An Analysis Of Inventory Management With Reference To Hl Mando Anand India Private Limited

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Abstract- *This project entitled to an analysis of Inventory management with reference to HL Mando Anand India private limited. Efficient inventory management is critical for organizations seeking to improve their financial performance and preserve a competitive advantage in today's volatile market environment. This project aims to investigate and apply novel inventory management solutions that have a direct impact on organizations' financial health, notably in the areas of cost reduction, working capital management, and profitability enhancement.*

The project begins with an in-depth review of the organization's present inventory management methods, identifying inefficiencies such as overstocking, stockouts, and high carrying costs. Using financial data and performance measures, the initiative seeks to quantify the direct and indirect costs of inefficient inventory management methods, including as holding costs, obsolescence, and missed sales opportunities.

Building on this analysis, the project aims to create and implement customized inventory management methods that are in line with the organization's financial objectives. These strategies seek to establish a compromise between inventory investment and customer service levels, reducing holding costs while maintaining appropriate stock availability to satisfy demand changes.

Furthermore, the initiative stresses incorporating financial concerns into inventory management decision-making procedures.By quantifying the financial implications of various inventory management scenarios, businesses can make data-driven decisions that maximize shareholder value and long-term viability.

Finally, the goal of this research is to show that strategic inventory management activities have a tangible impact on organizational financial performance. In today's competitive industry, firms can unlock new prospects for cost savings, working capital optimization, and long-term growth by employing innovative approaches, aligning with financial objectives, and promoting supply chain collaboration.

I. INTRODUCTION

Inventory management, a critical element of the supply chain, is the tracking of inventory from manufacturers to warehouses and from these facilities to a point of sale. The goal of inventory management is to have the right products in the right place at the right time.

Inventory management refers to the process of ordering, storing, using, and selling a company's inventory. This includes the management of raw materials, components, and finished products, as well as warehousing and processing of such items. There are different types of inventory management, each with its pros and cons, depending on a company’s needs

Inventory management helps companies identify which and how much stock to order at what time. It tracks inventory from purchase to the sale of goods. The practice identifies and responds to trends to ensure there's always enough stock to fulfill customer orders and proper warning of a shortage.

Once sold, inventory becomes revenue. Before it sells, inventory (although reported as an asset on the balance sheet) ties up cash. Therefore, too much stock costs money and reduces cash flow.

One measurement of good inventory management is inventory turnover. An accounting measurement, inventory turnover reflects how often stock is sold in a period. A business does not want more stock than sales. Poor inventory turnover can lead to deadstock, or unsold stock.

An efficient system of inventory will determine,

- What to buy
- How to buy

• Where to buy
• Where to store

II. OBJECTIVES OF THE STUDY

- To Analyze the inventory management for the financial years 2018-2019 to 2022-2023 with reference to HL mando anand india private limited.
- To Analyze the inventory position through various financial ratios
- To know the problems faced by company in handling inventory.
- To suggest some measures for effective inventory management in HL Mando Anand Private Limitied.

III. SCOPE OF THE STUDY

The scope of the study is limited to collecting financial data published in the annual reports of the company every year. This analysis is done to suggest the possible solution. The study is carried out for 5 years 2018-19, 2019-20, 2020-21, 2021-22, 2022-23

A study of the inventory ratio involves an examination of long term as well as short term sources that a company taps in order to meet its requirement of finance. The scope of the study is confined to the sources that HL Mando Anand private limited tapped over the five years.

IV. NEED FOR THE STUDY

This study is Needed to analyse the inventory management of the company. To know the financial aspect of the organisation and to test the effective use of inventory control in the organisation during a particular period. The study inventory management is to ensure there is enough goods or materials to meet demand without creating overstock, or excess inventory in the company and to study the source and application of fund in the organisation in that particular time period

V. LIMITATION OF THE STUDY

- The inventory details of company are collected for 5 years only
- The information taken from the company was limited
- In this study only limited ratios are used

VI. LITERATURE REVIEW

Ankit Dubey, R Kumar (2024), EAI Endorsed Transactions on Scalable Information Systems 2024. In this paper, we categorise and critically evaluate the current modelling and analysis approaches and procedures created by researchers and scientists in inventory management systems across different sectors such as healthcare, supply chain, and routing problems. Furthermore, we discuss recent trends and advancements in inventory management systems that deal with shortage. Based on our literature review, we propose a comprehensive research structure that is appropriate in the current environment and helpful in future study directions.

Lavely, (2023), Asserts that inventory means “Piles of Money” on the shelf and the profit for the firm. However, he notices that 30% of the inventory of most retail shops is dead. Therefore, he argues that the inventory control is facilitate the shop operations by reducing rack time and thus increases profit. He also elaborates the two types of inventory calculations that determine the inventory level required for profitability. The two calculations are “cost to order” and “cost to keep”. Finally, he proposes seven steps to inventory

Nabila Bouti, Ibrahim Boukallal, Fatima El Khoukhi, (2023), International Conference on Digital Technologies and Applications, 923-933, 2023 Inventory management (IM) is an essential component of the Supply Chain (SC). Maintaining the proper stock level through the SC optimizes the company’s costs and guarantees the delivery of goods to customers, ensuring their satisfaction. However, the diverse and numerous factors (demand, perishability, shortage, etc.) cause the IM problem's complexity as they influence the Inventory Management Optimization (IMO) process. This diversity triggers researchers to further examine of the IMO in view of the fact that these factors are interrelated. This paper reviews part of the work carried out, dealing with the optimization of the IM problem. The main objective of this study is to analyze different parameters of existing mathematical models of IMO, to deliver an overview describing the main factors of the problem.

Krishna Murthy, (2022), Study was aggregative and dealt with inventories in the private sector of Indian economy as a whole for the period 1948-61. This study used sales to represent demand for the product and suggested the importance of accelerator. Shortterm rate of interest had also been found to be significant.

Pablo Becerra, Josefa Mula, Raquel Sanchis, (2022), This article presents an overview of the models applied to sustainable inventory management in supply chains and a roadmap for new research. It aims to address the lack of understanding of how sustainability is being incorporated into quantitative inventory management models in the supply chain context. The study is based on a classification of the reviewed

literature according to the following criteria: supply chain structure, environmental approach, problem type, modeling, and solution approach. As a result, 36 articles were analyzed and classified. The main findings show that studies that incorporate social sustainability into inventory management along supply chains are lacking, while environmental studies are a growing research area. Uncertainty issues also need to be incorporated into sustainable inventory management along supply chains are lacking, while environmental studies are a growing research area. Uncertainty issues also need to be incorporated into sustainable inventory management models. Another important result of this study is the definition of a roadmap with trends and future research guidelines. The identified future research guidelines include incorporating decisions that can help to improve economic, environmental, and social sustainability. Thus, future studies should focus on both following quantitative models that incorporate inventory decisions integrally with transportation and location decisions, and more complex models, and employing new algorithms and heuristics to solve them.

VII. RESEARCH METHODOLOGY

In the project titled "Analysis of inventory management," Research methodology is a way to systematically solve the research problem. The systematic method used in this study is collecting data and at analyzing the data to find a solution to the search problem. The research and development techniques used in this research is ratio analysis. Ratio analysis is referred to as the study or analysis of the line items present in the financial statements of the company.

VIII. DATA COLLECTION

1.PRIMARY DATA

The research has been collected data with the help of primary way. It includes personal discussion with staff member off concern. Also Researcher has been collected the data with the help of investigation and questionnaires'

2. SECONDARY DATA

The secondary data are collected from information which is used by other. It is not direct information. This information already collected and analysis by other and that information used by others. This secondary data are collected from following.

1) Companies income statement
2) Internet Website

REFERENCE PERIOD

The reference period of the study is 5 years from 2018-2019 to 2022-2023.

IX. INDUSTRY PROFILE

The design, development, production, marketing, and sales of automobiles on a global scale are all included in the huge and dynamic automotive industry. It significantly contributes to economic development and technological advancement in various countries.

History:

The first gasoline-powered cars were created in the late 19th century, which is when the automotive industry began. Beginning with Henry Ford's assembly line in the early 20th century, mass production of automobiles revolutionized the industry and increased automotive affordability and accessibility for the public.

Key Players:

A wide range of businesses, from major automakers to suppliers and service providers, make up the automotive industry. Toyota, Volkswagen Group, General Motors, Ford, Hyundai-Kia, Honda, and BMW are just a few of the top automakers in the globe. Additionally, there are many national and international auto suppliers who produce and offer systems and components to the automakers.

Vehicle Types:

The automotive industry manufactures a range of vehicle types to satisfy a range of consumer needs. These include motorcycles, electric vehicles (EVs), commercial vehicles (vans and trucks), SUVs, light trucks, and passenger automobiles. Due to environmental concerns and the need for more environmentally friendly transportation options, EVs have attracted a lot of interest.

Technology Developments:

Over the years, there have been important technological developments in the automotive sector. Airbags, ABS, ESC, and advanced driver assistance systems (ADAS) are a few examples of safety technology advancements that fall under this category. Additionally, infotainment systems, lightweight materials, engine economy, and connectivity features have all seen significant advancements.

Transition to Electric automobiles:

The automotive sector is going through a transition to electric automobiles. Environmental concerns are causing governments and consumers worldwide to look for cleaner and more environmentally friendly transportation solutions. The infrastructure for charging stations is growing, and major manufacturers are making significant investments in EV development.

Global Production and Markets:

The automobile industry produces goods in many different places, with the United States, China, Japan, Germany, South Korea, and India having the largest manufacturing bases. Variations in vehicle designs and features result from the distinct market factors and preferences of various geographic areas.

Opportunities and Challenges:

The automobile industry has several opportunities, but it also faces a few obstacles, such as fluctuating fuel prices, shifting customer tastes, regulatory compliance, trade conflicts, and supply chain disruptions. However, these difficulties also offer chances for advancement, creativity, and the creation of environmentally friendly and cutting-edge automobiles.

Future trends:

Autonomous driving technology advancements, connected vehicles, shared mobility services, and the ongoing shift toward electric and alternative fuel vehicles are anticipated to have a significant impact on the automobile industry's future. The digital transformation

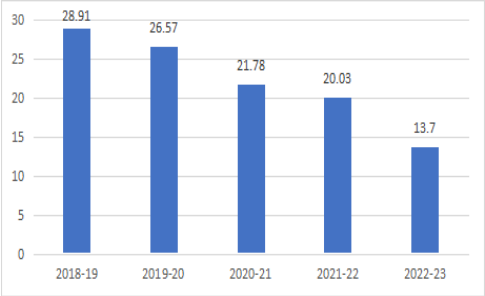
X. DATA ANALYSIS AND INTERPRETATION

INVENTORY TURNOVER RATIO:

Year	Cost of goods sold	Average inventory	Ratio(times)
2018-19	18974.11	656.31	28.91
2019-20	21875.33	823.38	26.57
2020-21	23356.10	1072.37	21.78
2021-22	21875.33	1091.97	20.03
2022-23	19867.19	1450.55	13.70

INTERPRETATION

From the above table 2.1 shows that the inventory turnover ratio shows efficiency of the firm in producing and selling the products that is 2018-19 has 28.91%, 2019-20 has 26.57%, 2020-21 has 21.78%, 2021-22 has 20.03% and 2022-23 has 13.70%.

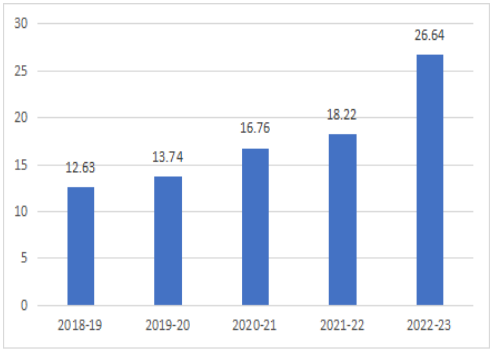


INVENTORY HOLDING PERIOD:

Year	No of days in a year	Inventory turnover ratio	Ratio(Days)
2018-19	365	28.91	12.63
2019-20	365	26.57	13.74
2020-21	365	21.78	16.76
2021-22	365	20.03	18.22
2022-23	365	13.70	26.64

INTERPRETATION

From the above table2.2 shows that the inventory holding period refers to the time between an asset purchased and sale that is 2018-19 has 12.63 days,2019-20 has 13.74 days,2020-21 has 16.76 days,2021-2022 has 18.22 days,2022-23 has 26.64 days

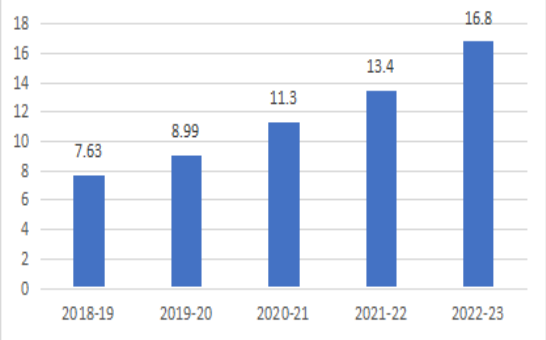


INVENTORY CONVERSION PERIOD:

Year	Inventory	Sales	Ratio (Days)
2018-19	656.31	31,394.02	7.63
2019-20	823.38	33,397.64	8.99
2020-21	1072.37	34,341.79	11.3
2021-22	1091.97	29,614.43	13.4
2022-23	1450.55	31,380.47	16.8

INTERPRETATION

From the above table 2.3 shows the inventory conversion Period ratio shows that in how many days inventories are converted into net sales that is 2018-19 has 7.63days, 2019-20 has 8.99 days, 2020-21 has 11.3 days ,2021-2022 has 13.4 days, 2022-23 has 16.8 days

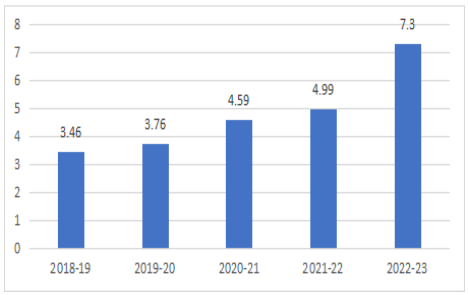


AVERAGE DAY TO SELL INVENTORY RATIO:

Year	Average inventory	Cost of goods sold	Ratio (Days)
2018-19	656.31	18974.11	3.46
2019-20	823.38	21875.33	3.76
2020-21	1072.37	23356.10	4.59
2021-22	1091.97	21875.33	4.99
2022-23	1450.55	19867.19	7.30

INTERPRETATION

From the above table 2.4 shows that average day to sell inventory ratio that indicates the average time in days that a company take its inventory 2018-19 has 3.46days, 2019-20 has 3.76days, 2020-21 has 4.59days ,2021-2022 has 4.99 days, 2022-23 has 7.30days

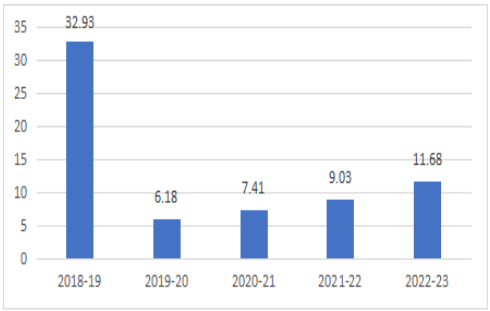


RAW MATERIALS CONVERSION PERIOD:

Year	Average Inventory of Raw Materials	Raw Materials Consumption Per Day	Ratio (Days)
2018-19	1711.95	51.98	32.93
2019-20	369.93	59.88	6.18
2020-21	473.94	63.99	7.41
2021-22	541.09	59.93	9.03
2022-23	635.63	54.43	11.68

INTERPRETATION

From the above table 2.5 shows that Raw materials conversion period indicates the average number of days it takes for raw materials to be converted into finished products 2018-19 has 32.93days, 2019-20 has 6.18days, 2020-21 has 7.41days ,2021-2022 has 9.03 days, 2022-23 has 11.68days

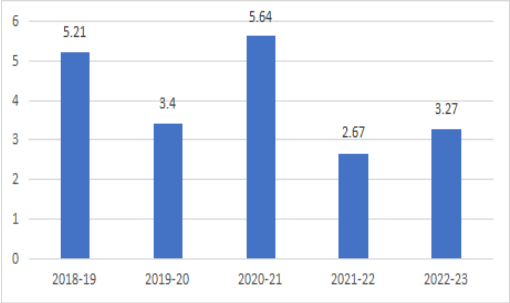


WORK IN PROGRESS CONVERSION PERIOD:

Year	Work in progress	Cost of production/365	Ratio (Days)
2018-19	270.72	51.98	5.21
2019-20	203.78	59.93	3.40
2020-21	360.67	63.99	5.64
2021-22	160.25	59.93	2.67
2022-23	177.86	54.43	3.27

INTERPRETATION

From the above table 2.6 shows the cost of production, ratio and corresponding production days. The data indicates fluctuations in the work in progress conversion period over the years, with varying costs and production days in 2018-19 has 5.21days, 2019-20 has 3.40days, 2020-21 has 5.64days ,2021-2022 has 2.67 days, 2022-23 has 3.27days

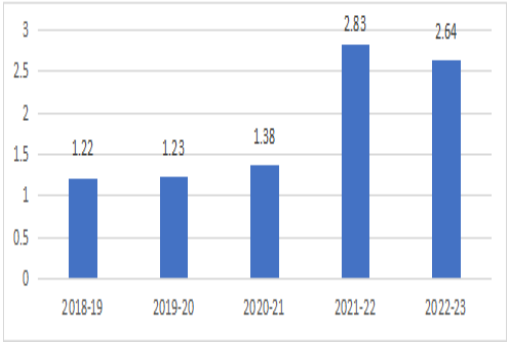


FINISHED GOODS CONVERSION PERIOD:

Year	Finished goods inventory	Cost of goods sold/365	Ratio (Days)
2018-19	63.17	51.98	1.22
2019-20	73.50	59.93	1.23
2020-21	88.38	63.99	1.38
2021-22	169.78	59.93	2.83
2022-23	143.46	54.43	2.64

INTERPRETATION

From the above table 2.7 shows that finished goods conversion period indicating variations in inventory levels and cost of goods sold, influencing the efficiency of the conversion process from 2018-19 has 1.22days, 2019-20 has 1.23days, 2020-21 has 1.38days ,2021-2022 has 2.83 days, 2022-23 has 2.64days

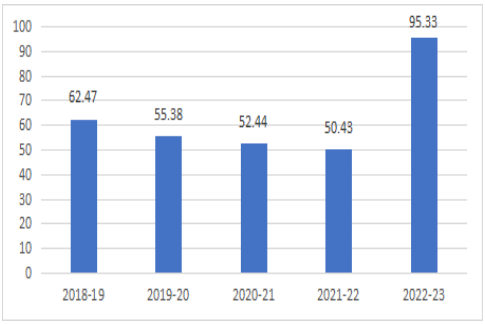


DAYS PAYABLE OUTSTANDING RATIO:

Year	Accounts payable	Cost of goods sold	Ratio (Days)
2018-19	3247.27	18974.11	62.47
2019-20	3318.81	21875.33	55.38
2020-21	3355.28	23356.10	52.44
2021-22	3022.18	21875.33	50.43
2022-23	5188.90	19867.19	95.33

INTERPRETATION

From the above table 2.8 shows that days payable outstanding ratio measures the average number of days accompany takes to pay its suppliers that is 2018-19 has 62.47 days, 2019-20 has 55.38 days, 2020-21 has 52.44 days ,2021-2022 has 50.43 days, 2022-23 has 95.33 days

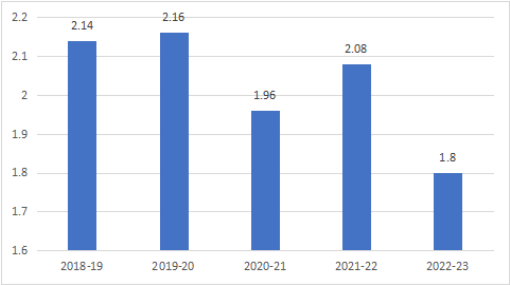


CURRENT RATIO :

Year	Current asset	Current liabilities	Ratio
2018-19	7453.18	3488.32	2.14
2019-20	8848.18	4093.33	2.16
2020-21	8115.64	4130.36	1.96
2021-22	8288.56	3976.06	2.08
2022-23	10992.79	6110.22	1.80

INTERPRETATION

current ratio of 2:1 is considered as standard. From the above table 2.9 shows that current ratio of the company under study is increasing year by year from 2018-2019 to 2022-2023 except 2018-2019 and 2020-2021



XI. FINDINGS

- The inventory turnover ratio declined consistently from 28.91% in 2018-19 to 13.70% in 2022-23, indicating a decreasing efficiency in inventory management over the period.
- The day it takes to sell inventory increased from 12.63 days in 2018-19 to 26.64 days in 2022-23, indicating a significant slowdown in inventory turnover efficiency over the period.
- Inventory took longer to convert into sales each year, increasing from 7.63 days in 2028-19 to 13.4 days in 2021-22.
- The average time to sell inventory increased gradually from 3.46 days in 2018-19 to 7.30 days in 2022-23, indicating a slowdown in inventory turnover over the period.
- Raw materials conversion period increased from 32.93 days in 2018-19 to 11.68 days in 2022-23, indicating a lengthening time to convert raw materials into finished products over the period.
- The work in progress conversion period fluctuated but generally decreased from 5.21 days in 2018-19 to 3.27 days in 2022-23, indicating improvements in the efficiency of converting work in progress to finished products over the period.
- finished goods conversion period increased slightly from 1.22 days in 2018-19 to 2.64 days in 2022-23, indicating a longer time to convert finished goods into sales over the period.
- The days payable outstanding ratio from 62.47 days in 2018-19 to 95.33 days in 2022-23, indicating a significant delay in paying suppliers over the period.
- Current ratio fluctuated but decreased overall from 2.14 in 2018-19 to 1.80 in 2022-23, indicating a declining ability to cover short-term liabilities with current assets over the period.

XII. SUGGESTIONS

- The Company needs to increase the inventory turnover ratio for efficient utilization of inventory management and the company should take measure for maintenance of proper stores and spares as to avoid the shortage of products and overstocking of the products.
- To ensure an adequate supply of material, stores, spares, finished stock, so that the production may not be held up for want of materials and eliminate duplication in ordering or replenishing stock.
- This is possible with the help of centralizing the purchases.

XIII. CONCLUSION

The study of the inventory management in HL Mando Anand India Private Limited reveals the performance of the company in terms of financial year aspects. The overall performance of the company regarding inventory management is satisfactory in terms of efficient utilization of the inventories during the period under the study..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.

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