

Course Outline

Course Code : DOS3701
Course Title : Supply Chain Management
Class Date : From 13/1/2025 To 18/4/2025
Semester : Semester 2, Academic Year 2024/2025
Faculty : Mabel Chou Cheng-Feng
Department : Analytics & Operations
Email : mabelchou@nus.edu.sg
URL : [Click here to enter text](#)
Telephone : 65163078

Overview

Interest in supply chain management, both in industry and in academia, has grown rapidly over the past three decades, and continues to grow. A number of forces have contributed to this trend. In the 90s, many companies realized that they have reduced manufacturing costs as much as practically possible. In the same time, many of these companies found that substantial savings can be achieved by planning and managing their supply chains more effectively. In addition to new logistics strategies being implemented, information and communication systems were also widely implemented, and provide access to comprehensive data from all components of the supply chain. In particular, the influence of the Internet and e-commerce on the economy in general and business practice has been tremendous. For example, the direct business model employed by several industry giants enables customers to order products over the Internet and thus allows companies to sell their products without relying on third-party distributors or conventional stores. Similarly, the Internet has made a significant impact on business-to-business transactions and collaborations. In recent years, as offshoring and globalization of manufacturing operations continue to grow, supply chain complexity and risks have significantly increased. This, together with fluctuating energy costs and the acceleration of merger and acquisition activities, has motivated many companies to reevaluate their supply chain strategies to better utilize existing resources and infrastructure. Furthermore, COVID-19 and all kinds of extreme events in recent years have imposed great challenges in ensuring supply chain resilience globally and governments must stabilize supply chains and thoughtfully expand social safety nets now to avert social unrest.

It is thus not surprising that many companies and governments are involved in the analysis of their supply chains. In most cases, however, this analysis is performed based on experience and intuition using very few analytical models or planning tools. In contrast, in the last three decades, the academic community has developed various models and tools for supply chain management. Unfortunately, the first generation of this technology was not robust or flexible enough to allow industry to use it effectively. This, however, has changed in recent years, during which improved analysis and insight as well as effective models and decision-support systems have been developed. However, many companies are not aware of these new developments yet.

In this course, we intend to fill this gap by discussing state-of-the-art models, concepts, and solution methods that are important for the design, control, operation, and management of supply chain systems. In particular, we will assume the knowledge of basic topics in inventory management, which was taught in DAO2703 Ops and Technology Management, and focus our discussions on the more advanced topics such as supply chain coordination and how to design supply contracts to coordinate the supply chain, value of information in the supply chain, supply chain integration, product design and the interface between product design and supply chain strategies, revenue management, risk management, and latest issues in supply chain management.

Course Objectives

This course will cover important theories in supply chain management and demonstrate how these theories can be applied in practice.

Assessment

Assessment Components	Weightage
Group Homework	40%
Individual Homework	50%
Class Participation	10%

Academic Honesty & Plagiarism

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.

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- <http://www.nus.edu.sg/registrar/administrative-policies-procedures/acceptance-record#NUSCodeofStudentConduct>
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