



## E-commerce Supply Chain

**Course duration:** 30 hrs (20 sessions)

**Course Description:** The objective of this course is to impart practical knowledge on e-commerce supply chain and operations to upskill students and thereby enabling them to become effective supply chain management professionals in the domain of e-commerce. The course also imparts the tools and techniques for improving e-commerce supply chain performance.

**Target Audience:** Senior and Middle Level Management

**Relevant Industry:** e-commerce industry, logistics industry

### Course Objective

- To understand the e-business/e-commerce models and their supply chain models
- To apply tools and techniques to carry out effective decision making for e-commerce supply chain
- To illustrate the correlation between supply chain parameters and customer satisfaction in e-commerce
- To introduce the application of state-of-the-art technologies for e-commerce supply chain integration

**Pedagogy/Teaching Method:** Lectures, Case Studies, Demonstration of Tools, and Techniques

### Reference Books

- E-logistics and E-supply Chain Management Applications for Evolving Business By Deryn Graham, Ioannis Manikas, Dimitris Folinas · 2013
- E-commerce operations and supply chain management: By Sruthi.S, Biswadip Basu Mallik, Dr.M. Jayalakshmi, M.Mahalingam
- E-commerce Platform Acceptance: Suppliers, Retailers, and Consumers: Editors: Ewelina Lacka, Nick Yip, Hing Kai Chan

## Reference Articles

- Song, J. M., & Zhao, Y. (2022). Supply chain coordination for e-commerce: Risk penalty vs. flat rate. *Manufacturing & Service Operations Management*, 24(2), 1110-1127.
- Swaminathan, J. M., & Tayur, S. R. (2003). Models for supply chains in e-business. *Management Science*, 49(10), 1387-1406.
- Rai, H. B., Touami, S., & Dablanc, L. (2022). Autonomous e-commerce delivery in ordinary and exceptional circumstances. The French case. *Research in Transportation Business & Management*, 100774.

Module No.	Session No.	Topics	Readings/Case Study
Module 1: (4.5 hours)	1-3	e-commerce business models and supply chain design  B2C vs B2B e-commerce supply chain  Cross- border e-commerce	Keskin, B. B., & Barbee, E. C. (2021). Case—GreatDeal and NewChicken Merger: Designing an Omni-Channel Supply Chain. <i>INFORMS Transactions on Education</i> , 22(1), 48-54.  Sun, L., Lyu, G., Yu, Y., & Teo, C. P. (2021). Cross-border e-commerce data set: Choosing the right fulfillment option. <i>Manufacturing &amp; Service Operations Management</i> , 23(5), 1297-1313.  Harvard Case: Babyonline: Leveraging Cross-Border E-Commerce By: Ning Su, Zhangfeng Fei, Kejing Zhang, Xiaokang Zhao
Module 2: (10.5 Hours)	4-10	e-commerce inventory management.  Fulfilment centre operations.  Fulfilment centre automation, robotic material handling	Harvard Case: Migros Turkey: Scaling Online Operations (A) By: Antonio Moreno, Gamze Yucaoglu  Bala, S., Khalid, M. N., Kumar, H., & Shukla, V. K. (2022). The Practical Enactment of Robotics and Artificial Intelligence Technologies in E-Commerce. In <i>Cyber Intelligence and Information Retrieval</i> (pp. 455-467). Springer, Singapore.

Module 3: (10.5 Hours)	11-17	Returns management and reverse logistics  Visibility and Traceability in e-commerce supply chain  Information security risks and cyber attacks  Supply and Demand Disruptions in e-commerce supply chain	Flipkart: Grappling with Product Returns, By: Sanjeev Prashar, Mukesh Kumar, Amit Kumar Mukul.  Liu, Z., & Li, Z. (2020). A blockchain-based framework of cross-border e-commerce supply chain. <i>International Journal of Information Management</i> , 52, 102059.
Module 4: (4.5 Hours)	18-20	e-commerce distribution network design  Last mile e-commerce delivery.  3PL and 4PL in e-commerce. Drone delivery model. Predictive shipping.	Millstein, M. A., & Campbell, J. F. (2018). Total hockey optimizes omnichannel facility locations. <i>Interfaces</i> , 48(4), 340-356.  Chen, A. I., & Graves, S. C. (2021). Item aggregation and column generation for online-retail inventory placement. <i>Manufacturing &amp; Service Operations Management</i> , 23(5), 1062-1076.

### Learning Outcomes

After completion of the course, participants would be able to:

- Understand the different e-business/e-commerce models and the corresponding supply chain configurations
- Understand the various aspects of e-commerce supply chain such as inventory management, returns management and last-mile delivery
- Understand the application of state-of-the-art technologies such as robotics, automation, drone delivery and associated risks in e-commerce supply chain.