

**A STUDY OF INVENTORY MANAGEMENT IN AMMAYAPPER
TEXTILES PRIVATE LIMITED**

Submitted in partial fulfilment of the requirements for the award of

Master of Business Administration

By

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SCHOOL OF BUSINESS ADMINISTRATION

SATHYABAMA

**INSTITUTE OF SCIENCE AND TECHNOLOGY
(DEEMED TO BE UNIVERSITY)**

**Accredited with Grade "A" by NAAC | 12B Status by UGC | Approved by AICTE,
Jeppiaar, RAJIV GANDHI SALAI, CHENNAI - 600 119**

April – 2021



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SCHOOL OF BUSINESS ADMINISTRATION

BONAFIDE CERTIFICATE

This is to certify that this Project Report is the bonafide work of **PETER FELIX A (39410147)** who has done the project work entitled, "**A STUDY OF INVENTORY MANAGEMENT IN AMMAYAPPER TEXTILES PRIVATE LIMITED**" under my supervision from December 2020 to February 2021.

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PROJECT COMPLETION CERTIFICATE

To whomsoever it may concern

This is to certify that **Mr. PETER FELIX A**, student of MBA - (Operations and Marketing),
Sathyabama Institute of Science and Technology, Chennai, had Successfully completed
His project work in our company from Dec 2020 to Feb 2021.

During the period of project work, he had done project titled "**A STUDY ON
INVENTORY MANAGEMENT IN AMMAYAPPER TEXTILES PRIVATE LIMITED**". We wish
him all success in His future

Thanking You,

Ammayapper Textiles Pvt Ltd

DECLARATION

I **PETER FELIX A , (39410147)** here by declare that the Project Report entitled, “**A STUDY OF INVENTORY MANAGEMENT IN AMMAYAPPER TEXTILES PRIVATE LIMITED ”** done by me under the guidance of **DR. DHIVYA SATHISH** is submitted in partial fulfillment of the requirements for the award of Master of Business Administration degree.

DATE:

PLACE:

PETER FELIX A

ACKNOWLEDGEMENT

I am pleased to acknowledge my sincere thanks to Board of Management of **SATHYABAMA** for their kind encouragement in doing this project and for completing it successfully. I am grateful to them.

I convey my sincere thanks to **Dr.Bhuvaneswari G.**,Dean, School of Business Administration and **Dr. Palani A.**, Head, School of Business Administration for providing me necessary support and details at the right time during the progressive reviews.

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I wish to express my thanks to all Teaching and Non-teaching staff members of the School of Business Administration who were helpful in many ways for the completion of the project.

PETER FELIX A

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ABSTRACT

Traditional inventory models focus on risk-neutral decision makers characterizing replenishment strategies that maximize expected total profit, or equivalently, minimize expected total cost over a planning horizon. we propose a framework for incorporating risk aversion in multi-period inventory models as well as multi-period models that coordinate inventory and pricing strategies. We show that the structure of the optimal policy for a decision maker with exponential utility functions is almost identical to the structure of the optimal risk-neutral inventory policies. These structural results are extended to models in which the decision maker has access to a complete financial market and can hedge its operational risk through trading financial securities. Computational results demonstrate that the optimal policy is relatively insensitive to small changes in the decision-makers level of risk aversion. The objective of inventory management is explained in some detail sections. Section two is concerned with inventory management techniques. Attention is given here to basic concepts relevant to the management and control of inventory. The data has been gathered through interaction and discussions with the executives working in the division. Some important information has been gathered through couple of unstructured interviews of executive.

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CHAPTER-1

INTRODUCTION

1.1 INTRODUCTION

Inventory Management is concerned with the duties of the financial manager in the business firm. Financial managers actively manage the financial affairs of any type of business, namely financial and non-financial, private and public, large and small, profit seeking and non-profit. They perform such varied tasks, as budgeting, financial forecasting, cash management, credit administration, investment analysis, funds management and inventory management.

A term inventory refers to the stock file of the products a firm is offering for sale and the components that make up the product. In other words, inventory is composed of assets that will be shown in future in the normal course of the business operations. The assets which firms store as inventory in anticipation of need are:

- **Raw materials**
- **Work in process (Semi Finished goods)**
- **Finished goods**

The raw material inventory contains items that are purchased by the firm from others and are converted into finished goods through the manufacturing (production) process. They are an important input of the final product. The working process inventory consists of items currently being used in the production process.

They are normally semi finished goods that are at various stages of production in a multi stage production process. A finished goods represented final or completed products which are available for sale. The inventory of such goods consists of items that have been produced but are yet to be sold.

Inventory, as a current asset, differs from other current assets because only financial managers are not involved. Rather all the functional areas, finance,

marketing, production, and purchasing are involved. The views concerning the appropriate level of inventory would differ among the different functional areas.

The job of the financial manager is to reconcile the conflicting view points of the various functional areas regarding the maximizing the owners wealth. Thus, inventory management, like the management of other current assets, should be related to the overall objective of the firm. It is in this context that the present chapter is devoted to the main elements of inventory management from the view point of financial management.

The objective of inventory management is explained in some detail sections. Section two is concerned with inventory management techniques. Attention is given here to basic concepts relevant to the management and control of inventory.

1.1.1 The aspects covered are:

- Determination of the type of control required.
- The basic economic order quantity
- The reorder point, and
- Safety stocks.

As a matter of fact, the inventory management techniques are a part of production management. But a familiarity with them is of great help to the financial managers in planning and budgeting inventory.

Martin and Miller identified three general motives for holding inventories

TRANSACTION MOTIVE:

This refers to the need of maintaining inventory to facilitate smooth production and sales operations.

PRECAUTIONARY MOTIVE:

Precautionary motive for holding inventory is to provide a safeguard when the actual level of activity differs from anticipated. This inventory serves when there are unpredictable changes in the demand and supply forces.

SPECULATIVE MOTIVE:

This motive influences the decision to increase or decrease the levels of inventory to take the advantage of price fluctuations.

1.1.2 TYPES OF INVENTORIES:

Inventories play a major role in a business or depending on nature of the businesses. The inventories may be classified as under.

(I) Raw Materials

Materials and components scheduled for use in making a product. These are the basic inputs, which are converted into finished products through manufacturing process. Raw material inventories are those units, which have been purchased and stored for future production.

(II) Work in process / Progress

Materials and components that have begun their transformation to finished goods. Materials issued to the shop floor, which have not yet become finished products they are value added materials to the extent of labor cost incurred.

(III) Finished Goods

A finished goods is a completed part that is ready for a customer order. These goods have been inspected and have passed final inspection requirements so that they can be transferred out of work-in-process and into finished goods inventory. From this point, finished goods can be sold directly to their final user, sold to retailers, sold to wholesalers, sent to distribution centers, or held in anticipation of a customer order.

(IV) STORES & SPARES

The level of four kind of inventory depends upon the nature of the business. Supplies include office and cleaning materials like soap, brooms, oil, light, bulbs etc. these materials do not directly enter production, but are necessary for production process.

Transaction motive:

Every firm has to maintain some level of inventory to meet the day-to-day requirement of sales, production process, customer demand etc. In the finished goods as well as raw material are kept as inventories for smooth production process of the firm.

Precautionary motive:

A firm should keep some inventory for unforeseen circumstances also like loss due to natural calamities in a particular area, strikes, lay outs etc so the firm must have some finished goods as well as raw-materials to meet circumstances.

Speculative motive:

The firm may be made to keep some inventory in order to capitalize an opportunity to make profit due to price fluctuations.

1.1.4 BASIC REASONS TO KEEPING AN INVENTORY:

There are three basic reasons for keeping an inventory:

UNCERTAINTY:

Inventories are maintained as buffers to meet uncertainties in demand, supply and movement of goods.

ECONOMIES OF SCALE:

Ideal condition of “one unit at a time at a place where user needs it, when he needs it “principle tends to incur lots of costs in terms of logistics. So bulk buying, movement and storing brings

INVENTORY MANAGEMENT INVOLVES:

Inventory management is the active control program which allows the management of sales purchases 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.

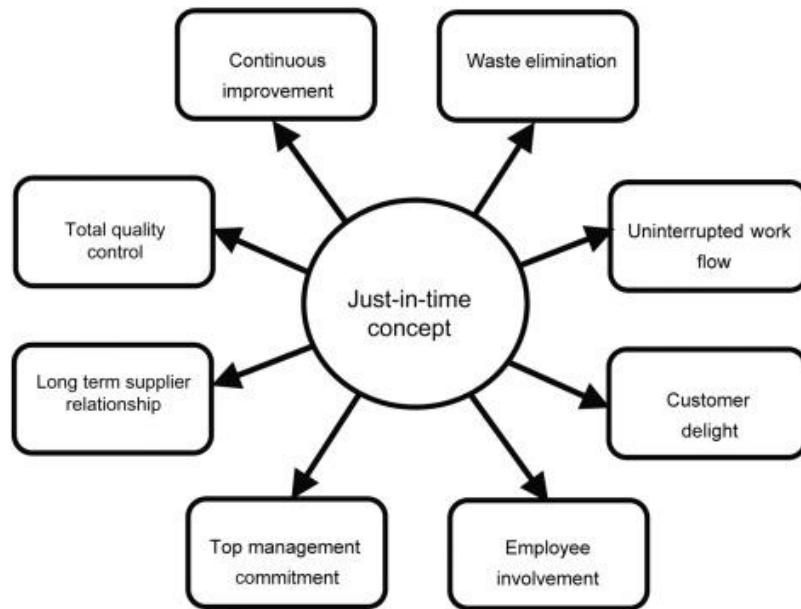
1.1.5 OPERATING CYCLE OF INVENTORY MANAGEMENT

Operating Cycle is the time duration to convert sales after the conversion of resources into invention, into sales there is difference between current assets and fixed assets. A firm required many years to recover initial invests in fixed assets such plant and machinery or land buildings or furniture and fixtures etc. On the contrary, investment in current assets such as inventory and books debts are realized during the firms operating cycle, which in usually less than a year.

The operation cycle can be said to be the heart of the working capital. The need for working capital or current assets cannot be over emphasized as already observed. The main motive of many business firms is to achieve maximum profits, which can be earned depending upon the magnitude of the sales among other things. However, sales do not convert in to cash instantly. There is invariable time lag between sale of goods and receipts of cash. Therefore the need of working capital in the form of current assets to deal with the problem arising good sold. Therefore, sufficient working capital requires sustaining sales activity. Technically this is refer to as the operating the cash cycle. The continuous flow form cash to supplies to inventory to accounts receivable and back into cash what is called operating cycle.

1.1.6 JUST-IN-TIME METHOD:

Just-in-time also known as JIT is an inventory management method whereby labor, material and goods (to be used in manufacturing) are re-filled or scheduled to arrive exactly when needed in the manufacturing process.



1.1.6.1 ELIMINATING WASTE:

There are seven types of waste:

- Waste from product defects
- Waste of time.
- Transportation waste.
- Inventory waste.
- Waste from overproduction.
- Processing waste.

Waste minimization is one of the primary objectives of Just In Time system. This needs effective inventory management throughout the whole supply chain. Initially, a manufacturing entity will seek to reduce inventory and enhance operations within its own organization. In an attempt to reduce waste attributed to in effective inventory management.

JIT principles focus on the elimination of waste by deploying tools such as total quality management, continuous quality improvement, focused factory, reducing setup times, flexible resources, group technology layout, and pull production system

1.1.6.2 JIT PRINCIPLES:

- Reduce buffer inventory
- Try for zero inventory
- Search for reliable suppliers
- Reduce lot size and increase the frequency of orders
- Reduce purchasing cost
- Improve material handling.

1.1.6.3 Advantages & Disadvantages of Just-In-Time Systems

Advantages of Adopting Just-In-Time include:

- Just-in-time approach keeps stock holding costs to a minimum level.
- The just-in-time approach helps to eliminate waste. Chances of expired or out of date products; do not arise at all.
- By following JIT greater efficiency and High-quality products can be derived.
- Better relationships are fostered along the production chain under a JIT system.
- Higher customer satisfaction due to continuous communication with the customer.
- Just In Time adoption result in the elimination of overproduction.

Disadvantages of Adopting JIT Systems:

- JIT approach states ZERO tolerance for mistakes, making re-work difficult in practice, as inventory is kept to a minimum level.
- A successful application of JIT requires a high reliance on suppliers, whose performance is outside the purview of the manufacturer.
- Chances are quite high of not meeting an unexpected increase in orders as there will be no excess inventory of finished goods.
- Transaction costs would be comparatively high depending upon the frequency of transactions.

- JIT may have certain negative effects on the environment due to the frequent deliveries as the same would result in higher use and cost of transportation, which in turn would consume more fossil fuels.

1.1.7 MATERIAL REQUIREMENT PLANNING:

A Material Requirements Planning (MRP) system is a planning and decision-making tool used in the production process which analyses current inventory levels Vs production capacity and the need to manufacture goods, based on forecasts. MRP schedules production as per bills of materials while minimizing inventory. The technique is computerized and looks at requirements within a fixed period.

1.1.7.1 Objectives of MRP:

1. Inventory reduction:

MRP determines how many components are required when they are required in order to meet the master schedule. It helps to procure the materials/ components as and when needed and thus avoid excessive buildup of inventory.

2. Reduction in the manufacturing and delivery lead times:

MRP identifies materials and component quantities, timings when they are needed, availabilities and procurements and actions required to meet delivery deadlines. MRP helps to avoid delays in production and priorities production activities by putting due dates on customer job order.

3. Realistic delivery commitments:

By using MRP, production can give marketing timely information about likely delivery times to prospective customers.

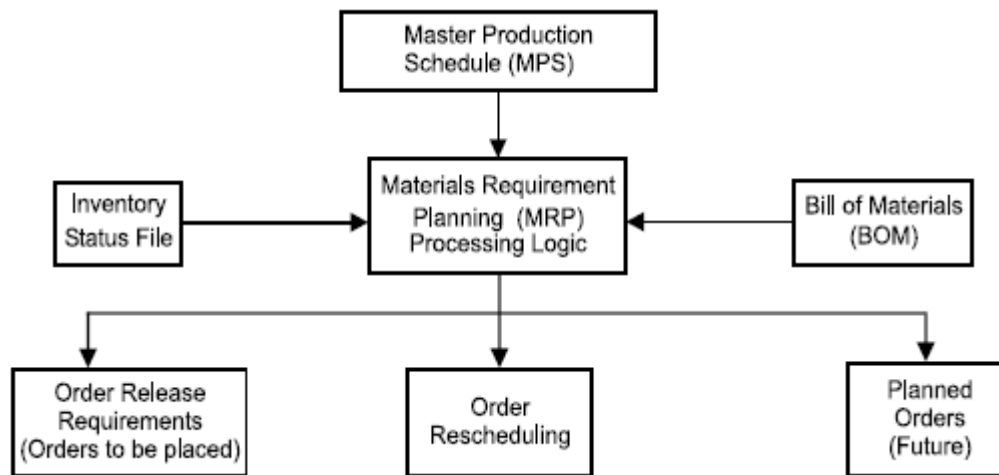
4. Increased efficiency:

MRP provides a close coordination among various work centers and hence help to achieve uninterrupted flow of materials through the production line. This increases the efficiency of production system.

1.1.8 MRP SYSTEM:

The inputs to the MRP system are:

- A master production schedule,
- An inventory status file and
- Bill of materials (BOM).



1.1.8.1. MASTER PRODUCTION SCHEDULE(MPS):

MPS is a series of time phased quantities for each item that a company produces, indicating how many are to be produced and when. MPS is initially developed from firm customer orders or from forecasts of demand before MRP system begins to operate. The MRP system whatever the master schedule demands and translates MPS end items into specific component requirements. Many systems make a simulated trial run to determine whether the proposed master can be satisfied.

1.1.8.2 INVENTORY STATUS FILE:

Every inventory item being planned must have an inventory status file which gives complete and up to date information on the on-hand quantities, gross requirements, scheduled receipts and planned order releases for an item. It also includes planning information such as lot sizes, lead times, safety stock levels and scrap allowances.

1.1.8.3 BILL OF MATERIALS (BOM):

BOM identifies how each end product is manufactured, specifying all subcomponents items, their sequence of buildup, their quantity in each finished unit and the work centers performing the buildup sequence. This information is obtained from product design documents, workflow analysis and other standard manufacturing information.

Advantages of MRP:

- Inventory control. Inventory management is crucial to realizing manufacturing efficiency
- Purchase planning
- Production planning
- Work scheduling
- Resource management
- Data management and documentation
- Economic purchasing
- Time-saving.

Disadvantages of MRP:

- Inaccurate or partial Bill of Materials listing from the engineering firm.
- Engineering requisition issues.
- Purchase order revisions and inaccuracies.
- Shipping and receiving errors causing inaccurate inventory levels.
- Inaccurate material inventory counts.

1.1.9 ECONOMIC ORDER QUANTITY METHOD:

Economic order quantity (EOQ) is the ideal order quantity a company should purchase to minimize inventory costs such as holding costs, shortage costs, and order costs.

$$Q=\sqrt{2DS/H}$$

Q=EOQ units

D=Demand in units

S=Order Cost (Per purchase order)

H=Holding Costs (Per unit, per year)

1.1.9.1 HOLDING COSTS (H):

Holding costs are those associated with storing inventory that remains unsold. These costs are one component of total inventory costs, along with ordering and shortage costs. A firm's holding costs include the price of goods damaged or spoiled, as well as that of storage space, labor, and insurance.

1.1.9.2 ANNUAL DEMAND (D):

The annual inventory cost, otherwise known as the carrying cost, is the cumulative annual cost of holding inventory. The annual inventory cost includes the cost of the inventory's storage space, taxes paid, insurance premiums paid, bad inventory, handling and the opportunity cost of the money invested in inventory.

1.1.9.3 ORDER COSTS(S):

Ordering costs are the expenses incurred to create and process an order to a supplier. These costs are included in the determination of the economic order quantity for an inventory item.

1.1.10 MINIMUM SAFETY STOCKS:

Safety stock inventory, also known as buffer stock, is the extra inventory you order. It's the stock you need for when the inevitable happens. Whenever demand is greater than expected or there's a delay from your supplier, safety stock ensures a customer doesn't walk out the door empty-handed and disappointed.

Safety Stock= (Maximum Daily Usage x Maximum Lead Time Days)-(Average Daily Usage x Average Lead Time Days)

1.1.10.1 Primary reasons for carrying safety stock:

- Protect against unforeseen variation in supply
- Compensate for forecast inaccuracies (only when demand exceeds the forecast)
- Prevent disruptions in manufacturing or deliveries. ...
- Avoid stock outs to keep customer service and satisfaction levels high.

Advantages of safety stock:

- Wholesale pricing
- Fast fulfillment
- Low risk of shortages
- Increased Customer Satisfaction

Disadvantages of safety stock:

- Obsolete Inventory
- Potential Insurance Costs and Loss
- Tying Up Capital

1.2 INDUSTRY PROFILE

The textile Industry mostly small-scale, nonintegrated spinning, weaving, cloth finishing, and apparel enterprises, many of which use outdated technology, characterize India's textile sector. Some, mostly larger, firms operate in the "organized" sector where firms must comply with numerous government labor and tax regulations. Most firms, however, operate in the small-scale "unorganized" sector where regulations are less stringent and more easily evaded.

The unique structure of the Indian textile industry is due to the legacy of tax, labor, and other regulatory policies that have favored small-scale, labor-intensive enterprises, while discriminating against larger scale, more capital-intensive operations. The structure is also due to the historical orientation towards meeting the needs of India's predominately low-income domestic consumers, rather than the world market. Policy reforms, which began in the 1980s and continued into the 1990s, have led to significant gains in technical efficiency and international competitiveness, particularly in the spinning sector. However, broad scope remains for additional reforms that could enhance the efficiency and competitiveness of India's weaving, fabric finishing, and apparel sectors.

Unlike other major textile-producing countries, India's textile industry is comprised mostly of small-scale, nonintegrated spinning, weaving, finishing, and apparel-making enterprises. This unique industry structure is primarily a legacy of government policies that have promoted labor-intensive, small-scale operations and discriminated against larger scale firms.

Composite Mills. Relatively large-scale mills that integrate spinning, weaving and, sometimes, fabric finishing are common in other major textile-producing countries. In India, however, these types of mills now account for about only 3 percent of output in the textile sector. About 276 composite mills are now operating in India, most owned by the public sector and many demand financially "sick".

Spinning is the process of converting cotton or manmade fiber into yarn to be used for weaving and knitting. Largely due to deregulation beginning in the mid-1980s, spinning is the most consolidated and technically efficient sector in India's textile industry. Average plant size remains small, however, and technology outdated, relative to other major producers. In 2002/03, India's spinning sector consisted of about 1,146 small-scale independent firms and 1,599 larger scale independent units.

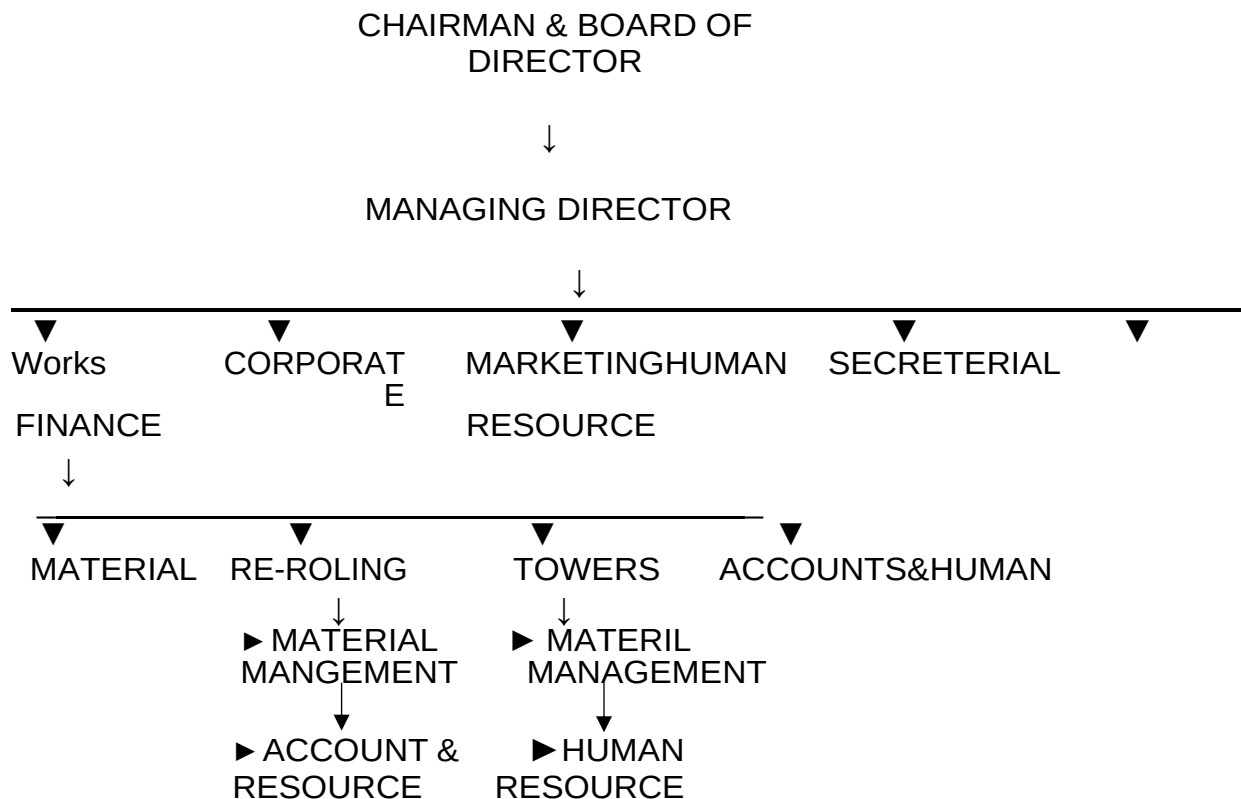
Weaving and Knitting. Weaving and knitting converts cotton, manmade, or blended yarns into woven or knitted fabrics. India's weaving and knitting sector remains highly fragmented, small-scale, and labor-intensive. This sector consists of about 3.9 million handlooms, 380,000 "powerloom" enterprises that operate about 1.7 million looms, and just 137,000 looms in the various composite mills. "Powerlooms" are small firms, with an average loom capacity of four to five owned by independent entrepreneurs or weavers. Modern shuttleless looms account for less than 1 percent of low capacity.

Fabric finishing (also referred to as processing), which includes dyeing, printing, and other cloth preparation prior to the manufacture of clothing, is also dominated by a large number of independent, small scale enterprises. Overall, about 2,300 processors are operating in India, including about 2,100 independent units and 200 units that are integrated with spinning, weaving, or knitting units. Clothing Apparel is produced by about 77,000 small-scale units classified as domestic manufacturers, manufacturer exporters, and fabricators (subcontractors).

1.2.2 Growth of Textile Industry

The analysis of the growth pattern of different segment of the industry during the last five decades of post independence era reveals that the growth of the industry during the first two decades after the independence had been gradual, though lower and growth had been considerably slower during the third decade. The growth thereafter picked up significantly during the fourth decade in each and every segment of the industry. The peak level of its growth has however been reached during the fifth decade i.e., the last ten years and more particularly in the 90s. The Textile Policy of 1985 and

Economic Policy of 1991 focussing in the direction of liberalisation of economy and trade had in fact accelerated the growth in 1990s. The spinning spearheaded the growth during this period and man-made fibre industry in the organised sector and decentralised weaving sector.



1.2.3 GLOBAL PERPECTIVE IN TEXTILES:

1.2.3.1 World Demand:

Total demand for Textiles in the world is expected to grow at an annual rate of 1.7% between 1935 and 2000 according to a study by chase econometrics. According to this estimate, total demand in the year 2000 is expected to be 913 MT of crude steel. The world growth rate of 1.7% per annum disguises dramatic differences in steel demand growth. Within the non-socialistic world, steel demand in advance industrial countries at a whole are expected to grow at 0.6 % annual rate following a 2.2% annual rate between 1974 and 1984. Steel demand in less

developed countries as a whole is expected to grow at a 5.5% annual rate up to 2000 following a 3.1% annual growth rate between 1974 and 1984. Within the centrally planned economies category, the Eastern Europe erstwhile USSR region may have a 0.3% annual Textiles demand growth during the period 1974–84. Textiles Demand rate up to the end of this century after a 7.8% per annum growth during 1974 – 84.

1.2.3.2 THE INDIAN TEXTILES SCENARIO:

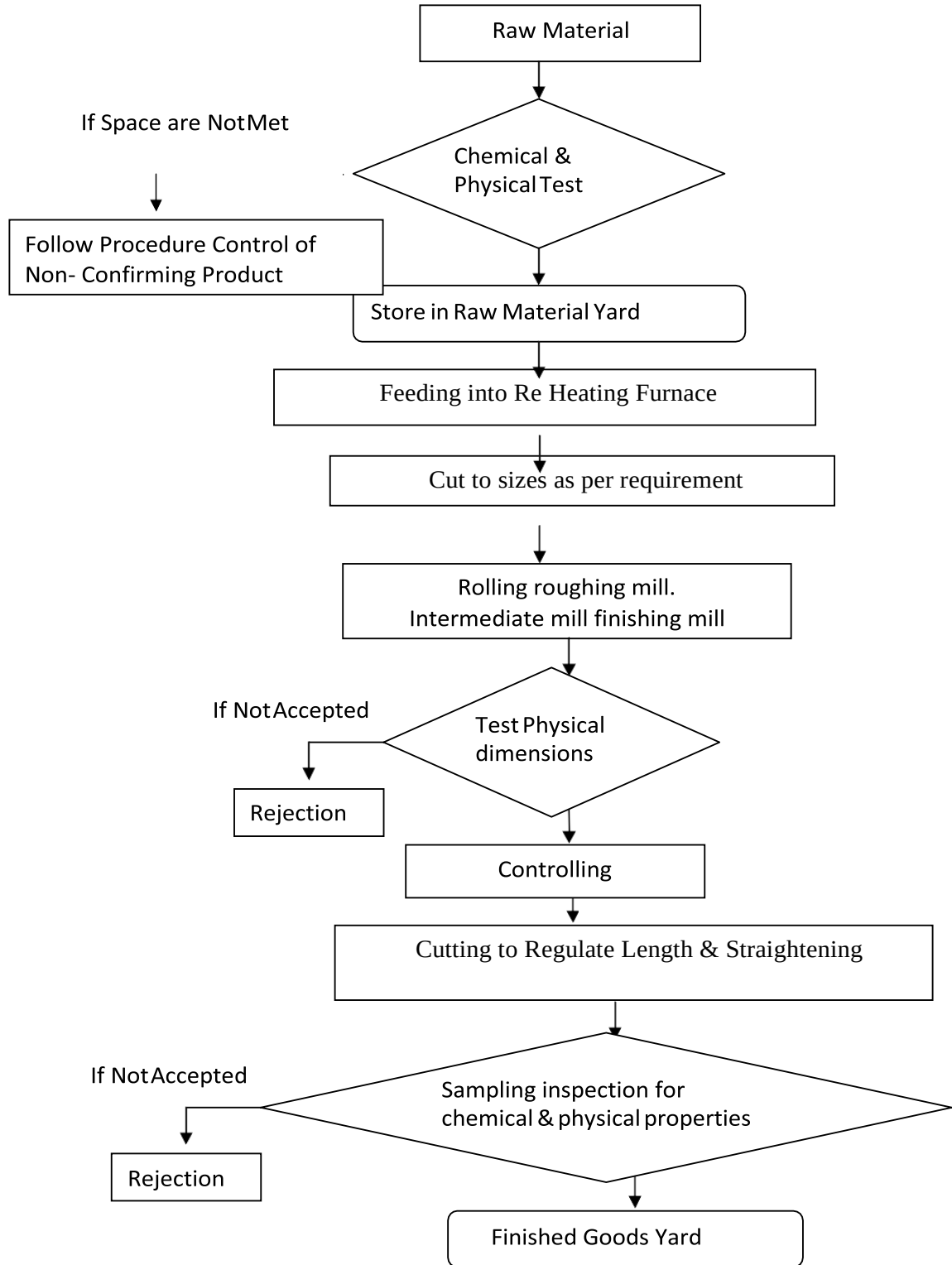
Textiles consumption in India has gone up during the past decade from the level of 10 MT (1993-94). Similarly pig iron consumption has gone up from 1.4 MT to about 1.8 MT. The past decade was not significant only for higher growth rate of iron and steel consumption has gone up from 1.4 MT to about 1.8 MT. The past decade was not significant only for higher growth rate of iron and steel consumption in the country compared to previous few decades (during 1960-61 steel consumption in the county has gone up from 3.6 MT to 8.9 MT only), but some vital events have also taken place which brought an overall change in the Indian Textiles Scenario.

During the 80's decade, all main producers have taken a number of steps to modernize the technology and products of their steel plants. A number of major secondary products have entered in the integrated steel production activities in a big way. Some of them have also entered into sophisticated production area of higher quality cold rolled sheets and coated sheets. The recent policy of the government of India for liberalizing the Indian iron and steel sector from age- old control and equalized freight system has changed the basis structure of the industry.

1.3 COMPANY PROFILE

Ammayapper Textiles Private Limited is a Non-govt company, incorporated on 14 Jun, 2005. It's a private unlisted company and is classified as 'company limited by shares'. Company's authorized capital stands at Rs 1000.0 lakhs and has 83.350006% paid-up capital which is Rs 833.5 lakhs. Ammayapper Textiles Private Limited last annual general meet (AGM) happened on 30 Sep, 2017. The company last updated its financials on 31 Mar, 2017 as per Ministry of corporate affairs (MCA) Ammayapper Textiles Private Limited is majorly in Manufacturing (Textiles) business from last 16 years and currently, company operations are active. Current board members & directors are VELUCHAMY HARIDOSS, HARIDOSS KARTHIKEYAN, HARIDOSS SENTHILVELU and RAMYA in modern fashion technology, the demand for perfection begins right at the birth of the raw material, permeates through every single process, till the highly discerning customer dons the finished garment. It is this demand for perfection that has spurred the growth of an organisation and its corporate philosophy. Those who can furnish clients with the best quality, competitive price, excellent customer services and prompt delivery can only survive in the market. Ammayapper Textiles Limited takes immense pride in perceiving its role as the comprehensive architect of every single yarn and garment that it produces. Ammayapper Textiles Limited is a multi-unit, multi-interest business group with a wide range of industrial activity, an organisation that has founded its evolution on value-based commercial practice.

1.3.1 MANUFACTURING PROCESS



1.3.2 OBLIGATIONS:

Towards Shareholders:

- To ensure growth projection are matched by performance to build confidence and goodwill.
- To ensure a reasonable annual dividend commensurate with company's performance profits and future plans for investments

Towards Customers and Dealers:

- To provide a quality product and spread awareness amongst them for competitive selling in buyers market backed by world class customer service.

Towards Employees:

- To develop and upgrade their skills through in – house and external training programs enabling careers progressions and advancement.
- The inputs for upgrading managerial and operational skills are provided to meet present and future challenges.

Towards the community:

- To ensure environmental protection in and around plant operational areas and promote development of community by participating in several activities.

1.3.3 OBJECTIVES OF COMPANY:

- Maintain smooth and uninterrupted supply of products by keeping adequate inventories and stocks; to ensure product availability in all markets.
- Optimize utilization of existing infrastructure and operate at installed capacities to maximize production and enhance efficiency.
- Shore up man power skills and technical expertise aimed at self – reliance implementation of expansion programs and diversification of plans.
- To consolidate and sustain growth by developing suitable structure, inducting monitoring system for cost effectiveness and exercising controls at levels for effective functioning.

1.3.4 INHERENT STRENGTHS:

- Survived through turbulent times of industry.
- BIS Standard compliance quality products.
- Strong core technical team and low employee turnover.
- Capacity for flexible designs and small batch sizes.
- Efficient use of infrastructure.

1.3.5 OPPORTUNITIES:

- Market value added products through innovation and development.
- Good growth prospects for galvanized towers for power transmission and telecom.
- A strong growth in infrastructure industry.
- Growth in housing sector expected to continue.
- Increased export demand for galvanized products and reduction of tariff barriers.

1.4 NEED OF STUDY

1.4.1 TRANSACTION MOTIVE:

This refers to the need of maintaining inventory to facilitate smooth production and sales operations.

1.4.2 PRECAUTIONARY MOTIVE:

Precautionary motive for holding inventory is to provide a safeguard when the actual level of activity is different than anticipated. This inventory serves when there is an unpredictable change in the demand and supply forces.

1.4.3 SPECULATIVE MOTIVE:

This motive influences the decision to increase or decrease the levels of inventory to take the advantage of price fluctuations.

1.5 SCOPE OF THE STUDY

- Inventory management is a simple concept-don't have too much stock and don't have too little. Since there can be a substantial costs involved in staying above and below the optimal range, careful inventory management can make a huge difference in the right balance can be quite a complex and time consuming task without the right technology.
- Inventory management is very important for “**AMMAYAPPER TEXTILES PRIVATE LIMITED**”. It enables the business to meet or exceed expectations of the customers by making the products readily available.
- The scope of the study includes the ABC Analysis of Raw Materials, work in progress and finished goods for Three Months.
- This study provides insight to the management of high value items and also brings attention of management towards movement of 'A' class items over period of 3 months

1.6 OBJECTIVE OF THE STUDY

1.6.1 Primary Objective

- A Study on inventory Management in Ammayapper Textiles Private Limited

1.6.2 Secondary Objective

- To study about the ordering levels for the important components of inventory.
- To understand and measure economic order quantity for the selected raw material items.
- To analysis its inventory management methods with the help of ABC analysis, EOQ analysis etc.
- To evaluate the inventory management practices of **AMMAYAPPER TEXTILES PRIVATE LIMITED**.
- To offer suitable suggestions for the improvement of inventory management practices.

1.7 LIMITATIONS OF THE STUDY

- Detail study about all the material was not possible because of time limit.
- Some of the information was kept confidential by the stores department
- Study was confined only to the selected components in the stores department

CHAPTER – 2

REVIEW OF LITERATURE

2.1 Review Literature

Sastry(2006) It is the most comprehensive study on manufacturers' inventories. They used the CMI data and the consolidated balance sheet data of public limited companies published by the RBI, in order to analyse each of the major components, like the raw materials, products-in-process and finished products, for 21 industries during 1946-62. That study was time series one although there were some inter-industry cross-section analyses that were carried out in the analysis. The Accelerator represented by change in sales, bank finance as well as short-term rate of interest was found to be an important determinant. Also utilisation of manufacturing efficiency with price anticipations was also found to be relevant on study.

George (2001) study on cross section analysis of balance sheet data of 52 public limited companies . Accelerator, internal and external finance variables were considered in formulation of equations for raw items that includes goods-in-process inventories. However, equations for finished goods inventories conceive only output volatile. Deliberation was given on accelerator and external finance volatiles.

Mishra (2001) study on six major public sector enterprises. He concluded that inventory constitutes most important component of working fund of public enterprises efficiency of working funds employed in receivables is terribly low in selected enterprises and all units both current assets and quick ratios are greater than their standards. Enterprises need proper control on receivables.

Bansal(2005) study on Materials Management: A case Study of Bharat Heavy Electricals Limited, Bhopal Unit, (BHEL), has evaluated the existing systems of inventory management. He emphasises. The need for automatic replenishment system in the undertaking offer studying the application of ABC analysis and EOQ technique of inventory control. He also points out the accumulation of surplus stores and non-moving items in the organization and recommends that the surplus and absolute stores which are no longer required should be disposed off as early as

possible at the best available price. Further, he suggests the preparation of monthly class wise statements on inventories for effective control over them and the introduction of reconciliation system of stores ledgers with account ledgers to avoid misappropriation of stores, and spares for production and operation are above their actual consumption level. The inventories in general are found to be above their routine requirements. The holdings of stores and spares corresponding to two to three years requirements should be considered excess.

Lambrix and Singhvi (2008) Adopted working fund cycle approach in working fund management, also suggested that investment in working fund can be optimized and cash flows can be improved by reducing the time frame of physical flow starting from the receipt of raw material to the shipment of finished goods, i.e. inventory management, and by improving the terms and conditions on which firm sells goods as well as receipt of cash.

Lal (2008) study on private limited as a case study, his study focused on inventory management. He originated a model which involve price variable in inventory management earlier price variable in inventory was not considered in that company. The analysis recommended solid policies, which would look after internal and external factors, ultimately it would help in bringing in efficient working capital management.

Farzaneh (2009) Presented mathematical model, to assist industries on their decision to switch from EOQ to JIT purchasing policy. He defines JIT as “to produce and deliver finished goods just in time to be sold, sub-assemblies just in time to be assembled in goods and purchased material just in time to be transformed into fabricated parts”. He highlights economic order quantity model describes how can minimizing expenditure on inventory rather than minimizing stock inventory. In ideal condition where all the conditions meet, it is economically better off to choose the JIT over the EOQ because it results on purchase price, request price.

Rich Lavelly (2002) the stock inventory means “Piles of Money” on the shelf and the profit for the firm. However, he notices that 30% stock of maximum retail shops being dead. Thus, he argues the stock control is facilitate shop operations by minimizing rack time and thus increases business margin. He also elaborates two types on stock calculations which determine stock level required for business margin. There are two calculations such as “ordering cost ” and “ keeping cost ”. Finally, he proposes seven steps for controlling of inventory.

Dave Piasecki (2001) inventory calculating optimum purchase quantity which used the EOQ method. He points out that many companies are not using EOQ model because of poor results resulted from inaccurate data input. He says that EOQ is an accounting formula which determines point at which combination of ordering costs and stock inventory costs are the least. He highlights that EOQ method would not conflict with the JIT approach. He further elaborates the EOQ model formula that includes parameters like yearly usage on unit, order cost and carrying cost. Finally, he proposes several steps to follow in implementing the EOQ model. Now this literature limitation is as it does not elaborate further association among EOQ and JIT. It does not associate stock turns with EOQ so fails for mention profit gain with associated stock is calculated.

Sambasiva Rao. K(2002) According his investigation on Materials Managing in Public Sector Ship Building Industry evaluates. Output of materials managing and identifies some problems faced by materials managing in the heavy engineering industry. This investigation method involves the 68 documentary evidence and survey of expert opinion. He evaluates the existing purchase systems and lead time involved on procurement of stock item and advised the long lead time shall be reduced. His research points at additional stock in terms on months production cost in all the engineering units. He also highlights some of the problems in the area on materials managing such as delay in customer part on supplying own stock item, existence and disposal of surplus and non-moving items, excessive lead times and excessive dependence on imports. He claims that administrative and procurement lead times for organization are on the higher side according to peculiar nature of industry. He

suggests liberalized purchase procedures, increased capital powers to the personnel, Opening up of liaison offices in various countries to reduce the lead time.

Gaur, Fisher and Raman (2005) study examined firm-level inventory behavior among retailing companies. They took a sample on 311 public-listed retail firms for years 1987–2000 for investigate relationship on stock turnover about gross margin, capital intensity , sales surprise. All observed that stock aggregate turnover for retailing company was positively related to capital intensity with sales surprise while inversely related gross margins.

S. Singh (2006) Analysed stock control exercises on single fertilizer company named IFFCO. He statistically examined stock level according consumption, sales as well as other variables along growth on these variables with inventory patterns. He concluded increments in components of stocks lead to increment in the proportion on stock in current assets. The special attention was made in stores with spares for calculate excess purchases resulting

Pradeep singh (2008) study made an attempt to investigate stock with working capital managing Indian Farmers Fertilizer Cooperative Limited (IFFCO) / National Fertilizer Limited (NFL).He concluded that overall position of the working fund of IFFCO / NFL is satisfactory. But there arises need for improvement in stocking as situation of IFFCO. Although stock were not properly utilized as well as maintained bay IFFCO during investigation period. Also managing organization of NFL surely try to properly utilize stock with try to care stock according to requirements. So that liquidity will not interrupt.

Capkun, Hameri and Weiss (2009) Statistically analysed the association among stock levels with fund situation in manufacturing companies using capital information on large sample on US-based production units over a 26-year period, during, 1980 to 2005. According to them a significant relationship existed between inventory performance along with the performance of its components and profitability.

Gaur and Bhattacharya(2011) Attempted to study the linkage between the performance of the components of inventory such as raw material, work in progress and finished goods and financial performance of Indian manufacturing firms. The study revealed that finished goods inventory as inversely associated with business performance while raw material inventory and work in progress did not have much effect on same. They emphasised that instead of focusing on total inventory, an attempt should be made to concentrate on individual components of inventory so as to adequately manage the same. They concluded that managers not paying heed to inventory performance may become weak in combating competitors.

Eneje et al (2012) He researched the changes of raw stock inventory management system with margin of beer company in Nigeria during data from 1989 to 2008 which had gathered for analysis from the annual reports of the sampled brewery firms. Measures of profitability were examined and related to proxies for raw materials inventory management by brewers. The Ordinary Least Squares (OLS) stated in the form of a multiple regression model was applied in the analysis. Research analysed that local variable raw stock inventory managing system design such a way to capturing changes of efficient management of raw stock inventory on behalf of company in terms of their margin is significantly strong and positive and influences the profitability of the brewery firms in Nigeria. They concluded that efficient management of raw material inventory is a major factor to be contained with by Nigerian brewers in enhancing or boosting their profitability.

Nyabwanga and Ojera (2012) Their research concentrate relationship among inventory management with business performance of smallscale enterprises (SSEs), in Kisii Municipality, Kisii County, Kenya. They used a cross-sectional survey study based on a small sample size of 79 SSEs. The study inferred that inventory comprised the maximum portion of working capital, and improper management of working capital was one of the major reasons of SSE failures. The empirical results disclosed that a positive significant relationship existed between business performance and inventory management practices with inventory budgeting having the maximum influence on

business performance ensued by shelf-space management. The study suggested that by following effective inventory management practices business performance can be enhanced loss of profit.

Sahari, Tinggi and Kadri (2012) They focused on association among the inventory management system and company performance corresponding to fund capability. Therefore according to that reason they looked 82 sample construction company in Malaysia during period of 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.

Lwiki et al (2013) A survey conducted on all the eight (8) sugar manufacturing firms in Kenya established that there is generally positive correlation between each of inventory management practices. Specific performance indicators were proved to depend on the level of inventory management practices. They established that Return on Equity had a strong correlation with lean inventory system and strategic supplier partnerships. As such, they concluded that the performance of sugar firms could therefore be stated as being a function of their inventory management practices.

Panigrahi (2013) According to his analysis inventory management practices used by Indian cement firms and their effects must be on working fund efficiency. The study also investigated the relationship between profitability and inventory conversion days. The study, using a sample of the top five cement companies of India over a period of 10 years from 2001 to 2010, concluded there must be exist inverse relationship among conversion period of inventory and profit margin.

Madishetti and Kibona (2013) Found that a well designed and executed inventory management contributes positively to a small or medium-sized enterprises (SMEs) profitability. They studied the association between. inventory conversion period and profitability and the impact of inventory management on SMEs profitability. They took

a sample of 26 Tanzanian SMEs, and used the data from financial statements for the period 2006–2011. Regression analysis was adopted to determine the impact of inventory conversion period over gross operating profit. The results cleared out that significant negative linear relationship occurred between inventory conversion period and profitability.

Srinivas Rao Kasisomayajula (2014) The research title based on the "Inventory Management in Commercial Vehicle Industry In India". There were five sample firms had preferred for study. The study concluded that all the units in the commercial vehicle industry have significant relationship between Inventory and Sales. Proper management of inventory is important to maintain and improve the health of an organization. Efficient management of inventories will improve the profitability of the organization.

Edwin sitienei And Florence Membea (2015) Conducted Effect of Inventory Management on profitability of Cement Manufacturing Companies in Kenya. The study concluded that Gross profit margin is negatively correlated with the inventory conversion period, Increase in sales, which denotes the firm size enriches the firm's inventory levels, which pushes profits upwards excessive stock in warehouses. due to optimal inventory levels. It is also noted that firms inventory systems must maintain an appropriate inventory levels to enhance profitability and reduce the inventory costs associated with holding

CHAPTER – 3

RESEARCH METHODOLOGY

3.1 RESEARCH DESIGN

Research Design used in this study is Inventory. This research is a study to designed the depict of the participants in an accurate way. More simply put, descriptive research is all about describing people who take part in the study

3.2 SAMPLING TECHNIQUE

Sampling is the process is discussinons with The executives divison . To study about the ordering levels for the important components of inventory.To understand and measure economic order quantity for the selected raw material items.

3.3 SOURCE OF DATA

3.3.1 Secondary data

The data has been gathered through interaction and discussions with the executives working in the division. Some important information has been gathered through couple of unstructured interviews of executive.

3.4 PERIOD OF STUDY

The period of study is from dec 2020 to Feb 2021 (3 Months).

3.5 TOOLS FOR ANALYSIS

- ❖ ABC analysis
- ❖ EOQ
- ❖ The Re-order level
- ❖ Inventory Turnover Ratio

3.5.1 ABC ANALYSIS:

- ABC analysis is an inventory categorization technique.
- A-items with very tight control and accurate records.
- B-items with less tightly controlled and good records
- C-items with the simplest controls possible and minimal records

3.5.2 ECONOMIC ORDER QUANTITY:

EOQ is the ideal order quantity a company should purchase to minimize inventory costs such as holding costs, shortage costs, and order costs.

3.5.3 THE RE-ORDER LEVEL

The re-order level is the level of inventory at which the fresh order for that item must be placed to procure fresh supply. The re-order level depends upon.

3.5.4 INVENTORY TURNOVER RATIO

This ratio is often a firm's inventory turns over during the course of the year. Because inventories are the least liquid form of assets, a high inventory turnover ratio is generally positive. On the other hand, and usually high ratio compared to the average for the industry could mean a business is losing sales because of inadequate stock on hand

CHAPTER – 4

DATA ANALYSIS AND INTERPRETATION

4. DATA ANALYSIS

4.1 ABC Analysis

- * It is based on proposition that
- * Managerial items and efforts are scarce and limited.
- * Some items of inventory are some important than others.

ABC Analysis

- ABC analysis classifies various inventory into three sets or groups of priority the allocates managerial efforts in proportion of The priority the most important item are classified into class - A,
- Those of intermediate importance are classified as “class - B” and remaining items are classified into class - C’.
- The financial manager has to monitor the items belonging to monitor the items belonging to different groups in that order of priority and depending upon the consumptions.
- The items with the highest values is given priority and soon and are more controlled then low value item. The re - rational limits are as follows.

Table 4.1.1 Table Showing The re - rational limits

Category	% of items	% of total cost of materials
A	5 – 10	70 – 85
B	10 – 20	10 – 20
C	70 – 85	5 – 10

Procedure

Items with the highest value is given top priority and soon. There after cumulative totals of annual value consumption are Expressed as percentage of total value of consumption. Then these percentage values are divided into three categories. ABC analysis helps in allocating managerial efforts in proportion to importance of various items of inventory.

Table 4.1.2 Table Showing Amount Raw material (at closing stock)

MONTHS	AMOUNT OF RAW MATERIALS
DECEMBER	274.94
JANUARY	582.11
FEBRUARY	858.17

Sources: Secondary Data

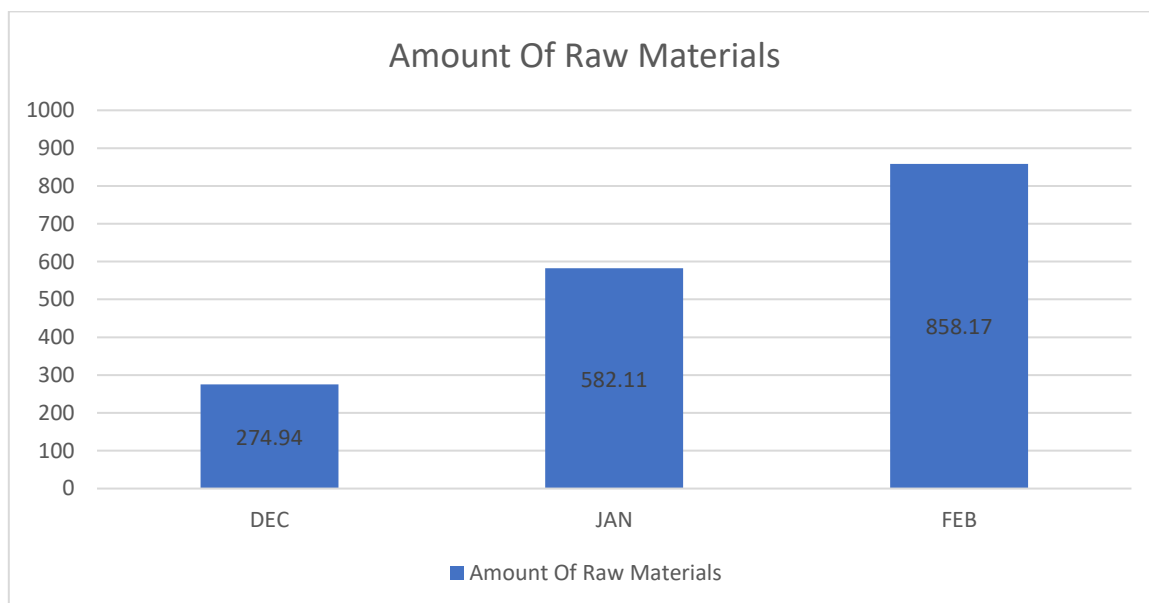


Chart 4.1.2 Chart Showing Amount of Raw material

Interpretation:

The above graph shows Amount of Raw Materials. In Dec 2020 the cost of material is 274.94 rs increased in this month and in Jan 2021 it is decreased to rs 582.11 in the month Feb 2021 it is increased to 858.17.

Inference:

The Amount Of Raw Materials Increased in Feb 2021 (858.17)

Table 4.1.3 Table Showing Stock in process (at closing stock):-

MONTHS	AMOUNT OF STOCK
DECEMBER	206.20
JANUARY	82.67
FEBRUARY	122.82

Sources: Secondary Data



Chart 4.1.3 Chart Showing Amount of Stock

Interpretation:

The above graph shows that work in progress at cost. In Dec 2020 the cost of material is 206.20 rs increased in this month and in Jan 2021 it is decreased to rs 82.67 in the month Feb 2021 it is increased to 122.82 .

Inference:

The Amount Of stock Increased in Dec 2020 (206.20)

Table 4.1.4 Table Showing Finished goods (at closing stock):-

MONTHS	AMOUNT OF FINISHED GOODS
DECEMBER	2704.08
JANUARY	6717.44
FEBRUARY	5019.79

Sources: Secondary Data

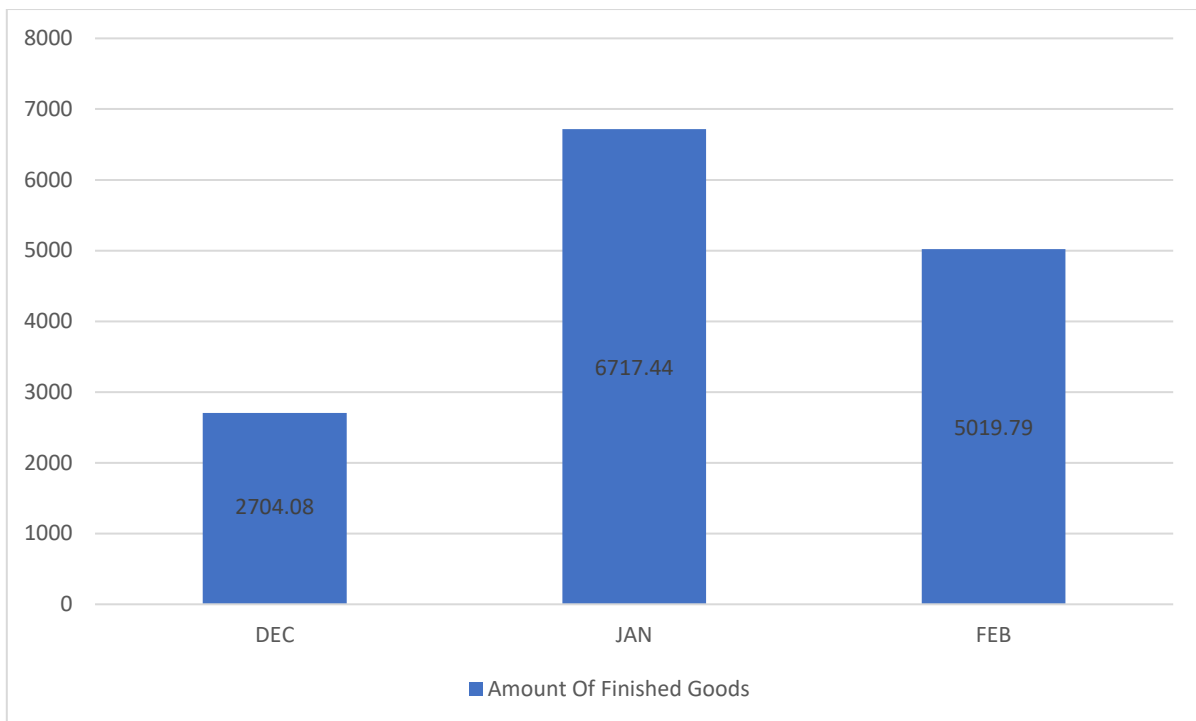


Chart 4.1.4 Chart Showing Amount Finished goods

Interpretation:

The above graph shows the amount of finished goods at cost. In Dec 2020 the cost of material is 2704.08 rs. It is increased to rs 6717.44 in the month Jan 2021. It is decreased in the month Feb 2021 the cost of goods is rs 5019.79

Inference:

The Amount of Finished goods is Increased in Jan 2021 (6717.44) Decreased in Feb 2021 (5019.79)

Table 4.1.5 Table Showing Stores, spares & consumables (closing stock):-

MONTHS	COST OF STORES, SPARES AND CONSUMABLES
DECEMBER	673.25
JANUARY	1628.44
FEBRUARY	3617.38

Sources: Secondary Data

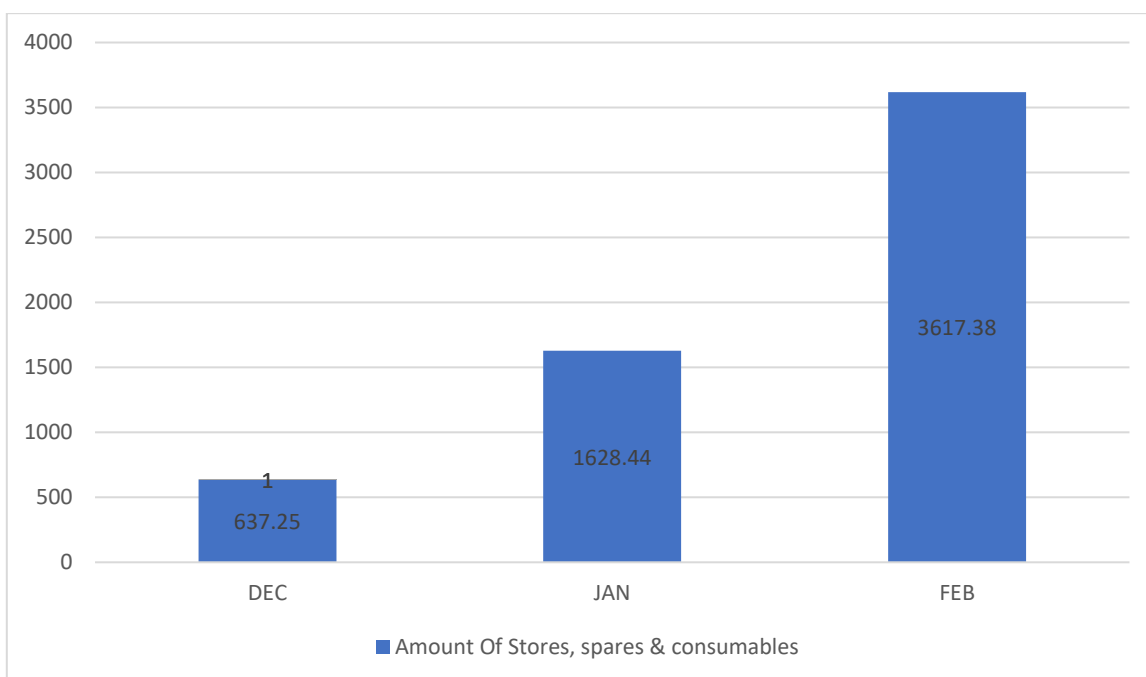


Chart 4.1.5 Chart Showing Amount Of Stores, spares & consumables

Interpretation:

The above graph shows the amount of stores and spares at cost. In Dec 2020 the consumable is rs673.25 and it is highly increased to rs 1628.44 in the month Jan 2021. The firm maintains goods in proper way rs 3617.38 in the month Feb 2021 .

Inference:

The Amount of stores and spares increased month Feb 2021

Table 4.1.6 Table Showing Amount Raw material consumed:-

MONTHS	AMOUNT OF RAW MATERIAL CONSUMED
DECEMBER	65875.45
JANUARY	68699.73
FEBRUARY	172305.70

Sources: Secondary Data

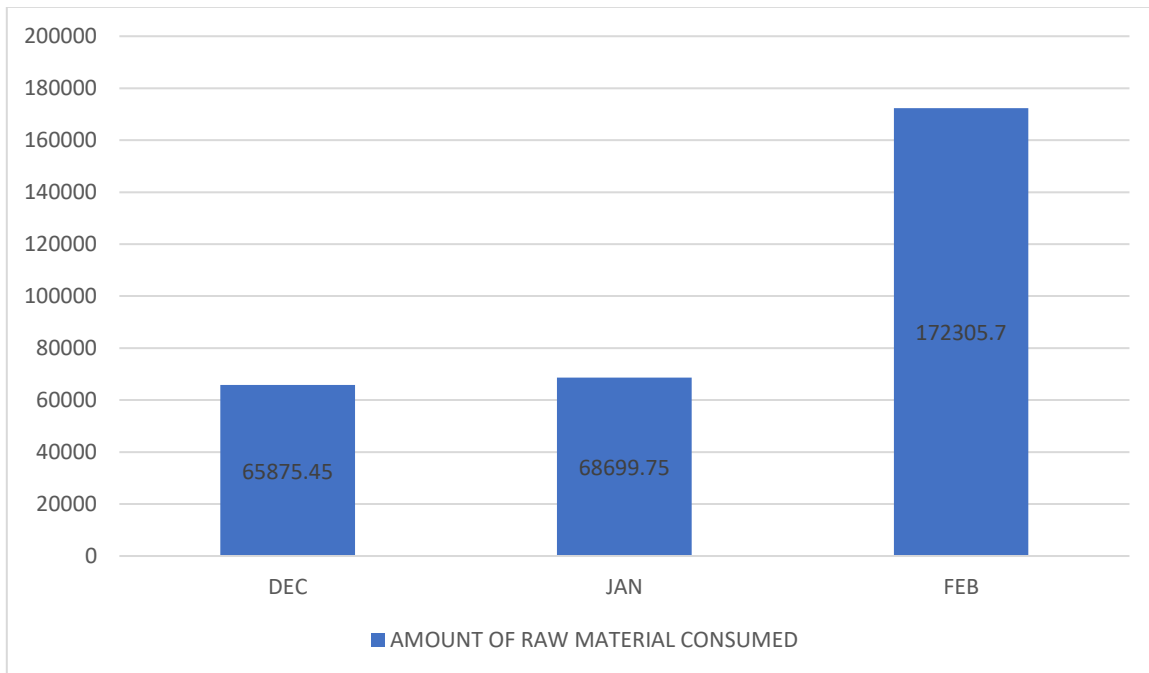


Chart 4.1.6 Chart Showing Amount of Raw material consumed

Interpretation:

The above graph shows consumption of raw materials. The consumption of raw material in the month Dec 2020 is rs 65875.45 the consumption of raw material increased in the Month Jan -Feb in the rs 172305.70

Inference:

The Amount of Raw materials consumption increased month Feb 2021(172305.70)

4.2 Economic order quantity:

Table 4.2.1 Table Showing EOQ During Dec 2020 -Jan 2021:

The firm requires below given units of material for manufacturing of clothes.

The following are the details of their operation during .

PARTICULARS	
Billets/Blooms	28,889 Qty (mt)
Ordering cost per Order	Rs. 2000
Carrying cost	10%
Purchase price per Unit	400

Sources: Secondary Data

Calculation of EOQ:-

Total units required (A) =28889

The ordering cost per order (O) =Rs.2000

Carrying cost per unit (C) =10%

(i.e.) 10% of Rs.400 =Rs.40

$$\begin{aligned}\text{EOQ} &= \sqrt{2AO/C} \\ &= \sqrt{2 \times 28889 \times 2000 / 40} \\ &= \text{Rs.}1699.67\end{aligned}$$

Number of orders for the year = A/EOQ

$$\begin{aligned}&= 28889 / 1699.67 \\ &= 16.99 \sim 17 \text{ orders}\end{aligned}$$

Total annual cost = carrying cost + ordering cost

$$\begin{aligned}&= 1445000 + 34000 \\ &= \text{Rs.}1479000\end{aligned}$$

➤ **Carrying cost = order size * average inventory**

- **order size = A/no of orders**

$$=28889/17$$

$$= 1699.67$$

- **Average inventory = order size/2**

$$=1700/2$$

$$= \text{Rs.}850$$

- **Carrying cost = 1700*S850**

$$= \text{Rs.}1445000$$

- **Ordering cost = cost per order * no of orders**

$$= 2000*17$$

$$=\text{Rs.}34000$$

Interpretation:

The above Details Showing EOQ During Dec 2020 -Jan 2021.The The firm requires Above given units of material for manufacturing of clothes. The following details 1699.67 their operation For Two Months.

Inference:

The EOQ During Dec 2020 -Jan 2021(1699.67)

4.2.2 Table Showing EOQ DURING Jan 2021-Feb 2021

The firm requires below given units of material for manufacturing of clothes. The following are the details of their operation during Jan 2021-Feb 2021.

PARTICULARS	
Billets/Blooms	123596Qty (Mt)
Ordering cost per order	2200
Carrying cost	10%
Purchase price per unit	Rs 420

Sources: Secondary Data

Calculation of EOQ:-

Total units required (A) =123596mt

The ordering cost per order (O) =Rs.2200

Carrying cost per unit (C) =10%

(i.e.) 10% of Rs.2000 =Rs.42

$$\begin{aligned}\text{EOQ} &= \sqrt{2AO/C} \\ &= \sqrt{2 \times 123596 \times 2200 / 42} \\ &= \text{Rs.3598.354}\end{aligned}$$

$$\begin{aligned}\text{Number of orders for the month} &= A/\text{EOQ} \\ &= 123596/3598.354 \\ &= 34.79 \sim 35 \text{ orders}\end{aligned}$$

$$\begin{aligned}\text{Total annual cost} &= \text{carrying cost} + \text{ordering cost} \\ &= 6245669 + 77000 \\ &= \text{Rs.6322669}\end{aligned}$$

Carrying cost = order size average inventory

- **order size** **=** **A/no of orders**

 = 123596/35

 = 3531.31

- **Average inventory** **=** **order size/2**

 = 3531.1/2

 = Rs.1768.65

- **Carrying cost** **=** 3531.31*1768.655

 = Rs.6245669

- **Ordering cost** **=** **cost per order * no of orders**

 = 2200 *35

 = Rs.77000

Interpretation:

The above details Showing EOQ During Jan 2021 -Feb 2021.The firm requires below given units of material for manufacturing of clothes. The following details 3598.354 of their operation For Two Months.

Inference:

EOQ During Jan 2021 -Feb 2021(3598.354)

4.3 THE RE-ORDER LEVEL

The re-order level is the level of inventory at which the fresh order for that item must be placed to procure fresh supply. The re-order level depends upon Length of time between the placement of an order and receiving the supply. The usage rate of the item. The inventory is constantly being used up. The rate at which the inventory is being used up. The rate at which the inventory is being used up is called the usage rate.

4.3.1 The reorder level can be determined as follows:

$$R = M + TU$$

R = Reorder level

M = Minimum Level Of Inventory

Time = time gap/delivery time

U = Usage Rate

The figure shows that if the usage rate is constant, the order are made at even intervals for the same amounts each time and the inventory goes to zero just before an order is received.

4.4 Safety stock:

The safety stock protects firm from tradeoffs due to unanticipated demand for the items level of inventory investments is however increased by the amount of safety stock. Safety level is ascertained in inventory as a part because there is always an uncertainty involved in time lag usage rate or other factors. Usually smaller the safety level greater the risk of stock – outs. If stock levels are predictable then there is a chance of stock out occurring. However stock inflows and outflows are unpredictable or lesser predictable it becomes to carry additional safety to prevent unexpected stock outs so usage rate is estimated if cost is low then no safety stock is needed.

4.4.1 Just – In – Inventory:

The Basic concept is that every firm should keep a minimum level of inventory on hand, relying suppliers to furnish just in time as and when required. JIT helps in emphasizing sufficient level of stock to ensure that production will not be interrupted. Although the large inventories may be had idea due to heavy carrying JIT is a modern approach to inventory management and the goal is essentially to minimize such inventories and there by maximizing turnover.

JIT system significantly reduces inventory carrying cost be requiring that the raw material be procured just in time to be placed into production. Additionally the work in process inventory is minimized by eliminating inventory buffers between different production departments.

If JIT is to be implemented successfully there must be a high degree of coordination and co operation between the supplier and manufacturer and among different production centers. JIT does not appear to have any relation with EOQ however it is in fact alters some of the assumptions of EOQ model. The average inventory level under the EOQ model is defined as

Average inventory $= 1/2EOQ + \text{safety level}$ JIT attacks this equation in two ways.

By reducing the order cost.

By reducing the safety stock.

Inventory and delivery time to a bare minimum through adjustment EOQ model, will more than offset the costs associated with the increased possibility of stock – outs.

4.5 Inventory Turnover Ratio

What it is

This ratio is often a firm's inventory turns over during the course of the year. Because inventories are the least liquid form of assets, a high inventory turnover ratio is generally positive. On the other hand, and usually high ratio compared to the average for the industry could mean a business is losing sales because of inadequate stock on hand.

When to use it

If a firm's business has significant assets tied up in inventory, tracking its turnover is critical to successful planning. If inventory is turning too slowly, it could indicate that it may be hampering the firm's cash flow. Because this ratio judge's annual inventory turns, it is usually conducted once a year.

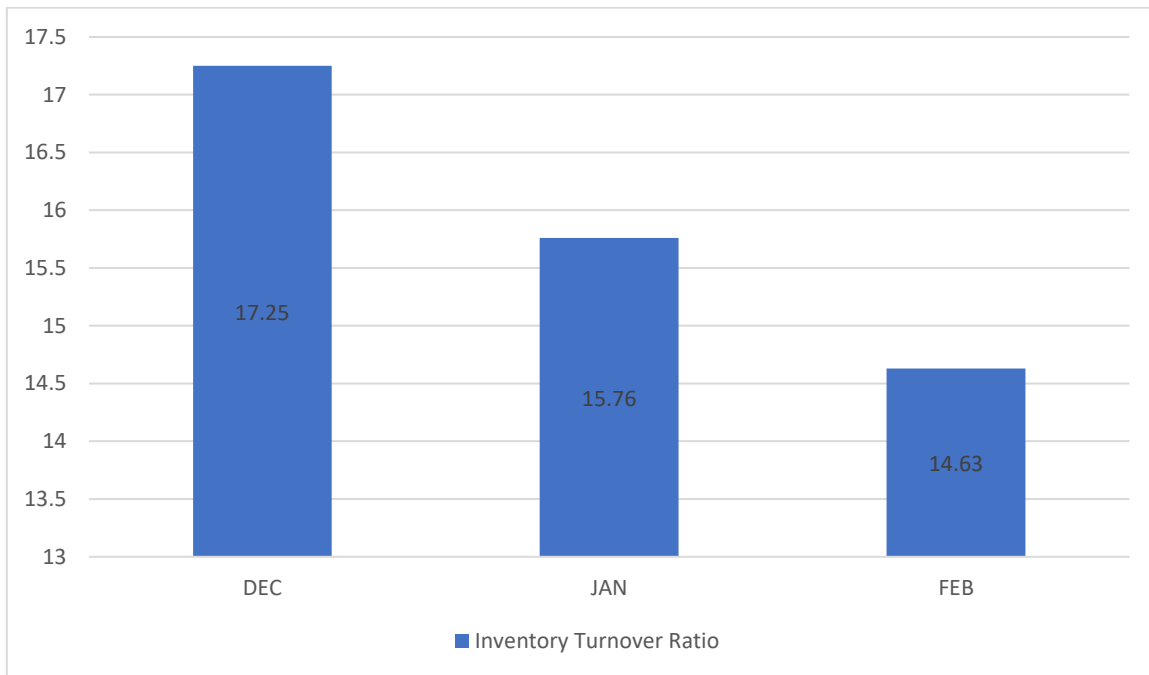
Table 4.5.1 Table Showing Inventory Turnover Ratio

The formula:
$$\frac{\text{cost of goods sold}}{\text{Average value of inventory}}$$

MONTH	COST OF GOODS SOLD	AVG VALUE OF INVENTORY	INVENTORY TURN OVER RATIO
DECEMBER	70340.33	4076.86	17.25
JANUVERY	75687.45	4800.64	15.76
FEBUVARY	184082.21	12583.99	14.63

Sources: Secondary Data

4.5.1 Chart Showing Inventory Turnover Ratio



Interpretation:

The above graph shows inventory turnover ratio of the form. The ratio can be continuously increased from the year Dec 2021 -Feb 2020. The turnover ratio of the form is 17.25 in the Month dec 2020. The decreased turnover shows good consumption of raw material.

Inference:

Inventory Turnover ratio increased in the Month Dec 2020 (17.63)

4.5.3 STOCK LEVELS

4.5.3.1 During Dec 2020- Jan 2021

The company Required to 28889 units of billets/blooms to manufacture of Cloths for the month Dec 2020-jan 2021.EOQ is 1700 units. The company makes safety stock equal to 30 day requirement and the normal lead time is 10-20 days. The company works for 300days in a year.

$$\begin{aligned}\text{a. Reorder level} &= \text{lead time} * \text{Average usage} + \text{safety stock} \\ &= (10 * 96.29) + 2888.9 \\ &= 3851.9 \\ \text{i. Safety stock} &= \text{usage} * \text{period of safety stock} / \text{total working days in a year} \\ &= 28889 * 30 / 300 \\ &= 2888.9 \\ \text{ii. Average usage} &= \text{usage} / \text{total working days in a year} \\ &= 28889 / 300 \\ &= 96.29 \\ \text{b. Minimum stock level} &= \text{re-order level} - (\text{Average usage} * \text{lead time}) \\ &= 3851.9 - (96.29 * 10 + 20 / 2) \\ &= 2408 \\ \text{c. Maximum stock level} &= \text{re-order level} + \text{re-ordering quantity} - (\text{Minimum usage} * \text{minimum lead time}) \\ &= 3851.9 + 1700 - (96.29 * 10) \\ &= 5551.9 - 962.9 \\ &= 4589 \\ \text{d. Average stock level} &= \frac{1}{2} (\text{Minimum stock level} + \text{Maximum Stock Level}) \\ &= 2408 + 4589 / 2 \\ &= 3496\end{aligned}$$

Interpretation:

The company required to 28889 units of billets/blooms to manufacture of Cloths for the month Dec 2020-Jan 2021. EOQ is 1700 units. The company makes safety stock equal to 30 day requirement and the normal lead time is 10-20 days

Inference:

The average stock level is Dec 2020-Jan 2021(3496)

4.5.3.2 During Jan 2021-Feb 2021

The company requires 123596 units of billets/blooms to manufacture of Cloths for the month Jan 2021-Feb 2021. EOQ is 3335 units. The company makes safety stock equal to 30 day requirement and the normal lead time is 10-20 days. The company works for 300 days in a year.

$$\text{a. Reorder level} = \text{lead time} * \text{Average usage} + \text{safety stock}$$

$$= (10 * 412) + 12360$$

$$= 16480$$

$$\text{i. Safety stock} = \text{usage} * \text{period of safety stock} / \text{total working days in a year}$$

$$= 123596 * 30 / 300$$

$$= 12360$$

$$\text{ii. Average usage} = \text{usage} / \text{total working days in a year}$$

$$= 123596 / 300$$

$$= 412$$

$$\text{b. Minimum stock level Average} = \text{re-order level} - (\text{Average usage} * \text{lead time})$$

$$= 16480 - (412 * 10 + 20 / 2)$$

$$= 10300$$

$$\text{c. Maximum stock level} = \text{re-order level} + \text{re-ordering quantity} - (\text{Minimum usage} * \text{Minimum lead time})$$

$$= 16480 + 3335 - (412 * 10)$$

$$= 19815 - 4120$$

$$= 15695$$

$$\text{e. Average stock level} = \frac{1}{2} (\text{Minimum stock level} + \text{Maximum stock Level})$$

$$= 10300 + 15695 / 2$$

$$= 13000$$

Interpretation:

The company requires 123596 units of billets/blooms to manufacture of Cloths for the month Jan 2021-Feb 2021. EOQ is 3335 units. The company makes safety stock equal to 30 day requirement and the normal lead time is 10-20 days.

Inference:

The average stock level is Jan 2021-Feb 2021 (13000)

CHAPTER- 5
FINDINGS & SUGGESTIONS
& CONCLUSION

5.1 FINDINGS:

- It was found that the company is consuming same raw material as per ABC classification as 'A' class items 'B' class items and 'C' class items.
- Basically, the company was running on the basis of job work so, inventory management is not given that much importance.
- Even the carrying cost is high which constant for 3 months as it had a greater impact on inventory maintenance cost.
- In general, when orders increase automatically EOQ decreases which inversely proportional. EOQ for the past 3 months shows that the company is going for few orders.
- Generally, it is a known fact that the month consumption of raw materials increases month by month as companies growing. In such a way annual consumption from Dec 2020 to Feb 2021 has also increased.

5.2 SUGGESTIONS:

- As the company converted into own sales it should have its own inventory policy which can produce better results by minimizing costs.
- The company has to implement a ABC analysis, which literally reduces inventory cost.
- As the company is going for wide expansion so Ammayappar textiles should pay much more attention to research and development.
- Even though inventory conversion the period is moderately good, still there are a lot of scopes to improve it.

5.3CONCLUSION

Inventory management has to do with keeping accurate records of finished goods that are ready for shipment. This often means posting the production of newly completed goods to the inventory totals as well as subtracting the most recent shipments of finished goods to buyers. When the company has a return policy in place, there is usually a sub-category contained in the finished goods inventory to account for any returned goods that are reclassified or second grade quality. Accurately maintaining figures on the finished goods inventory makes it possible to quickly convey information to sales personnel as to what is available and ready for shipment at any given time. Inventory management is important for keeping costs down, while meeting regulation. Supply and demand is a delicate balance, and inventory management hopes to ensure that the balance is undisturbed. Highly trained Inventory management and high-quality software will help make Inventory management a success. The ROI of Inventory management will be seen in the forms of increased revenue and profits, positive employee atmosphere, and on overall increase of customer satisfaction.

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APPENDIX – I

AMOUNT OF MATERIAL	DECEMBER	JANUARY	FEBRUARY
RAW MATERIALS	274.94	582.11	858.17
AMOUNT OF STOCK	206.20	82.67	122.82
AMOUNT OF FINISHED GOODS	2704.08	6717.44	5019.79
COST OF STORES, SPARES AND CONSUMABLES	673.25	1628.44	3617.38
AMOUNT OF RAW MATERIAL CONSUMED	65875.45	68699.73	172305.70
COST OF GOODS AND SOLD	70340.33	75687.45	184082.21

APPENDIX – II

ARTICLE

A STUDY OF INVENTORY MANAGEMENT IN AMMAYAPPER TEXTILES PRIVATE LIMITED

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ABSTRACT

Traditional inventory models focus on risk-neutral decision makers, i.e. characterizing replenishment strategies that maximize expected total profit, or equivalently, minimize expected total cost over a planning horizon. we propose a framework for incorporating risk aversion in multi-period inventory models as well as multi-period models that coordinate inventory and pricing strategies. The objective of inventory management is explained in some detail sections. Section two is concerned with inventory management techniques. Attention is given here to basic concepts relevant to the management and control of inventory. The data has been gathered through interaction and discussions with the executives working in the division. Some important information has been gathered through couple of unstructured interviews of executive.

INTRODUCTION

The Inventory Management is concerned with the duties of the financial manager in the business firm. Financial managers actively manage the financial affairs of any type of business, namely financial and non-financial, private and public, large and small, profit seeking and non-profit. They perform such varied task, as budgeting, financial forecasting, cash management, credit administration, investment analysis, funds management and inventory management. A term inventory refers to the stock pile of the products a firm is offering for sale and the components that make up the product. In other words, inventory is composed of assets that will be showed in future in the normal course of the business operations.

REVIEW OF LITERATURE

Gaur and Bhattacharya (2011) Attempted to study the linkage between the performance of the components of inventory such as raw material, work in progress and finished goods and financial performance of Indian manufacturing firms. The study revealed that finished goods inventory as inversely associated with business performance while raw material inventory and work in progress did not have much effect on same. They emphasised that instead of focusing on total inventory, an attempt should be made to concentrate on individual components of inventory so as to adequately manage the same. They concluded that managers not paying heed to inventory performance may become weak in combating competitors.

Eneje et al (2012) He researched the changes of raw stock inventory management system with margin of beer company in Nigeria during data from 1989 to 2008 which had gathered for analysis from the annual reports of the sampled brewery firms. Measures of profitability were examined and related to proxies for raw materials inventory management by brewers. The Ordinary Least Squares (OLS) stated in the form of a multiple regression model was applied in the analysis. Research analysed that local variable raw stock inventory managing system design such a way to capturing changes of efficient management of raw stock inventory on behalf of company in terms

of their margin is significantly strong and positive and influences the profitability of the brewery firms in Nigeria. They concluded that efficient management of raw material inventory is a major factor to be contained with by Nigerian brewers in enhancing or boosting their profitability.

Nyabwanga and Ojera (2012) Their research concentrate relationship among inventory management with business performance of smallscale enterprises (SSEs), in Kisii Municipality, Kisii County, Kenya. They used a cross-sectional survey study based on a small sample size of 79 SSEs. The study inferred that inventory comprised the maximum portion of working capital, and improper management of working capital was one of the major reasons of SSE failures. The empirical results disclosed that a positive significant relationship existed between business performance and inventory management practices with inventory budgeting having the maximum influence on business performance ensued by shelf-space management. The study suggested that by following effective inventory management practices business performance can be enhanced . loss of profit.

OBJECTIVES

Primary Objective

A Study on Inventory Management In Ammmayapper Textiles Private Limited

Secondary Objective

- To study about the ordering levels for the important components of inventory.
- To understand and measure economic order quantity for the selected raw material items.
- To analyze its inventory management methods with the help of ABC analysis, EOQ analysis etc.

RESEARCH METHODOLOGY

Research Design used in this study is Inventory. This research is a study to designed the depict of the participants in an accurate way. More simply put, descriptive research is all about describing people who take part in the study The data has been gathered through interaction and discussions with the executives working in the division. Some important information has been gathered through couple of unstructured interviews of executive.

DATA ANALYSIS AND INTERPRETATION

ABC Analysis

ABC analysis classifies various inventory into three sets or groups of priority the allocates managerial efforts in proportion of The priority the most important item are classified into class - A, Those of intermediate importance are classified as “class - B” and remaining items are classified into class - C’.

Amount Raw material (at closing stock)

Table 4.1.2 Table Showing Amount Raw material (at closing stock)

MONTHS	AMOUNT OF RAW MATERIALS
DECEMBER	274.94
JANUARY	582.11
FEBRUARY	858.17

Interpretation:

The above graph shows Amount of Raw Materials. In Dec 2020 the cost of material is 274.94 rs increased in this month and in Jan 2021 it is decreased to rs 582.11 in the month Feb 2021 it is increased to 858.17.

Inference:

The Amount Of Raw Materials Increased in Feb 2021 (858.17)

Economic order quantity:**EOQ During Dec 2020 -Jan 2021:**

The firm requires below given units of material for manufacturing of clothes. The following are the details of their operation during .

PARTICULARS	
Billets/Blooms	28,889 Qty (mt)
Ordering cost per Order	Rs. 2000
Carrying cost	10%
Purchase price per Unit	400

Interpretation:

The above Table Showing EOQ During Dec 2020 -Jan 2021.The The firm requires below given units of material for manufacturing of clothes. The following are the details of their operation For Two Months.

Inference: Inference:**Inference:**

The Amount Of Raw Materials Increased in Feb 2021 (858.17)

Inventory Turnover Ratio

This ratio is often a firm's inventory turns over during the course of the year. Because inventories are the least liquid form of assets, a high inventory turnover ratio is generally positive. On the other hand, and usually high ratio compared to the average for the industry could mean a business is losing sales because of inadequate stock on hand.

The formula:

$$\frac{\text{cost of goods sold}}{\text{Average value of inventory}}$$

MONTH	COST OF GOODS SOLD	AVG VALUE OF INVENTORY	INVENTORY TURN OVER RATIO
DECEMBER	70340.33	4076.86	17.25
JANUVERY	75687.45	4800.64	15.76
FEBUVARY	184082.21	12583.99	14.63

Interpretation:

The above Table shows inventory turnover ratio of the form. The ratio can be continuously decreased from the year Dec 2021 -Feb 2020. The turnover ratio of the form is 17.25 in the Month dec 2020. The decreased turnover shows good consumption of raw material

Inference:

Inventory Turnover ratio increased in the Month Dec 2020 (17.63)

FINDINGS:

It was found that the company is consuming same raw material as per ABC classification as 'A' class items 'B' class items and 'C' class items. Basically, the company was running on the basis of job work so, inventory management is not given that much importance. Even the carrying cost is high which constant for 3 months as it had a greater impact on inventory maintenance cost. In general, when orders increase automatically EOQ decreases which inversely proportional. EOQ for the past 3 months shows that the company is going for few orders. Generally, it is a known fact that the month consumption of raw materials increases month by month as companies growing. In such a way annual consumption from Dec 2020 to Feb 2021 has also increased.

SUGGESTION:

As the company converted into own sales it should have its own inventory policy which can produce better results by minimizing costs. The company has to implement a ABC analysis, which literally reduces inventory cost. As of company is going for wide expansion in Ammayappar textils should pay much more attention to

research and development. Even though inventory conversion the period is moderately good, still there are a lot of scopes to improve it.

CONCLUSION

Inventory management has to do with keeping accurate records of finished goods that are ready for shipment. This often means posting the production of newly completed goods to the inventory totals as well as subtracting the most recent shipments of finished goods to buyers. When the company has a return policy in place, there is usually a sub-category contained in the finished goods inventory to account for any returned goods that are reclassified or second grade quality. Accurately maintaining figures on the finished goods inventory makes it possible to quickly convey information to sales personnel as to what is available and ready for shipment at any given time.

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