

Course Outline

Course Code	: DOS4712
Course Title	: COORDINATION AND FLEXIBILITY IN SCM
Class Date	: From 16/8/2024 To 15/11/2024
Semester	: Semester 1, Academic Year 2024
Faculty	: Business
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Overview

Supply chains have become far-flung and global as companies expand their operations to new markets and new supply sources. Concurrently, a number of macro-trends are emerging and evolving which cause changes to traditional supply chains structures and assumptions. These include: rising costs in the usual outsourcing manufacturing sites, entering into emerging markets, changing country regulations and regional trade agreements, impact of technologies on new business models and process changes, cross-border M&A, and emerging marketing companies expanding regionally, etc.

Companies will have to continuously evaluate their strategies and adapt their supply chains to deal with these changes. They will need to improve their flexibility, coordination, and responsiveness to deal with the risks and opportunities.

Course Objectives

The course will cover functional areas of the supply chain and integration of these concepts into a holistic framework. It will examine how global supply chain configurations are changing and adapting, and how companies should prepare for the impact of macroeconomic trends and new technologies to their business models, distribution, and supply chains. Through case studies, simulation game, and project work, students will gain a better understanding of corporate strategies, and how to align their supply chains and manage risks.

- 1) Key supply chain concepts and strategies
- 2) Global supply chain configuration and re-alignment
- 3) Planning for supply chain risk and disruption
- 4) Simulation game
- 5) Impact of technology innovations and new business models
- 6) Group project

PREREQUISITE

- (1) DSC2006 Operations Management or DAO2703 Operations and Technology Management
- (2) DSC3201/DOS3701 Supply Chain Management
- (3) DAO1704/DAO1704X Decision Analytics using Spreadsheets (or has knowledge of calculus and probability)

PRECLUSION

BMS5202: Global Supply Chain Management

Assessment

Assessment Components	Weight
Individual Assignments	15%
Midterm Test	25%
Class Participation	15%
Group Simulation Game	20%
Group Project	25%
Total	100%

Schedule and Outline

Lesson/ Week	Date	Session (lesson summary or outline / learning objectives / preparation / cases & assignments / follow-up readings & resources)	Readings	Indicative deadlines
1	16 th Aug	<p>Course Introduction: structure and expectations</p> <p>Challenges and risks of a global supply chain, in an era of globalization, macroeconomic changes, emerging markets, and disruptive technologies</p>	<p>Textbook Preface and Chapter 1: Global Value Chain Evolution: Implications for the World</p> <p>“Are the Risks of Global Supply Chains Starting to Outweigh the Rewards?”</p> <p>“Guest Outlook From Singapore: 2020 Outlook for Global Supply Chains”</p>	
2	23 rd Aug	<p>Managing global supply chains</p> <p>Impact of macroeconomic factors</p> <p>Managing procurement</p> <p>Case: The impact of oil prices on supply chain structures</p> <p>Case: Casella Wines</p> <p>Case: Walmart – procurement for competitive advantage</p>	<p>“Containerships opt for Cape Route”</p> <p>“Maersk, CMA CGM impose container surcharges over Red Sea diversions”</p> <p>“Fears of higher oil prices after Red Sea attacks”</p>	
3	30 th Aug	<p>Manufacturing strategies and digitalization of products</p>	<p>“Nike Will Let People Design and Sell Sneakers for the Metaverse”</p>	Submission of teams for

		<p>Push versus pull concepts</p> <p>Digitalization of products as a service</p> <p>Explanation of simulation game</p> <p>Case: Assa Abloy --- transforming a traditional lock business</p>	<p>“Apple Watch outsold the entire Swiss watch industry in 2019”</p>	<p>projects and simulation game</p>
4	6 th Sep	<p>Integrated supply chains</p> <p>Inventory risk management</p> <p>Is inventory always bad?</p> <p>Case: ST Logistics – distributing consumer goods in China</p> <p>Case: HP – optimizing the global supply chain</p>	<p>Textbook Chapter 12: Creating a Resilient Fashion Value Chain</p> <p>“How Manufacturers Lost The Inventory Battle”</p> <p>“Why Is Decathlon Able To Sell Its Products At A Cheaper Cost Compared To Its Competitors In Singapore?”</p> <p>“Tariffs will cost Harley more than \$40 million in 2018”</p> <p>“UK Factories stockpile goods at fastest pace in 27 years”</p>	<p>Simulation game round 1 and 2</p> <p>Assignment 1 due</p>
5	13 th Sep	<p>Planning for supply chain risk and disruption</p> <p>Risk Management framework</p> <p>Strategic and operational contingency planning</p> <p>Case: Nokia and Ericsson in 2000</p>	<p>“Designing Resilience into Global Supply Chains”</p> <p>“The business must go on: get contingency planning right”</p> <p>“When disaster strikes: How do you build resilient supply chains?”</p>	<p>Simulation Game Round 3 and 4</p>
6	20 th Sep	<p>Global supply chain re-alignment</p> <p>The new manufacturing hubs</p> <p>New distribution networks</p> <p>Case: Foxconn and its manufacturing decisions</p> <p>Case: The new China-Europe distribution network</p>	<p>Textbook Chapter 2: The Role of Vietnam in Global Supply Chains</p> <p>“U.S. and European firms face \$1 trillion in costs to relocate their Chinese supply chains, BofA says”</p> <p>“Even Chinese companies are moving supply chains out China to avoid geopolitical risks. Here are the 6 places they're heading for instead”</p>	<p>Simulation game Round 5 and 6</p>

	27 th Sep	Recess week (may be used for makeup class)		
7	4 th Oct	Simulation game debrief Prize giving		Submission of simulation game report before class
8	11 th Oct	Supply chain as competitive strategy Entering New Markets Outsourcing vs inhouse decisions Supply chain collaboration and integration Case: Lego's outsourcing experience -- "We are more special than we expected"	"How Real-Time Inventory-Level Visibility Drives Retail To Efficiency" "Chinese carmaker BYD to buy US firm Jabil's mobility business for \$2.2 bln" "Moving Up The Value Chain -- A Strategic Imperative For Asian SMEs"	Assignment 2 due
9	18 th Oct	The impact of technology on supply chain structures Blown to bits – separating the physical and information businesses Case: Bossard – VMI using Smart Bin Case: Food security	The Robot Revolution: The New Age of Manufacturing Moving Upstream "Learning from Adidas' Speedfactory blunder" "3D Printing And The New Economics Of Manufacturing"	
10	25 th Oct	Midterm		
11	1 st Nov	New distribution channels and new distribution models The rise of e-commerce and omni-channels Blurring of lines between retail, logistics, e-commerce Platform businesses Industry Guest Speaker	Textbook Chapter 3: Warehouses for E-commerce — An Expanding Infrastructure Requirement "Chinese e-commerce's growing markets in US and beyond" "So Much For the Return of In-Person Shopping: Retailers Could Close 50,000 Stores by 2027"	

		Case: Amazon and its transformation from pure e-commerce	<p>“The dark side of Amazon returns: Boxes getting sent back has metastasized to an \$816 billion yearly problem”</p> <p>“U.S. may need another 1 billion square feet of warehouse space by 2025 as e-commerce booms”</p>	
12	8 th Nov	<p>Submission and Viewing of Group Project Presentations</p> <p>No physical lesson in class. Watch the presentations online</p>		<p>Submission of Group Project Video</p> <p>Class voting for best projects</p>
13	15 th Nov	<p>Group Project debrief</p> <p>Prize presentation for winning teams</p> <p>Course wrapup: Supply chains of the future</p>	<p>“3 major companies trying to move supply chains out of China, and how they're faring in their attempts to move away from the factory of the world”</p> <p>“AI, automation, and the future of work: Ten things to solve for”</p> <p>“How To Future-Proof Supply Chains”</p>	Submission of project report (PPT format)

General Guide & Reading (e.g. Case preparation guide, project report guide, main textbook & supplementary materials, etc)

Textbook: Supply Chain Management: A Concise Guide, 2nd Edition, by Puay-Guan Goh, Pearson 2015

Article Readings and Videos

“Are the Risks of Global Supply Chains Starting to Outweigh the Rewards?”, Shih, Willy, Harvard Business Review, Mar 21, 2022, accessed at <https://hbr.org/2022/03/are-the-risks-of-global-supply-chains-starting-to-outweigh-the-rewards>

“Guest Outlook From Singapore: 2020 Outlook for Global Supply Chains”, Goh, Puay Guan, Supply Chain Management Review, January 30, 2020, accessed at https://www.scmr.com/article/guest_outlook_from_singapore_2020_outlook_for_global_supply_chains

“Containerships opt for Cape Route”, Global Maritime Hub, accessed at <https://globalmaritimehub.com/containerships-opt-for-cape-route.html>

“Maersk, CMA CGM impose container surcharges over Red Sea diversions”, CNBC, Dec 22, 2023, accessed at <https://www.cnbc.com/2023/12/22/maersk-cma-cgm-impose-container-surcharges-over-red-sea-diversions.html>

“Fears of higher oil prices after Red Sea attacks”, Edser, Nick, BBC, 19 Dec 2023, accessed at <https://www.bbc.com/news/business-67758126>

“Nike Will Let People Design and Sell Sneakers for the Metaverse”, Francesca Perry, Nov 14, 2022, Wired, accessed at <https://www.wired.com/story/nike-will-let-people-design-and-sell-sneakers-for-the-metaverse/>

“Apple Watch outsold the entire Swiss watch industry in 2019”, Kharpal, Arjun, Feb 6, 2020, accessed at <https://www.cnbc.com/2020/02/18/walmart-saves-millions-of-dollars-each-year-by-making-these-small-changes.html>

“How Manufacturers Lost The Inventory Battle”, Cecere, Loren, Forbes, May 2, 2023, accessed at <https://www.forbes.com/sites/loracecere/2023/05/02/how-manufacturers-lost-the-inventory-battle/>

“Why Is Decathlon Able To Sell Its Products At A Cheaper Cost Compared To Its Competitors In Singapore?”, Kuah, Benjamin, February 6, 2021, Dollars and Sense, accessed at <https://dollarsandsense.sg/decathlon-able-sell-products-cheaper-cost-compared-competitors-singapore/>

“Tariffs will cost Harley more than \$40 million in 2018” Robert Ferris, CNBC Network, 23rd Oct 2018, assessed at <https://www.cnbc.com/2018/10/23/tariffs-will-cost-harley-davidson-more-than-40-million-in-2018.html>

“UK Factories stockpile goods at fastest pace in 27 years”, Romei et al, Financial Times, 01 February 2019, accessed at <https://www.ft.com/content/27ab5752-2604-11e9-b329-c7e6ceb5ffdf>

“Designing Resilience into Global Supply Chains”, Aylor et. Al., BCG, accessed at <https://www.bcg.com/publications/2020/resilience-in-global-supply-chains>

“The business must go on: get contingency planning right”, Goh, Puay Guan, Yahoo, 14 February 2020, accessed at <https://sg.news.yahoo.com/the-business-must-go-on-get-contingency-planning-right-093051152.html>

“When disaster strikes: How do you build resilient supply chains?”, DHL, Jan 2019, accessed at <https://www.dhl.com/global-en/home/about-us/delivered-magazine/articles/2019/issue-1-2019/disaster-resilient-supply-chains.html>

“Even Chinese companies are moving supply chains out China to avoid geopolitical risks. Here are the 6 places they're heading for instead”, Tan, Huileng, Business Insider, Apr 22, 2023, accessed at <https://www.businessinsider.com/chinese-supply-chains-moving-companies-outside-mainland-2023-4>

“U.S. and European firms face \$1 trillion in costs to relocate their Chinese supply chains, BofA says”, Smith, Elliott, CNBC, Aug 18, 2020, accessed at <https://www.cnbc.com/2020/08/18/bofa-us-european-firms-face-1-trillion-to-relocate-china-supply-chains.html>

“How Real-Time Inventory-Level Visibility Drives Retail To Efficiency”, De Muyndck, Bart, Forbes, Nov 7, 2023, accessed at <https://www.forbes.com/sites/forbestechcouncil/2023/11/07/how-real-time-inventory-level-visibility-drives-retail-to-efficiency/>

“Chinese carmaker BYD to buy US firm Jabil's mobility business for \$2.2 bln”, Manekar, Sameer and Yelin Mo, Reuters, Aug 28, 2023, accessed at <https://www.reuters.com/markets/deals/ev-maker-byd-buys-us-firm-jabils-china-manufacturing-business-22-blm-2023-08-27/>

“Moving Up The Value Chain -- A Strategic Imperative For Asian SMEs”, Goh, Puay Guan, Oct 1, 2018, accessed at <https://www.forbes.com/sites/outofasia/2018/10/01/moving-up-the-value-chain-a-strategic-imperative-for-asian-smes/?sh=3192cb335ebd>

The Robot Revolution: The New Age of Manufacturing | Moving Upstream, accessed at <https://www.youtube.com/watch?v=HX6M4QunVmA>

“Learning from Adidas’ Speedfactory blunder”, Hernández, Adrián, SupplyChainDive, Feb 2, 2020, accessed at <https://www.supplychaindive.com/news/adidas-speedfactory-blunder-distributed-operations/571678/>

“3D Printing And The New Economics Of Manufacturing”, Smith Rick, Forbes, Jun 22, 2015, accessed at <https://www.forbes.com/sites/ricksmith/2015/06/22/henry-ford-3d-printing-and-the-new-economics-of-manufacturing/2/#4229886e48d8>

“So Much For the Return of In-Person Shopping: Retailers Could Close 50,000 Stores by 2027”, Escobar, Sabrina, April 12, 2023, Barrons, accessed at <https://www.barrons.com/articles/retailers-closing-stores-cc14dbd4>

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“Focus: Amazon, other retailers revamp 'free' shipping as costs soar”, Baertlein, Lisa, Reuters, March 25, 2023, accessed at <https://www.reuters.com/business/retail-consumer/amazon-other-retailers-revamp-free-shipping-costs-soar-2023-03-24/>

“U.S. may need another 1 billion square feet of warehouse space by 2025 as e-commerce booms”, Thomas, Lauren, Jul 9 2020, CNBC, accessed at <https://www.cnn.com/2020/07/09/us-may-need-another-1-billion-square-feet-of-warehouse-space-by-2025.html>

“3 major companies trying to move supply chains out of China, and how they're faring in their attempts to move away from the factory of the world”, Tan, Huileng, Business Insider, Jun 27, 2023, accessed at <https://www.businessinsider.com/companies-leaving-china-diversifying-supply-chains-apple-tsmc-mazda-2023-6>

“How To Future-Proof Supply Chains”, IESE Business School, Forbes, Jul 27, 2021, accessed at <https://www.forbes.com/sites/iese/2021/07/27/how-to-future-proof-supply-chains/?sh=358a380920f2>

“AI, automation, and the future of work: Ten things to solve for”, Manyika, James and Kevin Snedder, McKinsey Global Institute, accessed at <https://www.mckinsey.com/featured-insights/future-of-work/ai-automation-and-the-future-of-work-ten-things-to-solve-for>

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.

Additional guidance is available at:

- [Administrative Policies](#)
- <http://www.nus.edu.sg/registrar/administrative-policies-procedures/acceptance-record#NUSCodeofStudentConduct>
- <http://nus.edu.sg/osa/resources/code-of-student-conduct>