



A STUDY ON INVENTORY MANAGEMENT WITH SPECIAL REFERENCE TO EGoF ENGINEERS PVT. LTD.

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Abstract : Inventory Management is the integrated functioning of an organization dealing with supply of materials and allied activities in order to achieve the minimum co-ordination and optimum expenditure on materials. Inventory control is the most important function of inventory management and it forms nerve centre in any inventory management organization. An inventory management system is an essential element in an organization. It is comprised of series of processes, which provide an assessment of the organization's inventory. Since the inventory turnover ratio shows the increasing trend, there will be more demand for the products in the future periods. If they could properly implement and follow the norms and techniques of inventory management, they can enhance the profit with minimum cost.

IndexTerms - Inventory, Management, Assessment, Organization.

1.INTRODUCTION

Inventory control is vitally important to almost every type of business, whether product or services oriented. Inventory control touches almost every facets of operations. A proper balance must be struck to maintain proper inventory with the minimum financial impact on the customer. Inventory control is the activities that maintain stock keeping items at desired levels. In manufacturing; since the focus is on physical product, inventory control focus on material control.

"Inventory" means physical stock of goods, which is kept in hands for smooth and efficient running of future affairs of an organization at the minimum cost of funds blocked in inventories. The fundamental reason for carrying inventory is that it is physically impossible and economically impractical for each stock item to arrive exactly where it is needed, exactly when it is needed. Inventories constitute the most significant part of current assets of a large majority of companies in India. On an average, inventories are approximately 60% of current assets in companies. Inventory consists of raw material, work in process or semi finished goods and finished goods. All the functional areas such as finance, marketing, production and purchasing are concerned with inventories. Inventory management is related to over all objectives of the company.

1.1 Inventory-

- Inventory is a list for goods and materials or those goods and materials themselves held available in stock by a business.
- It is generally refers to materials in stock, is also called as the idle resource of an enterprise.
- Inventory as the physical stock of goods which through remain idle in a store but are essential for smooth sailing of the company and hence have economic value.
- Inventory as the stock of any item or resources used in an organization.
- According to Arnold, one often used is related to the flow of material into, through and out of a manufacturing organization. He thus classifies inventory in manufacturing firms as follows:
 - a) Raw Materials:- These are purchased items that have been received but have not entered the production process.
 - b) Work In Process:- Raw materials that have entered the manufacturing process and are being worked on or are waiting to be worked on.
 - c) Finished Goods:- The finished products of the production process that are ready to be sold as completed items. They may be held at a factory or central warehouse or at various points in the distribution system.
 - d) Distribution Inventories:- Finished goods that is located in the distribution system.
 - e) Maintenance, Repair and Operational Supplies (MROS):- Items that are used in production but do not become part of the product. These include hand tools, spare parts, lubricants, cleaning supplies and so on.

1.2 Inventory Management-

- Inventory management is the sum total of those activities necessary for the acquisition, storage, sale, disposal or use of material.
- It is also perceived as the co-ordination of a series of functions according to a plan which will economically utilise the plant facilities and regulate the orderly movement of goods through their manufacturing cycle from procurement of all materials to the shipping of finished goods at a predetermined rate.

2. METHODOLOGY OF STUDY:

Research Methodology is the way to systematically solve the research problem. The specific this research study is "Analysis of inventory of EGoF Engineers Pvt. Ltd."

Methods of Data Collection-

The data was collected from methods of data collection.

- a) Primary Data
- b) Secondary Data

A) Primary Data:-

The sources of primary data are actual work experience in the EGoF Engineers and discussion with the finance department of company.

B) Secondary Data:-

The data was analysed from the balance sheet of company and annual reports.

Collected data with the help of various books, research journals and different web sites related to the subject.

Referred some of the report of the company and also various tables, graphs, etc.

3. SCOPE OF THE STUDY:

3.1 Topical scope-

The topical scope of present study is confined to the 'A study on Inventory Management with special reference to EGoF Engineers Pvt. Ltd.'

3.2 Operational scope-

The study is related to 5 years balance sheet and annual reports of the company.

3.3 Functional scope-

Analysis of inventory management includes the study of the composition of inventory, inventory ratios and different techniques with the help of other reports of the company.

4. LIMITATIONS OF THE STUDY:

1. The conceptual framework and research questions have bound the study, keeping it focused, yet simultaneously limiting the method and topic of the research.
2. Some of the information was kept confidential by the departments.
3. Study was confined only to the selected components in the company.
4. All the information regarding material was not disclosed.
5. The study of receiving process of material, issue process, dispatch process, inventory control the process for all items.

5. THEROTICAL BACKGROUND

Inventory management is what goes on behind the certain of any successful business. It is the art and science of balancing supply and demand within a business- of managing the supply chain so that always have the right amount of product to make a profit. An increased emphasis on liquidity has lead businessman to hold cash and securities in performance to inventories. Inventories are now often referred to as the grave yard of the business. The surplus of the stock has been a principle guide of failure thus lead to change their view regarding holding of inventories and adopt scientific way of inventory holding.

Inventory management involves:

- Inventory management is the active control program which allows the management of sales production and payment.
- System and processes that identify inventory requirements, set targets, provide replenishment techniques and report actual and projected inventory status.
- Inventory management helps providing a good understanding ground and the capacity to control financial costs.
- The inventory management will control operating costs and provide better understanding.

5.1. Concept of Inventory Management-

The term inventory management is used in two way- unit control and value control. Production and purchase officials use this word in term unit control whereas in accounting this word is used in term of value control. As investment in inventory represents in many cases, one of the largest asset items of business enterprises particularly those engaged in manufacturing, wholesale trade and retail trade. Sometimes the cost of material used in production surpasses the wages and production overheads. Hence, the proper management,

- a) Material Cost:- This includes the cost of purchasing the goods, transportation and holding charges less any discount allowed by the supplier of goods.
- b) Ordering Cost:- This includes the variables cost associated with placing an order for the goods. The fewer the orders, the lower will be the ordering costs for the firm.
- c) Carrying Cost:- This includes the expenses for storing and handling the goods. It comprises storage costs, insurance costs, spoilage costs, cost of funds tied up in inventories, etc.

5.2. Objectives of Inventory Management-

The basic responsibility of the financial to make sure the firm's cash flows is managed efficiently. Efficient management of inventory should ultimately result in the maximization of the owner's wealth. It was indicated that in order to minimize cash requirement, inventory should be turned over as quickly as possible, avoiding stock outs that might result in closing down the production line or lead to a loss of sales. The main objective of inventory management consists of two parts:-

1. To minimize investment in inventory and
2. To meet demand for the product by efficiently organizing the production and sales operations.

5.3. Functions of Inventories in manufacturing process-

In batch or lot manufacturing, the basic purpose of inventories is supply and demand. The purpose of inventories is thus to serve as:

1. Between customer demands and finished goods.
2. Between finished goods and components availability.
3. Between requirements for an operation and the output from the preceding operation.
4. Between parts and materials to begin production and the supplies of materials.

On the basis of the above, Arnold classified inventories according to functions they perform as follows:

- i. Anticipation Inventory- These inventories are built up in advance of a peak selling season, a promotion program, vacation shutdown or possibly the threat of a strike. They are built up to help level production and to reduce the cost of changing production rates.
- ii. Fluctuation Inventory- Inventory is held to cover random unpredictable fluctuations in supply and demand or lead time. If demand or lead time is greater than forecast, then a stock-out will occur. Safety stock is carried to protect against the possibility of a stock-out. Its purpose is to prevent disruptions in manufacturing or deliveries to customers.
- iii. Lot Size Inventory- Items that are purchased or manufactured in quantities greater than needed immediately create lot size inventories. Items will be ordered in lots or batches to get quantity discounts to reduce shipping, clerical and setup costs and in cases where it is impossible to make or purchase items at the same rate they will be used or sold.
- iv. Transportation Inventory- These inventories exist because of the time required to move stock from one location to another such as from a plant to a distribution centre or a customer. They are sometimes referred to as pipeline or movement inventories.

Other functions of inventories identified by Kothari include:

- i. It reduces losses caused by inadequate inspection of incoming materials and losses due to obsolesces, deterioration, waste and theft while in storage.
- ii. It ensures proper execution of policies covering procurement and use of material. It also facilitates timely adjustments with changing conditions in the market.
- iii. It also serves, through 'balance of stores' records, as a reliable basis for production planning and preparation of financial reports.
- iv. Inventory allows manufacturing to purchase in larger quantities which results in lower ordering costs per unit and quantity discounts.
- v. Inventories permits manufacturing to run longer production runs, which result in lower set up cost per item.

5.4. Factors influencing Inventory Management-

There two types of factors. They are external and internal factor which influence decision making for inventory in an organization. The external factor arises from market conditions, credit availability and government regulation. The external factors are not controllable easily while internal factor are controllable with effective inventory management.

Following are the factors influence the inventory management of an organization:

1. Lead Time:- Lead time can be defined as the period that elapses between the re-organization of a need and its fulfilment. Inventories have to take care of normal consumption during lead time because it increases the inventories and it will have to be increased correspondingly.
2. Relevant Cost:- The inventory problem is one of the balancing costs, so that total cost is minimized. Their costs are:
 - A) Cost of Ordering- The activities that are carried out for fulfilling the need for material, which consume executive time, stationary and communication charges, these are the cost of ordering.
 - B) Cost of Carrying out inventories- The moving factor to control inventory is the cost incurred by holding. It is the cost that is expressed as percentage of the average investment i.e. capital investment, spoilage insurance cost.

5.5. Advantages-

1. Save Money:

Perhaps the most important advantage of inventory management is saving a company money. Inventory is often the largest asset a company has. Inventory is also expensive to purchase, putting a company in the red until it sells those products for a profit.

2. Satisfy Customers:

Another important advantage of inventory management is keeping customers happy. Customers shop at a business with the assumption that it will have items it advertises in stock. When they hear that they have to backorder items, many customers would rather switch suppliers than wait for new stock to come in. Inventory management keeps a record of customer demand and turns this information into smart, efficient ordering.

3. Maintain optimal inventory level:

Inventory management is all about striking a balance between input and output. Finding and maintaining this balance is critical to the health and profitability of business.

4. Uninterrupted Production:

The system makes sure that there is no interruption in the production process due to the shortage of raw materials. Required quantities of inventories are estimated and maintained at all times within the organization.

5. Updated Data:

Yet another advantage of inventory management is the maintenance of updated data. Due to the use of an inventory management system, an up-to-date and real time data of the levels of inventory can be successfully maintained.

5.6. Disadvantages-

1. Opportunity Cost:

Every firm has to maintain inventory for that some investment is needed it is known as opportunity cost and handle the investment in inventory are more the funds are blocks up with inventory.

2. Excessive Inventories:

It will lead to firm losses due to excessive carrying costs the risk of liquidity. It is also referred as danger level.

3. Danger due to physical decoration:

It is one of the reasons with the inventories due to maintaining stocks at high levels they will be deteriorated due to passage of time, sometimes due to mishandling or improper storage facilities.

4. Inadequate Inventory:

It is another danger which results is production hols-up and failure to meet delivery commitments. Inadequate raw materials and work in process inventors will results in frequent production interruptions. It finished goods are not sufficient customers may shifts to competitors.

6. PROFILE OF THE ORGANIZATION

6.1 Introduction

- EGoF Engineers Pvt. Ltd. Commenced its commercial production at shiroli, Dist.: Kolhapur, Maharashtra in the year 2011 as manufacturing unit.
- Plot Area- 52000 Sq. Ft.
- Business Type- Manufacturing / Supplier / Trading company.
- The EGoF Engineers has gained immense expertise in supplying and trading of Tractor engine component, Gear box, Oil pumps, etc. The supplier company is one of the leading sellers of listed products.
- The company has provided best quality products and services to their customer.
- The company has implemented a quality management system in accordance with ISO 9001:2015 for scope of Machining of Metal Machined Components.

6.2. Vision-

The company's vision is- to improve and grow continually to meet the ever changing needs of manufacturing industry, this will allow us to serve our customers and expand across multiple markets, becoming a more dynamic company.

6.3. Mission-

The company's mission is- to provide customer with highest level of quality using latest technology available.

Departments of the Company-

1) Administration Department:-

- Office administration is a set of day-to-day activities that are related to financial planning, record keeping, billing, personnel and logistics within an organization.
- Recruiting, selecting and training new employees.
- Developing employees through coaching and counselling.
- Assigning tasks to employees and following up on their progress.

2) Quality Department:-

Quality control staff members at now have many responsibilities, but everything they do contributes to the quality of end product. This task, however, is not a simple one, because it entails an incredible number of inspections, checks and reviews before a product can be offered for sale. The quality departments exist as an audit function within the manufacturing and packaging areas.

3) Production Department:-

Production is the functional area responsible for turning inputs into finished outputs through a series of production processes. The production manager is responsible for making sure that raw materials are provided and make into finished goods effectively.

4) Account Department:-

Accounting department should include the following:

Money out: Making payments and keeping the bills paid.

Money in: Processing incoming payments.

Payroll: Make sure everyone gets paid.

Reporting: Preparing financial reports e.g. Profit and loss A/c, Balance sheet and Budgets.

Financial controls: To avoid errors, fraud, theft, etc.

6.4. Customers and Services of the Company-

WILO Mather and Platt Pumps Pvt. Ltd.: (Pune)

This company manufactures centrifugal pumps and pumping systems for building services and water management and industries. It offers pressure boosters, water transfer systems, drainage, sewage and dewatering systems and hot water circulation services for residential building purposes. The company also provides pressure boosting system, fire fighting, heating, ventilation and air conditioning and waste water, sewage and utility services for commercial building purpose.

Table 1: Below components providing from EGoF Engineers Pvt.

Sr. No.	Component Name	Volume/Year
1	Bearing End Cover (12 types)	1440
2	Bearing Cartage (2 types)	100

3	Bearing Housing & Split Bearing Housing (21 types)	3600
4	Solid and Split Gland (12 types)	1900
5	St. Box Bush (4 types)	1440
6	Split and Solid logging Ring (8 types)	720

Altra Industrial Motion Pvt. Ltd.: (Pune)

It is a private incorporated on 12 July 2007. It is classified as non-government company and is registered at registrar of companies, Pune. Its authorized share capital is Rs. 40,000,000 and paid up capital is Rs. 37,481,060. It is involved in manufacture of bodies for motor vehicles; manufacture of trailer and semi-trailers.

Table 2: Below components providing from EGoF Engineers Pvt.

Sr. No.	Component Name	Volume/Year
1	Bearing End Cover (12 types)	1440
2	Bearing Cartage (2 types)	100
3	Bearing Housing & Split Bearing Housing (21 types)	3600
4	Solid and Split Gland (12 types)	1900
5	St. Box Bush (4 types)	1440
6	Split and Solid logging Ring (8 types)	720

Busch GVT Ltd.: (UK)

Busch is a family owned company and continue to be managed by members of the Busch family. It is one of the largest manufacturers of vacuum pumps and overpressure blowers in the world with our product range providing solutions for a wide variety of applications and industry sectors. Busch GVT Ltd. Is one out of six manufacturing plants within the Busch Group, with the main production site at headquarters in Maulburg, Germany.

Table 3: Below components providing from EGoF Engineers Pvt.

Sr. No.	Developed Parts
1	Motor Pedestal size6 RD17000A
2	Motor Pedestal size6 RD18324B
3	Motor Pedestal size5 RD17014
4	Impeller Casing LX110 C15771
5	Impeller Casing LX140 C15772
6	Impeller Casing LX180 C15773
7	Impeller Casing LX260 C15774
8	Impeller Casing LX330 C15775
9	Impeller Casing LX430 C15776

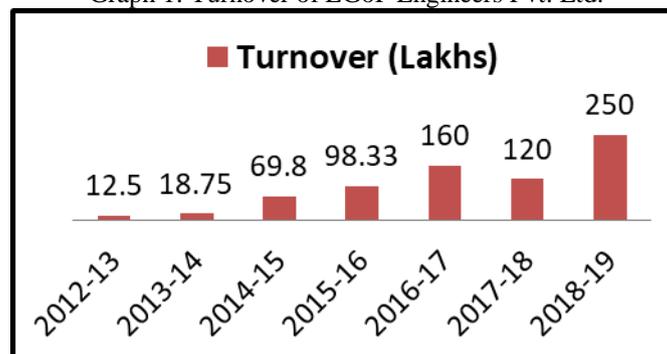
Mahabal Metals Pvt. Ltd.: (Miraj)

The Mahabal Group of Industries are Primarily involved in manufacturing and supplying high quality automobile components and fully finished products to automobile grains like Volkswagen, Ford, Hyundai, Tata, etc. It has been actively involved in state of the art component production techniques in order to supply top quality material to its collaborators for almost fifty years.

Table 4: Below components providing from EGoF Engineers Pvt.

Sr. No.	Component	Volume/Year
1	Spring Seat A400 325 0019	35,000
2	Spring Seat A400 325 0119	35,000
3	Spring Seat A400 325 0219	10000
4	Spring Seat A400 325 0319	10000
5	Bottom Bracket A 400 325 0909	2400
6	Bottom Bracket A 400 325 0909	2400

Graph 1: Turnover of EGoF Engineers Pvt. Ltd.



7. DATA ANALYSIS

7.1. ABC Analysis-

1. What is ABC method of Inventory Control?

It has become an indispensable part of a business and the ABC analysis is widely used for unfinished goods, manufactured products, spare parts, components, finished items and assembly items.

This method of management divides the items into three categories A, B and C; where A is the most important item and C the least valuable.

2. Why the need for prioritizing inventory?

Item A:

In the ABC model of inventory control, items categorized under A are goods that register the highest value in items of annual consumption. It is interesting to note that the top 70-80 percent of the yearly consumption value of the company comes from only about 10-20 percent of the total inventory items. Hence, it is crucial to prioritize these items.

Item B:

There are items that have a medium consumption value. These amount to about 30 percent of the inventory in a company which accounts for about 15-20 percent of annual consumption value.

Item C:

The items placed in this category have the lowest consumption value and account for less than 5 percent of the annual consumption value that comes from about 50 percent of the total inventory items.

Note- The annual consumption value is calculated by the formula: (Annual demand) * (Item cost per unit)

3. What are the policies governing the ABC method of inventory management?

The idea behind using the ABC analysis is to leverage the imbalance of sales. This means that each items must be given the appropriate amount of weight depending on their class:

Item A:

- These are subjected to strict inventory control and are given highly secured areas in terms of storage.
- These goods have a better forecast for sales.
- These are also the items that require frequent reorders on a daily or a weekly basis.
- They are kept as a priority item and efforts are made to avoid unavailability or stock-out of these items.

Item B:

- These items are not as important as items under section A or as trivial as items categorized under C.
- The important thing to note is that since these lie in between A and C, they are monitored for potential inclusion towards category A or in a contrary situation towards category C.

Item C:

- These items are manufactured less often and follow the policy of having only one of its item on hand or in some cases they are reordered when a purchase is actually made.
- Since these are low demand goods with a comparatively higher risk of cost in terms of excessive inventory, it is an ideal situation for these items to stock-out after each purchase.
- The questions managers find themselves dealing with when it comes to items in category C is not how many units to keep in stock out rather whether it is even needed to have to these items in store at all.

4. What are the uses of ABC Analysis?

The ABC analysis is widely used in supply chain management and stock checking and inventory system and is implemented as a cycle counting system. It is most important for companies that seek to bring down their working capital and carrying costs.

This done by analysing the inventory that is in excess stock and those that are obsolete by making way for items that are readily sold. This helps avoid keeping the working capital available for use rather than keeping it tied up in unhealthy inventory.

When a company is better able to check its stock and maintain control over the high value goods it helps them to keep track of the value of the assets that are being held at a time. It also brings order to the reordering process and ensures that those items are in stock to meet the demands.

The items that fall under the C category are those that slow-moving and need not be reordered with the same frequency as item A or item B. When put the goods into these three categories, it is helpful for both the wholesalers and the distributors to identify the items that need to be stocked and those that can be replaced.

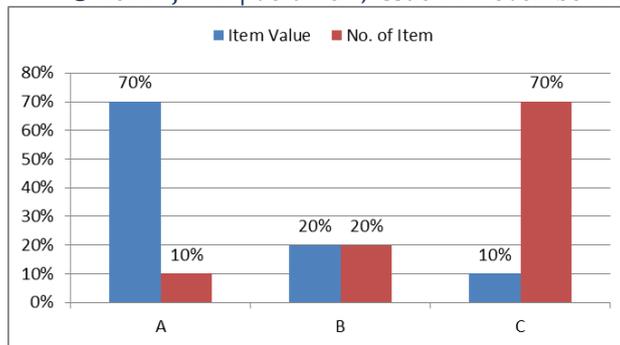
8. DATA INTERPRETATION

8.1 ABC Analysis

Table 5: ABC Analysis

Class	A-Class	B-Class	C-Class
Item Value	70%	20%	10%
No. of Item	10%	20%	70%

Graph 2: Graphical representation of ABC Analysis



Interpretation:

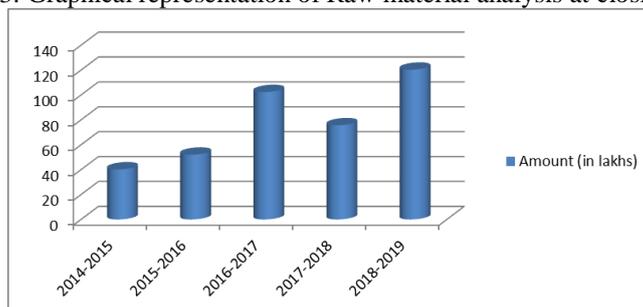
ABC analysis helps to concentrate more efforts on category A since greatest monetary advantage will come by controlling these items. An attention should be paid in estimating requirements, purchasing, maintaining safety stocks and properly storing of 'A' category materials. These items are kept under a constant review so that substantial material cost may be controlled

8.2 Raw material (at closing stock)

Table 6: Raw material analysis at closing stock

Year	Amount in lakhs
2014-2015	40.22
2015-2016	52.02
2016-2017	102.37
2017-2018	75.65
2018-2019	120.32

Graph 3: Graphical representation of Raw material analysis at closing stock



Interpretation:

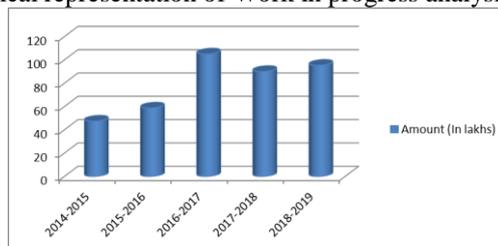
It can be clearly observed in the above chart that the cost of raw material was increased in the year of 2015-16 i.e. 52.05 as compared to that of year 2014-15 i.e. 40.22. Because of the demand of spare parts is increased day to day. It is a challenging combination for both producers, suppliers and consumers. But in the year 2017-18, amount of raw material is decreased i.e. 75.65 because necessary raw material's availability was less from suppliers compare to previous year. In the year 2018-19, supply of certain raw materials gets tight so raw material costs increases and that's why the expenditure on inventory is highest i.e. 120.32.

8.3 Work in Progress (at closing stock)

Table 7: Work in progress analysis at closing stock

Year	Amount in lakhs
2014-2015	47.35
2015-2016	58.6
2016-2017	105
2017-2018	90
2018-2019	95.3

Graph 4: Graphical representation of Work in progress analysis at closing stock



Interpretation:

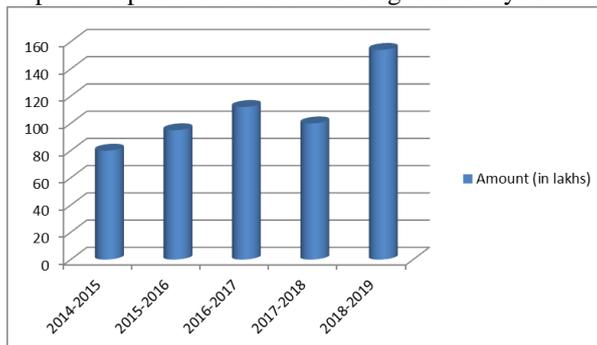
The above graph shows that work in progress at cost. In the year 2014-15, the WIP cost is 47.35 and compared to 2015-16 it is increased by 58.60 because the demand of finished goods are increased then also increased the work in progress cost. In the year 2016-17 there is highest amount spent on work in progress that is 105 it means- in the year 2016-17, there is the level of productivity of company is average but cost of raw material is increased so WIP cost is increased in 2016-17.

8.4 Finished Goods (at closing stock)

Table 8: Finished goods analysis at closing stock

Year	Amount in lakhs
2014-2015	80
2015-2016	95
2016-2017	112.07
2017-2018	100
2018-2019	154

Graph 5: Graphical representation of finished goods analysis at closing stock



Interpretation:

The above chart represents that finish goods amount has increased in the year 2015-16 i.e. 95 as compared to that of 2014-15. Because of the work in progress is low, the finished goods are also lowest. In the year 2016-17, the supply of raw material is high that’s why improving the progress of work is high and there is finished goods are also high compared to previous two years. But due to which when the finished goods are taken into consideration the profits will be highest in the year of 2018-19 because of the customer’s demand is also highest where is lowest in the year of 2014-15 i.e. 80.

9. FINANCIAL RATIO RELATED TO INVENTORY

9.1 Inventory Turnover Ratio:

This ratio is calculated to consider the adequacy of the quantum of capital and its justification for investing in inventory. A company must have reasonable stock in comparison to sales. It is the ratio of net sales and the average inventory. This ratio helps the financial manager to evaluate inventory policy. This ratio reveals the number of times finished stock is turned over during a given an accounting period.

- Inventory turnover ratio =
$$\frac{\text{Net sales}}{\text{Average inventory}}$$

Or

$$= \frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}$$

Table 9: Inventory turnover ratio and velocity

Year	COGS (Rs.)	Avg. Inventory	Ratio	Velocity (in days)
2014-2015	1,70,340	40,076	4.25	85.88
2015-2016	1,75,687	48,000	3.66	99.72
2016-2017	5,84,082	89,502	6.52	55.98
2017-2018	9,90,053	1,00,067	9.89	36.9
2018-2019	17,19,760	1,10,185	15.6	23.39

Graph 6: Graphical representation of Inventory turnover ratio and velocity



Interpretation:

The above table inventory turnover ratio of the last five years reflects that the trend of inventory from 4.25 to 15.60 times in the year 2014 to 2019, except in the year 2015-16 which shows 3.66 times only. Whereas in the velocity of inventories shows less in the year 2018-19 as compared to remaining years which is 23.39 days it means reducing supplier lead time could also increase turnover ratio. This trend shows that the inventories are easily converted into sales within the shortest period of time.

9.2 Inventory to Current Asset Ratio :

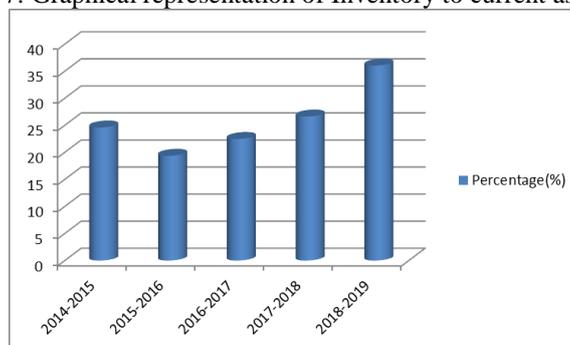
This ratio indicates the relationship between the inventory and current assets. It shows the percentage of inventory to current assets, which helps the organization in deciding the current asset policy which also affect the liquidity position of the organization.

Inventory to current assets ratio = $\text{Inventory/Current assets} * 100$

Table 10: Inventory to Current Assets Ratio

Year	Inventory	Current Assets	%
2014-2015	3,09,421	12,57,385	24.6
2015-2016	1,91,728	9,90,027	19.36
2016-2017	8,07,994	35,95,061	22.47
2017-2018	12,15,580	45,65,548	26.62
2018-2019	19,74,650	54,77,835	36.04

Graph 7: Graphical representation of Inventory to current asset ratio



Interpretation:

The inventory to current assets ratio in the year 2014-15 was 24.60% and it decreased to 19.36% and 22.47% in the year 2015-16 and 2016-17 respectively because of the increase the financial resources amount and high cost of company's operations maintenance. But again it is increased to 26.62% and 36.04% in the year 2017 to 2019 because the company is working on the consistent improvement of its policies in inventory, cash and other current assets management.

9.3 Inventory to Total assets ratio :

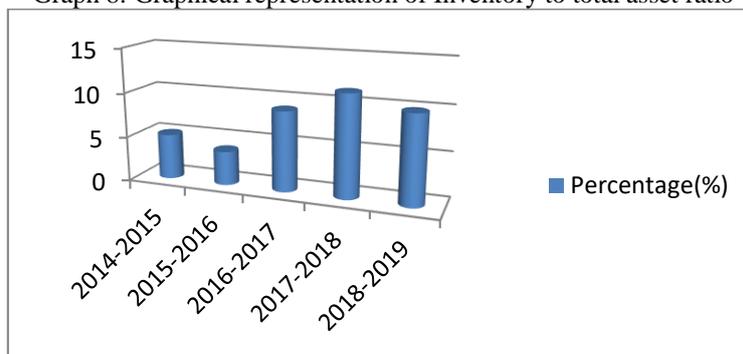
This ratio indicates the relationship between the inventory and total assets. The significance of this ratio is it reflects the portion the inventory as a percentage of the total assets, which helps the management deciding the utilization remaining resources profitably, since the inventory will lock up the huge funds and refunds the profitability of the organization.

Inventory to Total assets = $\text{Inventory/Total assets} * 100$

Table 11: Inventory to total assets

Year	Inventory	Total Assets	%
2014-2015	3,09,421	61,08,633	5.06
2015-2016	1,91,728	50,60,258	3.78
2016-2017	8,07,994	90,47,068	8.93
2017-2018	12,15,580	1,06,86,840	11.37
2018-2019	19,74,650	1,99,91,075	9.87

Graph 8: Graphical representation of Inventory to total asset ratio



Interpretation:

During the year of 2015-16, the company has low inventory to assets ratio i.e. 3.78% it means- over supply from the company of the inventoried asset. In the year 2016-17, the company has increased this ratio but there is low demand of the finished goods also this situation stable in the year 2017-18 and its ratio is 11.37%. But during the year 2018-19, decreased this ratio to 9.87% as compared to the year 2017-18 because of the to assess operational management of the company and increased demand which points to a higher level of profitability.

9.4 Inventory to Working Capital Ratio:

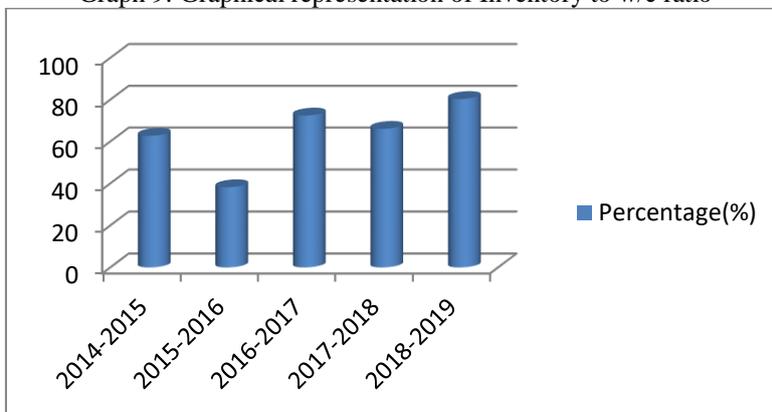
This ratio indicates the relationship between inventory to working capital and it also indicates the amount of inventory tied up in the working capital and it also shows the efficiency of inventory management.

Inventory to W/C ratio = $\frac{\text{Inventory}}{\text{Working capital}} * 100$

Table 12: Inventory to w/c ratio

Year	Inventory	Working Capital	%
2014-2015	3,09,421	4,93,278	62.72
2015-2016	1,91,728	5,02,302	38.16
2016-2017	8,07,994	11,15,906	72.4
2017-2018	12,15,580	18,40,477	66.04
2018-2019	19,74,650	24,58,442	80.32

Graph 9: Graphical representation of Inventory to w/c ratio



Interpretation:

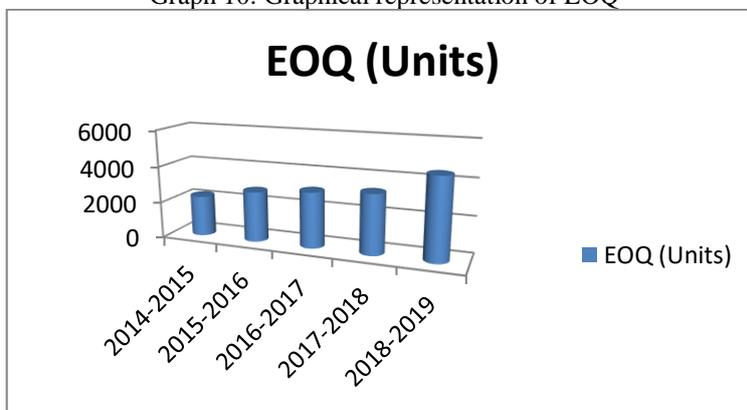
In the above table, during the year 2014-15, inventory to working capital ratio is 62.72%. But in the year 2015-16, it is 38.16% only because of the company has high liquidity of current assets. There is variable in the inventory to working capital ratio. In the year 2018-19, this ratio is 80.32% because of this high value of inventory to working capital ratio, company is carrying too much inventory in stock.

10. ECONOMIC ORDER QUANTITY (EOQ)

Table 13: Economic Order Quantity

Year	EOQ (Units)
2014-2015	2237.78
2015-2016	2775.73
2016-2017	3056.11
2017-2018	3273.99
2018-2019	4465.69

Graph 10: Graphical representation of EOQ



Interpretation:

Table 13 shows that the EOQ of the company, in the year 2014-2015 was 2237.78 units and it increased to 2775.73 units in the year 2015-2016. It further increased to 3056.11 units in 2016-2017 and it was also increased to 3273.99 and 4465.69 units in the year 2018 and 2019 respectively. So, overall due to increased in demand also EOQ get increased yearly in last five years consequently so the company could save a significant amount by simply utilizing the EOQ method efficiently.

11. FINDINGS

1. The company is having good sales for the products during all the last five years the study.
2. The company adopt sophisticated technique to manage its inventory in a better manner and it indicates efficiency of management of their inventory into sales.
3. It is found that company is followed the inventory technique with the help of Tally ERP software.
4. The inventory turnover ratio is indicates that the inventories are easily converted into sales within the short period of time.
5. Economic Order Quantity (EOQ) get increased when demand of the finished goods due to increased.
6. The company investing huge amount in inventory but high level of inventory allows to easily meeting customer demand and low level of inventory reduces costs and minimizes losses.
7. When the raw material increased then work in progress and finished goods are also increased.
8. The company is working on the consistent improvement of its policies in inventory, cash and other current assets.
9. To assess operational management of the company and increased demand which points to a higher level of profitability.

12. SUGGESTIONS

1. The EOQ calculated is suggesting that the company should obtain its inventory requirements by placing orders frequently to its suppliers rather than one time replenishment.
2. The company should follow Just-in-Time technique, their by it can do away with waiting time for a receipt of materials.
3. Inventory management should be done on the basis of cost or monetary value of items in use other factors should also be considered like availability, lead time, sources of supply, etc.
4. Company should search local suppliers.
5. Company should follow also the VED analysis technique (V-Vital, E-Essential, D-Desirable) for control of spare parts keeping in view of the critically to production.
6. Optimize inventory levels through effective deployment of system like JIT.

13. CONCLUSION

A better inventory management will surely be helpful in solving the problem the company is facing with respect to inventory and will pave way for reducing the huge investment or blocking of money in inventory. From the analysis we can conclude that the company can follow the Economic Order Quantity (EOQ) for optimum purchase and it can maintain safety stock for its components in order to avoid stock-out conditions and help in continuous production flow. This would reduce the cost and enhance the profit. Also there should be tight control exercised on stock levels based on ABC analysis and maintain high percentage in fast moving items in inventories. Since the inventory turnover ratio shows the increasing trend, there will be more demand for the products in the future periods. If they could properly implement and follow the norms and techniques of inventory management, they can enhance the profit with minimum cost.

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