A Study On Inventory Management Practice Of Steel Authority Of India Limited

[1]Prin.Dr. Parvatkumar Patel, [2]Prin. Dr. Rajesh D. Rana, [3]Prof. Mahendra S. TARSARIYA

[1]Incharge Principal, [2]Incharge Principal, [3]Assistant Professor

[1]J.D. Gabani Commerce College, Surat

[2]J.Z. Shah Arts & H.P. Desai Commerce College, Surat

[3]Shri CJ Patel Vidhyadham Commerce College, Surat

Abstract: The Routine Activity of a Particular Company and Firms is about Management of Inventory and Working Capital Management. Inventory is one of the most important Components of Current assets and Current assets, Generally, Part of Working Capital, so it is very important to know the amount lock up in Inventory and to manage the inventory at a very optimal manner. Here in this Research Segment, we analyzed and Study about inventory Management practice followed by Steel Authority of India Limited. Stock of Raw Material, WIP, FG etc. is a very crucial matter in the short term liquidity position and its impacted significantly on long term profitability. In this Research Work, Last 5 Years data is collected from Annual reports of the company and based on such data various ratios are applied in order to measure efficiency of Inventory and here we also used various Statistical tools in order to examined the behavior of selected ratios.

Index Terms – *Inventory, Inventory Holding Period, Inventory Turnover Ratio etc.*

I. INTRODUCTION

For Smooth Running of Business Enterprise every unit need sufficient stock of inventory. Inventory is like a Link between Production and Distribution process. Working Capital is also one of the most important concepts in any business organization, Includes Current assets and Current liability. However, Inventory is a Very Important Part of Current Assets, so as to know the important of inventory in any business organization, here we analyzed the inventory management practice followed by Steel Authority of India using Various Accounting and Statistical methods.

The key persistence of Inventory management in the framework of business activities is to optimize following three point.

   I.Inventory Expenses

  II. Operating Expenses

 III. Customer Service

In any Manufacturing undertaking, the investment in inventory is generally very high. the Amount Invested in Raw Material, WIP and FG is Very High Compare to other Current assets and Non-Current Assets. Thus, it is very important for the business Management to know about the amount invested in Inventory and to managed it in a very optimal manner, so that a Company Can maximize the amount of Profit by eliminating the unnecessary amount lock up in the stock of Raw Material, WIP and FG.

II. LITERATURE REVIEW

Sahari, Tinggi and Kadri (2012) Empirically scrutinized the relationship between inventory management and firm performance along with capital intensity. For the purpose they took a sample of 82 construction firms in Malaysia for the period 2006–2010. Using the regression and correlation analysis methods, they deduced that inventory management is positively correlated with firm performance. In addition, the results indicate that there is a positive link between inventory management and capital intensity.

Soni (2012) Made an in depth study of practices followed in regard to inventory management in the engineering goods industry in Punjab. The analysis used a sample of 11 companies for a period five years, that is, 2004–2009 and was done using panel data set. The adequate and timely flow of inventory determines the success of an industry. She concluded that size of inventory enhanced marginally over the period as compared to a hike in current assets and net working capital. Inventories constituted half of the working capital which was due to overstocking of inventory as a result of low inventory turnover especially for finished goods and raw materials. Rise in sales and favourable market conditions lead to a rise in inventory levels. It was also inferred that sales increased more as compared to inventory

Prof. P. R. Halani had written in his paper in International Multidisciplinary Research Journal (RHIMRJ) on the subject "Inventory Management: A Comparative Study of Selected Paper Companies ". The main objectives of her study is to evaluate the liquidity position of the paper companies. And for that she used various Accounting tools and statistical tools for getting

results like as average, S.D. C.V. Maximum and Minimum and used One-way ANOVA test etc. She also explains the relationship between Inventory and working capital by using various Accounting Ratio and finally she recommended that paper companies should try to reduce the volume of inventory and try to increase the current.

Hong shen, Qiang Deng, Rebecca Lao and Simon Wu (2017) had written in his Paper on "A Case Study of Inventory Management in a Manufacturing Company in China". The main aim of this study is to focus on Inventory management in manufacturing company. They discussed the various factors affecting Inventory and conclude the efficient and effective approach regarding Inventory management. Also gives some basic idea for identifying the key factors in inventory Management.

III. OBJECTIVE OF THE STUDY:

The Main Objective of this Research Study is to evaluate the efficiency level of inventory management of Steel authority of India Limited

IV. RESEARCH METHODOLOGY

Being the explanatory research, the Analysis is based on secondary source of data. For Analysis data had been collected from official website of the company, Financial Statements of the company, Accounting reports, various reports, Various blogs, article, website Various reference books, and newspaper. The accessible secondary data is intensively used for research study.

V. DATA COLLECTION

For the purpose of analysis, Data is collected from the official website of the company, Reports Published by the Ministry of Steel, Journals, Magazines, Periodicals, Financial Statements of the various company i.e. profit and loss Account, Balance sheet, Cash flow statement etc. Last 5 years' data is to be taken for the Analysis. And for Analysis following accounting tools and Descriptive statistical tools were used in this study.

A) **Accounting Tools & Techniques:**
   1. Ratio Analysis
   2. Trend Analysis

B) Statistical Tools & Techniques:

1. Arithmetic Mean
2. Standard Deviation
3. Co-efficient of Variation
4. Student t-test

VI. DATA ANALYSIS

A) Inventory Structure:

Nature of Business, Size of Business and Some other relevant factors decided the amount of Inventories needed by the particular business enterprise. Inventory includes Stock of Raw Material, Work in Progress and Stock of finished Goods. The Part of inventory and its Proportion is different from Company to Company. Inventory Structure of Steel Authority of India Limited are as under:

Table: 1

Inventory Structure of Steel Authority of India Limited: (in crores)

Year	Inventory	Percentage
2016-17	15,711.35	9.07
2017-18	16,996.67	9.81
2018-19	19,411.80	11.21
2019-20	23,747.20	13.71
2020-21	19,508.30	11.27
Total:	1,73,198.03	100

Sources: Financial Statements of Steel Authority of India Limited:

Amount of Inventory Shown in the Table No: 1 from the year 2017 to 2021. The Average amount of Inventory from 2016-17 to 2020-21 is about 19,075.06. The Highest Value found in the year 2019-20 which is near about 24,000 and Lowest Value found in the year 2016-17 which is near about 16,000. Thus, the range of Inventory is between 16,000 to 24,000 from the year 2011-12 to the year 2020-21.

B) Inventory Turnover / Stock Turnover Ratio:

Inventory Turnover is also Known as Stock Turnover Ratio. Used to know the efficiency of using Stock in each Stage of Production. This ratio is Calculated by Cost of Goods Sold to Average amount of Inventory. Inventory Turnover ratio of Steel Authority of India Limited for last Five years are as under:

Table: 2

Inventory Turnover Ratio of Steel Authority of India Limited: (in crores)

Year	Cost of Goods Sold	Average Inventory	Inventory Turnover Ratio
2016-17	48,737.14	15,423.15	3.16
2017-18	86,237.64	24,852.35	3.47
2018-19	96,010.86	27,910.14	3.44
2019-20	86,978.06	33,453.10	2.60
2020-21	1,11,091.90	31,381.90	3.54
Descriptive Statistical Tools			
Average	85,811.12	27,910.14	3.24
S.E	10,293.63	3158.51	0.17
Median	86,978.06	27,910.14	3.44
S.D	23,017.26	7062.65	0.90
Kurtosis	2.28	1.23	2.15
Skewness	-1.15	-1.15	-1.58
Range	62,354.76	18,029.95	0.94
Minimum	48,737.14	15,423.15	2.6
Maximum	1,11,091.90	33,453.10	3.54
Confidence Level	28,579.70	8769.44	0.48
Correlation	0.85		

Sources: *Financial Statements of Steel Authority of India Limited:*

Summary Output:

Multiple R	0.9921
R Square	0.9844
Adjusted R Square	0.7344
Standard Error	12,318.53
Observation	5

Table No: 2 Shows the Amount of Cost of Goods Sold and Amount of Average Inventory form the year 2016-17 to 2020-21. Inventory Turnover Ratio is found out by Dividing Cost of Goods Sold into Average Inventory, Where the average inventory indicates the Average of Opening Inventory and Closing Inventory.

Variance, Standard Deviations and co efficient of Variations – these all are statistical tools described the variations between sample selected for Analysis. It indicates that how mean value is deviated from average or mean of such distribution. If the variance and standard deviation is less compare to its mean, then results by using such data is more authentic and reliable.

Correlation is the indication of linearity of variables. If the Correlation between two variables is positive, then its shows the Positive or Significant relationship between two variables. In our Research Segments, Cost of Goods Sold is First Variable and Second is Amount of Average Inventory and Correlation Between this two variable is Slightly Positive as its shows 0.85 which is near to one, Thus, its shows the Positive relationship between Cost of Goods Sold and amount of Average Inventory.

Average amount of Cost of Goods Sold is on an average is about 85,811.12 Crores. The Standard Deviation is 23,017.26. Highest amount of Cost of Goods Sold is found in the year 2020-21 is about 1,11,091.90 crores and Lowest amount found in the year 2016-17 is about 48,737.14 crores.

Average amount of Average Inventory is on an average is about 27,910.14 Crores. The Standard Deviation is 7062.65. Highest amount of Average Inventory is found in the year 2019-20 is about 33,453.10 crores and Lowest amount found in the year 2016-17 is about 15,423.15 crores.

Average Inventory Turnover Ratio is on an average 3.24 times. The Standard Deviation 0.90 times. Highest Inventory Turnover Ratio is found in the year 2020-21 is about 3.54 Times and Lowest Inventory Turnover Ratio found in the year 2019-20 is about 2.60 Times.

Kurtosis and Skewness is the measurement of Data Skewness and shape parameter that characterized the degree of peakedness. If the Value of Kurtosis is more than 1 then such distribution is considered as too peaked and if the Skewness is more than 1 or less than 1 then it is the indication of Substantially Skewed Distribution.

C) Inventory Holding Period Ratio:

Inventory holding Period ratio indicates that Number of days for which a Company and Business Organization holds its inventory before Sales. Inventory Holding Period Ratio shows how many days it takes for inventory to rotate in the business, its' one kind of Efficiency ratio. Inventory Holding Period Ratio of Steel Authority of India Limited for the Last Five year are as under:

Table: 3

Inventory Holding Period Ratio of Steel Authority of India Limited:

Year	No of Days in a Year	Inventory Turnover Ratio	Inventory Holding Period Ratio
2016-17	365	3.16	115.51
2017-18	365	3.47	105.19
2018-19	365	3.44	106.10
2019-20	365	2.60	140.38
2020-21	365	3.54	103.11
Total	**365**	**16.21**	**570.29**
Average	**365**	**3.24**	**114.06**

The Details of Inventory Holding Period Ratio of Steel Authority of India Limited from the year 2016-17 to 2020-21 are exhibited in the Table No: 3. As per the Calculation, Average Inventory Holding Period Ratio is near about 114 days. Highest Inventory Holding Period Ratio found in the year 2019-20 is near about 140 days shows the inefficient holding management of inventory while lowest inventory holding ratio found in the year 2020-21 shows the efficient management of inventory.

IV. FINDINGS:

The Findings of this Research Segment is Summarized below:

A. Table No: 1 indicates the Structure of Inventory from the year 2016-17 to 2020-21 of Steel Authority of India Limited shows the Continuous growth in amount of Inventory. The range of Inventory is between 16,000 to 24,000 from the year 2011-12 to the year 2020-21 shows the near about 50% growth rate in Amount of Inventory of Steel Authority of India Limited:

B. Table No: 2 Shows the Inventory Turnover Ratio. Average Inventory Turnover Ratio is on an average 3.24 times. Highest Inventory Turnover Ratio is found in the year 2020-21 is about 3.54 Times indicated that Production Efficiency and also indicated that more money invested or lock up in the Inventory decrease the financial Soundness. Lowest Inventory Turnover Ratio found in the year 2019-20 is about 2.60 times:

C. Table No: 3 Shows the Inventory Holding Period Ratio from the year 2016-17 to 2020-21 of Steel Authority of India Limited. Average Inventory Holding Period Ratio is near about 114 days. Highest Inventory Holding Period Ratio found in the year 2019-20 is near about 140 days shows the inefficient holding management of inventory while lowest inventory holding ratio found in the year 2020-21 shows the efficient management of inventory.

V. SUGGESTIONS:

The Following Suggestions to the Steel Authority of India Limited based on Finding:

A. Effective Material or Inventory Purchase System to be applied and for the same more focus should be concentrate on Purchase Committee for making effective Purchase decisions:

B. Use of Inventory Control methods yields the better inventory management system and practice.

C. Use the EOQ method of Ordering Quantity to removing the unnecessary investment in investment.

D. Administration and Procurements lead times have to be minimized to Avoid unnecessary investment in Inventory.

E. Just in time methods yields better result to the management for avoiding unnecessary investment in inventory and it also reduce the blocking working funds in inventory:

VI. CONCLUSION

The Company should try to reduce the investment in inventory and also try to reduce the volume of inventory (Raw materials, WIP, Finished Goods) by using various inventory control model like EOQ, ROP, Fixing Stock levels, ABC, FSN, SDE etc. and also try to increase investment in current assets to increase the working capital:

VII.REFERENCE

1. https://www.slideshare.net/mobile/akraina/inventory-management-a-ppt-for-pgdmmba

2. https://www.slideshare.net/mobile/GauthamKulkarni/36421186-ranjanaprojectreportoninventorymanagement

3. https://wealthyeducation.com/inventory-to-working-capital-ratio/

4. Annual Reports & financial statements of Steel Authority of India Limited.

5. A Research Paper on "INVENTORY MANAGEMENT: A COMPARATIVE STUDY OF SELECTED PAPER COMPANIES" in Research Hub - International Multidisciplinary Research Journal (RHIMRJ),Volume-2, Issue-7,July -2015 by P.R. Halani and Shri M.P. Shah.

6. https://www.slideshare.net/GauthamKulkarni/36421186-ranjanaprojectreportoninventorymanagement

7. https://www.worldwidejournals.com/paripex/recent_issues_pdf/2016/August/inventory-management-a-review-of-relevant-literature_August_2016_3020691594_4507440.pdf

8. https://strategiccfo.com/inventory-to-working-capital-analysis/#:~:text=Inventory%20to%20working%20capital%20ratio,financed%20from%20its%20available%20cash.&text=In%20general%2C%20the%20lower%20the,liquidity%20of%20a%20company%20is.

9. https://studyfinance.com/inventory-to-working-capital-ratio/

10. Shashi K. Gupta & R.K Sharma, "Financial Management"

11. Financial Management by Prasanna Chandra, Delhi University