International Journal of Scientific Research and Engineering Development-– Volume 3 - Issue 4, July - Aug 2020

Available at www.ijsred.com

RESEARCH ARTICLE OPEN ACCESS

INVENTORY MANAGEMENT: A CASE STUDY IN BHARATHI CEMENT

S.Saqlain[1], Prof M.L.S Deva Kumar[2]

1(Department of Management, JNTUA, Anantapur
Saaqllain0212@gmail.com)
2 (Department of Management, JNTUA, Anantapur)

----------**********----------

Abstract:

Inventory or stock is the produce and resources that a business holds for a decisive objective to have a motivation behind resale or restoration. Inventory organization is a teach primarily about representing the shape and state of loaded goods. It is required at many areas inside an office or inside several areas of supply structure to go before the typical and decided course of creation and capacity of materials. Stock contains of huge piece existing resources of bigger great share of Indian cement industry. The primary endpoints to know the money related implementation on stock management. The examination uses T-test and EOQ model. Thus, proposals on the correct amount, effect of inventory on cost finish up the examination consideration.

Keywords **—Inventory, economic order points, demand, resources, transactions and production**

----------**********----------

I. INTRODUCTION

Stock management is mainly about signifying the size and position of brought products. Stock management is repeated at several areas inside an office or inside many zones of a supply or system to protect the reliable and arranged path of creation against the illogical upsetting influence of coming up short on resources or products. The extent of Inventory management likewise concerns the uncommon differences between renewing lead time, assigning expenses of stock, resource administration, Inventory evaluating , physical stock, available physical space for Inventory, quality administration, returns and scarce products and request and guesstimating. Stock credit refers to the utilization of stock, or stock, as assurance to raise fund. Where banks might be tentative to acknowledge orthodox guarantee, for instance in creating nations where attain title might need, stock credit is a perhaps imperative method for beating financing requirements. This is not an alternative idea; archaeological validation proposes that it was polished in Ancient Rome. Receiving fund against loads of a broad variety of objects held in a fortified storeroom is basic in a great part of the world. It is, for example, utilized with Parmesan cheddar in Italy. Stock credit on the principle of put away agricultural create is broadly used as a part of LatinAmerican nations and in some Asian Lands. A requirement for such credit is that banks must be certain that the put away item will be available on the bad chance that

they have to approach the insurance; this suggests the existence of a dependable system of acknowledged distribution centres. Banks moreover confront issues in valuing the stock. The industrial inventory has been subdivided into three types. These,

1. Raw materials,
2. Work in process,
3. Finished goods.

- **Raw materials:** Everything the crafter purchase to make the product is categorized as raw materials. That includes leather, colours, snaps and grommets. The raw material inventory only comprises items that have not yet been put into the manufacturing process.
- **Work in process:** This contains all the raw materials that are in numerous stages of development. In addition to the raw materials, the work in process inventory contains the cost of the labour directly undertaking the work and manufacturing overhead. Manufacturing overhead is a universal phrase for any other expenses the business has that indirectly relate to manufacture the products. A good example is depreciation of cement making fixed assets.
- **Finished goods:** When the items are totally ready to sell at stores or other venues, they are finished goods. The completed goods stock likewise comprises of the cost of basic materials, work and assembling overhead, now for the whole piece.

2. REVIEW OF LITERATURE:

Bern at de William (2008) the study tells that the primary crux of stock management is in transportation and warehousing. The choice takenby administration depends on the conventional technique for stock regulator models. The customary technique for stock management is how much valuable in currently the maker tells about it he is likewise saying that the conservative strategy is not a cost decreasing. It is so much costly. In any case, the dealing with the stock is utmost vital work for any assembling unit.

Asfaque Ahmed (October 12, 2004) He said that the vast majority of the assembling group sellers have placing and planning item which suppose either endless generation limit with respects to computing amounts of crude material and work in advance fundamentals or unending amounts of crude material and WIP material for ascertaining creation limit. There are many issues with this approach and how to preserve a strategic distance from these by guaranteeing that the item you are purchasing surely reflects limited amounts of required materials and in addition partial limits of work efforts in your assembling offices.

Silver, Edward A (dec22, 2002) his research makes an effort in setting of a mainstream of things for which the theory fundamental the EOQ determination holds rationally well. However as is as often as possible the trade out practices there is a total obligation are the occurrence of spending plan to be designated among the source of the things and A buying generation office having the ability to handle at most a precise number of recharging every year. In view of the requirement, the individual restitution amounts can't be chosen freely.

3. RESEARCH METHODOLOGY:

This study was conducted by using primary and secondary data with the time period of 5 years (2014-15 to 2018-19). The sources of data includes personal interview with the key personnel in the stores, purchase, production and inventory department of the establishment. The record analysis was got from the annual reports, schedules, store, ledgers, financial statement and purchase orders. The best known and most central inventory decision model EOQ and T test is taken for the analysis.

HYPOTHESIS

The following hypothesis was verified in this research work.

- Null hypothesis : There is no significant impact of inventory cost on net profit
- Alternate hypothesis : There is significant impact of inventory cost on net profits

Tools & Techniques

IBM SPSS Software is used as a statistical tool for statistical analysis of the data. The various data analysis tools used for finding and interpreting the outcome in this project are T test, correlation.

4. DATA ANAYLSIS & HYPOTHESIS TESTING

The data used the economic order quantity (EOQ) formula. The predictable frequency was determined at 5% confidence level.

CALCULATION OF EOQ:

Ordering and carrying cost in rupees per order

Years	2014-15	2015-16	2016-17	2017-18	2018-19
Annual Consumption (in units)	888823	985362	900684	877428	734234
Ordering cost	5000	5250	5200	5500	5125
Carrying cost	7.16	6.91	6.85	8.47	8.97
EOQ	**35233.12**	**38694.9**	**36979.20**	**33756.73**	**28965.62**

CALCULATION OF T Test

YEAR	INVENTORY COST	PROFIT
2014-15	**564.78**	**26.78**
2015-16	**557.38**	**29.4**
2016-17	**594.67**	**20.49**
2017-18	**853.55**	**17.96**
2018-19	**1165.33**	**40.28**

The inventory cost and profit in the above table are in crores denomination.

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
PROFITS	5	26.9820	8.75024	3.91323
INVENTORYCOST	5	747.1420	263.96832	118.05022

One-Sample Test

	Test Value = 0.05					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference Lower	Upper
PROFITS	6.882	4	.002	26.93200	16.0671	37.7969
INVENTORYCOST	6.329	4	.003	747.09200	419.3320	1074.8520

Correlations

		INVENTORYCOST	PROFITS
INVENTORYCOST	Pearson Correlation	1	.559
	Sig. (1-tailed)		.163
	N	5	5
PROFITS	Pearson Correlation	.559	1
	Sig. (1-tailed)	.163	
	N	5	5

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.559[a]	.313	.084	8.37473

a. Predictors: (Constant), INVENTORYCOST

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	95.859	1	95.859	1.367	.327[b]
	Residual	210.408	3	70.136		
	Total	306.267	4			

a. Dependent Variable: PROFITS

b. Predictors: (Constant), INVENTORYCOST

INTERPRETATION:

- As calculated value of t > significant value which means that null hypothesis is rejected and alternate is accepted ie., there is significant impact of inventory cost on net profit.
- The correlation between profit and inventory cost is found to be significant. As it can be seen that its value is .559 which shows that they are positively related to each other.
- After applying regression value of r2 is observed as .313 which means that there is dependence between independent and dependent variables i.e., 31.3% which is significant value.

This shows that the null hypothesis is rejected .The inventory cost shows significant impact on profits.

FINDINGS & RECOMMENDATION:

The findings as presented above cases show that we should reject the null hypothesis and accept the alternate hypothesis. The study analysis shows that the company works on a policy of making order on quarterly basis within a period of one year provided, every one week stock has to be confirmed and inform to the store department. The study detected that the company adopts the EOQ model in placing order for its raw materials. It also detects that there is a positive correlation between sales and inventory usages. The study determines that inventory usage depends on sales which means when sales increases, inventory usages should increase. Therefore, inventory management is a essential for the continuity and survival of any goal focused manufacturing organization.

First, the material will be well-ordered by reaching the minimum stock level, material administration unit should also pay attention to sales growth over the years. Then, in the analysis we also stated that there was a negative relationship between the inventory and sales and inventory cost and production cost. This suggests that inventory automatically determines manufacture cost or sales and vice-versa.

Lastly, importance should be normally placed on the economic order quantity model because it was seen to be in the best attention of manufacturing companies to maintain an optimum level of materials in store, the level that minimizes total cost of deal in inventory.

5. CONCLUSION:

The inventory management technique is more useful to determine the optimal level of inventory and finding answers to problem of safety stock and lead time. Inventory organization is an important action in manufacturing concern. And since the production of cement involves different raw materials like clay ash, bauxite and lime stone etc. The results of the analysis show that the efforts to increase competence of inventory used must be focused towards several directions: speeding inventory rotation because by shortening its posting period within the economic cycle it alters rapidly into money; increasing turnover to the level required by the market; improving the whole trading system for products; dropping specific consumptions, etc.

Order quantity [EOQ] optimization model to evaluate their inventory.

REFERENCE:

1) Atrill, P. (2006). Financial management for decision makers, (4th Ed), Prentice Hall.

2) Baron, O., Berman, O., and Perry, D. (2010). Shelf Space Management When Demand Depends on the Inventory Level Production and Operations Management. pp. 1–13, 2010 Production and Operations Management Society.

3) Bowen, M., Morara, M., and Mureithi S. (2009). Management of business challenges among small and micro enterprises in Nairobi-Kenya. KCA Journal of Business Management 2(1),

4) Cachon, G. P., and Olivares, M. (2010). Drivers of finishedgoods inventory in the US automobile industry. Journal of Management Science, 56 (1), 202-216.

