IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

A Study On Minimizing Delays And Bridging Process Gaps In Domestic Outbound Logistics Operation At Uno Minda Seating Division

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ABSTRACT

In the contemporary automotive manufacturing landscape, the effectiveness of outbound logistics has emerged as a critical determinant of operational continuity, customer satisfaction, and overall supply chain competitiveness. This study investigates the underlying causes of dispatch delays and process inefficiencies in domestic outbound logistics operations with specific reference to Uno Minda Seating Division, Hosur. The research systematically examines key operational variables including inventory mismatch, delayed system posting, documentation discrepancies, vehicle placement constraints, dispatch planning deficiencies, and interdepartmental coordination gaps that adversely affect delivery performance. Primary data for the study were collected from 75 respondents representing Warehouse, PPC, Production, Quality, and Logistics functions through a structured questionnaire. The collected data were analysed using Percentage Analysis, Chi-Square Test, and Correlation Analysis to derive meaningful managerial insights. The findings indicate that inventory inaccuracy and posting delays constitute the most significant contributors to dispatch inefficiency, while documentation lapses and inadequate transport coordination further intensify delivery disruptions. The Chi-Square analysis establishes a statistically significant relationship between inventory mismatch and dispatch delays, whereas correlation results reveal a strong positive association between interdepartmental communication and dispatch planning effectiveness. The study underscores the strategic importance of real-time inventory visibility, standardized operating procedures, integrated functional coordination, and proactive transport planning in improving logistics responsiveness. It concludes that the systematic elimination of process gaps and reduction of dispatch delays can substantially enhance operational efficiency, delivery reliability, and long-term competitive advantage for Uno Minda Seating Division.

Keywords: Outbound Logistics, Dispatch Delays, Inventory Accuracy, Process Gaps, Supply Chain Efficiency, Automotive Industry

INTRODUCTION

In today's world of global competition and customer-centric markets, outbound logistics has become an essential component of supply chain management. It ensures that finished goods are delivered to customers in the appropriate quantity, time, and condition. Efficient outbound logistics contributes significantly to customer satisfaction, operational continuity, cost reduction, and an organization's overall competitiveness.

The automotive component industry operates on highly synchronized production systems, with Original Equipment Manufacturers (OEMs) primarily employing Just-In-Time (JIT) practices. In such a situation, even minor supply delays can disrupt production schedules, create idle time, and result in financial losses. As a result, effective coordination between production planning, warehouse operations, transportation management, dispatch scheduling, and inventory control is critical for ensuring consistent supply chain performance. Uno Minda Seating Division in Hosur is a leading manufacturer of automotive seating systems, supplying products to major OEM customers. Due to tight customer delivery schedules, the company must consistently maintain high levels of dispatch accuracy and responsiveness. However, issues such as inventory mismatch, delayed system posting, documentation errors, vehicle placement delays, and communication gaps continue to impede dispatch efficiency and timely delivery.

In order to determine the primary reasons for dispatch delays, assess process gaps, and recommend workable solutions for enhancing operational effectiveness, delivery dependability, and customer satisfaction, the current study focuses on analysing the domestic outbound logistics process at Uno Minda Seating Division, Hosur.

OBJECTIVES OF THE STUDY

Primary Objective

To analyse and improve the efficiency of outbound logistics operations by identifying key factors causing dispatch delays and operational inefficiencies at Uno Minda Seating Division.

Secondary Objectives

- To identify the major causes of dispatch delays in outbound logistics
- To examine the impact of inventory mismatch on delivery performance
- To evaluate the impact of interdepartmental coordination on logistics efficiency

REVIEW OF LITERATURE

A review of earlier studies provides valuable insights into the importance of outbound logistics, dispatch efficiency, and supply chain coordination in manufacturing industries. Previous researchers have emphasized that inventory accuracy, transportation planning, documentation control, and interdepartmental communication are key factors influencing delivery performance.

Bowersox et al. (2013) observed that coordination among warehousing, transportation, and information systems is necessary for smooth logistics operations. Lack of coordination often leads to dispatch delays, excess operational costs, and lower service efficiency.

Mentzer et al. (2014) concluded that effective communication and collaboration among departments improve logistics responsiveness and service quality. Strong coordination between production, warehouse, and logistics teams helps reduce delays and improve dispatch performance.

Rushton et al. (2017) highlighted that documentation accuracy and timely vehicle placement are important drivers of outbound logistics efficiency. Errors in dispatch documents and transportation delays can seriously affect delivery commitments in manufacturing organizations.

Chopra and Meindl (2019) explained that inventory visibility and proper information flow are essential for effective supply chain operations. Delays in inventory updates and stock mismatch negatively affect dispatch planning, delivery schedules, and customer service performance.

Wang et al. (2023) investigated the pickup and delivery problem in automobile outbound logistics by considering trans-shipment between distribution centres. The study developed an integer programming model to maximize loaded value and minimize transportation cost under heterogeneous vehicle constraints. An adaptive large neighbourhood search algorithm was proposed to obtain near-optimal solutions efficiently. The findings highlighted the importance of optimized transportation planning in improving outbound logistics performance.

RESEARCH METHODOLOGY

The current study was conducted to investigate the causes of dispatch delays and identify process gaps in domestic outbound logistics operations at Uno Minda Seating Division in Hosur. A well-structured research methodology was used to gather relevant data, understand current logistics practices, and make appropriate recommendations for improving delivery performance and operational efficiency.

Research Design

The study is based on a Descriptive Research Design. This type of research is used to describe the current situation, existing processes, and employee opinions regarding dispatch activities. It helps in understanding the operational issues affecting outbound logistics and enables the researcher to suggest practical improvements.

Sampling Technique

The study used the Convenience Sampling Method under non-probability sampling. Respondents were selected based on their availability, willingness to participate, and involvement in logistics-related activities. This method was suitable for easy and quick data collection within the available time period.

Sample Size

The total sample size selected for the study was 75 employees. The responses collected from employees provided useful insights into the existing outbound logistics system.

Sources of Data

The study is mainly based on Primary Data. The required information was collected directly from employees working in various departments through a questionnaire. Primary data helped in understanding real-time operational issues and employee views regarding domestic outbound logistics.

Data Collection Method

A structured questionnaire was prepared based on the objectives of the study. The questionnaire contained close-ended questions related to dispatch delays, inventory control, documentation process, vehicle arrangement, communication flow, and overall logistics efficiency. The questionnaire was circulated through Google Forms for easy collection of responses.

Departments Covered

The respondents were selected from the following departments:

- Warehouse / Stores
- PPC (Production Planning and Control)
- Production
- Quality
- Logistics / Dispatch

Including respondents from multiple departments helped to obtain a broader understanding of the logistics process and coordination among departments.

Period of Study

The data collection period was carried out from January 2026 to March 2026

Tools Used for Analysis

The collected data were classified, tabulated, and analysed using suitable statistical tools. The following tools were used:

Percentage Analysis – To identify respondent opinions and common operational trends.

Chi-Square Test – To examine the relationship between inventory mismatch and dispatch delays.

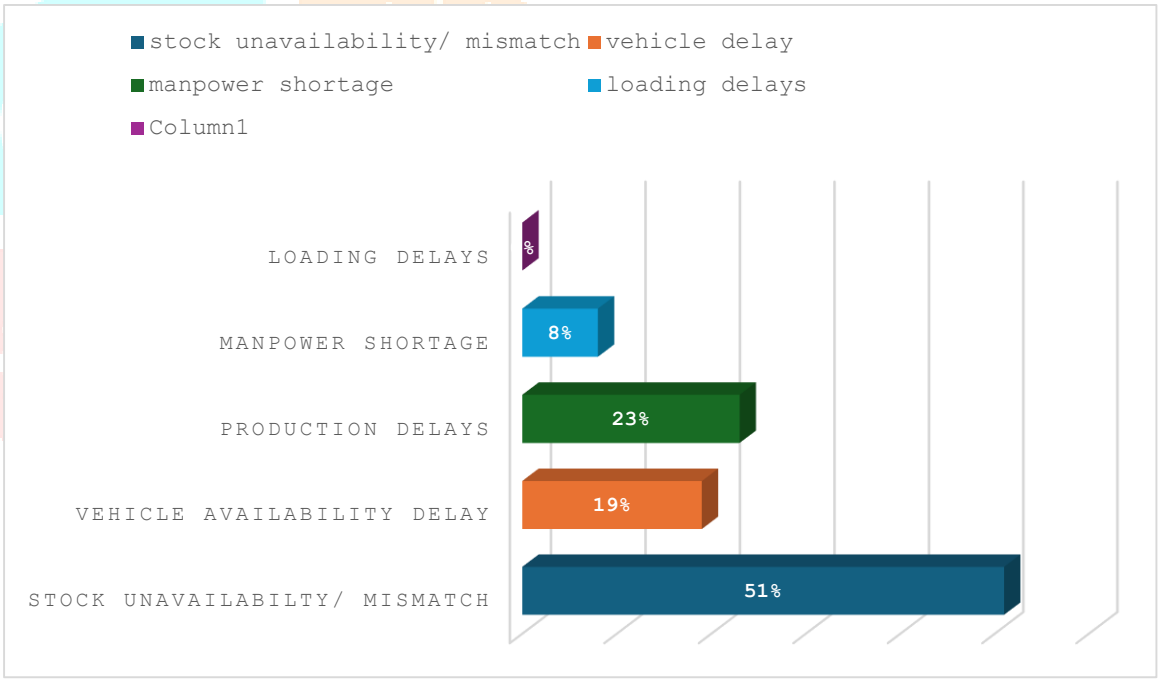
Correlation Analysis – To study the relationship between communication effectiveness and dispatch planning accuracy.

DATA ANALYSIS AND INTERPRETATION

MAJOR FACTORS CAUSE DISPATCH DELAYS

TABLE NO.1

Factors	No. of Responses	Percentage
Stock unavailability/ mismatch	38	51%
Vehicle availability delay	14	19%
Production delays	17	23%
Manpower shortage	6	8%
Loading delays	0	0%
TOTAL	75	100%



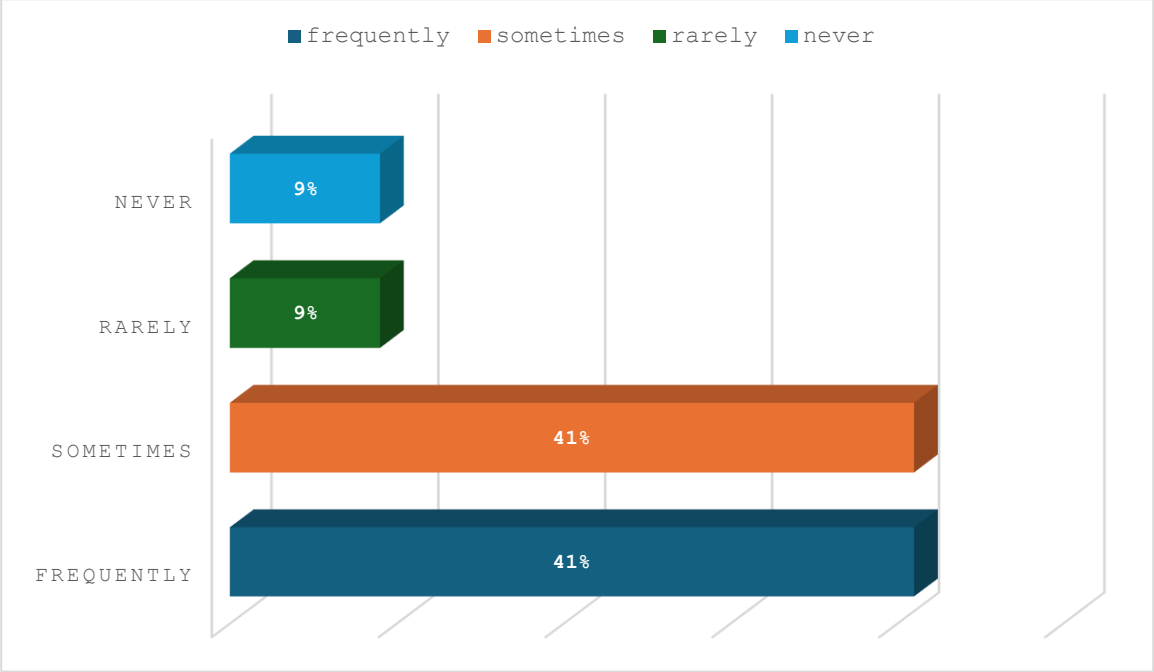
INTERPRETATION

The analysis shows that stock unavailability mismatch 51% is the major cause of dispatch delays. Production related issues 23% and vehicle availability delays 19% also contribute significantly. Manpower shortage accounts for only a small portion 8%, and loading delays are not considered a major issue. This indicates that inventory management is the primary area needing improvement.

MISMATCH BETWEEN PHYSICAL STOCK AND SYSTEM STOCK

TABLE NO.2

Options	No. of Responses	Percentage
Frequently	31	41%
Sometimes	31	41%
Rarely	7	9%
Never	6	9%
TOTAL	75	100%



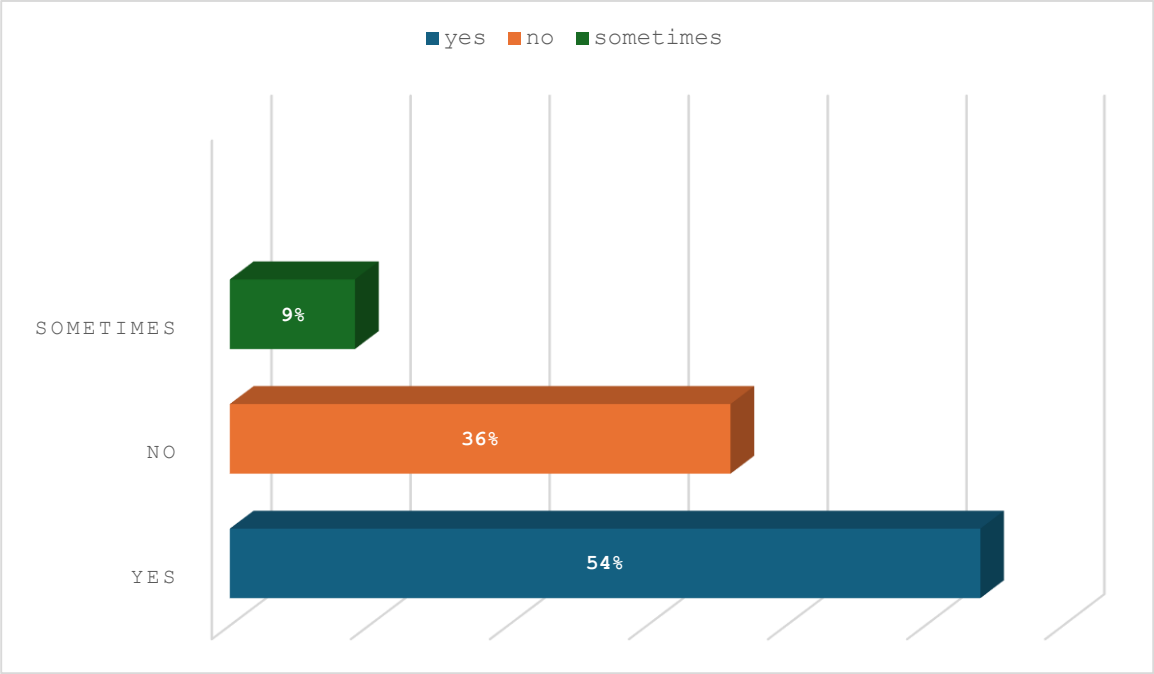
INTERPRETATION

It shows the responses regarding the occurrence of mismatches between physical stock and system stock. It is observed that 41% of the respondents reported that mismatch occur frequently, while another 41% stated that they occur sometimes. Only a small proportion of respondents indicated that such mismatch occurs rarely 9% or never 9%. This indicates that stock discrepancies are a common issue in the inventory management process, suggesting the need for improved monitoring and better system updating practices to maintain accurate inventory records.

COMMUNICATION GAPS BETWEEN DEPARTMENTS

TABLE NO.3

Options	No. of responses	Percentage
Yes	41	54%
No	27	36%
Sometimes	7	9%
TOTAL	75	100%



INTERPRETATION

The findings indicate that communication gaps exist between departments involved in outbound logistics operations. A majority of 54% of respondents reported the presence of communication gaps, while 36% stated that no such gaps exist, and 9% felt that communication issues occur occasionally. This suggests that although coordination among departments is functioning to some extent, there are still communication challenges that may influence the efficiency of dispatch activities. Strengthening interdepartmental communication and coordination can help reduce misunderstandings and support smoother outbound logistics operations.

INFERENCE

The study reveals that outbound logistics inefficiencies at Uno Minda Seating Division are primarily driven by inventory-related issues and process delays. The high occurrence of stock mismatch between physical and system records indicates gaps in inventory monitoring and real-time updating. Statistical analysis confirms that inventory mismatch has a significant impact on dispatch delays, while interdepartmental communication plays a crucial role in improving dispatch planning efficiency.

Although coordination exists across departments, inconsistencies in communication and system integration continue to affect operational performance.

The inference highlights that process gaps, rather than resource shortages, are the major contributors to logistics inefficiency.

FINDINGS

- The analysis identifies inventory mismatch (51%) as the predominant factor contributing to dispatch delays, highlighting it as a critical operational issue.
- Production-related delays (23%) and vehicle availability constraints (19%) are also observed to have a considerable impact on overall dispatch performance.
- A significant proportion of respondents (82%) indicated that inventory discrepancies occur either frequently or occasionally, reflecting inadequate inventory accuracy and control practices.
- More than half of the respondents (54%) acknowledged the existence of communication gaps between departments, which affect coordination in logistics operations.
- Factors such as manpower shortage (8%) and loading delays were found to have a relatively minor influence on dispatch efficiency.
- The results of the Chi-Square test establish a statistically significant association between inventory mismatch and dispatch delays, confirming the impact of inventory issues on logistics performance.
- The correlation analysis reveals a strong positive relationship between interdepartmental communication and dispatch efficiency, indicating that improved communication enhances operational effectiveness.

SUGGESTIONS

- Implement real-time inventory tracking systems to minimize stock discrepancies and improve inventory visibility.
- Ensure timely and accurate system updates to maintain consistency between physical and recorded inventory.
- Standardize documentation and dispatch procedures to reduce errors and enhance process reliability.
- Strengthen interdepartmental communication and coordination to enable smoother logistics operations.
- Improve vehicle planning and scheduling practices to prevent transportation-related delays.
- Conduct periodic inventory audits and stock verification to ensure data accuracy and accountability.
- Adopt integrated digital solutions such as ERP or Warehouse Management Systems (WMS) to enhance process transparency, coordination, and overall operational control.

CONCLUSION

The study establishes that outbound logistics efficiency is a key determinant of delivery reliability and customer satisfaction within the automotive manufacturing sector. The results clearly demonstrate that inventory discrepancies, delays in system updates, and gaps in interdepartmental coordination are the major factors contributing to dispatch inefficiencies at Uno Minda Seating Division. Statistical evidence highlights that enhancing inventory accuracy and improving communication across departments can significantly strengthen dispatch planning and execution.

The study emphasizes that the adoption of structured process improvements, real-time information systems, and integrated coordination practices can effectively reduce delays, optimize operational performance, and support the development of a sustainable competitive advantage in supply chain operations.

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