Journal DOI: 10.36713/epra1013 | SJIF Impact Factor (2026): 8.748 ISSN: 2347-4378
EPRA International Journal of Economics, Business and Management Studies (EBMS)
Volume: 13 | Issue: 3 | March 2026 -Peer-Reviewed Journal

A STUDY OF LOGISTICS AND SUPPLY CHAIN MANAGEMENT

Madhan S[1], Dr. M. Ganesan Alias Kanagaraj[2]
[1]*II MBA learner, Department of Management Studies, Saveetha Engineering College, Chennai, Tamil Nadu, India*
[2]*Assistant Professor (Senior Grade), Department of MBA, Saveetha Engineering College, Chennai, Tamil Nadu , India .*

ABSTRACT
Logistics and Supply Chain Management (SCM) play a critical role in ensuring the efficient flow of goods, services, and information from suppliers to end customers. This study focuses on the integration of logistics activities such as transportation, warehousing, inventory management, and distribution within the broader framework of supply chain management. The research highlights how effective coordination among supply chain partners enhances operational efficiency, reduces costs, and improves customer satisfaction. The findings suggest that adopting modern logistics strategies, digital tools, and integrated planning significantly strengthens supply chain performance and organizational competitiveness.
KEYWORDS: *Logistics, Supply Chain Management, Transportation, Inventory Management, Warehousing, Distribution, Efficiency*

1. INTRODUCTION
In today's competitive business environment, Logistics and Supply Chain Management (SCM) are essential for achieving operational excellence. Logistics deals with the movement and storage of goods, whereas SCM involves the overall coordination of suppliers, manufacturers, distributors, and customers. Efficient logistics ensures timely delivery, cost reduction, and improved service levels. Supply chain management integrates all business processes from procurement of raw materials to final product delivery.

2. PROBLEM STATEMENT
Many organizations face inefficiencies due to poor coordination in logistics and supply chain activities. Issues such as delayed transportation, excess inventory, stockouts, and lack of real-time information lead to increased costs and reduced service quality.Traditional systems often treat logistics functions independently rather than integrating them within the supply chain framework. This results in operational delays, higher lead times, and reduced competitiveness. Therefore, there is a need to study how integrated logistics and SCM practices improve efficiency and performance.

3. RESEARCH OBJECTIVES AND QUESTIONS
3.1 Research Objectives
- To analyze the role of logistics in supply chain efficiency
- To evaluate the impact of transportation and warehousing on performance
- To study inventory management in supply chains
- To examine how integration improves overall supply chain effectiveness

3.2 Research Questions
RQ1: How does logistics management influence supply chain performance? RQ2: What is the role of inventory and transportation in SCM?
RQ3: How can integration of logistics improve operational efficiency?

4. LITERATURE REVIEW
The role of logistics in enhancing supply chain efficiency has been widely recognized in the field of Supply Chain Management. Scholars have emphasized that logistics is not merely a supportive function but a strategic component that directly influences organizational performance and customer satisfaction.

Journal DOI: 10.36713/epra1013 | SJIF Impact Factor (2026): 8.748 ISSN: 2347-4378
EPRA International Journal of Economics, Business and Management Studies (EBMS)
Volume: 13 | Issue: 3 | March 2026 -Peer-Reviewed Journal

According to Martin Christopher (2016), effective logistics management plays a crucial role in creating customer value by ensuring timely delivery and reducing operational costs. He argues that companies that integrate logistics with supply chain strategies gain a competitive advantage through improved service levels and cost efficiency. This perspective highlights the importance of aligning logistics operations with overall business objectives.

Similarly, John T. Mentzer et al. (2001) emphasized the significance of supply chain integration in improving coordination among various stakeholders, including suppliers, manufacturers, and distributors. Their study suggests that integrated supply chains lead to better information sharing, reduced lead times, and enhanced operational efficiency. Poor coordination, on the other hand, often results in inefficiencies such as delays, increased transportation costs, and inventory imbalances.

Further research indicates that inefficient inventory and transportation management are among the primary causes of supply chain disruptions. Inadequate demand forecasting can lead to overstocking or stockouts, both of which negatively impact profitability and customer satisfaction. Effective logistics practices, including optimized routing and inventory control systems, are essential to mitigate these risks and ensure smooth operations.

In recent years, technological advancements have significantly transformed logistics and supply chain management. The adoption of Enterprise Resource Planning (ERP) systems, real-time tracking tools, and data analytics has improved supply chain visibility and decision-making processes. Technologies such as Artificial Intelligence (AI) and the Internet of Things (IoT) enable organizations to monitor operations in real time, predict demand patterns, and enhance overall efficiency.

In conclusion, the existing literature strongly supports the view that effective logistics management is a key driver of supply chain success. Integration, technology adoption, and strategic planning are critical factors that enable organizations to achieve sustainable competitive advantage in today's dynamic business environment.



Summary of Literature

Area of Study	Key Idea	Importance
Logistics Management	Efficient transportation improves delivery speed	Enhances customer satisfaction
Supply Chain Integration	Coordination between partners improves efficiency	Reduces delays
Inventory Management	Proper stock control reduces costs	Improves operational performance
Technology in Logistics	Digital systems improve tracking and transparency	Enhances supply chain visibility

Journal DOI: 10.36713/epra1013 | SJIF Impact Factor (2026): 8.748 ISSN: 2347-4378
EPRA International Journal of Economics, Business and Management Studies (EBMS)
Volume: 13 | Issue: 3 | March 2026 -Peer-Reviewed Journal

5. CONCEPTUAL FRAMEWORK

The conceptual framework of logistics and SCM consists of the following components:

- **Procurement** – Sourcing raw materials
- **Transportation** – Movement of goods
- **Warehousing** – Storage and handling
- **Inventory Management** – Stock control
- **Distribution** – Delivery to end customers

These components are interdependent and collectively influence supply chain efficiency. Effective coordination reduces lead time, minimizes costs, and improves service quality.

COMPONENTS OF LOGISTICS AND SCM

Component	Function	Risk Involved	Management Focus
Transportation	Movement of goods	Delays, high fuel cost	Route optimization
Warehousing	Storage of goods	Damage, high holding cost	Efficient storage systems
Inventory	Stock management	Overstocking, stockouts	Demand forecasting
Distribution	Delivery to customers	Late delivery	Network planning

6. RESEARCH METHODOLOGY

This study adopts a descriptive and analytical approach using secondary data from journals, textbooks, and industry reports. The analysis focuses on understanding logistics functions and their impact on supply chain efficiency.

Conceptual models and performance indicators are used to evaluate logistics effectiveness within supply chain operations.

7. RESULTS AND DISCUSSION

The analysis shows that logistics plays a vital role in improving supply chain efficiency. Key findings include:

- Efficient transportation reduces delivery time and cost
- Proper inventory management ensures product availability
- Warehousing improves storage and handling efficiency
- Integration of logistics activities enhances overall performance

Companies that adopt advanced logistics systems experience improved customer satisfaction and reduced operational risks.

Types of Supply Chain Strategies

Strategy	Purpose
Efficient Supply Chain	Focus on reducing operational costs
Responsive Supply Chain	Focus on quick response to customer demand
Agile Supply Chain	Flexible and adaptable to changes
Lean Supply Chain	Eliminates waste and improves efficiency

Journal DOI: 10.36713/epra1013 | SJIF Impact Factor (2026): 8.748 ISSN: 2347-4378
EPRA International Journal of Economics, Business and Management Studies (EBMS)
Volume: 13 | Issue: 3 | March 2026 -Peer-Reviewed Journal

8. MANAGERIAL IMPLICATIONS

Effective logistics management leads to better supply chain outcomes:

Area	Poor Management Leads To	Effective Management Leads To
Transportation	Delivery delays	Timely delivery
Inventory	Stockouts, excess stock	Optimal inventory levels
Warehousing	High cost, inefficiency	Organized storage
Distribution	Customer dissatisfaction	Improved service quality

Managers should focus on integrating logistics with supply chain strategies, using technology, and improving coordination among stakeholders.

9. LIMITATIONS AND FUTURE RESEARCH

9.1 Limitations

- Based on secondary data
- No primary data analysis
- Limited industry-specific insights

9.2 Future Research

- Use of real-time logistics data
- Industry-specific supply chain studies
- Impact of digital logistics (AI, IoT, Blockchain)

10. CONCLUSION

Logistics and Supply Chain Management are essential for business success. Efficient logistics ensures smooth movement of goods, while supply chain management integrates all activities to deliver value to customers. Organizations that adopt integrated logistics strategies, advanced technologies, and effective coordination achieve higher efficiency, reduced costs, and improved competitiveness.

REFERENCES

1. *Martin Christopher (2016). Logistics and Supply Chain Management. Pearson Education.*
2. *Sunil Chopra & Peter Meindl (2019). Supply Chain Management: Strategy, Planning, and Operation. Pearson.*
3. *John T. Mentzer et al. (2001). "Defining Supply Chain Management." Journal of Business Logistics.*
4. *Donald J. Bowersox & David J. Closs (2013). Logistical Management. McGraw- Hill.*
5. *David Simchi-Levi (2021). Designing and Managing the Supply Chain. McGraw- Hill.*
6. *Hau L. Lee (2004). "The Triple-A Supply Chain." Harvard Business Review.*
7. *Michael E. Porter (1985). Competitive Advantage: Creating and Sustaining Superior Performance. Free Press.*
8. *Council of Supply Chain Management Professionals (2020). Supply Chain Management Definitions and Standards.*
9. *Janat Shah (2018). Supply Chain Management: Text and Cases. Pearson India.*
10. *Sople Vinod V. (2012). Logistics Management. Pearson Education India.*