



2015 OPIM890 Global Supply Chain Management in Japan

Course Outline, Assignments, Schedule, and Reading List

(Revised May 07, 2015)

Location: Tokyo (and environs) in Japan

Dates: Tuesday evening, May 26, 2015 through Saturday night, May 30, 2015, including field trips to Japanese manufacturing plants and interactions with Japanese faculty and students.

Credit: 0.5 Credit Unit

Course Instructors

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Participating Faculty

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The following professor, research associates, and Ph.D. students are writing short papers on the companies/industries that we will be visiting and will join the visits respectively.

- Daniel Arturo Heller, Associate Professor, Yokohama National University
- Sugwoo Byun, Project Research Associate, MMRC, Faculty of Economics, the University of Tokyo
- Yuichiro Mukai, Project Research Associate, MMRC, Faculty of Economics, the University of Tokyo
- Shohei Hamamatsu, Project Research Associate, MMRC, Faculty of Economics, the University of Tokyo
- Yumi Kato, Ph.D Student, Business/Management, The Graduate School of Economics, the University of Tokyo
- Mizuki Kobayashi, Ph.D Student, Business/Management, The Graduate School of Economics, the University of Tokyo

Course overview

This course will focus on global supply chains that are operated by Japanese corporations and by foreign multinational companies that operate in Japan. Our emphasis will be on the evolving patterns of operations strategies adopted by firms for sourcing manufacturing, distributing products, delivering services and managing product design as well as on programs for enhancing quality, productivity and flexibility. We will focus on the formulation and execution of such global supply chain strategies for a collection of firms in the context of the current dynamics of global competition. The course will consist of a set of site visits and in-class sessions which include lectures, case discussions and management speakers who will describe their company's current strategy.

Our course is motivated by the fact that many manufacturing firms are re-examining the structure of their global supply chains and their associated sourcing strategy in response to the uncertainties and risks they face in these turbulent times. These adjustments are occurring against a backdrop of fundamental change to the environment in which global supply chains operate. For decades a dominant strategy in manufacturing has been to outsource to low cost global suppliers. This has led to the transfer of manufacturing jobs and development activities out of the US, Japan and Europe and into low labor cost countries such as China, India and Vietnam. Today this trend is being challenged by a movement by some companies to "re-shore" their manufacturing by bringing it back or at least moving it closer to their developed country market, i.e. by "near-shoring". At the same time many firms continue to select offshore locations for outsourcing of material inputs and services. Other firms are investing in automation and process improvement in response to these challenges. Similar arguments for global supply chain re-structuring can also be made for firms that act as suppliers of services such as Business Process Outsourcing, Customer Service Support, Product Design and Software Development.

This course will consider the current status of global supply chain strategy from the perspective of multi-national firms. The goal is to provide the class with the opportunity to interact with senior executives from companies headquartered or operating in Japan, to explore current thinking and practices concerning global supply chain strategy. These interactions will facilitate an exchange of ideas that will identify managerial challenges and concerns. It will also ascertain current practices and intentions of participating companies. Moreover, the course will consider various models and frameworks that have been developed in the economics, public policy, operations and management literatures for dealing with global supply chain sourcing strategy. We will also consider how technology developments are impacting current supply chain strategy (e.g. automation, E-commerce, Internet of Things). Our objective is to develop an understanding of the drivers of supply chain strategy decisions, at present and in the future, in order to identify opportunities for improvement and barriers to implementation of a coordinated global supply chain strategy.

We will explore these issues through the lens of a specific group of multinational Japanese and non-Japanese companies who compete globally. The companies will be chosen to cover a range of manufacturing industries where global sourcing and coordination are key issues, i.e. automotive, aerospace and defense, semiconductor, electronics, logistics, consumer electronics, retailing, and computers. In prior years, for example, students interacted with both a US based prime producer (Boeing) and their major Japanese supplier (Mitsubishi Heavy Industries) and discussed the integration of their supply chain processes. The class has also visited facilities (factories, development centers and distribution centers) and interacted with senior managers at Nissan, Panasonic, Daikin, Mitsubishi-Hitachi Power Systems and Aeon.

News sites – scan at these sites in the few months prior to the trip

- <http://www.japantimes.co.jp/> <http://english.caing.com/>
- <http://e.nikkei.com/e/fr/freetop.aspx>

Books and Articles – Required (to read before the initial session) and Optional

Required readings are listed below. Also below is an illustrative list of optional readings from last year's course. A final reading list and specific assignments for the 2014 course will be posted to the Canvas website once student enrollment is completed.

Grading and assignments

Grades are based on (1) class participation (25%); (2) analysis of an assigned case, to be done before our first class session (20%); (3) analysis of a recent example of supply chain restructuring in a global company, selected from a set of industries

relevant to our explorations of issues in Japan (25%); (4) participation in team assignments related to our company visits during the time in Japan (included in participation grade); and (5) a final paper offering reflections on what you observed and learned during the course and your experiences in Japan due several weeks after return from Japan (30%). See below for further details on these assignments.

Class Participation (25% of your overall grade)

This component, worth 25% of your overall grade, is based on your constructive participation in all of the discussions and particularly on your ability to make connections between what you observe in the field trips and the conceptual material covered in the course. Your participation in team activities during the time in Japan will also be assessed as part of this grade.

Case analysis (Individual assignment - 20% of your overall grade)

On March 11, 2011 a major earthquake struck Tohoku Japan. It had a devastating impact on global supply chains. Read the case, **Cisco SCRM in Action: 2011 Tohoku Earthquake**, by Ravi Anupindi (U. of Michigan case 1-429-284, 2013) and also read **Supply Chain Risk Management at Cisco: Response to H1N1** (U. of Michigan case 1-428-881), – read pages 2 through top of page 9 for description of Cisco’s approach to risk management. Prepare a 1,000 word paper (*plus or minus 5%; double-spaced; put word count and your name at the top*) that addresses the following questions:

1. *What are the major challenges facing Cisco as result of supply chain disruptions caused by the earthquake?*
2. *How should Cisco manage the crisis?*
3. *What metrics should be used by Cisco to support Supply Chain Risk Management? What data would you need to estimate these metrics? At what organizational level (plant, product, supply chain, business unit) would it be appropriate to apply these metrics? What may be typical uses of these metrics?*
4. *What is the role of a SCRM system and should it vary based on the type of risk, e.g. natural disaster (earthquake, tsunami, hurricane), supplier disruption, political event (terrorist attack, conflict, etc.)?*
5. *Do you have any suggestions for improving the Cisco SCRM process?*

You should also read the following articles (posted on Canvas) as you prepare your answers to the case:

1. D. Reynolds, “Lessons From Tohoku”, Wharton Magazine, January 26th, 2012
2. D. Simchi Levi, “From Superstorms to Factory Fires: Managing Unpredictable Supply-Chain Disruptions”, Harvard Business Review, Jan-Feb 2014.

3. "Process Resilience is Becoming a Business Imperative", K@W/Wipro, April 2014

The case analysis is due on **April 28, 2015**, posted on Canvas. We will discuss the case during our first class session on **April 14, 2015 (at 7:00 pm)**. Participation will take place in Philadelphia at **JMHH 540-541**, with remote access (via call in) for those who cannot attend the class in person. The session also will be videotaped for students who are not able to attend the session. You also will have the opportunity to discuss the case further during our time in Japan when we visit different companies who were affected by it.

Analytic paper (Team assignment - 25% of your overall grade)

Prepare an analytical paper that identifies a global company that has recently adjusted or modified its global supply chain sourcing strategy and addresses the following questions. You will propose your choice of focal firm to the faculty for approval; we will try to avoid duplication since these papers will be a resource for the entire class once completed. The paper should be a team effort, so form teams of 3. Let instructors know if you have difficulty joining a team. The required length is 2,250 words (*plus or minus 5%; double-spaced; put word count and the names of the team members at the top*). Each team will be required to present a brief (power point) summary of their paper to the class.

Your analysis should address the following questions:

1. *What is the current design and management of the company's supply chain / operations strategy and how has this design and management been affected by the recent strategy change?*
2. *What are the reasons that the company has offered for making the changes to its supply chain sourcing strategy?*
3. *What is your assessment of the reasons that these changes have been made?*
4. *What is the expected (or observed) impact of the strategy change on competitive position, financial performance and operation performance?*
5. *Compare and contrast to what other companies in the same industry are doing, i.e. have other companies in the industry made supply chain strategy changes? Are the decisions of the other companies the same or different? Why? Are there trends for the industry?*
6. *What are the key challenges facing the industry with respect to supply chain sourcing?*

We recommend that you consider a company from one of the industries listed below, which encompass all the different company visits we will do in Japan and will provide many examples of supply chain restructuring issues that affect current choices by firms about sourcing in developed vs. developing countries. We will ask you to indicate your first and second choices for a company/industry in advance (**by April 21**), so we can insure that a wide range of issues and settings is covered.

Recommended Industries: Aerospace and Defense; Apparel; Appliances; Automobiles; Beer; Computers/Information and Communication Technologies (ICT); Consumer Electronics; Industrial Machines and Equipment; Logistics; Medical Equipment; Pharmaceutical; Retail and Distribution; Semiconductor Equipment; Steel; Toys.

This paper is due on **May 18**, and all papers should be submitted on the course Canvas site. A class session in which each team will present a brief (10 minute power point) presentation that summarizes their paper, will be held on when we meet in Japan on **May30**. The papers will help us prepare for our time in Japan, and will be shared with other participants as part of their background reading.

Final reflection paper (Individual assignment - 30% of your overall grade)

This individual assignment is an opportunity to reflect on what you have learned in the course and during your time in Japan. It is worth 30% of your grade and is **June 15**, posted on Canvas. You should give your thoughts on 1) the current status, 2) future trends and 3) key drivers of global supply chain strategy and sourcing decisions in the industries we visited. Our guideline for length is 750 words, roughly three pages, although this is a recommended, but not required, length; your paper can be either shorter or longer, as long as it captures your thoughtful reflections on your experience in the course.

**2015 Course Schedule
SUBJECT TO CHANGE**

(Revised March 19, 2015)

Pre-Japan Sessions:

TBD

April 14 **Course Introduction**
7pm – 9pm **Case Discussion**
**Cisco Supply Chain Risk Management (SCRM) in Action: 2011
Tohoku Earthquake (U. Michigan Case 1-429-284, 2013)**
**Supply Chain Risk Management at Cisco: Response to
H1N1 (U. of Michigan case 1-428-881) pages 2 – 9, --
(paper due April 28)**

Students arrive in Japan
by **May 26 pm in Tokyo**

Tuesday May 26

17:20	17:50	Move from Hotel to U of Tokyo
18:00	18:45	Framework for the course (Professors Cohen & Endo)
18:45	19:45	Lecture by Professor Takahiro Fujimoto
19:45	21:00	Logistics and Instruction over a working dinner (TAs)
21:15	21:45	Back to the Hotel

Wednesday May 27

TBD	8:20	Move from Hotel to Nissan Oppama Plant
8:30	9:30	Presentation by Nissan Oppama Plant
9:30	10:30	Plant tour
10:30	11:00	QA
11:00	11:15	Move to GranDrive (Oppama Proving Ground)
11:15	11:30	Orientations including safety precautions)
11:30	13:00	Test Drives & Lunch
GROUP A		
13:00	14:25	Move to Nissan GPEC (Global Production Engineering Center)
14:30	16:30	Presentation and GPEC tour including QA
16:30		Move to AESC (Automotive Energy Supply Corporation)
16:40	17:40	Presentation and plant tour including QA
17:45	19:00	Back to Hotel
GROUP B		

13:00	14:10	Move to Tamachi Industries Co., Ltd
14:15	15:45	Presentation and plant tour including QA
15:45	16:30	Move to Hamano
16:30	18:30	Presentation and plant tour including QA
18:30	18:50	Back to Hotel
19:30	21:30	Move to Working Dinner Discussion of morning and afternoon visits

Thursday May 28

7:45	9:15	Move from Hotel to Mayekawa Manufacturing Company, Moriya Plant
9:30	10:15	Presentation
10:15	11:15	Plant tour incl. QA
11:15	11:45	QA
11:45	12:45	Lunch
12:45	13:00	Move from Mayekawa Manufacturing Company to Asahi Breweries, Ltd, Ibaraki Brewery
13:00	13:45	Presentation
13:45	14:45	Plant tour incl. QA
14:45	15:30	QA
15:30	16:00	Beer tastings
16:20	17:35	Move from Asahi Breweries, Ltd Ibaraki Brewery to Hotel
19:00	21:30	Group buffet dinner hosted by Wharton Club of Japan

Friday May 29

7:45	9:15	Move from Hotels to Nippon Steel & Sumitomo Metal Corporation, Kimitsu Works
9:30	10:15	Presentation
10:15	11:30	Plant tour incl. QA
11:30	13:00	Move to Fuji Tekko Center on site of NSSMC, Plant tour incl. QA
13:00	14:00	Lunch
14:00	15:00	Move to Ito Yokado, Ario Ichihara SC
15:00	16:30	SC tour including presentation
16:30	17:00	QA
17:00	18:00	Back to the Hotel
		Free Night to explore Tokyo

Saturday May 30

9:30	10:00	Move to University of Tokyo
10:00	12:30	Presentation of group analytic papers
12:30	13:30	Final Wrap up over a light lunch
13:30	15:00	Panel session by Japanese Faculty and Researchers*
15:00	15:30	Move to Akihabara
15:30	17:00	"Akiba" tour
17:00	17:20	Back to Hotel
19:00	21:30	Farewell Dinner with University of Tokyo and the panelists

Final Assignment Reflection - Due Date June 15

*** Panel Members**

- Toshihiro NISHIGUCHI, Professor, Institute of Innovation research, Hitotsubashi University
- Hiroshi KATAYAMA, Professor, Department of Industrial Engineering & Management, Waseda University
- Toshie HENMI, Member, DirectForce, Ex-Managing Director, Ito Yokado Co.,Ltd. & Ex-Project Researcher, Graduate School of Economics, Faculty of Economics, The University of Tokyo
- Vincent COBEE, Corporate Vice President - Global Head of Datsun, Nissan

Reading List – OPIM 890 - Global Supply Chain Management in Japan

Note: Required readings are assigned for two written assignments that are due before the Japan activities (May 26-30). The first assignment is analysis of the Cisco case and is due on (mid-April; date TBD). The second assignment involves a paper that analyzes supply chain restructuring at a firm in one of the industries we will study in Japan and is due on (early May; date TBD). Optional readings are also provided that: 1) give background information about the Japanese economy; 2) offer recent examples of reshoring/ near-shoring and insourcing, as counter-trends to offshoring and outsourcing, in a variety of firms, industries, and countries, from the business press; 3) provide comprehensive reports by think-tanks, consulting firms, and government agencies on the economic and policy issues surrounding manufacturing in advanced economy countries such as the U.S. and Japan; 4) give you examples of research articles by course faculty that convey their interests and provide context for this course. Suggested books are listed as well.

Required Readings (on Study.Net, accessed via Canvas)

Cisco SCRM in Action: 2011 Tohoku Earthquake, by Ravi Anupindi

Supply Chain Risk Management at Cisco: Response to H1N1, (pp. 2-9), by Ravi Anupindi

D. Reynolds, “Lessons From Tohoku”, Wharton Magazine, January 26th, 2012.

D. Simchi Levi, “From Superstorms to Factory Fires: Managing Unpredictable Supply-Chain Disruptions”, Harvard Business Review, Jan-Feb 2014.

W. Shih, “What it Takes to Reshore Manufacturing Successfully”, *MIT Sloan Management Review*, Fall 2014.

W. Shih and M. Pierson, “Strategic Sourcing”, HBS, 8037-HTM-ENG, 2013.

“Tanpin Kanri: Retail Practice at Seven-Eleven Japan”, R. Lal and A. Han, HBS case 9-506-002, Feb. 2011.

Optional Readings (in four separate folders on Canvas site, Files tab)

ILLUSTRATIVE, WILL BE REVISED

1) Global Sourcing and Supply Chain Strategy

- a. “Does America Really Need Manufacturing?” Gary P. Pisano and Willy C. Shih. *Harvard Business Review*, March 2012.

- b. "Making It in America." Adam Davidson. *The Atlantic*, Jan-Feb. 2012.
 - c. "Winning the Race with Ever-Smarter Machines." Eric Brynjolfsson and Andrew McAfee. *Sloan Management Review*, Winter 2012.
 - d. "Offshoring, Onshoring, and the Rebirth of American Manufacturing." Michael Dolega. TD Economics, October 2012.
- 2) Background on the Japanese economy
- a. Special report on Japan, *The Economist*, November 2010.
 - b. "Will Japan Ever Grow Up?" Masaru Tamamoto, *Far Eastern Economic Review*, July/August 2009.
 - c. "Revitalizing Corporate Japan: A Prescription for Growth." Price Waterhouse Cooper, 2012.
 - d. "Doing Business: Economy Profile of Japan." World Bank/Int'l. Finance Corporation, 2012.
 - e. "Creation of New Industries and New Markets." Vision statement from (Japan's) Ministry of Economy, Trade, and Industry (METI), March 2012.
 - f. "The Evolution of Japanese Subcontracting," Toshihiro Nishiguchi and Jonathan Brookfield, *Sloan Management Review*, 39 (1), Fall 1997.
 - g. "The Toyota Group and the Aisin Fire," Toshihiro Nishiguchi and Alexandre Beaudet, *Sloan Management Review*, 40 (1), Fall 1998.
 - h. "Ito-Yokado: The Challenge of Apparel", R. Lal and A. Han, HBS Case 9-505-048, May 11, 2005
 - i. "Ito Yokado", D. Wylie, HBS Case 9-589-116, July 14, 1994.
- 3) Recent examples of reshoring/nearshoring and insourcing from the business press (*we will continue to add new articles to this folder on Canvas*)
- a. "In Shift of Jobs, Apple Will Make Some Macs in U.S.," C. Rampall and N. Wingfield, *NY Times*, Dec. 6, 2012.
 - b. "Flextronics CEO Sees Hope for U.S. Tech Production," J. Hagerty, *Wall Street Journal*, January 4, 2013.
 - c. "Honda Bolsters Its Production in North America," M. Ramsey, *Wall Street Journal*, Aug. 12, 2012.
 - d. "Toyota Says No Full Production Until Year's End," H. Tabuchi, *NY Times*, April 22, 2011.
 - e. "Japanese Manufacturers Help Save Chip Maker Renesas," H. Tabuchi, *NY Times*, December 10, 2012.
 - f. "Nissan to Invest \$358 million in Thai Plant," *Yahoo News*, Nov. 9, 2012.
 - g. "Toshiba Turns Overseas to Reduce Procurement Costs," J. Osawa, *Wall Street Journal*, Aug. 16, 2010.

- h. "Hitachi's Revival Isn't So Good for the City of Hitachi," *NY Times*, Dec. 28, 2012.
 - i. "China Loses Edge As World's Factory Floor," *Wall Street Journal*, Jan. 17, 2013.
 - j. "Hedging China Risks, Japan Firms Turn to Booming Southeast Asia," S. Grudgings, *Reuters*, Nov. 5, 2012.
 - k. "The Insourcing Boom," Charles Fishman, *The Atlantic*, Dec. 2012.
 - l. "Mr. China Comes to America," James Fallows, *The Atlantic*, Dec. 2012.
 - m. "Requiem for a Dreamliner," James Surowiecki, *The New Yorker*, Feb. 4, 2013.
 - n. "New Problems with Boeing 787," C. Drew and J. Mouawad, *NY Times*, Dec. 10, 2012.
 - o. "Should Manufacturing Jobs Be 'Reshored' to the U.S.?" *Knowledge@Wharton*, Sept. 26, 2012.
 - p. "American Industry Is On the Move," S. Mallaby, *Financial Times*, Jan. 8, 2013.
 - q. "Companies Tiptoe Back toward 'Made in the USA'", James Hagerty and Mark Magnier, *Wall Street Journal*, January 2015.
- 4) In-depth reports from think-tanks, consulting firms, governments
- a. "U.S. Manufacturing in International Perspective." Marc Levinson. Congressional Research Service, Feb. 2013.
 - b. "U.S. Manufacturing Nears a Tipping Point," Boston Consulting Group, 2012.
 - c. "Locating American Manufacturing: Trends in the Geography of Production," Brookings Institute, April 2012.
 - d. "Trading myths: Addressing Misconceptions about Trade, Jobs, and Competitiveness," McKinsey Global Institute, May 2012.
 - e. "Manufacturing the Future: The Next Era of Global Growth and Innovation," McKinsey Global Institute, November 2012.
 - f. "Manufacturing's New Era: A Conversation with Timken CEO James Griffith," McKinsey and Company, December 2012.
 - g. "Offshoring (Offshore Outsourcing) and Job Loss among U.S. Workers," Congressional Research Service, December 2012.
- 5) Faculty-authored articles
- a. "Discussion Paper on Nissan's Global Supply Chain Management: Roles of Mother Plants and the Global Production Engineering Center in Japan", Junichi Endo, 2013.

- b. "Winning in the Aftermarket," Morris A. Cohen, Narendra Agrawal, and Vipul Agrawal, *Harvard Business Review*, May 2006.
- c. "Valuing Operational Flexibility under Exchange Rate Risk," Arnd Huchzermeier and Morris A. Cohen, *Operations Research*, Vol. 44, No. 1, Jan.-Feb. 1996.
- d. "Lessons from Product Architecture Initiatives in the Global Automotive Industry," John Paul MacDuffie, *Global Strategy Journal*, Vol. 3, No. 1, 2013.
- e. "Get Ready for the Complexity Revolution," John Paul MacDuffie and Takahiro Fujimoto, *Harvard Business Review*, June 2010.
- f. "Collaboration in Supply Chains: With and Without Trust," John Paul MacDuffie and Susan Helper, chapter 10 in *The Corporation as a Collaborative Community*, Paul Adler and Charles Heckscher (editors), Oxford University Press, 2007.
- g. "Supply Chain Competitiveness and Robustness: A Lesson from the 2011 Tohoku Earthquake," Takahiro Fujimoto, Discussion Paper #362, Manufacturing Management Research Center, University of Tokyo, September 2011.
- h. H. Matsuo, "Implications of the Tohoku Earthquake for Toyota's Coordination Mechanism: Supply Chain disruption of Automotive Semiconductors", 2014.
- i. "Creating the New Global Enterprise: Transportation Panel", summary from Wharton conference on US-Japanese Manufacturing Alliances, April 7-8, 1993.

Suggested Books

Producing Prosperity: Why America Needs a Manufacturing Renaissance. Gary P. Pisano and Willy C. Shih. Boston, MA: Harvard Business School Press.

Race Against the Machine: How the Digital Revolution is Accelerating Innovation, Driving Productivity, and Irreversibly Transforming Employment and the Economy. Eric Brynjolfsson and Andrew McAfee. Lexington: Digital Frontier Press, 2011.

The New Industrial Revolution: Consumers, Globalization and the End of Mass Production. Peter March. New Haven: Yale University Press, 2012.
