

NATIONAL UNIVERSITY OF SINGAPORE
School of Business
Department of Analytics & Operations

DSC3201 Supply Chain Management

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Course Objectives

This module builds on DSC2006 Ops Management, is companion to DSC3202 Purchasing & Materials Management, DSC3203 Service Operations Management, DSC3218 Physical Distribution Management, and prepares for continuation into DSC4211 Seminars in Ops & Supply Chain Management and Field Service Projects. Our objectives of this course are to allow the students to:

- Develop a systematic framework for analyzing the behavior of large and complex supply chain networks.
- Understand the relationship and motivations of suppliers and distributors to ensure supplies of raw materials and markets for finished goods.
- Discover the state of the art technologies and approaches that reduce production, inventory and transportation costs as well as supply lead time.
- Integrate production and inventory control methods in multi-plant distribution strategies.
- Understand supply chain sourcing, tax planning, and trade management issues in global supply chain Management.

- Discover emerging IT Innovations, the “Platform Economy” and SCM trends
- Understand export controls, sanctions and ethical laws
- Understand sustainable and green supply chains, economic & political trends in Asia
- Explore Supply Chain “Good Governance” practices regarding Internal and External Risk environments

Prerequisites

Knowledge of basic calculus, elementary probability and the Normal Distribution.

Syllabus

Fierce competition in today's global markets has forced manufacturing enterprises to invest heavily in logistics systems. In such systems, items are produced at one or more factories, shipped to warehouses for intermediate storage, and then shipped to retailers. Consequently, to reduce cost and improve service levels, logistics strategies must account for the interactions of the various levels in the supply chain. This, together with the changes in communications and transportation technologies, e.g., mobile communication and overnight delivery, has motivated continuous evolution in logistics systems. In recognition of these developments, the program offers a course on the design and management of the supply chain. In this course we review state of the art planning models and practical tools for inventory control, distribution management and multi-plant coordination.

In particular we address issues such as:

- Optimal design of the logistics network.
- Adequate safety stock levels and the risk pooling concept.
- Cost effective distribution strategies.
- Strategic alliances and Outsourcing.
- The effect of e-business on supply chain strategy
- Supply chain integration and coordination
- Integrate production and inventory control methods in multi-plant distribution strategies.
- Supply chain sourcing, tax planning, and trade management in global supply chain Management.
- Information Technology & SCM Systems
- Export controls, sanctions and ethical laws
- Sustainable and green supply chains, economic & political trends in Asia

Textbooks

Designing and Managing the Supply Chain: Concepts Strategies and Case Studies, Simchi-Levi, Kaminsky and Simchi-Levi, 2007, Third Edition, Irwin/McGraw-Hill.

Supply Chain Management: Strategy, Planning, and Operation, Sunil Chopra and Peter Meindl, 2012, Fifth Edition, Pearson.

Global Supply Chain Ecosystems: Strategies for Competitive Advantage in a Complex, Connected World, Mark Millar, 2015, Kogan Page LTD.

Evaluation

Homework/Case Studies	50%
- Group Case Study (25%)	
- Group Case Study Poster plus Script (5%)	
- Individual Homework (20%)	
Final Exam	40%
Class Participation	10%

Schedule

Week 1 (01/19)	Introduction to the course and SCM (Mabel and Alex)
Week 2 (01/26)	Inventory Management and Risk Pooling (Mabel)
Week 3 (02/02)	Inventory Management and Risk Pooling (Mabel)
Week 4 (02/09)	Inventory Mgt & Supply Chain Coordination (Mabel)
Week 5 (02/16)	Value of Information (Mabel)
Week 6 (02/23)	<i>Holiday (Chines New Year)</i>
Week 7 (03/02)	Supply Chain Integration (Mabel)
Week 8 (03/09)	<i>Recess Week</i>
Week 9 (03/16)	Supply Chain Sourcing (Alex)
Week 10 (03/23)	Global Trade Management & Tax Planning in Supply Chains (Alex)
Week 11 (03/30)	Export Controls, Sanctions and Ethics (Alex)
Week 12 (04/06)	<i>Holiday (Good Friday)</i>
Week 13 (04/13)	Sustainable Supply Chains (Alex)
Week 14 (04/20)	Leveraging Info Technology & SCM Systems (Alex)
	Supply Chain Management in the Big Data Era (Mabel)

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Academic integrity and honesty is essential for the pursuit and acquisition of knowledge. The University and School expect every student to uphold academic integrity & honesty at all times. Academic dishonesty is any misrepresentation with the intent to deceive, or failure to acknowledge the source, or falsification of information, or inaccuracy of statements, or cheating at examinations/tests, or inappropriate use of resources.

Plagiarism is 'the practice of taking someone else's work or ideas and passing them off as one's own' (The New Oxford Dictionary of English). The University and School will not condone plagiarism. Students should adopt this rule - You have the obligation to make clear to the assessor which is your own work, and which is the work of others. Otherwise, your assessor is entitled to assume that everything being presented for assessment is being presented as entirely your own work. This is a minimum standard. **In case of any doubts, you should consult your instructor.**

Additional guidance is available at:

<http://www.nus.edu.sg/registrar/adminpolicy/acceptance.html#NUSCodeofStudentConduct>

Online Module on Plagiarism:

<http://emodule.nus.edu.sg/ac/>