



International Journal of Recent Development in Engineering and Technology
Website: www.ijrdet.com (ISSN 2347-6435 (Online) Volume 15, Issue 09, September 2026)

The Impact of Logistics and Supply Chain Management in Business: An Indian Perspective

S Mohammed Azif¹, Sreya S², Muhammed Aadil Shajahan³, Ashtami M P⁴, Karishma J L⁵
S3MBA, Mohandas Institute of Management, MCET, Thiruvananthapuram, Kerala, India

I. INTRODUCTION

We are living in an era of competition which is increasing day by day, organizing millions of businesses operating across different regions or countries. "Given smooth economic coordination is a pre-condition for the successful functioning of the global economy, supply chain management offers the most needed service to ensure a strong network between a company and its suppliers to manufacture or produce, then to distribute goods to customers" (Martin Placek, 2024). Also, the rise in global commerce has led to an increased significance of supply chain management. In 2020, for example, the value of the global supply chain management market was about 16 billion USD. The market for procurement software and supply chain management has grown more than twofold in the past ten years. The term "global value chains" (GVCs), which refers to the predominant mode of engagement in international trade relations, is formed by these supply chain networks (www.statista.com). Transportation comprises a key area where logistics companies can truly differentiate themselves and prove with, reduce costs, and build real competitive advantage (Neeraja & Chandani 2014). Logistics and supply chain management have gained immense importance in today's business world, serving as a critical component in the success and growth of organizations across diverse industries. With the emergence of globalization, businesses are expanding their operations on a global scale, thereby making logistics and supply chain management even more crucial in achieving competitive advantage.

This research paper aims to explore the role of logistics and supply chain management in business, specifically taking an Indian and global perspectives. Besides, investigate how logistics and supply chain management can be considered as the key to developing business activity in the world and in the case of the Indian market which in turn will enhance the good organization of the business and create additional business chance (Kherbach, O., & Mocan, M. L. (2016). By comprehensively analyzing this field's various facets and intricacies, we seek to understand the impact of effective logistics and supply chain management on organizational performance, customer satisfaction, and overall business success.

II. THE REVIEW OF LITERATURE

Logistics and supply chain management play a crucial role in the success of businesses worldwide, with their impact extending from local to global perspectives. The ever-increasing complexity and dynamic nature of today's global marketplace have emphasized the importance of effective and efficient logistics and supply chain management practices. This review of the literature aims to explore and evaluate the role of logistics and supply chain management in business, while also discussing the global perspective.

Tukamuhabwa and his partners have emphasized that logistics and supply chain management contribute significantly to a firm's competitive advantage and overall performance (Tukamuhabwa, B. R., Mutebi, H., & Kyomuhendo, R., 2021). By addressing customer demands promptly and accurately, firms can enhance their reputation and build long-term customer relationships, thus leading to increased market share

and profitability. Furthermore, an effective supply chain management strategy can lead to cost reduction and operational efficiency. The integration and coordination of various supply chain elements, such as suppliers, manufacturers, distributors, and retailers, ensure a streamlined flow of products and services and minimize wastage.

The globalization of business operations has further highlighted the critical role of logistics and supply chain management. As companies expand their activities beyond borders, they face various challenges, including complex international regulations, transportation barriers, cultural differences, and logistical hurdles. Research has shown that global companies that overcome these challenges by implementing robust logistics and supply chain management strategies gain a significant competitive edge in global markets. Through effective coordination and collaboration with suppliers, customers, and partners across different countries, companies can optimize their supply chains and enhance their responsiveness to global market demands.



The emergence of advanced technologies, such as the Internet of Things (IoT), big data analytics, and artificial intelligence (AI), has revolutionized logistics and supply chain management practices. Various studies have explored how these technologies can enhance supply chain visibility, improve inventory management, optimize transportation routes, and enhance the overall efficiency and effectiveness of logistics activities. For instance, the utilization of IoT devices and sensors can provide real-time visibility into the movement of goods, allowing for proactive decision-making and quick response to any disruptions in the supply chain. While the literature mostly emphasizes the positive impacts of logistics and supply chain management practices, there are also potential challenges and limitations. The complexity of managing global supply chains requires high levels of coordination, which can be challenging to achieve, particularly when dealing with diverse cultures, legal systems, and infrastructures.

This literature review has evidenced the pivotal role of logistics and supply chain management in business from an Indian and global perspectives. By effectively managing logistics activities, companies can enhance customer satisfaction, reduce costs, improve operational efficiency, and gain a competitive advantage in the global market. The adoption of advanced technologies has further revolutionized logistics and supply chain management practices, offering opportunities for enhanced visibility, optimization, and responsiveness.

III. THE CONCEPT OF LOGISTICS AND SUPPLY CHAIN MANAGEMENT IN BUSINESS

Logistics is defined as planning to implement and control the physical flow of material and finished goods from point of origin to point of use to meet customer's needs at a profit. The Oxford Dictionary defines Logistics as the organization of moving, housing, and supplying troops and equipment. Logistics is also mentioned as the branch of military science relating to procuring, maintaining, and transporting material, personnel, and facilities. It is derived from the Greek word "Logistikas" which refers to the military officers who were responsible for providing services related to the supply and distribution of resources. During World War II, people knew the term Logistics more widely. Nowadays, people often understand Logistics as "the planning, execution, and control of the movement and placement of people and/or goods and of the supporting activities related to such movement and placement, within a system organized to achieve specific objectives" (Hang, Vietnam Maritime University).

Supply chain management (SCM) entails coordinating business operations and procedures among a network of companies as defined by Jain and his partners (Jain et al., 2009). Practitioners and educators have variously addressed the concept of supply chain management (SCM) as an extension of logistics, the same as logistics, or as an all-encompassing approach to business integration. It is clear that there is a need for some level of coordination of activities and processes within and between organizations in the supply chain that extends beyond logistics (Cooper, et al., 1997).

According to the Oxford Dictionary, business is defined as "the buying and selling of goods and services" (Oxford Dictionary, 2021). This definition emphasizes the exchange of products and services for monetary value, which is a fundamental aspect of commercial activities. The Merriam-Webster Dictionary provides a broader definition, stating that business is "a usually commercial or mercantile activity engaged in as a means of livelihood" (Merriam-Webster, 2021). This definition expands beyond just buying and selling, acknowledging that business activities can encompass various forms of commercial or economic endeavors that individuals or organizations undertake to sustain their livelihood. Furthermore, Investopedia defines business as "an organization or enterprising entity engaged in commercial, industrial, or professional activities." (Investopedia, 2021). This definition highlights that business can exist in different forms, including individual entrepreneurs, partnerships, corporations, and even non-profit organizations. It recognizes the diverse nature of business activities across sectors and industries. In conclusion, business can be defined as commercial or mercantile activities involving buying, selling, or providing goods and services to generate income and sustain livelihoods. It encompasses various organizational forms and extends beyond mere transactions to professional, commercial, and industrial activities.

IV. THE ROLE OF LOGISTICS AND SUPPLY CHAIN MANAGEMENT IN BUSINESS

Businesses, economies, and international commerce all depend on the efficient and economical movement of commodities, which is made possible by supply chain management and logistics. This idea covers a wide range of tasks, such as distribution, inventory management, warehousing, transportation, and procurement. Businesses may increase customer happiness, save expenses, streamline operations, and gain a competitive edge in the market by managing these processes well. Procurement is a crucial component of supply chain management and logistics.



International Journal of Recent Development in Engineering and Technology
Website: www.ijrdet.com (ISSN 2347-6435 (Online) Volume 15, Issue 09, September 2026)

This entails purchasing components and raw materials from vendors that can provide premium goods at competitive costs. Good procurement techniques, such as supplier relationship management and strategic sourcing, may assist companies in lowering lead times, improving contract negotiations, and guaranteeing a steady supply of goods.

An essential component of the movement of commodities along the supply chain is transportation. The method of transportation that is selected has an impact on the cost, speed, and dependability of product delivery, be it air, sea, rail, or road. Route optimization, mode selection based on product attributes, and the application of technologies like GPS tracking and real-time analytics are ways to make transportation more efficient. For example, research by Christopher Tang and his partners in 2012 found that businesses saw a considerable decrease in transit times and transportation costs by implementing real-time cargo visibility technology (Tang, et al., 2012). Effective supply chain operations can benefit from effective warehousing and inventory control. To save transportation costs and guarantee close access to clients, businesses carefully locate their warehouses. Maintaining the right amount of inventory to fulfill demand while lowering carrying costs and preventing stock outs is the goal of effective inventory management. Businesses may attain precise forecasting, lower holding costs, and increase order fulfillment rates by utilizing cutting-edge technology like inventory monitoring software and automated storage and retrieval systems (Chopra and Meindl, 2013).

A well-thought-out distribution plan guarantees that products are delivered to their target market both economically and on schedule. This entails planning a network of distribution facilities, choosing the best delivery routes, and deploying technology to track shipments and keep an eye on client feedback. Because it shortens lead times and guarantees that items are delivered in perfect condition, efficient distribution is essential for maintaining customer satisfaction and loyalty (Ganeshan and Harrison, 2002). Moreover, lowering costs across the whole supply chain is largely dependent on logistics and supply chain management. Through process optimization, waste elimination, and improved stakeholder coordination, firms may reduce operating costs related to distribution, warehousing, procurement, and transportation.

Businesses that implement good supply chain management techniques may save anywhere from 10% to 40% of their overall supply chain expenses, according to research published by the Council of Supply Chain Management Professionals (CSCMP) (cscmp.org).

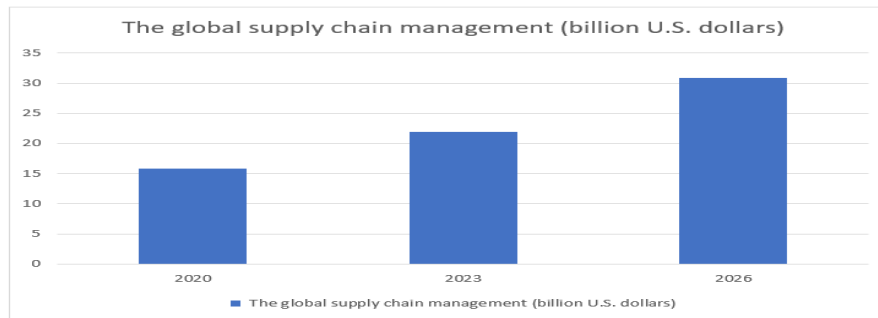
Therefore, it is impossible to overstate the importance of supply chain management and logistics in guaranteeing the smooth and economical movement of commodities. Businesses may streamline operations, cut expenses, and improve customer satisfaction by employing efficient distribution, warehousing, inventory management, and procurement procedures. The effectiveness and responsiveness of the supply chain are further improved by the incorporation of cutting-edge technology like real-time analytics and inventory tracking systems. In the end, successful supply chain management and logistics help companies succeed and survive in the cutthroat global economy of today.

While the literature mostly emphasizes the positive impacts of logistics and supply chain management practices, there are also potential challenges and limitations. The complexity of managing global supply chains requires high levels of coordination, which can be challenging to achieve, particularly when dealing with diverse cultures, legal systems, and infrastructures.

In summary, this literature review has evidenced the pivotal role of logistics and supply chain management in business from an Indian and Global Perspectives. By effectively managing logistics activities, companies can enhance customer satisfaction, reduce costs, improve operational efficiency, and gain a competitive advantage in the global market. The adoption of advanced technologies has further revolutionized logistics and supply chain management practices, offering opportunities for enhanced visibility, optimization, and responsiveness.

V. THE ROLE OF LOGISTICS SUPPLY CHAIN MANAGEMENT IN BUSINESS ABROAD: AN OVERVIEW

The supply chain management market started in 2020 after which it experienced an increase to \$21.95 billion in 2023, and it is expected to reach \$30.91 billion by 2026.



Source: <https://www.statista.com/statistics/1181996/supply-chain-management-market-size-worldwide/>

According to a Deloitte survey of industrial and retail businesses, 79% of those with extremely effective supply chains had much higher revenue growth than the industry average (www2.deloitte.com). However, just 8% of companies with troublesome supply systems saw above-average revenue growth, highlighting the need for efficient supply chain management.

The largest supply chain issues in 2023, according to MHI's Annual Industry Report, will be hiring and training, labor shortages, and supply chain interruptions. Out-of-stock circumstances and customer requests for customization will follow these. These developments underline how important it is for businesses to make investments in upskilling programs, operational efficiency, and improved customer service (og.mhi.org). Cyberattacks and data breaches rank first among firms' top concerns for future supply chain resilience, according to a BCI survey, with harsh weather, natural catastrophes, and energy constraints coming in second and third, respectively (www.thebci.org). Concerns about environmental sustainability are putting pressure on 48% of businesses to implement eco-friendly supply chain procedures. This fits with the worldwide movement toward more environmentally friendly operations, emphasizing lower carbon emissions, ethical sourcing, and more use of alternative fuels in transportation. Businesses say that electrification (40%), natural resource management (29%) water utilization, and the shift to renewable energy sources (both at 27%) are the top issues they prioritize for supply chain sustainability. Businesses are paying more and more attention to these programs, which aim to minimize the environmental effects of their supply chains, improve resource consumption, and cut carbon emissions (og.mhi.org). 83% of companies, according to Gartner, are creating supply chains that are focused on the needs of their customers by placing a premium on customer care, unique offerings, and a range of fulfillment choices (www.gartner.com).

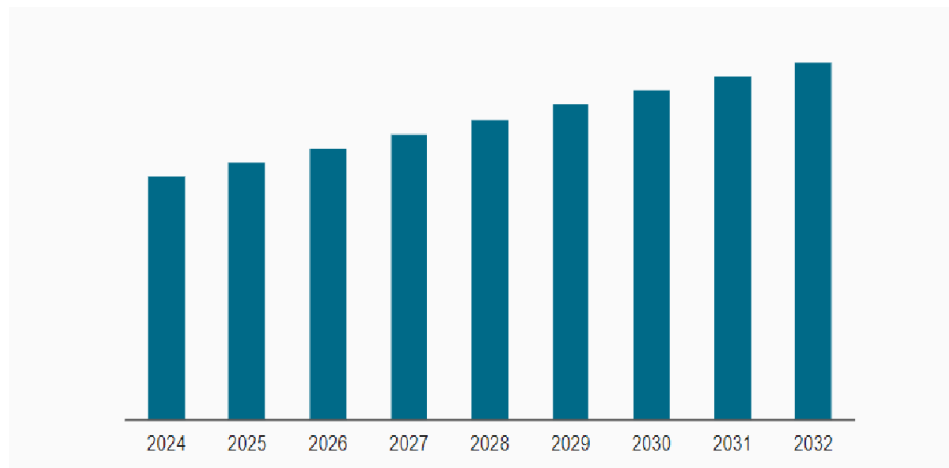
The COVID-19 pandemic had a substantial impact on small companies in the United States; according to the U.S. Census Bureau's Small Business Pulse Survey, 38.8% of them reported supply chain delays. The industries most affected were manufacturing (64.6%), retail (59.8%), and construction (58.5%) (www.census.gov). According to BCI, the leading causes of supply chain disruptions in 2022 were loss of talent/skills, human disease, and transportation network challenges, followed by bad weather conditions and cyber-attacks/data breaches (www.thebci.org). By 2024, over 40% of Asian manufacturers are expected to widen their supply strategy, sourcing from many places (multi-shoring) to reduce the risk of interruptions. This adjustment is expected to increase their supply reliability by 15% (www.idc.com). Container transport businesses reported a staggering net income of \$215.3 billion in 2022, following a significant increase in 2021 and seven consecutive record-breaking quarters. Experts attribute this spike to interruptions caused by the

COVID-19 epidemic, which pushed sector prices higher. But now the boom is crumbling, with shipping lines forecast to earn \$43.2 billion in 2023, down 80% year on year. Due to the industry's recent profitability, ship-owners bought 7.1 million shipping containers in 2021, above the previous record in 2008, with deliveries due in 2023 and 2024. The spike in new ships is projected to surpass demand, perhaps resulting in an overstock issue. (www.freightwaves.com). Of the new ships added to the industry's fleet, 40% are dual-fuel ships intended to run on both traditional fuel and alternative fuels such as liquefied natural gas or methanol (splash247.com). Significantly, 90% of all commodities are transported by sea, highlighting the industry's vital significance in international trade. However, this activity contributes 2.9% of the world's greenhouse gas emissions, which has a major negative impact on the environment. (www.oecd.org).

**VI. THE ROLE OF LOGISTICS SUPPLY CHAIN
MANAGEMENT IN INDIA: AN OVERVIEW**

In the context of India, logistics and supply chain management play a pivotal role in navigating the intricacies of a rapidly expanding market. As cited by industry reports and studies, India's diverse geographic terrain, varied cultural practices, and complex regulatory frameworks pose unique challenges to the efficient movement of goods. The growing volatility of supplier networks, globalization of enterprises, the proliferation of product diversity, and the shortening of product life cycles have led Indian firms to go beyond their four walls for supply chain collaboration. With a GDP of more than US\$474.3 billion, the Indian industry spends 14% of its GDP on logistics (Sahay, B. S., & Mohan, R. 2003). Up to 2022, the Indian logistics market was estimated to be worth \$274 billion. This market was expected to expand to \$563 billion by 2030, with a compound annual growth rate of 9.4%.

India has a higher logistics cost as a proportion of GDP (14% vs. the BRICS average of 11%) (www.statista.com). The sector is predicted to reach \$400 billion in the next three to four years from the current market size of \$230 billion. This presents a myriad of opportunities for logistics service providers, warehouse developers, technology providers, material and equipment suppliers, etc (India Infrastructure Research, 2023). Looking ahead, IMARC Group predicts the market to reach \$557.4 billion by 2032, with a compound annual growth rate (CAGR) of 7.85% from 2024 to 2032. The considerable expansion of the e-commerce and online retail industries, the implementation of favorable government regulations supporting the usage of logistics services, and rising technology breakthroughs are among the primary drivers driving market growth (Market Research Report, 2023). This can be seen that the Indian market has great expectations in the field of logistics and supply chain.

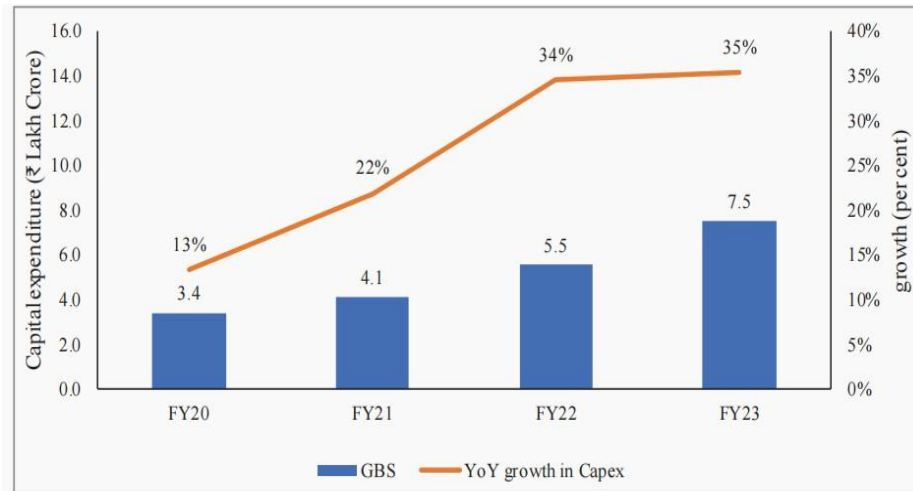


Source: <https://www.imarcgroup.com/india-logistics-market>

Figure: Indian Logistics Market Size, 2024-2032 (In Billion US)

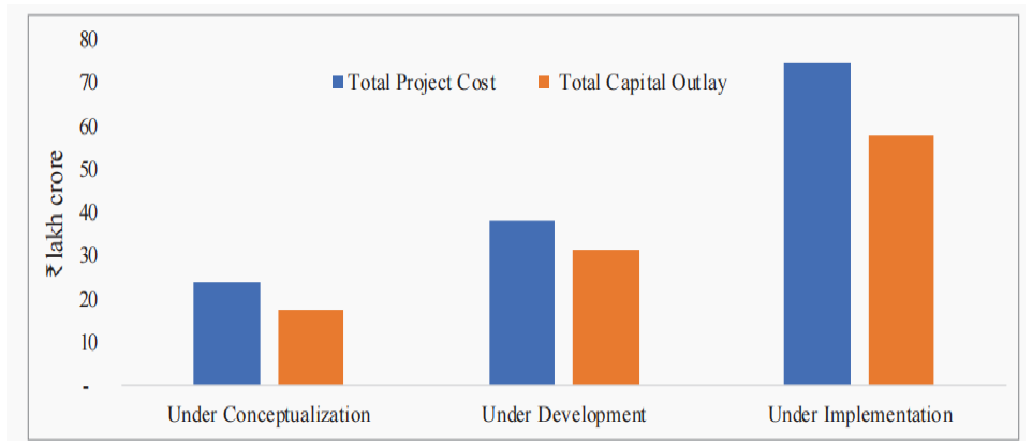
The Indian government took a proactive, planned approach to infrastructure. When the National Infrastructure Pipeline was first proposed, an estimated ₹111 lakh crore would be invested throughout FY20–25. The National Logistics Policy (NLP) and Gati Shakti were both launched. The Indian Government's vision and approach to infrastructure development is first expressed in its focus on investing in infrastructure to create the necessary driving force for economic growth and investment.

Investment through increased investment capital. Specifically, Capital Expenditure (Target) Expenditure in 2022-23 (BE) increased sharply by 35.4%, from ₹ 5.5 lakh crore in the previous year (2021-22) to ₹ 7.5 lakh crore, of which about 67% was spent between April and December 2022.



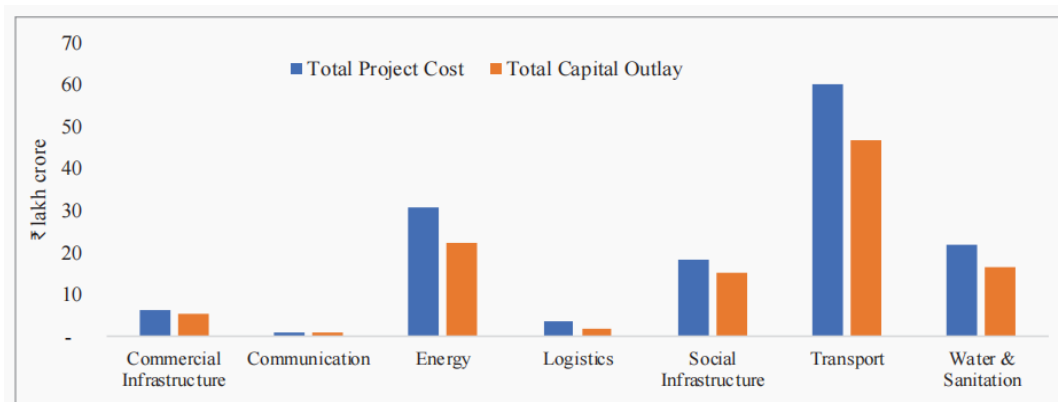
Source: Union Budget of India

Figure 6.2: The Capital Expenditure increase of the Indian Government in the last two consecutive years



Source: Department of Economic Affairs

Figure Transportation sector dominates the NIP up to January 2023



Source: Department of Economic Affairs



With the aim of increasing the export manifold, the Indian Government also provides the new National Logistic Policy to reduce the cost of logistics. In fact, India's logistics costs have a range of 14-18 percent of GDP against the global benchmark of 8 percent. Ensuring the efficiency of the clearance agencies of the clearance process, easing of arranging competitively priced shipments, enhancing the competence and quality of logistics services, providing for tracking and tracing of consignments, and ensuring timeless shipments in reaching destinations within the scheduled or expected delivery time are the key dimensions to improve the trade and transport-related infrastructure's quality.

According to the LEADS 2022 survey report, the survey reviewed current developments to restore the logistics industry after the COVID-19 pandemic. The survey was conducted based on 6,500 responses from more than 2,100 participants nationwide. The breakthrough of LEADS 2022 compared to previous versions is that they have applied grading based on classification. Specifically, states are classified into four categories: coastal States, hinterland/landlocked States, North-Eastern States, and UTs. At the same time, divided into 3 achievement categories: States/UTs achieving a percentage score of 90 percent, Fast Movers: States/UTs achieving percentage scores between 80 to 90 percent, and Aspirers: States/UTs achieving percentage scores below 80 percent.

VII. CONCLUSION

The study "The Impact of Logistics and Supply Chain Management in Business: An Indian Perspective" concludes by highlighting the critical role that these fields play in determining the prosperity and ability of companies to compete globally. 81% of supply chain experts recognized analytics' role in cost reduction, highlighting the field's growing significance.

Furthermore, the strategic significance of effective logistics is shown by the robust association that 79% of businesses claim exists between high-performing supply chains and increased revenue growth. 73% of supply chains are under pressure to improve delivery capabilities, highlighting the ongoing need for adaptability and demonstrating the dynamic character of the sector. The study also highlights the financial advantages of efficiency and optimization by showing that companies with optimized supply networks have 15% lower supply chain expenses (online degrees.mtu.edu). Inland water transport and civil aviation, two infrastructure sectors with enormous unrealized potential, are also being appropriately supported, even if classic infrastructure sectors like roads and railroads have recently had resurgence. The study also shows that one of the characteristics that will set apart India's future growth narrative is the integration of digital and physical infrastructure. In sum, businesses need to understand the critical role supply chain management and logistics play as success, efficiency, and long-term growth drivers in a world that is changing quickly.

REFERENCES

- [1] Chopra, S., & Meindl, P. (2013). Supply chain management: Strategy, planning, and operation. Pearson.
- [2] Ganeshan, R., & Harrison, T. P. (2002). An introduction to supply chain management. San Francisco, CA: Berrett-Koehler Publishers, Inc.
- [3] Council of Supply Chain Management Professionals (CSCMP). (n.d.). Supply Chain Management Definitions and Glossary. Retrieved from <https://cscmp.org/CSCMP/Supply-Chain-Management/Supply-Chain-Management-Definitions-and-Glossary.aspx>
- [4] Tang, C. S., Bell, P. C., & Persofsky, A. (2012). Real-time shipment visibility technology on container transport efficiency. Transportation Research Part A: Policy and Practice, 46(10), 1520-1534.
- [5] Sahay, B. S., & Mohan, R. (2003). Supply chain management practices in Indian industry. International Journal of Physical Distribution & Logistics Management, 33(7), 582-606.