



Parametric Study of Inventory Optimization Strategies in Supply Chain Management

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PARAMETRIC STUDY OF INVENTORY OPTIMIZATION STRATEGIES IN SUPPLY CHAIN MANAGEMENT

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ABSTRACT:

This project propose to get exposure in inventory management and its techniques. It is to ensure quality in business that control the transaction between the consumer goods. It is important to do proper inventory management and control in the production company. This project is to analyse the inventory control in small scale industries. In this project we will perform the inventory management & its techniques to improve the production & profits of the organisation. We will go through the all the elements & statements of the company to diagnose inventory soundness.

Keywords: inventory management - quality of business – small scale industry – profits of the organization.

INTRODUCTION:

Inventory plays most important part of current assets which is used by majority of the companies in India. The company uses various types of inventories like raw material, work in progress, finished goods, and transportation. Inventory is the intermediate between the production and sale, and is the critical angle in the manufacturing firm [1-3]. It constitutes the most critical viewpoint that attempts the majority of current assets or working capital. Most of the companies, they invest more on the inventory when compare to other inputs [4-7]. The proper maintenance of assets helps the firm to earn profit and maintain the liquidity and reserves. Therefore it is necessary for the management to provide the inventory when they are required. The study on the topic inventory management helps to understand the procedures followed for maintaining the inventories at Himadri Chemicals & Industries Ltd. The study was conducted for the period of 8 weeks, to evaluate or identify the efficiency and problems related to the inventory management. The objective of the study is to know the techniques and efficiency that the company utilizes to manage inventories. The study discloses that the performance is fluctuating and they have to implement various methods for maintaining the inventories [8-9]. Every enterprise needs inventory for smooth running of activities. It serves, as a link between production and distribution. For every process there is, generally, a time lag between the recognition of a need and its fulfillment [10-12]. The greater the time lag, the higher the requirement for inventory. The unforeseen fluctuations in demand and supply of goods also necessitate the need for inventory. It provides a cushion for future price fluctuations.

The investment in inventories constitutes the most significant part of current assets/working capital in most of the undertakings. Thus, it is very essential to have proper control and management of inventories. The purpose of inventory management is to ensure availability of materials in sufficient quantity as and when required and also to minimize investment in inventories.

The investment in inventory is very high in most of the undertakings engaged in manufacturing, whole sale and retail trade[13-15]. In India, a study of 29 major industries has revealed that the average cost of materials is 65paise and the cost of labour is 10 paise and overheads is 15 paise of a rupee, 10% is profit. It is necessary for every management to give proper attention to inventory management. A proper planning of purchasing, handling, storing and accounting should form a part of inventory management.

An efficient system of inventory will determine,

- What to buy
- How to buy
- Where to buy
- Where to store

There are conflicting interests of different departmental heads over the issue of inventory. The finance manager will try to invest less in inventory because to him it is an idle investment, where as production manager will emphasis to acquire more inventory as he does not want any interruption in production due to shortage of inventory. The purpose of inventory management is to keep the stocks in such a neither way that there is over-stocking nor under-stocking. The over-stocking will mean a reduction of liquidity and starving of other production processes whereas under-stocking, on other hand, will result in stoppage of work. The investments in inventory should be kept in reasonable limits.

METHODOLOGY OF THE STUDY:

Objective research study is to analysis of inventory of HCI & analyzing of inventory, we determining following inventories:

1. Raw material
2. Work in progress
3. Packaging material inventory
4. Finished goods inventory

The annual investments in inventories, valuation of inventory after closing balance of items in inventory are analyzed. In this manner, reorder point, safety stock levels, minimum & maximum level of inventory are calculated. The analysis of inventory is done according the data available in the company. The data is collected directly from the store department.

Methods of data collection:

Primary data:

The Primary data has been collected from Personal Interaction with Finance manager and other staff members.

Secondary data:

The major source of data for this project was collected through Inventory, Stock Reports and account of 4 years.

Sampling unit: Warehouse & Inventory Statements.

Sampling Size: Last four years

Tools Used: MS-Excel has been used for calculations.

FINDINGS OF STUDY:

Inventory management is primarily about specifying the size and placement of stocked goods. It is required at differ locations within a facility or within multiple locations of a supply network to protect the regular and planned course of production against the random disturbance of running out of materials or goods.

□ The scope of inventory management also concerns the fine lines between replenishment lead time, carrying costs of inventory, asset management, inventory forecasting, inventory valuation, inventory visibility, feature inventory price forecasting, physical inventory, available physical space for inventory, quality management, replenishment, returns of defective goods and demand forecast. Inventory management helps providing a good understanding ground and the capacity to control financial costs. Accurate inventory tracking allows brands to fulfill orders timely and accurately. With proper inventory tracking system, business owners can take quicker decisions about the stock lying in the warehouse more wisely.

□ With an effective inventory management system, the company can easily track the stock in the warehouse. It helps to reduce overstocking, stocking of obsolete items and under stocking.

□ Inventory management provides aid in better planning and ordering of stock items. A detailed inventory management allows warehouse managers to refresh inventory only when needed.

□ Good inventory management leads to orders being fulfilled more quickly and shipped out to customers faster. A systematic and robust inventory tracking system will give a comprehensive view of stock at-hand and it yields in an increased customer satisfaction.

□ Inventory management enhances business operations with the effective flow of goods and services. Aside from adding competitive ability and profitability, it fosters growth leading to economic and business efficiency.

□ Inventory management is important to small businesses because it helps them prevent stock outs, manage multiple locations, and ensure accurate recordkeeping. Understanding the significance of inventory management is a great way to increase productivity in the warehouse locations.

□ Proper inventory management supports an organized warehouse, with carefully tracked inventory and supply chain movement. It helps speed up supply chain management and, as a result, enhances productivity, eliminating tedious and time-consuming manual processes.

□ Inventory management improves cash flow, eliminating the need to spend large chunks of the budget all at once. It helps in maintaining the ideal amount of stock and inventory with the right inventory management solutions.

□ Good inventory management is all about striking a balance between input and output. The most important advantage of inventory management is saving company money. Inventory management involves accurate record keeping, often using specialized software and hardware.

RESULTS:

1. NON-CURRENT ASSETS:



Fig 1.1

The graph showing the Property, Plant, Equipment costs variation in last 4 years.

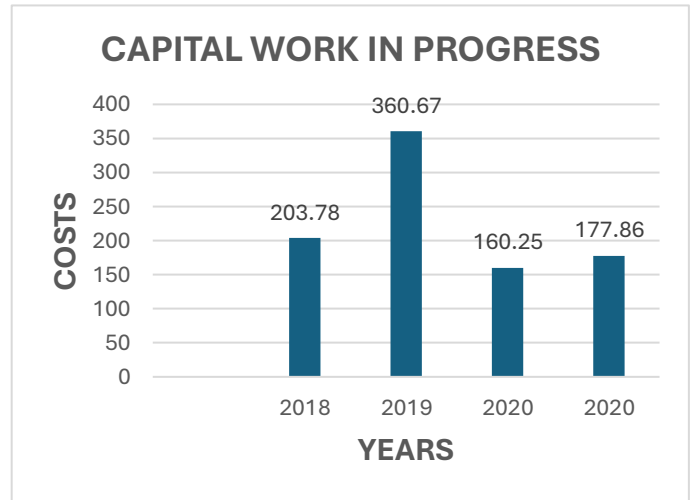


Fig 1.2

The graph showing the Capital work in progress costs variation in last 4 years.



Fig 1.3

The graph showing the Intangible assets under development costs variation in last 4 years.

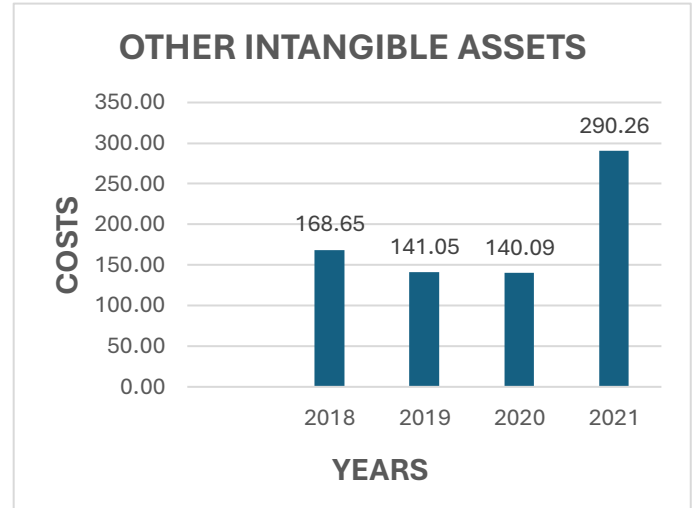


Fig 1.4

The graph showing the other Intangible assets costs variation in last 4 years.

2.FINANICAL ASSETS:
 3.CURRENT ASSETS:

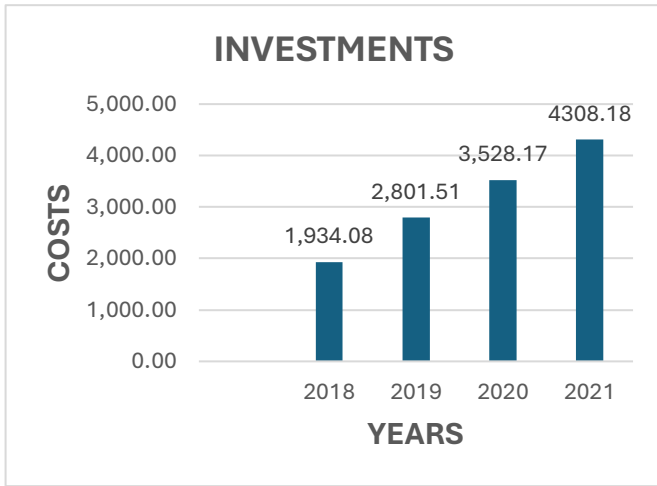


Fig 2.1

The graph showing the Investments costs variation in last 4 years.

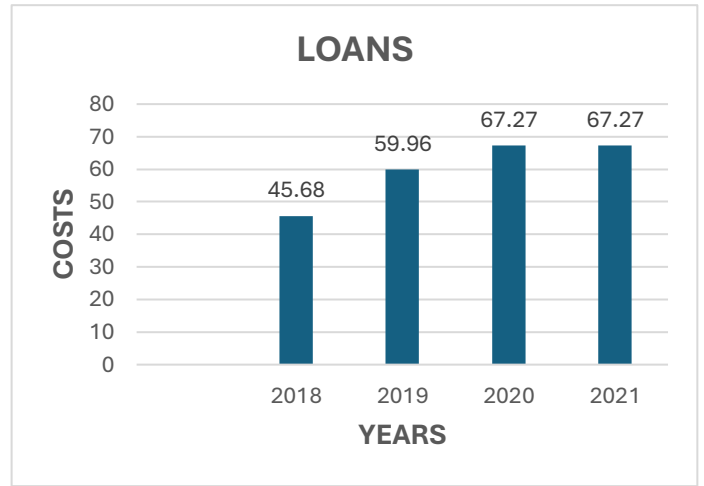


Fig 2.2

The graph showing the Loans costs variation in last 4 years.

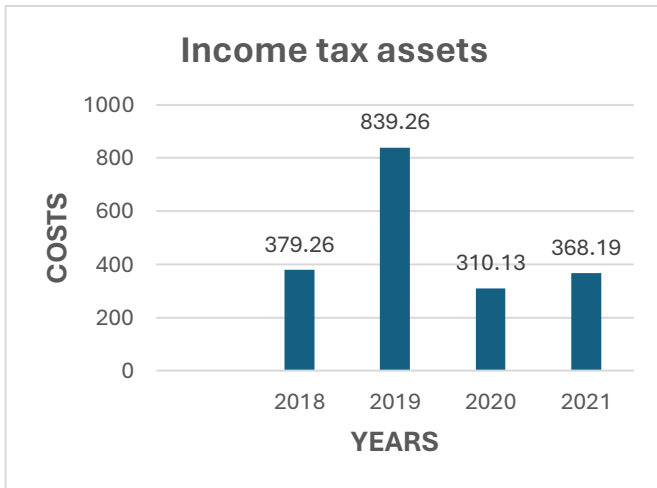


Fig 2.3

The graph showing the Income Tax assets costs variation in last 4 years.

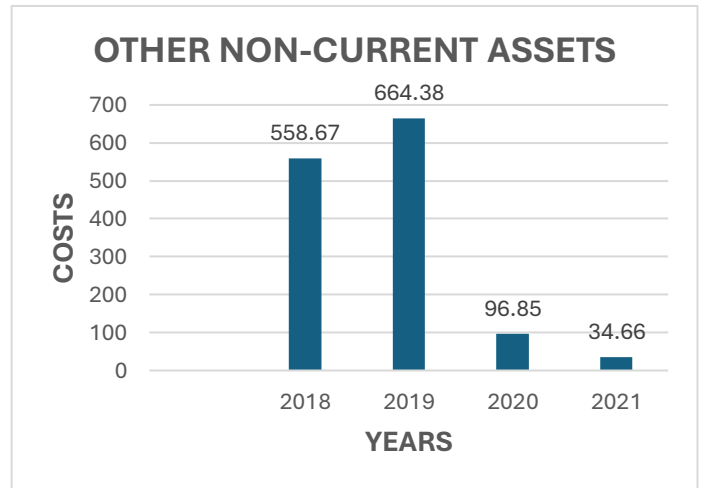


Fig 2.4

The graph showing the Other non-current assets costs variation in last 4 years.

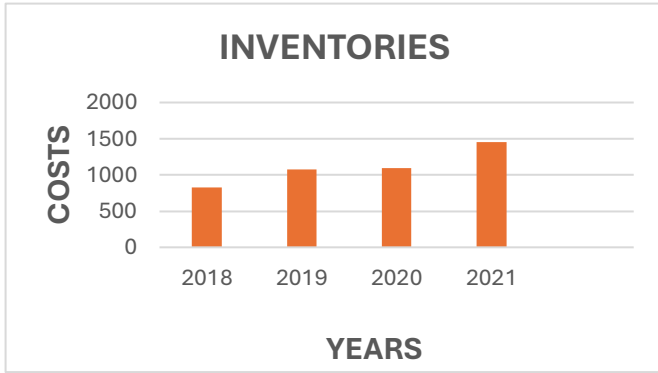


Fig 3.1

The graph showing the Inventories costs variation in last 4 years.

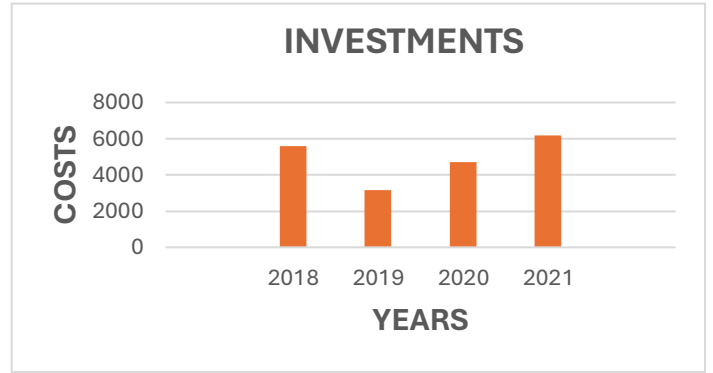


Fig 3.2

The graph showing the Investments costs variation in last 4 years.



Fig 3.3

The graph showing the Trade receivable costs variation in last 4 years.

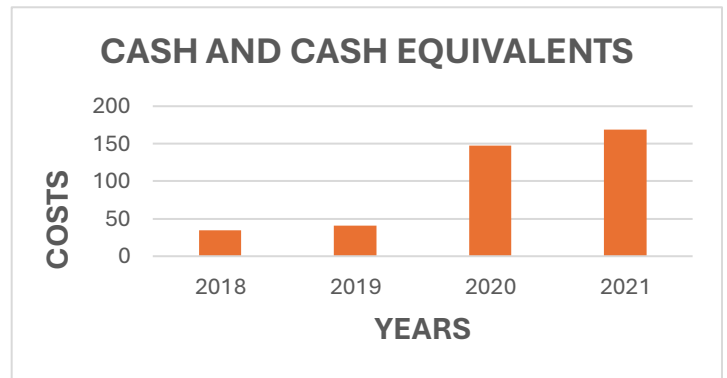


Fig 3.4

The graph showing the Cash and Cash Equivalents costs variation in last 4 years.

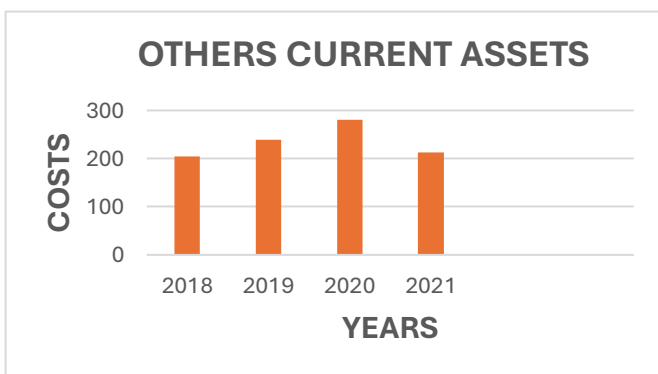


Fig 3.5

The graph showing the Other current assets costs variation in last 4 years.

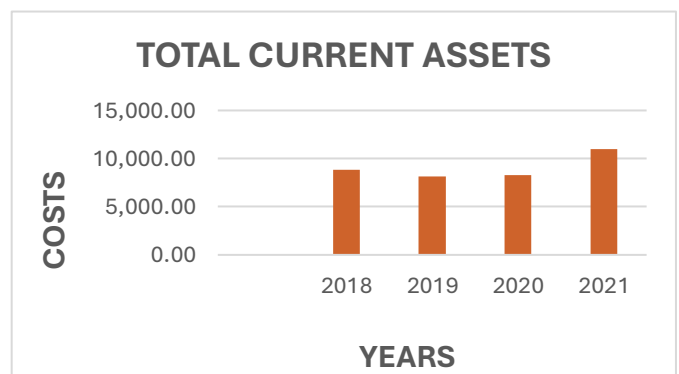


Fig 3.6

The graph showing the Total Current assets costs variation in last 4 years.

CONCLUSION

Inventory is the important part in the manufacturing firm. In India on an average 60% of the current assets of the manufacturing industry is from the inventory. Therefore the firm has to maintain the inventory in such a way that it reduces the cost involved in the inventory and increases the productivity of the firm.

The HCI ltd is a Chemical organization and their main aim is to provide job to the people and also given some special benefit to them i.e. promotion, bonus etc. The objective was successfully achieved in average level. Inventory management has to do with keeping accurate records of finished goods that are ready for shipment. This often means positioning 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 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 delicate balance, and inventory management hopes to ensure that the balance is undisturbed.

Highly trained Inventory management and high quality software will help to make Inventory management a success. The ROI of Inventory management will be seen in the form of increased revenue and profits, positive employee atmosphere, and on overall increase of customer satisfaction.

In relation to main objective of the study , it can be concluded from the above results that the company is efficient in management of inventory during the period of study and may require to maintain this level of efficiency in coming years.

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