A Study of Inventory Management Practices in a Manufacturing Organisation

Vaishnavi Mungase, Prof Shrikant Jagtap

How to Cite this Article:
Mungase, V. (2026). A Study of Inventory Management Practices in a Manufacturing Organisation. International Journal of Creative and Open Research in Engineering and Management, 02(05). https://doi.org/10.55041/ijcope.v2i5.654

https://doi.org/10.55041/ijcope.v2i5.654

Abstract

Inventory management is a critical function in manufacturing organisations as it directly influences production continuity, cost efficiency, and customer satisfaction. The present study aims to examine the effectiveness of inventory management practices in a manufacturing organisation and identify the key operational challenges affecting its performance. The research follows a descriptive study design and is based on a sample of 50 respondents selected through purposive sampling. Primary data was collected using a structured questionnaire, while secondary data was gathered from company records, books, journals, and relevant online sources. The findings of the study indicate that the inventory management system in the organisation is moderately effective. While a majority of respondents are satisfied with the existing system, issues such as stock shortages, procurement delays, and partial dependence on manual processes were observed. The study also reveals that inventory control techniques such as ABC analysis and EOQ are applied at an average level and are not fully optimized. It is further found that digital inventory systems are not completely implemented, which affects real-time tracking and operational accuracy. The study concludes that improvements in demand forecasting, adoption of integrated ERP systems, and better coordination among departments can significantly enhance inventory performance and reduce overall operational costs.

Keywords: Inventory Management, Manufacturing Organisation, Stock Control, EOQ, ABC Analysis, Supply Chain Efficiency

1. Introduction

Inventory management is one of the most important operational functions in manufacturing organisations because it ensures the availability of raw materials, work-in-progress, and finished goods in the required quantity at the right time. It plays a crucial role in maintaining smooth production flow and avoiding unnecessary delays in operations. In today's competitive business environment, effective inventory management is essential for controlling costs, improving efficiency, and ensuring timely delivery of products to customers. Poor inventory control can lead to problems such as overstocking, stock shortages, increased holding costs, and production disruptions, which ultimately affect profitability and customer satisfaction. Therefore, organisations must adopt efficient inventory management systems that help balance demand and supply effectively while reducing operational inefficiencies.

2. Review of Literature

Previous studies on inventory management highlight its importance in improving operational efficiency and reducing costs in manufacturing organisations. Scholars such as Gupta and Hira in Operations Management emphasize that proper inventory control techniques like Economic Order Quantity (EOQ), ABC analysis, and Just-in-Time (JIT) systems help in optimizing stock levels and reducing wastage. Similarly, Chopra and Meindl in Supply Chain Management explain that efficient inventory systems contribute to better coordination across the supply chain and improve responsiveness to market demand. Research in the field also shows that inadequate inventory planning often results in higher carrying costs, stock imbalances, and production delays. However, modern technological advancements such as ERP systems and digital tracking tools have significantly improved real-time inventory monitoring and decision-making in many organisations.

3. Research Methodology

The present study is based on a descriptive research design as it focuses on analyzing existing inventory management practices in a manufacturing organisation. The sample size for the study consists of 50 respondents who are directly involved in inventory-related operations. Purposive sampling technique was used to select respondents based on their relevance and experience in inventory handling. The data for the study was collected through both primary and secondary sources. Primary data was obtained through structured questionnaires, observation, and interaction with employees involved in store and warehouse operations. Secondary data was collected from company records, inventory registers, books, journals, and relevant online resources. The collected data was analyzed using percentage method and simple statistical tools to draw meaningful interpretations.

4. Findings and Analysis

The analysis of data collected from respondents indicates that the inventory management system in the organisation is moderately effective. It was found that 60 percent of respondents believe that the system is adequate, which shows that basic inventory processes are functioning well. However, 44 percent of respondents reported occasional stock shortages, indicating weaknesses in demand forecasting and replenishment planning. The study also revealed that 48 percent of respondents rated inventory control techniques as average, suggesting that methods such as ABC analysis and EOQ are not fully optimized in practice. It was further observed that 44 percent of employees still rely on manual processes for inventory management, which indicates partial digitalization within the organisation. Procurement delays were reported by 40 percent of respondents as having a high impact on operations, affecting production schedules and efficiency. In terms of overall satisfaction, 60 percent of respondents expressed moderate satisfaction with the inventory system. Warehousing efficiency was considered good by 52 percent of respondents, although some improvements are still required in space utilization and handling processes.

5. Discussion

The findings of the study indicate that although the organisation has a structured inventory management system in place, there are several areas that require improvement. The system is functioning at a moderate level of efficiency, but issues such as stock shortages and procurement delays highlight weaknesses in planning and coordination. The reliance on manual processes in many areas reduces the effectiveness of inventory control and increases the chances of errors and delays. Furthermore, the partial implementation of inventory control techniques suggests that the organisation has not fully leveraged modern inventory optimization methods. The

lack of complete digital integration also limits real-time visibility of stock levels, which affects decision-making. Therefore, there is a need for improved forecasting techniques, better supplier coordination, and adoption of advanced inventory management systems such as ERP to enhance operational efficiency.

6. Conclusion

The study concludes that inventory management in the selected manufacturing organisation is moderately effective but requires significant improvement to achieve higher efficiency. While the organisation has established basic inventory control practices, challenges such as stock shortages, procurement delays, and incomplete digital adoption still persist. These issues impact production continuity and operational performance. It is evident that better forecasting methods, improved coordination between departments, and full implementation of integrated inventory management systems can greatly enhance efficiency and reduce costs. Strengthening inventory control practices will not only improve operational performance but also contribute to better customer satisfaction and long-term business growth.

7. References

The study is supported by standard textbooks and academic literature on operations and supply chain management. Key references include Gupta and Hira's Operations Management, Chopra and Meindl's Supply Chain Management: Strategy, Planning and Operation, Kothari's Research Methodology, and Heizer and Render's Operations Management. In addition, information has been taken from reputable sources such as Investopedia, Supply Chain Management Review, and Management Study Guide, along with company records and internal documents related to inventory operations.