

## INVENTORY MANAGEMENT AND ITS CONTROLLING TECHNIQUES AT WHEELS INDIA LIMITED

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### ABSTRACT:

The main objective of this study is to analyze the inventory position of the Wheels India Pvt, Chennai for the period of five years. The study also analyze with the funds that are locked up in the inventories that are maintained by the company. An analytical type of the research is used for the study. Secondary data is collected through annual reports and stores ledger. The study covers inventory position of raw materials, work in progress and finished goods. This study includes tools like: ABC Analysis, Economic Order Quantity, Economic Batch Quantity, Inventory Ratios, Correlation Analysis, Trend Analysis etc. The tools that are used are ratio analysis. Inventory is considered as almost important as it covers up to 70% of the current assets of any firms. The liquidity position of a firm is also based on the level of inventory it holds. The study on inventory management in wheels India limited has helped in measuring the efficiency level of the concern inventory management system.

**Keywords:** Inventory, Wheels India, Trend, ABC

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## **1. INTRODUCTION**

Inventories constitute the most significant part of current asset of a majority of companies in India on an average inventories are approximately 30% of the current asset in the companies in India because of the large size of the inventory maintained by the firm a considerable amount of fund is locked in the form of inventory. An enterprise neglecting the management of inventory will be jeopardizing its long run profitability and may fail ultimately. In financial parlance, inventory is defined as the sum of the value of raw materials, fuels and lubricants, spare parts, maintenance consumables, semi-processed materials and finished goods stock at any given point of time. The operational definition of inventory would be the amount of raw materials, fuel and lubricants, spare parts and semi-processed material to be stocked for the smooth running of the plant. Since these resources are idle when kept in stores, inventory is defined as idle resources of any kind having an economic value.

The Automobile Industry is one of the core industries in Indian economy, whose prospect is reflective of the economic resilience of the economy, with the liberalization of economy; India has become the playground of major global automobile majors. Wheels India limited is a comprehensive global source of steel wheels for commercial vehicles, passenger cars, utility vehicles, agricultural tractors and construction equipment. Wheels India is promoted by the TVS group and was started in the early 60's to manufacture automobile wheels. Today, Wheels India has grown as a leading manufacturer of steel wheels for passenger cars, utility vehicles, trucks, buses, agricultural tractors and construction equipment in India. The company supplies 2/3rd of the domestic market requirement and exports 18% of the turnover to North America, Europe, Asia Pacific and South Africa. The company also has a technical-financial collaboration with Titan Europe. Wheels India designs and manufactures wheels for the specific requirements of the customer.

## **2 RESEARCH GAP**

The study of the various previous papers shows that the studies were conducted in many companies regarding inventory management and its control techniques. The study on inventories was also made in wheels India limited. The various studies conducted have also taken only few factors into consideration as only the annual reposts and the analysis were made accordingly. But

this study of inventory management and its control techniques deals not only with the annual report of the company, but also with the stores ledger of the company. With the help of this stores ledger the study is made on each items and results obtained for each item separately. The company can use ABC analysis and EOQ for valuing its products separately.

### **3 STATEMENT OF THE PROBLEM**

If the inventories are too big they become strain on resources, if it is too small the production and the distribution of the company is affected therefore the company must have optimum level of inventories. Here the study has been made to find out the level of inventories maintained in the company and to find out which product has to be given more importance and the least importance. Analysis has been made to identify the problems. Study is also made on the level of inventories maintained in the company and how it had increased and decreased over the years.

### **4 OBJECTIVES OF THE STUDY**

- To study and analyze the inventory management and its control techniques in wheels India limited Chennai.
- To analyze the performance in inventory management at wheels India limited.
- To classify various materials based on ABC analysis.
- To analyse the Economic Order Quantity & Economic Batch Quantity.
- To calculate the Financial Ratio's in relation with Inventory.
- To study trend of inventory in wheels India limited.

### **5. RESEARCH DESIGN**

The research design used in this study on Inventory management and its control techniques is an **ANALYTICAL STUDY** because the facts and information that is readily



available are being to make critical evaluations of inventory management to carry out various analyses for the components pertaining to **wheels India limited**.

## **6 DATA COLLECTION METHOD**

This study is mainly based on Secondary data which have been collected from the ANNUAL REPORTS from the period of 2006-2010 of the company and the STORES LEDGER of the month January 2011.

## **7. TOOLS AND TECHNIQUES USED FOR THE ANALYSIS**

Various tools and techniques are used for the analysis are as follows:

### **I. INVENTORY CONTROL TECHNIQUES**

- ABC Analysis
- Economic Order quantity
- Economic Batch Quantity
- Inventory ratio

### **II. STATISTICAL TOOLS**

- Co-efficient of Correlation
- Trend Analysis

## **8. FINDINGS**

### **8.1 ABC Analysis**

In order to study different degree of control exercised over different items of the stores ABC analysis has been used. Here the items are classified based on its importance. The data obtained through the stores ledger of the company. SAW WIRE 4.8MM MD411 BOBBIN IMP LINCOLN, BOLT 3PWO142 etc is categorized under A because it amounts 70% of total volume. So demand for this product is good and there should be a high level of inventory must be maintained. SAW WIRE 4MM MD411 BOBBIN IMP LINCOLN, DRIVER MACHINED

2RO210 etc. is under B category, since it amounts to 20% of its total volume and they should have moderate control over its inventory. FLUX STORE 780, KC780025 IMP LINCOLN, RAJ HYDRA SUPER HL 68 OIL (BULK), etc is categorized under C, because it amounts 10% of its total volume and it requires less control. Priority on class A materials and keeping a regular track in maintaining the inventory level to minimum is necessary. The entire B category items inventory should be maintained at a moderate level i.e. neither higher nor lower inventory. The entire C category items inventory should be maintained at a very minimum level.

### 8.2 Economic Order Quantity

In order to identify which item have a higher EOQ economic order quantity has been used. Here totally five items have been taken for analysis. The data obtained through the stores ledger of the company.

**Table 4.2: Table Showing Economic Order Quantity**

MATERIALS	TRACTOR WHEEL CLAMP FOR 10 X 24	STEEL SHOTS GR S390	RAJ HYDRA SUPER HL 68 OIL (BULK)	BOLT 3PWO142	VALVE V3-20-6 TRCI AND V3 CAP
ECONOMIC ORDER QUANTITY	257	395	649	3654	255

Source: Collected and compiled from stores Ledgers.

It is revealed from the five items that , BOLT 3PWO142 have a higher economic order quantity when compared to others. Thus by using this EOQ analysis in the five fast moving items it is inferred that the component named BOLT3PWO142 has the highest EOQ. Thus the sale of component should be paid more attention as compared to others.

### 8.3 Economic Batch Quantity

In order to identify which item have a higher EBQ economic batch quantity has been used. Here totally five items have been taken for analysis. The data obtained through the stores ledger of the company.

**Table 4.3: table showing economic batch quantity**

Materials	Driver Rough Forging Ro326	Driver Machined Rso1006	Flux Store 780,Kc780025 Imp Lincoln	Saw Wire 4.8mm Md411 Bobbin Imp Lincoln	Saw Wire 4mm Md411 Bobbin Imp Lincoln
ECONOMIC BATCH QUANTITY	28	10	23	68	31

Source: Collected and compiled from stores Ledgers.

It is revealed that from the five items Saw Wire 4.8mm Md411 has a higher economic order quantity when compared to others. Thus by using this EBQ analysis from the five items it is inferred that the component named SAW WIRE 4.8MM MD411 has the highest EBQ. Thus the sale of component should be paid more attention as compared to others.

### 8.4 Inventory Ratios

In the inventory ratio period of five years was analysed and it was found that it has been fluctuating every year and has increased to 104 during the financial year 2007-08, but has decreased in the year 2008-09 to 76% and from 2008-09 and 2009-10 it is increased . It is inferred that the inventory ratio has been gradually increasing till the financial year 2007-08 and decreased in the year 2008-09 and now its increased in 2009-10.

#### 8.4.1 Inventory Turnover Ratio

In Inventory turnover ratio period of five years was analysed and it was found that it has fluctuated every year. The company has to maintain higher ratio, so that it shows efficiency of management. The inventory turnover ratio gradually increases and decreases every year. It is inferred that there is a high inventory turnover ratio in the 2006-07 and it indicates that the



product is being sold well and there efficient management of inventory by the company. In the inventory ratio period of five years was analysed and it was found that it has been fluctuating every year and has increased to 104 during the financial year 2007-08, but has decreased in the year 2008-09 to 76% and from 2008-09 and 2009-10 its increased . The **inventory turnover period** for period of five years was analysed and it was found that in the year 2008-09 it increased to 49days and 2009-10 it decrease to 46days. The **Inventory Turnover ratio for raw materials** is found to have a gradual increase and decrease. In the year 2006-2007 it had increased to17.11 then it had decreased, in 2009-10 it increased to 14.91. The **inventory turnover ratio** for work in progress is found to have a gradual increase and decrease in the Inventory Turnover ratio for Work-in-progress and in the year 2009-10 it increased to 32.69. The **inventory turnover ratio for Finished Goods** has been decreasing year by year and in the year 2009-10 it deceases to 127.18. The **inventory turnover ratio for stores & spares** has a gradual increase and decrease over the years in the year 2006-2007 it had increased to 110.07 and in the year 2009-10 it deceases to 76.65. There is a gradual decrease in the **Inventory Turnover ratio** for loose tools from the year 2006 it is been going in a decreasing rate and in the year 2009-10 it deceases to 147.29.

### 8.5 Correlation

Correlation analysis has been used to study the degree of relationship between two variables. Here inventory is compared with sales, debtors and creditors to check whether inventory has association with these variables.

### 8.6 Trend Analysis

**Table 4.6: Table showing future trend analysis**

YEAR	INVENTORY
2005-2006	9598.93
2006-2007	11544.02
2007-2008	16153.77
2008-2009	13981.01

2009-2010	17141.73
2010-2011	18940.5
2011-2012	20692.7
2012-2013	22444.9

The trend analysis of inventory indicates an increasing trend rather than the year 2008-2009 and therefore indicates a good profitable position in future. It has a gradual increase over the years. It is inferred that the inventory has been increased gradually in the subsequent years. This can be achieved by increasing the sales and by efficient management of the company.

## **9. STATISTICAL FINDINGS**

- Inventory and Sales are positively correlated as the calculated value is less than 1.
- Inventory and Debtors are positively correlated as the calculated value is less than 1.
- Inventory and Creditors are positively correlated as the calculated value is less than 1.
- The Trend Analysis of Inventory indicates an increasing trend and therefore it indicates a good profitable position in future.

## **10. SUGGESTIONS**

- ❖ In ABC analysis more priority should be given on class A materials by keeping a regular track in maintaining the inventory level at high when compared to other two classes. The entire C category items inventory should be maintained at a very minimum level and lower control over it is recommended.
- ❖ The sale of the component named BOLT 3PWO142 should be paid more attention as compared to others because it has a higher EOQ.
- ❖ The sale of the component named Saw Wire 4.8mm Md411 Bobbin Imp Lincoln should be paid more attention as compared to others because it has a higher EBQ.
- ❖ The company has to maintain higher inventory turnover ratio, so that shows efficiency of management in moving the stock.



- ❖ In order to avoid emergency purchase it is better to establish inventory level on scientific basis such as Emergency Order Quantity.
- ❖ The management may identify the required before placing the order. It is necessary to take steps to control the slow moving items to reduce the locking up of money in inventory.
- ❖ The company may also employ techniques like EOQ, ABC analysis etc., so as to improve the efficiency of controlling the inventory.
- ❖ The company should take necessary and immediate step to reduce the operating expenses.

## **11. CONCLUSION**


Inventories constitute a major portion of current assets maintained for smooth business operations. If not managed effectively, the investment made in inventories cannot be justified, that will decrease the overall return on investment. The Performance of inventory can be measured by calculating efficiency and turnover ratios. These will be helpful in managing inventories effectively. Inventory management is required for all organization. Inventory management is a concerted to integrate the firm's value chain and its inventory policy. Each companies Production capacity is finite, and perhaps random in each period. So inventory management is important for any firm. The study reveals that the inventory management is a complex action because of the large amount of material that is being used. The company must take proper technique to control the inventory. It is better for the company to reduce the inventory level to a considerable degree reduction in excess inventories carries a favourable impact on the profitability of the company by way of unnecessary locking up of capital. The study on inventory management in wheels India limited has helped in measuring the efficiency level of the concern inventory management system. The recommendations and suggestions given, if implemented will improve the positions of the inventories in wheels India limited.

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### **SEARCH ENGINES**

- [www.wheelsindia.com](http://www.wheelsindia.com)