividend	140.40	127.07	95.97
Transfer To General Reserve	1026.31	631.55	1695.25
Transfer To R&D Reserve	169.31	146.69	116.82
Transfer To Capital Redemption Reserve	129.69	120.50	---
Iventory	24,211.31	24,591.33	25,153.22

GST Effects on HAL

1. GST slabs – 0%, 5%, 3%, 12%, 18%, 28%.

2. GST on all products (Aircraft, Helicopter spare parts supplied) shall attract tax rate 5% HSN Code-8802/8803

3. All repairs and overhaul service shall be treat as Service and chargeable @ 18% .

4. Research and Development @ 18%.

INVENTORY HOLDING PERIOD

The inventory holding period is nothing but it is a period that how we can hold the inventory for the specific time limit.

$$\text{Inventory Holding Period} = \frac{360}{\text{Inventory Turnover Ratio}}$$

Year	2015-16	2016-17	2017-18
Days	365	365	365
Inventory Turnover Ratio	3.15 Times	3.33 Times	3.60 Times
Inventory Holding Period	115 days	109 days	101 days

(Sources – Secondary data)

CONCLUSION

The core of the topic "Study of Inventory Management System" is mainly the detailed study of categorization of creditors/suppliers of HAL, submission of mandatory documents to creditors/suppliers (in case of HAL-major creditors are Russian) comprehensive information in terms of the flow of collection from creditors/ suppliers. The given topic is an emphasis on the comprehensive methodology of HAL in connection with supply to Indigenous and Russian on basis of statutory documents & realization thereof based on requisites documents to the supplier or paying authority on behalf of creditors.

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