

# **Supply Chain Management and its Influence on Operational Performance**

**Mr. Muhammed Hasan A<sup>1</sup>, Mr. Mohd Anaf Ali<sup>2</sup>, Mr. Nabeel K S<sup>3</sup>, Mr. P. Vijeyakumar<sup>4</sup>**

III BBA International Business, Department of Business Administration<sup>1-3</sup>

(Computer Application and International Business)

Assistant Professor, Department of Business Administration (Computer Application and International Business)<sup>4</sup>

Nehru Arts and Science College, Coimbatore

**Abstract:** *Supply Chain Management (SCM) plays a vital role in improving organizational efficiency and productivity. In today's highly competitive business environment, organizations focus on integrating suppliers, manufacturers, distributors, and customers to ensure smooth flow of goods and information. The present study examines the influence of supply chain management practices on operational performance. The research focuses on key SCM practices such as supplier relationship management, inventory management, information sharing, and logistics coordination. Primary data were collected from respondents through a structured questionnaire. The study reveals that effective supply chain practices significantly improve operational performance by reducing operational costs, improving delivery performance, enhancing productivity, and increasing customer satisfaction. The findings highlight the importance of adopting efficient supply chain strategies to achieve sustainable organizational growth and competitive advantage.*

**Keywords:** Supply Chain Management, Operational Performance, Inventory Management, Logistics, Supplier Relationship, Business Efficiency

## **I. INTRODUCTION**

Supply Chain Management has become an essential component of modern business operations. It involves the coordination and integration of activities related to procurement, production, transportation, storage, and distribution of goods and services. An efficient supply chain ensures that the right products reach customers at the right time and at the lowest possible cost.

With increasing globalization, technological advancements, and customer expectations, organizations are compelled to strengthen their supply chain systems. Effective supply chain management helps businesses improve operational efficiency, reduce costs, enhance product quality, and respond quickly to market demand.

Operational performance refers to the ability of an organization to efficiently utilize resources to achieve business objectives. It includes factors such as productivity, product quality, delivery performance, cost efficiency, and customer satisfaction. A well-managed supply chain system enhances coordination among suppliers, manufacturers, and distributors, which leads to improved operational outcomes.

Therefore, understanding the influence of supply chain management on operational performance is crucial for organizations aiming to achieve sustainable growth and maintain competitiveness in the global market.

## **II. REVIEW OF LITERATURE**

**Christopher (2016)** emphasized that supply chain management focuses on integrating business processes involved in the movement of goods from suppliers to customers. The study highlighted that effective coordination improves operational efficiency and reduces costs.

**Mentzer et al. (2001)** defined SCM as the systematic coordination of business functions across organizations. Their study found that collaboration and information sharing significantly improve organizational performance.



**Chopra and Meindl (2019)** discussed that strategic supply chain planning enhances delivery performance and productivity, helping firms gain competitive advantage.

**Gunasekaran et al. (2004)** examined supply chain performance measurement and concluded that proper supply chain integration improves operational performance.

**Li et al. (2006)** found that supply chain practices such as strategic supplier partnership, customer relationship management, and information sharing positively influence organizational performance.

**Muhammad and Isfianadewi (2023)** examined the impact of supply chain management practices on customer development and operational performance in small and medium enterprises. The study used quantitative methods and found that supply chain practices significantly influence operational performance, and customer development plays a mediating role between SCM practices and performance outcomes.

**Dinsa (2023)** analyzed the effect of supply chain management practices on operational performance in Bedele Brewery Share Company. The study identified strategic supplier partnerships, information sharing, customer relationship management, and lean practices as key determinants that positively influence operational efficiency and productivity.

**Shebeshe and Sharma (2024)** investigated sustainable supply chain management and organizational performance in the Ethiopian manufacturing industry. Their findings revealed that sustainable supply chain practices improve organizational performance, and competitive advantage acts as a mediator between supply chain management and overall business performance.

**Asrol (2024)** conducted a systematic literature review on Industry 4.0 adoption in supply chain operations. The study highlighted that technologies such as automation, data analytics, and digital integration significantly enhance supply chain efficiency, flexibility, and operational responsiveness in modern organizations.

**Paul and Saha (2024)** reviewed flexible strategies and performance indicators for supply chain resilience. The research emphasized that resilient supply chains help organizations effectively manage disruptions and maintain operational stability, thereby improving long-term operational performance.

**Mishra et al. (2024)** explored the role of marketing and logistics coordination in optimizing supply chain performance. The study concluded that strong coordination between marketing strategies and logistics operations leads to better inventory management, improved delivery performance, and higher customer satisfaction.

**Malik and Pasha (2025)** examined the role of automation and knowledge management in optimizing supply chain performance under Industry 4.0 environments. The study found that integrating technology with knowledge management systems significantly improves operational efficiency and competitiveness in supply chains.

**Jahin et al. (2025)** analyzed the role of artificial intelligence and machine learning in supply chain risk assessment. The study highlighted that AI-driven predictive models enhance supply chain resilience, reduce operational risks, and improve decision-making in complex supply chain networks.

## RESEARCH GAP

Many studies have discussed the concept and importance of supply chain management; however, limited research has focused on the direct influence of supply chain practices on operational performance at the organizational level. Furthermore, there is a need to analyze how different SCM components such as supplier relationship management, inventory management, logistics efficiency, and information sharing affect operational outcomes. Hence, this study attempts to bridge this gap by analyzing the relationship between SCM practices and operational performance.

## NEED OF THE STUDY

In today's highly competitive business environment, organizations are constantly striving to improve efficiency, reduce operational costs, and enhance customer satisfaction. Supply Chain Management (SCM) plays a significant role in achieving these goals by integrating various business activities such as procurement, production, inventory management, transportation, and distribution. An effective supply chain system helps organizations ensure the smooth flow of materials, information, and finances across different stages of the business process.



However, many organizations still face challenges such as poor coordination among supply chain partners, delays in delivery, excess inventory, and increasing operational costs. These challenges can negatively affect the operational performance of organizations. Therefore, it becomes necessary to study how supply chain management practices influence operational performance.

The present study aims to analyze the relationship between supply chain management practices and operational performance. Understanding this relationship will help organizations adopt better supply chain strategies that improve efficiency, productivity, and overall organizational performance.

### **STATEMENT OF THE PROBLEM**

In the modern business environment, organizations face increasing pressure to deliver high-quality products and services at competitive prices while meeting customer expectations. Managing supply chains efficiently has become a major challenge due to factors such as globalization, technological changes, increasing customer demands, and complex supplier networks.

Inefficient supply chain practices may lead to several operational problems including delays in production, poor inventory control, increased operational costs, and reduced customer satisfaction. Many organizations struggle to maintain proper coordination between suppliers, manufacturers, distributors, and customers, which directly affects operational performance.

Therefore, it is important to examine how effective supply chain management practices can influence and improve operational performance. This study focuses on understanding the impact of supply chain management practices on operational performance and identifying ways to enhance efficiency and productivity within organizations.

### **SCOPE OF THE STUDY**

The scope of the study focuses on analyzing the role of supply chain management in improving operational performance in organizations. The study mainly examines key supply chain practices such as supplier relationship management, inventory management, logistics coordination, and information sharing.

The research is limited to selected organizations and respondents involved in supply chain activities such as procurement, logistics, and operations. The study analyzes how these practices contribute to improving productivity, cost efficiency, delivery performance, and customer satisfaction.

The findings of the study will be useful for managers, business organizations, and researchers who aim to understand the importance of supply chain management in achieving better operational outcomes.

### **LIMITATIONS OF THE STUDY**

The study is limited to a **small sample size of respondents**, which may not represent all organizations.

The research is based mainly on **primary data collected through questionnaires**, and responses may depend on the perception of the respondents.

The study focuses only on **selected supply chain management practices**, while other factors affecting operational performance are not considered.

Time constraints limited the depth of analysis and data collection.

The study is restricted to specific organizations and therefore the findings may not be generalized to all industries.

### **RESEARCH OBJECTIVES**

- To understand the concept of supply chain management.
- To analyze the influence of supply chain management on operational performance.
- To identify the benefits of effective supply chain management in organizations.



**RESEARCH DESIGN**

**Population**

The population of the study consists of employees working in business organizations involved in supply chain activities such as procurement, logistics, inventory management, and operations.

**Sample Design**

A sample of **100 respondents** was selected using **simple random sampling technique** to collect primary data.

**Tools for Data Collection**

Primary data were collected using a **structured questionnaire** consisting of close-ended questions related to supply chain practices and operational performance.

Secondary data were collected from:

- Books
- Journals
- Research articles
- Websites

**Tools for Data Analysis**

The following statistical tools were used:

- Percentage analysis
- Simple statistical tables
- Descriptive analysis

**HYPOTHESES OF THE STUDY**

To examine the relationship between Supply Chain Management practices and operational performance, the following hypotheses were formulated:

- H1: There is a significant relationship between supplier relationship management and operational performance.
- H2: Effective inventory management significantly improves operational efficiency.
- H3: Information sharing among supply chain partners positively influences delivery performance.

**III. DATA ANALYSIS AND INTERPRETATION**

**Table 1: Awareness of Supply Chain Management**

Awareness Level	Number of Respondents	Percentage
Highly Aware	45	45%
Moderately Aware	35	35%
Slightly Aware	15	15%
Not Aware	5	5%
<b>Total</b>	<b>100</b>	<b>100%</b>

Source: Primary Data

**Interpretation:**

The table shows that 45% of respondents are highly aware of supply chain management, while only 5% are not aware, indicating that most employees understand the importance of SCM.

**Table 2: Importance of Supplier Relationship in SCM**

Opinion	Respondents	Percentage
Strongly Agree	50	50%
Agree	30	30%
Neutral	10	10%
Disagree	7	7%
Strongly Disagree	3	3%



<b>Total</b>	<b>100</b>	<b>100%</b>
--------------	------------	-------------

Source: Primary Data

**Interpretation:**

A majority of respondents (80%) agree that maintaining strong relationships with suppliers is essential for effective supply chain management.

**Table 3: SCM Influence on Operational Cost Reduction**

Response	Respondents	Percentage
Highly Influential	40	40%
Moderately Influential	35	35%
Slightly Influential	15	15%
Not Influential	10	10%
<b>Total</b>	<b>100</b>	<b>100%</b>

Source: Primary Data

**Interpretation:**

The results indicate that 75% of respondents believe SCM significantly reduces operational costs, highlighting the importance of efficient supply chain practices.

**Table 4: Impact of SCM on Operational Performance**

Performance Factor	Respondents Agreeing	Percentage
Improved Productivity	38	38%
Better Inventory Control	25	25%
Faster Delivery	22	22%
Cost Efficiency	15	15%
<b>Total</b>	<b>100</b>	<b>100%</b>

Source: Primary Data

Most respondents believe that SCM improves productivity (38%) and inventory control (25%), which directly contribute to better operational performance.

**Table 5: Relationship between Supplier Relationship Management and Operational Performance (H1)**

Opinion	Number of Respondents	Percentage
Strongly Agree <b>Interpretation:</b>	42	42%
Agree	34	34%
Neutral	12	12%
Disagree	8	8%
Strongly Disagree	4	4%
<b>Total</b>	<b>100</b>	<b>100%</b>

Source: Primary Data

**Interpretation:**

The table shows that 76% of respondents (42% strongly agree and 34% agree) believe that strong supplier relationships improve operational performance. Only 12% are neutral and 12% disagree. This indicates that supplier relationship management plays an important role in enhancing operational efficiency.

Since the majority of respondents agree, H1 is accepted. There is a significant relationship between supplier relationship management and operational performance.

**Table 6: Impact of Inventory Management on Operational Efficiency (H2)**

Opinion	Number of Respondents	Percentage
Strongly Agree	38	38%
Agree	36	36%



Neutral	14	14%
Disagree	7	7%
Strongly Disagree	5	5%
<b>Total</b>	<b>100</b>	<b>100%</b>

Source: Primary Data

**Interpretation:**

The table indicates that 74% of respondents (38% strongly agree and 36% agree) believe that effective inventory management improves operational efficiency. Only 12% disagree, while 14% remain neutral.

Therefore, **H2 is accepted**, indicating that inventory management has a significant influence on operational efficiency.

**Table 7: Influence of Information Sharing on Delivery Performance (H3)**

Opinion	Number of Respondents	Percentage
Strongly Agree	40	40%
Agree	35	35%
Neutral	13	13%
Disagree	7	7%
Strongly Disagree	5	5%
<b>Total</b>	<b>100</b>	<b>100%</b>

Source: Primary Data

**Interpretation:**

From the table, **75% of respondents agree** that information sharing among supply chain partners improves delivery performance. Only **12% disagree**, while **13% are neutral**.

Thus, **H3 is accepted**, indicating that effective information sharing positively influences delivery performance.

**IV. FINDINGS**

- Most respondents are aware of supply chain management practices.
- Supplier relationship management plays a significant role in improving supply chain efficiency.
- Effective SCM practices help reduce operational costs.
- Supply chain integration improves productivity and inventory management.
- Organizations implementing strong SCM strategies achieve better operational performance.
- Most respondents are aware of the importance of supply chain management in improving operational performance.
- Strong supplier relationships help organizations ensure smooth procurement and reduce supply disruptions.
- Effective inventory management helps maintain optimal stock levels and improves operational efficiency.
- Information sharing among supply chain partners enhances coordination and improves delivery performance.
- Supply chain management practices significantly contribute to productivity, cost reduction, and customer satisfaction.
- Organizations with efficient supply chain systems achieve better operational outcomes and competitive advantage.

**V. SUGGESTIONS**

- Organizations should adopt advanced technologies such as digital supply chain systems to improve efficiency.
- Companies should maintain long-term partnerships with suppliers to ensure uninterrupted supply.
- Businesses should implement effective inventory management systems to reduce storage costs.
- Firms should improve logistics infrastructure to ensure faster delivery.
- Continuous monitoring and evaluation of supply chain performance should be conducted.



- Organizations should strengthen **supplier relationships** through long-term partnerships and collaboration.
- Companies should implement **advanced inventory management systems** such as automated inventory tracking and demand forecasting.
- Businesses should improve **information sharing systems** using digital technologies like ERP and supply chain software.
- Organizations should invest in **logistics and transportation infrastructure** to enhance delivery performance.
- Continuous monitoring and evaluation of supply chain activities should be conducted to improve operational efficiency.
- Training programs should be provided to employees to improve knowledge and skills related to supply chain management practices.

## VI. CONCLUSION

Supply Chain Management plays a crucial role in improving operational performance in modern organizations. Efficient coordination among supply chain partners enhances productivity, reduces operational costs, and improves customer satisfaction. Organizations that adopt strategic supply chain practices can achieve better operational efficiency and maintain a competitive advantage in the market. Therefore, businesses should focus on strengthening their supply chain systems through technological integration, effective communication, and strategic partnerships to ensure long-term sustainability and growth.

## REFERENCES

- [1]. Asrol, M. (2024). Industry 4.0 adoption in supply chain operations: A systematic literature review. *International Journal of Technology*, 15(3), 544–560. <https://doi.org/10.14716/ijtech.v15i3.5958>
- [2]. Dinsa, J. H. (2023). Effect of supply chain management practice on operational performance in the case of Bedele Brewery Share Company. *Journal of Business and Economic Development*, 8(3), 94–107. <https://doi.org/10.11648/j.jbed.20230803.13>
- [3]. Jahin, M. A., Naife, S. A., Saha, A. K., & Mridha, M. F. (2025). AI in supply chain risk assessment: A systematic literature review and bibliometric analysis. *arXiv Preprint*.
- [4]. Malik, Z., & Pasha, U. (2025). Optimizing supply chain performance through Industry 4.0: The role of automation and knowledge management. *Journal of Management Science Research Review*, 4(3), 1034–1078.
- [5]. Mishra, K. K., Singh, C., Mukherjee, K., & Soni, K. (2024). Optimizing supply chain performance through effective marketing and logistics coordination. *ShodhKosh: Journal of Visual and Performing Arts*, 5(5). <https://doi.org/10.29121/shodhkosh.v5.i5.2024.3613>
- [6]. Muhammad, H. U., & Isfianadewi, D. (2023). How supply chain management practices influence customer development and operational performance. *Journal Research of Social Science, Economics and Management*, 2(6), 1081–1093. <https://doi.org/10.59141/jrssem.v2i06.365>
- [7]. Paul, A., & Saha, S. C. (2024). Flexible strategies and performance indicators for supply chain resilience: A systematic literature review. *Global Journal of Flexible Systems Management*.
- [8]. Shebeshe, E. N., & Sharma, D. (2024). Sustainable supply chain management and organizational performance: The mediating role of competitive advantage. *Future Business Journal*, 10(47). <https://doi.org/10.1186/s43093-024-00332-6>
- [9]. Kothari, C. R., & Garg, G. (2024). *Research Methodology: Methods and Techniques* (5th ed.). New Age International Publishers.
- [10]. Chopra, S., & Meindl, P. (2019). *Supply chain management: Strategy, planning, and operation* (7th ed.). Pearson Education.
- [11]. Christopher, M. (2016). *Logistics and supply chain management* (5th ed.). Pearson Education Limited.

