

Paving the Way to Logistics Excellence Education's Role in Shaping India's Future Supply Chain Professionals

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ARTICLE INFO

Received: 18 July 2023

Revised: 06 September 2023

Accepted: 08 September 2023

Keywords:

Logistics, SCM,
Education, Skill Gaps,
Curriculum
Enhancement,
Technology Integration,
Lifelong Learning,
Industry-Academic-
Collaboration, India.

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ABSTRACT

The logistics industry plays a crucial role in the economic development of any nation, including India. As globalization and advancements in technology continue to reshape the logistics landscape, it becomes imperative for India to adapt to these changes. One key aspect is the need to enhance skills within the logistics workforce to meet the demands of a rapidly evolving industry. This research paper explores the emerging trends in logistics in India and highlights the significance of education in developing skilled professionals to drive the industry forward. This study outlines future growth potential in India's logistics sector. A mismatch between a skilled individual and the needs of the industry leads to inefficient corporate operations. To address this pressing issue, the government of India devised a solution known as Industry-Academia partnership, which involved taking a novel step in the Indian education system by introducing an apprenticeship undergraduate programmed. Previously, education and employment were separated, but today it will be all around development of young generation students as well as the nation's economy.

INTRODUCTION

A mismatch between a skilled individual and the needs of the industry leads to inefficient corporate

operations. To address this pressing issue, the government of India devised a solution known as Industry-Academia partnership, which involved taking a novel step in the Indian education system by introducing an apprenticeship undergraduate programme. Previously, education and employment were separated, but today it will be all around development of young generation students as well as the nation's economy.

REVIEW OF LITERATURE

The Research has consistently identified skill gaps among supply chain professionals as a challenge that hinders operational efficiency and competitiveness. A study by Johnson et al. (2019) revealed that a lack of technological proficiency, data analytics skills, and cross-functional collaboration abilities were prevalent among supply chain personnel. Similarly, Smith and Brown (2020) highlighted deficiencies in soft skills such as communication, negotiation, and leadership as common skill gaps that impede effective supply chain management. Educational institutions have a crucial role to play in bridging the skill gaps identified in the logistics workforce. Li and Wang (2018) emphasized the significance of curriculum enhancements that integrate emerging technologies and practical experiences. They argued that experiential learning opportunities, such as internships and case studies, contribute to the development of problem-solving skills required in real-world logistics scenarios. This sentiment was echoed by Chen et al. (2021), who stressed the importance of industry-academic collaboration in curriculum design to ensure alignment with industry needs. The incorporation of technology-driven education is crucial for preparing future supply chain professionals. Kwon and Lee (2019) discussed the role of simulation-based learning in teaching students about supply chain dynamics and decision-making. They found that interactive simulations enhanced students' understanding of complex logistics processes. Furthermore, Chowdhury and Haque (2020) argued that the integration of emerging technologies like blockchain and artificial intelligence into logistics education prepares students for the digital transformation underway in the industry. Case studies from various industries provide valuable insights into successful educational initiatives. Gupta and Jain (2018) presented a case study of an Indian business school collaborating with automotive manufacturers to offer a specialized automotive supply chain program. The study highlighted that graduate of the program exhibited a deep understanding of automotive logistics challenges. Similarly, Sharma et al. (2021) showcased how a pharmaceutical association and a technical institute collaborated to offer a cold chain management certification, resulting in graduates with expertise in temperature-sensitive supply chain operations. The logistics sector's dynamic nature necessitates a culture of lifelong learning among supply chain professionals. Sheth and Vyas (2019) emphasized the importance of continuous professional development through online courses, workshops, and industry conferences. They argued that professionals who engage in ongoing learning are better equipped to adapt to evolving supply chain trends and challenges.

Skill gap in supply chain industry

Unanimous Research Group discovered in 2022 that just 40% of supply chain specialists in India had high levels of technology expertise, including data analytics, automation, and digital technologies. This emphasises the need of supply chain experts successfully utilising developing technologies such as data analysis for demand forecasting, optimisation algorithms for route planning, and digital platforms for supply chain visibility. Data analytics and decision-making are also critical for successful supply chain management, however more than 60% of professionals have difficulty using data analytics for decision-making. This limits their capacity to react quickly to market developments and make educated decisions. Another problem for supply chain workers is cross-functional cooperation, with 75% believing that stronger cross-functional collaboration may considerably increase performance. However, many professionals still struggle with the capacity to cooperate effectively across many responsibilities. Sustainability and environmental awareness are also important for supply chain professionals, with just 20% having a thorough grasp of sustainable supply chain practises. This lack of understanding and awareness regarding sustainable sourcing,

green logistics, and circular economy concepts impedes the incorporation of environmentally friendly practises into operations. Finally, 45% of supply chain professionals lack critical soft skills like communication, negotiation, and leadership. These abilities are critical for negotiating complicated relationships with suppliers, customers, and internal teams, avoiding ineffective communication, stakeholder management, and dispute resolution, which can contribute to operational inefficiencies.

Industry Academic collaboration

Supply chain specialists have been effectively equipped for the difficulties of contemporary logistics by educational institutions and industry alliances. DHL's Certified International Specialist Programme, Maersk's Container Shipping Simulation Programme, Flipkart's Supply Chain Training Academy, Mahindra Logistics' Green Initiatives Workshop, and Amazon's Operations Management Internship are just a few examples. DHL's CIS programme taught students about international trade legislation, customs processes, and global supply chain operations, preparing them to overcome cross-border problems. Maersk's container shipping simulation programme mimicked end-to-end container shipping operations, allowing students to make risk-free decisions in preparation for real-world scenarios in the marine logistics sector. Flipkart's Supply Chain Training Academy worked with educational institutions and industry professionals to develop a curriculum encompassing many facets of e-commerce supply chain management in order to bridge skill shortages in its logistics operations. The academy's graduates have specialised knowledge in e-commerce logistics, such as inventory management, order fulfilment, and last-mile delivery. Many participants were hired to work in Flipkart's supply chain operations, which improved operational efficiency and customer happiness. The Green Initiatives Workshop at Mahindra Logistics focused on sustainable logistics practises, with students from logistics and management programmes exploring ways for decreasing carbon footprint and optimising resource use. Graduates obtained knowledge of sustainable logistics practises such as route optimisation, vehicle emissions reduction, and environmentally friendly packaging options. Students in Amazon's Operations Management Internship programme were exposed to many elements of Amazon's supply chain, allowing them to apply theoretical knowledge to real-world situations. Many past interns went on to work at Amazon, where they contributed to the company's logistical operations and innovation. The Logistics Sector Skill Council (LSC) was formed by the Ministry of Skill Development and Entrepreneurship (MSDE) and the National Skill Development Corporation of India (NSDC) to train and upskill the Indian workforce. The apprenticeship-based UG Degree Programme aims to develop necessary skills for successful employment in the logistics sector at supervisory and management levels. The LSC is supported by the Ministries of Human Resources Development and Commerce. It will be critical in the growth of the logistics sector, bridging the gap between the needs of logistics enterprises and skilled employment. The LSC has established a 'Skilling in Education' Division to assist students and young graduates in becoming industry-ready and gainfully employed in the logistics sector. All enrolled students must complete the fourth apprenticeship-based programme, which comprises three semesters of on-the-job training. Under The Apprenticeship Act, the programme involves three semesters of apprenticeship, for a total of 18 months of on-the-job training. After successful completion, LSC will put students in supervisory or management positions. However, LSC faces problems such as home sickness, parental care, housing arrangements, and a lack of understanding about the logistics industry. The program's goal is to offer skilled individuals who can improve operational effectiveness and profitability while also speeding up corporate processes and answering industry needs in their exact form.

Figures and Tables

Figures 1: Calculation of CSR u/s 35 CCD of Income Tax Act, 1961

CSR Computation – u/s 35CCD		
Particulars	CSR Spent (in RS)	CSR not Spent (in RS)
Income from business and Profession		
Assuming company making Profit Before Tax (PBT)	10,00,000	10,18,500
Add: CSR spent per candidate debited in P&L	18,500	-
Less: CSR allowed u/s 35CCD- 1.5 times of the expenses booked in P&L (i.e 18,500 * 1.5)	(27,750)	-
Total Taxable Income	9,90,750	10,18,500
Add: Surcharge	8,917	9167
Tax Payable	2,97,225	3,05,550
Total Tax Payable	3,06,142	3,14,717

CSR Activity expenses are makes tax benefit for the companies in order to enhance skill through education. Net Savings of Rs. 8,575 (46.35% of amount invested by a company i.e. 18,500) ,Net cash out flow for the company will be Rs. 9,925 (18500-8575).

CONCLUSION AND SUGGESTION

Education is critical in developing competent supply chain experts in India. This article investigates the role of education in bridging skill gaps, integrating technology, and cultivating a culture of lifelong learning. Skill shortages in areas such as technology, data analytics, cross-functional cooperation, and soft skills have serious consequences for operational efficiency and competitiveness. By combining real-world experiences, industry collaborations, and emerging technology, educational institutions may help bridge these gaps. The relevance of adding simulations, blockchain, and artificial intelligence into logistics education has been highlighted in study. This integration guarantees that future professionals are well-equipped to manage the supply chain landscape's digital change. Lifelong learning is essential for sustaining logistics excellence, since it emphasises constant skill development, remaining current on industry trends, and responding to changing conditions. As opportunities for continual learning, strategies such as online courses, workshops, and industry conferences are highlighted. Finally, education is the driving factor behind the development of India's future supply chain experts. India can position itself as a logistics superpower on the world scale by solving talent gaps, integrating technology, and encouraging lifelong learning. Strategic collaboration among educational institutions, industry stakeholders, and governments is critical to realising this goal and establishing a healthy supply chain ecosystem capable of addressing obstacles and capitalising on opportunities.

AUTHORS' CONTRIBUTIONS

Conceptualisation, BOTH.; validation, N.T.; investigation, P.D.; data duration N.T.; writing—original draft preparation, BOTH; writing—review and editing, P.D.; visualisation, BOTH; supervision, N.T.; All authors have read and agreed to the published version of the manuscript. The authors have no conflict of interest.

ACKNOWLEDGMENTS

This research received no external funding. However guidance and support of Dr.Sheetal Tank (Librarian, Atmiya University) is highly appreciated. I am very much thankful to them and extend my sincere gratitude to them.

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