

A Study on Inventory Control System, Materials Management System of A Power Equipment Manufacturing Company



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Abstract

Finance may be defined as that administrative area or set of administrative functions in an organization which relate with the cash and credit so that the organization may have the means to carry out its objective as satisfactorily as possible. Financial Analysis of what has happened should be of great value in improving the standards, techniques and procedures of financial control involved in carrying out finance function. This study mainly focuses on the financial analysis of a public sector company. The analysis includes the inventory control system, materials management system and performance analysis of the firm. Based on the analysis we found out that the firm's profitability is in the increasing trend and suggested the firm to take the necessary steps to improve its liquidity position.

Keywords : Inventory Control System, Materials Management System, Performance Analysis, Liquidity Position.

1. Introduction

Financial analysis refers to an assessment of the viability, stability and profitability of a business, sub-business or project. Financial management is broadly concerned with the procurement and effective utilization of funds by a business firm. Financial management emerged as a distinct field of study at the turn of this century. Financial analysis is performed by professionals who prepare reports using ratios that make use of information taken from financial statements and other reports. These reports are usually presented to top management as one of their bases in making business decisions. Based on these reports, management may: Continue or discontinue its main operation or part of its business, Make or purchase certain materials in the manufacture of its product, Acquire or rent/lease certain machineries and equipment in the production of its goods, Issue stocks or negotiate for a bank loan to increase its working capital, Make decisions regarding investing or lending capital, Other decisions that allow management to make an informed selection on various alternatives in the conduct of its business.

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2. Objective Of The Study

2.1 Primary objective:

The primary objective is to conduct a comprehensive financial analysis of the company by analyzing the inventory control system, materials management system and ratio analysis for the period from 2003 to 2008.

2.2 Secondary objective:

1. To study the existing inventory control system.
2. To study the present materials management system of the company.
3. To analyze the financial performance of the company.
4. To suggest measures for further improvement, if any.

3. Research Methodology

Analytical research technique was adopted in this study. Generally, analytical techniques are designed to analyze something and it collects data for a definite and certain purpose. The study mainly focuses on the critical assessment of the financial position of the company, and deals with analysis of inventory management system, materials management system and performance analysis of the company.

3.1 Source of data:

Secondary data : The secondary data is collected from company's balance sheet, profit loss account, brochures and

also from the internet.

3.2 Period of the study:

The period of study is five years from 2003-04 to 2007-2008.

3.3 Tools used :

- 1) XYZ analysis.
- 2) Analysis for Non moving, slow moving and fast moving items.
- 3) ABC analysis.
- 4) Indigenous and Import Index are used for materials management system.
- 5) Ratio analysis.

4. Analysis And Interpretation

4.1 XYZ Analysis For Inventory Management:

The classification is based on the value of inventory of materials actually held in stores at a given time (usually during stock checking annually or half-yearly), X – Y – Z analysis helps to control average inventory value by focusing efforts to reduce the inventory of 'X' items which are usually 10% of the number of items stored, but accounting for 70% of the total inventory value. Similarly 'Y' items are 20% of the number of items stored and account for 20% of the total inventory value. The remaining 70% of the items accounting for 10% of the total inventory value are 'Z' items. The X – Y – Z classification is

Table 4.1.1 XYZ Analysis (Rs. In Millions)

| Description | 2003-04 | 2004-05 | 2005-06 | 2006-07 | 2007-08 |
|------------------------|---------|---------|---------|---------|---------|
| X Items (> 10 lakhs) | 347.59 | 537.30 | 828.64 | 819.8 | 1589. |
| Y Items (> 1 lakh <10) | 183.95 | 237.93 | 280.77 | 277.0 | 331.7 |
| Z Items (< 1 lakh) | 75.46 | 84.11 | 97.29 | 91.4 | 98 |
| Total | 607 | 859.34 | 1206.70 | 1188.2 | 2019.6 |

done in the same way as ABC analysis, the difference being the actual inventory value of item in stores instead of their estimated annual consumption value.

The usage of X items has increased in the year 2007-08 when compared to 2006-2007. For this the inventory carrying cost should be analyzed properly.

4.2 Comparison of Inventory Movement:

• Nonmoving:

If there is no issue of a particular item during the financial year, those items are called as nonmoving items.

• Slow Moving:

The items issued during the year are less than,

$$\frac{\text{Opening stock} + \text{closing stock}}{4} \text{ (or)} \frac{\text{Average stock}}{2}$$

of an item, then it is called as slow moving items.

• Fast Moving:

Those items which are not falling under the category of slow moving and none moving items are called as fast moving items.

Non-moving stocks slowly increased from 27.9 million (2002-03) to 30.69 millions in 2007-08. Slow moving stocks slowly increased from 41.50 million (2002-03) to 51.29 millions in 2007-08. Fast moving stocks rapidly increased from 456 million (2002-03) to 4076.50 millions in 2007-08.

4.3 ABC Analysis For Materials Management System:

ALWAYS BETTER CONTROL (ABC) : It is 'Management by exception' system of Inventory Control. In this ABC technique,

Table 4.2.2 Comparison Inventory Movement (Rs in Millions)

| Description | 2003 -2004 | 2004 -2005 | 2005 -2006 | 2006 -2007 | 2007 -2008 |
|-------------|------------|------------|------------|------------|------------|
| Nonmoving | 26 | 34.6 | 32.7 | 32.02 | 30.69 |
| Slow moving | 39.8 | 124 | 74 | 54.37 | 51.29 |
| Fast moving | 819 | 1530 | 1969 | 2777.48 | 4076.50 |

the materials are classified and controlled according to value of the materials involved. It is also called proportional parts value analysis. It always controls the best, then better anything which can be measured in monetary terms.

Actually,

- A items are high value items,
- B items are medium valued items,
- C items are low valued items.

The company is following,

- A Items** ----- More than Rs. 10 lakhs
- B Items** ----- More than Rs. 1 lakh and less then Rs.10 lakhs

C Items ----- Less than Rs. 1 lakh

The main purpose of doing ABC analysis is to reduce the cost of A items. On the whole the values of items have increased year by year. This is due to increase in material cost.

4.4 Imports And Indigenous Material Cost Index :

Indigenous Material Cost Index

$$\text{Indigenous Content Index} = \frac{\text{Cost of Indigenous Material}}{\text{Total Material Cost}}$$

Table 4.3.3 ABC Analysis (Rs. In Millions)

| Description | 03-04 | 04-05 | 05-06 | 06-07 | 07-08 |
|--------------------------------------|---------------|----------------|----------------|---------------|---------------|
| A Items (> 10 lakhs) | 1520.84 | 3007.83 | 4341.82 | 5661.17 | 7575.5 |
| B Items (> 1 lakh < 10) | 320.97 | 353.87 | 423.49 | 509.6 | 568.9 |
| C Items (< 1 lakh) | 89.99 | 98.93 | 115.32 | 137.10 | 148.2 |
| Total | 1931.8 | 3460.63 | 4880.63 | 6308.4 | 8292.6 |

Import Material Cost

$$\text{Imported Index} = \frac{\text{Cost of Imported Materials}}{\text{Total Material Cost}}$$

The cost of indigenous material and cost of import is almost in the increasing trend. The imported index is almost in a decreasing trend. The indigenous costs of some products were more due to change in global economy.

4.5 Ratio's At A Glance (performance Analysis):

The return on total asset ratio is showing a mixed trend. The decrease in ratio at 2003-04 is due to the wage revision and then it shows a rising implies the increasing profit. The profitability ratio has decreased in 2004-05 when compared to 2003-04. This

is due to increase in cost of the input material. The operating ratio shows a mixed trend. Generally the employee turnover ratios have the increasing turnover from 2003-04 to 2007-08. This shows that each employee is contributing the best of him.

5. Findings

- When compared to the previous year's the usage of X items increased tremendously in 2007-08. In year 2005-2006 and 2006-2007 the usage of X items decreased.
- The value of items increased year by year. Compare A items and B items in the year 2003-2004 and 2004-2005 are shown a tremendous increase in usage. As compare to A items and C items in the year 2006-2007 and 2007-2008 shows the value increases in the cost of material.
- The imports cost in respect to material cost has come down

Table 4.4.4 Indigenous and Imports Material Cost Index (Rs. In Millions)

| Description | 03-04 | 04-05 | 05-06 | 06-07 | 07-08 |
|-----------------------------|-------|-------|-------|-------|-------|
| Cost of Indigenous Material | 1261 | 2536 | 3802 | 5342 | 6652 |
| Cost of import | 670 | 986 | 1280 | 1278 | 1579 |
| Material Cost | 1931 | 3522 | 5082 | 6620 | 8231 |
| Indigenous Content Index | 0.65 | 0.72 | 0.75 | 0.81 | 0.80 |
| Imported index | 0.35 | 0.28 | 0.25 | 0.19 | 0.19 |

drastically from 0.35 (2003-04) to 0.19 (2007-08). This index is useful to know the percentage of indigenous material cost to total material cost. Almost it was in the decreasing

trend due to increase in the price of the indigenous material.

- Profit of the company is in increasing trend. Not only in

Table 4.5.5 Ratios at a Glance

| Ratios | 2003-04 | 2004-05 | 2005-06 | 2006-07 | 2007-08 |
|------------------------|----------|---------|---------|---------|----------|
| Return on total asset | 52.53% | 77.45% | 221.08% | 492.95% | 582.33% |
| Profitability Ratio | 4.76% | 4.17% | 7.94% | 12.54% | 16.32% |
| Profitability Earnings | 22.81% | 29.39% | 72.38% | 126.88% | 170.41% |
| Operating Ratio | 84.74% | 88.79% | 86.89% | 81.89% | 78.86% |
| Debt collection period | 33 days | 20 days | 18 days | 76 days | 133 days |
| Debt payment period | 108 days | 75 days | 64 days | 77 days | 84 days |
| Turnover per employee | 15.73% | 24.46% | 35.05% | 46.41% | 57.14% |

the absolute value but also as a percentage of net turnover and fixed assets.

- With the existing man power the company has achieved higher growth in the profit. It reflects in the profitability earnings compares with personnel payments. It been stabilized from 2006-07 and 2007-08.
- The manufacturing costs have increased due to higher material cost. The sales also have increased but the price received from the customer is not sufficient.
- The collection period from the customer is not sufficient.
- The financial position of the company for the last 5 years is in the increasing trend. This is useful to analyze the profitability position of the company.

6. Suggestions

- The company should take necessary steps to reduce the cost of "A" items.
- The company should try to reduce the material cost, For that weight reduction for the product has to be done.
- Steps should be taken to fix the different levels of stock for each item in the inventory. So that excess stock can be avoided.
- Steps should be taken to improve the stock turnover ratio by reducing the investment in the inventory of slow moving and non-moving goods.

- The cost of import material cost is higher over years. So, Alternative source has to be found out to substitute import material.
- Company should try to decrease the design weight of the product and improve its value engineering, so that more profit can be achieved in spite of increased cost for input.
- For the effective management of inventory control system, the company should try to reduce the inventory level.
- Bench marking exercise may be undertaken for continuous improvement.

7. Conclusion

As per the analysis, the company has been showing an increasing trend in its profitability position for the past years

which depicts a good sign. The solvency ratio indicates that the larger part of the funds is tied up in inventory. So the company must take steps to improve its liquidity position. The company is utilizing its 100% capacity, due to large orders received. The finding of the project will be useful to the company to take certain decisions to improve its performance. After the exclusive study, some findings and suggestions are given which will help the company to increase its performance and better management for financial stability.

8. References

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