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A STUDY ON INVENTORY ANALYSIS WITH REFERENCE TO KUSALAVA MOTORS

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ABSTRACT : **This study focuses on the inventory analysis of Kusalava Motors, a prominent player in the automobile component manufacturing sector. Effective inventory management is crucial for maintaining operational efficiency, reducing costs, and meeting customer demands. The objective of this study is to evaluate the existing inventory control practices at Kusalava Motors and identify areas for improvement. By analyzing key inventory metrics such as inventory turnover ratio, carrying costs, and order cycle time, this study aims to provide insights into the efficiency of the company's inventory system.**

KEY WORDS: **Inventory Management ,Stock Optimization, EOQ (Economic Order Quantity,Operational Efficiency.**

I. INTRODUCTION

Inventory management plays a vital role in the smooth functioning and profitability of manufacturing industries. In the highly competitive automobile sector, effective inventory control is essential for reducing operational costs, ensuring timely production, and meeting market demands. Kusalava Motors, located in Vijayawada, Andhra Pradesh, is a reputed manufacturer of precision engine components in India. The company has established itself as a key player in the supply of cylinder liners and other auto components to various Original Equipment Manufacturers (OEMs).

As a manufacturing company, Kusalava Motors maintains significant levels of raw materials, work-in-progress, and finished goods inventory. Efficient inventory management ensures that there is neither overstocking—which ties up capital and increases holding costs—nor understocking, which can disrupt production and affect customer satisfaction. This study aims to analyze the current inventory practices followed by Kusalava Motors and assess the effectiveness of its inventory control systems.

The introduction of modern inventory techniques such as Economic Order Quantity (EOQ), ABC analysis, and Just-In-Time (JIT) systems has transformed the way companies manage their stock. This paper explores whether Kusalava Motors has adopted such practices and how these impact its overall operational efficiency. By conducting an in-depth inventory analysis, the study seeks to provide practical recommendations for improving inventory management and enhancing productivity.

II .TOOLS AND TECHNIQUES FOR INVENTORY ANALYSIS

1. ABC ANALYSIS
2. Economic Order Quantity (EOQ)
3. Just-In-Time (JIT)
4. Inventory Turnover Ratio
5. Reorder Point Analysis
6. FSN Analysis
7. VED Analysis
8. Safety Stock Calculation
9. Material Requirements Planning (MRP)
10. Perpetual Inventory System

III. NEED FOR THE STUDY

Inventory constitutes a major portion of current assets in a manufacturing organization, and its effective management directly impacts operational efficiency and profitability. In the case of Kusalava Motors, which operates in the highly competitive automobile component manufacturing sector, the need for a structured and analytical approach to inventory management is even more critical.

Unscientific or inefficient handling of inventory can lead to issues such as excess holding costs, stockouts, production delays, and loss of customer satisfaction. This study is necessary to evaluate the effectiveness of existing inventory practices at Kusalava Motors, identify gaps, and suggest improvements. With the rising demand for cost efficiency and lean operations, this research aims to provide actionable insights that can help the company optimize its inventory, reduce waste, and enhance productivity.

IV .OBJECTIVES

1) To evaluate the efficiency of inventory control techniques being implemented.
2) To examine inventory-related financial indicators such as inventory turnover ratio and carrying costs.
3) To identify the challenges and gaps in the existing inventory system.

V. LIMITATIONS

1) The analysis is based on data made available by the company, which may be subject to
2) confidentiality and access restrictions.
3) The study focuses primarily on quantitative aspects of inventory and may not fully capture
4) qualitative factors such as employee efficiency and supplier relationships.
5) Time constraints may have limited the scope of in-depth analysis and real-time observations.
6) The impact of external factors such as market fluctuations, economic conditions, and supply chain
7) disruptions was not considered in detail.

VI .ANALYSIS

6.1 Maximum Level

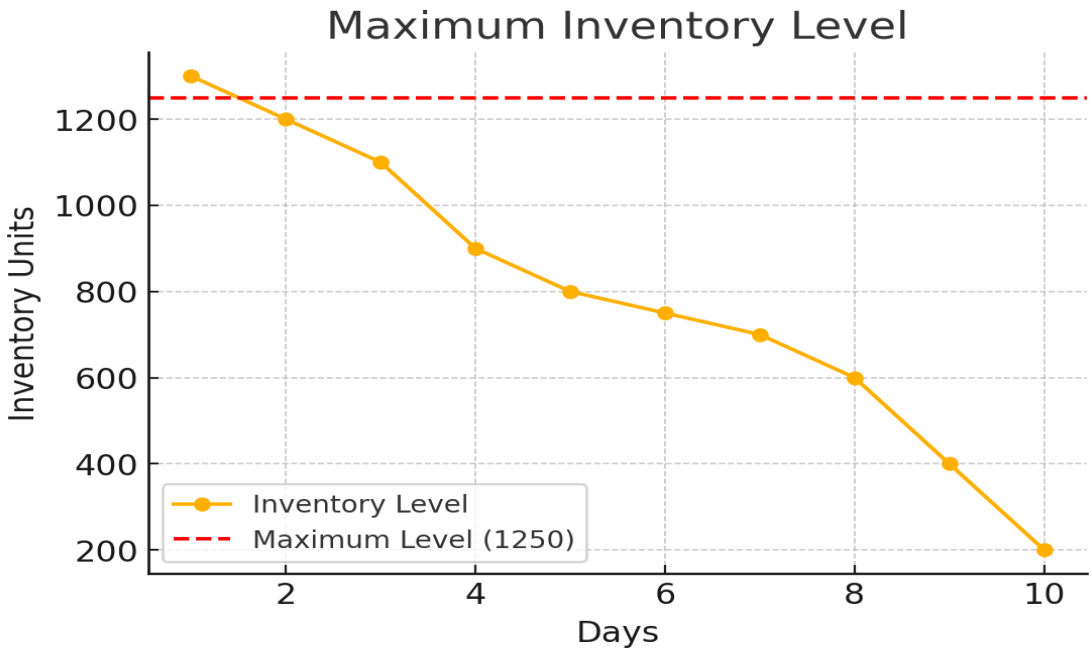
Definition: The maximum quantity of stock that should be kept to avoid overstocking and unnecessary holding costs.

Formula:

Maximum Level =
Reorder Level+Reorder Quantity−(Minimum Consumption × Minimum Lead Time)

Example:
If a company's reorder level is 500 units, the reorder quantity is 1,000 units, the minimum consumption is 50 units per day, and the minimum lead time is 5 days:

Maximum Level=500+1000−(50×5)=1,250 units



6.2 Minimum Level

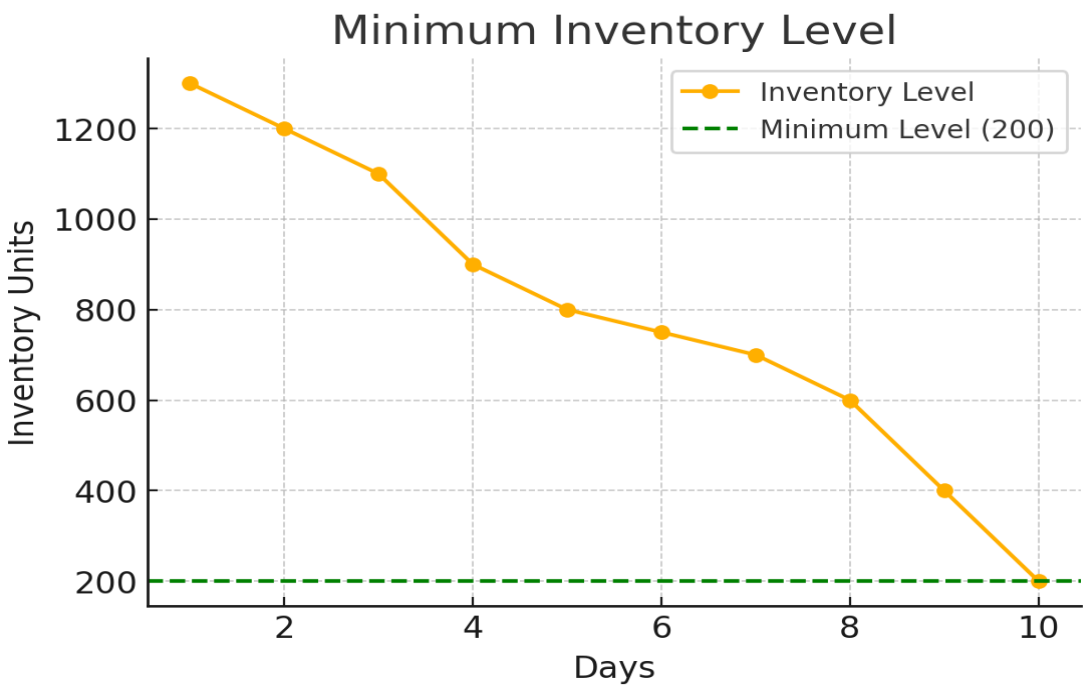
Definition: The minimum quantity of stock that must be maintained to avoid a stockout.

Formula:

Minimum Level=
Reorder Level−(Average Consumption×Average Lead Time)

Example:
If the reorder level is 500 units, average consumption is 100 units per day, and average lead time is 3 days:

Minimum Level=500−(100×3)=200 units



6.3 Reorder Level

Definition: The level at which a new order should be placed to replenish inventory before it reaches the minimum level.

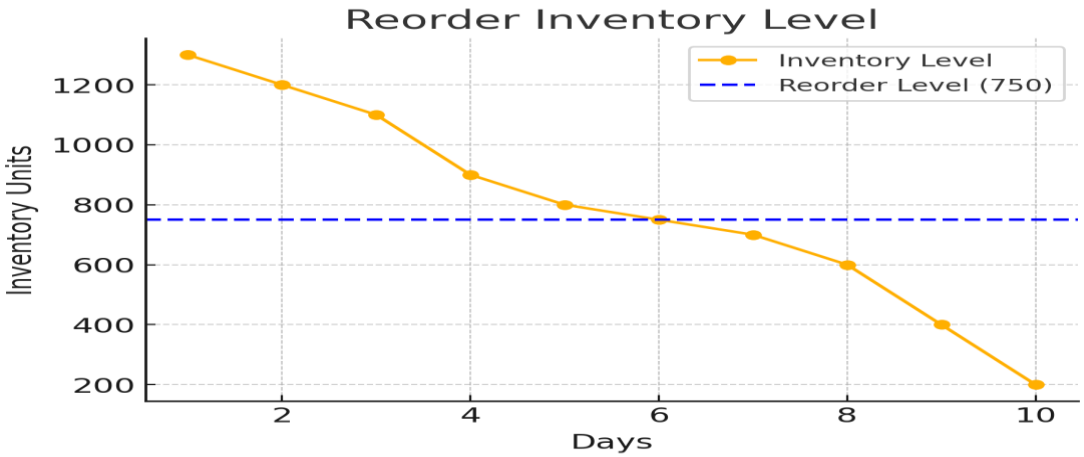
Formula:

Reorder Level=Maximum Consumption×Maximum Lead Time

Example:

If the maximum consumption is 150 units per day and the maximum lead time is 5 days:

Reorder Level=150×5=750 units



VII . CONCLUSION

For Kusalava Motors, an optimal inventory management strategy should consider supplier lead times, demand fluctuations, and production schedules to maintain efficiency. Implementing Just-in-Time (JIT) inventory practices, real-time stock tracking, and automated inventory control systems can further enhance accuracy in procurement and reduce excess capital investment in stock. By continuously reviewing and adjusting inventory levels based on market trends and operational needs, Kusalava Motors can achieve cost savings, improved cash flow, and enhanced production efficiency, ultimately strengthening its position in the automotive market

VIII . REFERENCE

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