

# Supply Chain Management

## COURSE OUTLINE

### INTRODUCTION

To give students an understanding that the problems and issues within the respective fields of Supply Chain Management are invariably complex, and require clear reasoning and analysis, in order to derive an appropriate course of action. To give students an appreciation that the process by which appropriate decisions are made often requires not only technical competencies from those individuals involved, but also requires them to possess competencies of a more managerial nature, and vice versa. To equip students with the required depth and balance of technical and managerial competencies such that they will be able to function successfully in their chosen field.

### OBJECTIVES:

Overall, to give a frame of reference for Supply Chain Management, to give knowledge of the functions of the Supply Chain Management systems, to give knowledge of the relations of the Supply Chain Management systems to its environment, to give knowledge of the management and the operations.

### TOPICS:

- Introduction to Supply Chain Management
- Fundamental Rules in Supply Chain Management
- Strategic Fit and Scope
- Transportation
- Distribution Networks
- Network Design Under certainty
- Network Design Under uncertainty
- Inventory Management and Selective Control of Inventory
- Coordination in Supply Chain (Bullwhip Effect)

## PEDAGOGY:

The course will be presented using a variety of methods, such as, lectures, case studies, current examples, class discussions and student presentations.

## Suggested Readings/ References:

Supply Chain Management – Peter Meindl and Sunil Chopra

<b>Sessi on No.</b>	<b>Module Name</b>	<b>Topics</b>
1	Introduction to Logistics and Supply Chain Management	Introduction and Objectives – Emergence, Components, Objectives and Importance of SCM
2	Supply Chain Drivers and Metrics : Basics of Transportation, Inventory and Warehousing, Supply Chain Drivers and Metrics: Basics of Inventory	Calculation of Transportation Cost, Outsourcing Trends in Transportation, Relationship between Transportation costs and Size of Vehicle/Load, Calculation of Inventory Costs, Factors affecting the levels of inventory, Benefits and Disadvantages of Low inventory.
3	Comparison of Online and Storebased supply chain Models	Centralized vs Decentralized Distribution <b>(Case Study: Ocado's Online business model)</b>
4	Number of Warehouses and the impact of supply Chain, Variety and LSCM	Relation between number of warehouses and transportation costs, Relation between number of warehouses and inventory costs, Framework to decide more or less number of warehouses, Impact of Variery of LSCM, Commonization and Delayed Differentiation
5	Supply Chain Performance: Achieving Strategic Fit and Scope	Implied Demand Uncertainty, Responsive Supply Chain, Efficient Supply Chain, Zone of Strategic Fit
6	Supply Chain Drivers and Metrics	Aligning different components to design a supply Chain <b>(Case Study : Seven-Eleven Japan and Co)</b>
7	Transportation Problems	Service Choice and Their Characteristics, Freight Consolidation, Trade-off in Transportation
8	Transportation	Implementing Milk-run System in

	Problems	Transportation, Recyclability of Packaging in Transportation <b>(Case Study: ABC Retail Company)</b> Implementing
9	Transportation Case	Integrated Decision on Transportation considering both transportation and inventory costs <b>(Case Study: PKCL)</b>
10	Distribution	Role of Distribution Network, Factors influencing network decisions.
11	Distribution Case	Issues in Warehousing operations in India <b>(Case Study: Savemart)</b>
12	Distribution Case	Importance of Planning in Supply Chain <b>(Case Study: QCL)</b>
13	Distribution Case	Channel Structure and it's impact on Logistics <b>(Case Study: KPL)</b>
14	Distribution	Distribution practices in E-commerce: Drop-shipment model, On-Demand Sourcing Model and Stocking Model. Fulfilment of Long-tail products
15	Network Design in Supply Chain	Role of Network in Supply Chain, Factors influencing network design decisions, Framework for Network Design decisions, Models for facility location and capacity allocation
16	Network Design in Uncertain environment	Impact of uncertainty on Network Design, Discounted Cash Flow Analysis, Representations of Uncertainty, Evaluating Network Decision using Decision Trees
17	Inventory	Selective control of inventory, Inventory and Replenishment process for Regular Demand items and items with high demand uncertainty
18	Inventory Case	Comprehensive Case on improving inventory management <b>(Case Study: LTCL)</b>
19	Inventory Case	Inventory management through Shortening of Supply Chain <b>(Case Study: MAL)</b>
20	Coordination in Supply Chain	Lack of coordination and bull-whip effect, Obstacles to coordination in supply chain, Managerial levers to achieve coordination

#### Likely Evaluation Scheme for Internals:

1. Quiz 1 : 30 marks
2. Quiz 2 : 30 marks
3. Assignment 1 : 20 marks

#### 4. Assignment 2: 20 marks