

**The Peter F. Drucker and Masatoshi Ito
Graduate School of Management
Claremont Graduate University**

MGT 710 AND MGT 375: SUPPLY CHAIN MANAGEMENT

Instructor:	Tathagata Dasgupta, Ph.D.
Class Time:	Mondays, Mod 1, 7:00 pm – 9:50 PM
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Why this course, and what's in there:

Understanding key supply chain foundations is crucial to any company's success and profitability. In this class executives will define the supply chain and its significant impact on all aspects of their business while gaining an understanding of the synchronism and synergism of all its components. You'll hear from invited guest speakers from the industry including companies such as Sony, Nokia, Warner Brothers, Gateway, Skyworks, Broadcom, and others, and benefit from an interactive learning experience through discussions, case studies, anecdotal learning, simulation games, and industry best practices.

This Supply Chain Management class has been developed after incorporating learning from several executive workshops in the industry to benefit a wide range of positions and responsibilities. For professionals with specific functional experience, this workshop provides insight into the other aspects of the supply chain. For people who are new to the field -- at either leadership, executive, or managerial levels -- the scope and perspective of these concepts are indispensable.

The Following Topics will be explored:

- Fundamentals of Demand-Supply Matching
- Demand and Forecasting Management
- Procurement Best Practices
- Outsourcing
- Customer Service and Order Fulfillment (Global Available-to-Promise, ATP)
- Warehousing and Inventory Management
- Manufacturing Integration
- Sales and Operations Planning (S&OP)
- Vendor Managed Inventory (VMI) and Replenishment best practices
- Information Systems (ERP, APS)
- Global Logistics Planning best practices
- Reverse Logistics and Spare Parts Problem
- Supply Chain Operational Reference (SCOR) Model

Course Description

Matching supply with demand is a primary challenge for a firm: excess supply is too costly, inadequate supply irritates customers. Matching supply to demand is easiest when a firm has a flexible supply process, but flexibility is generally expensive. In this course, we will discuss how to assess the appropriate level of supply flexibility for a Global organization and explore strategies for economically increasing a company's supply flexibility based on worldwide supply strategy, including outsourced manufacturing, supplies, resources, and the vast mesh of complex distribution network that all of the above are spread around.

We will study coordination and incentives across multiple groups or players in a supply chain. While tactical models and decisions are part of this course, the emphasis is on the qualitative insights needed by general managers or management consultants. We will demonstrate that companies can use (and have used) the principles from this course to significantly enhance their competitiveness. The course applies best industry practices as well as academic research on Global Supply Chains to current industry problems, and allows students to test their learning through a Global Supply Chain Simulation Game (Harvard) where all the management techniques, tools, methodologies, and core insights are applied.

A supply chain is a network of all firms and relationships that get a product to market, including the original acquisition of raw materials, production of the item at a manufacturing facility, distribution to a retailer, sale of the finished item to the customer, and any installation, repair, or service activities that follow the sale. How to effectively manage the supply chain is a central issue for all levels of management, regardless of industry. More demanding global markets, a varied multitude of customers, the Internet-driven global economy, and digital technology, growing competitive pressures, and globalization create new opportunities and challenges on how supply chains should be configured and managed. Many innovations and new business models have emerged, arising from application of information technology and reconfiguration of the supply chain network.

This course will examine how innovators are responding to dramatic market changes through smart supply chain design (or redesign) and management. We begin with supply chain basics: what are the important supply chain components and metrics, what are the primary cost tradeoffs, and what are the basic principles. Several recent and influential innovations are then discussed: such as Collaborative Planning, Forecasting and Replenishment (CPFR), Sales and Operations Process (S&OP), Vendor Managed Inventories (VMI), Risk Pooling, and Virtual Integration. We focus on how information technologies have advanced supply chain integration and coordination, including supplier management, outsourcing decisions, and the impact of electronic commerce. We also consider supply chain incentive conflicts and possible solutions to those conflicts.

Much of this course will be conducted in the Harvard Business School case Studies format. Prior preparation on each case with thoughts and input on the case are essential before the class when it will be discussed. Additionally, some academic papers will be reviewed in class to glean out attempts to solve focused problems in the supply chain area.

The case studies cover one aspect of the business or another, where key insights of supply chain management principles can be obtained through a dialog between participants. When you scan these cases, the quickest way to get the maximum out of them is to read the introduction and conclusion, while asking yourself "how and why is this case going to be relevant for our business? Even if it is about a different business workflow, can we extend or extrapolate some of the learning from these to apply in our business?" Remember, no two businesses are alike. The exercise in this course is to work together and glean knowledge from other people's experience.

The academic articles are much more focused around a specific problem, written by academics who analyze the problem using the language of mathematics, and incrementally build solutions. In terms

of expectation setting, it is wise to know that no one is going to give solutions to our problems - we have to build these solutions ourselves. Academic articles provide a structured attempt to a much more generalized problem. One has to learn the approach and then apply the concepts in to practice by building an instance of the problem that pertains to their business.

Case studies from business will provide the vehicle, and academic papers will show how others have "attempted" to drive the vehicle. The language of mathematics allows us to take several specific problems and generalize a theoretical solution that fits most of them.

Teams will be assigned to “present” certain papers to in the classroom during these sessions.

At the beginning of the second session, I will show you how to glean through the most pertinent material from a paper, summarize learning, draw parallels to you experience or business, and prepare a short deck (5-10 slides) to be presented to the other attendees. Over the ten weeks, each team will get multiple chances to present their thoughts on an article or paper that relates to the material.

Finally, **central to this course is a team project** that will be built through ongoing efforts throughout the 10 weeks and presented in the last session in the class. More details on the project are given below.

Course Materials

- **Required:**
 - *Supply Chain Management: Strategy, Planning, and Operation*: Sunil Chopra and Peter Meindl, McGraw Hill
 - Course Pack
 - Check Sakai on a regular basis for resources and announcements.
- **Supplementary:**
 - *Professor's Notes to be distributed in class or uploaded in Sakai*
 - *Journal articles, Case Studies, Newspaper and magazine articles to be posted on Sakai*
- **Some useful Reference Books that you could pick up from the Library:**
 1. Text: *Supply Chain Management: Processes, Partnerships, Performance*: edited by Douglas Lambert, SCMI. ISBN: ISBN: 0-9759949-1-3
 2. *Matching Supply with Demand: An Introduction to Operations Management*, by Gerard Cachon and Christian Terwiesch, McGraw Hill
 3. *Production and Operations Analysis*, by Steven Nahmias, McGraw Hill (for Ph.D. students)
 4. *Factory Physics*, by Wallace Hopp and Mark L. Spearman, McGraw Hill (for Ph.D. students and MBA with Engineering background)

Case Preparation

This is a case oriented course. You should thoroughly read the assigned articles and cases before class. Effective preparation of those materials by every member of the class is essential for both individual and collective learning. In your preparation you may work in study groups. However, group preparation of a case should enhance, not substitute for, individual preparation. Several preparation questions are attached at the end of this syllabus to guide your preparation of the articles and cases.

Grading

Class Participation (including paper presentations in class)	20%
Global Supply Chain Simulation	30%
Pop Quizzes (3 to 4)	20%
Course Project	30%

Class participation is based on the quality of comments and questions each student offers during a class. Excessive quantity, merely to occupy time, should be avoided. Additionally, a part of your grade on class participation will be based on the presentation of papers assigned to teams.

The case reports should be 3-4 pages (1-inch margins, 12 point font, double spaced), exhibits excluded. These 3-4 pages should cover all the cases covered until that point excluding the cases you already wrote up a report for. This means that you will need to write essentially 3 paragraphs on each case. The reports should cover 1) the problem under study, 2) your analysis and assumptions, 3) conclusion and recommendations. *Please do not tell us what we can read in the case. Add value and get to the analytical observations from the very first line.*

In addition, we will have a lead group to open the case discussion by a 30-minute case presentation of its background and key issues

Supply Chain Management Team Project and Presentation Instructions

- Mission: Evaluate and articulate a firm's supply chain process and practices with a common SCOR model – this should include a site visit by the team and/or interviews with supply chain personnel from the firm that you visit. Teams sizes: 4 students per team – total 3 teams.
- The objective of this exercise is to help you develop the ability to evaluate and articulate a firm's supply chain and service delivery processes, and use a common metric model, which is **SCOR** (Supply Chain Operational Reference) model, to study and analyze it.

Thoroughly research the firm you have chosen to evaluate to ensure that the following questions can be addressed in your presentation. It is imperative that you thoroughly address question 1- 5:

1. What is the firm's overall strategy and mission? Who are their closest competitors? Who are their customers? (Please make this a very brief executive overview, not a history lesson!)
2. Why did you choose the firm?
3. How does supply chain management fit into the firm's overall strategy?
4. How are the firm's SCM operations differentiating them/adding value?
5. How does product flow through the pipelines? Who are the players? "Staple yourself to an order..." (see the article in your Course Pack). Be sure that this is clearly explained.

Other issues to be Addressed – IF APPROPRIATE:

6. Any evidence of segmentation on supply chain service offerings?
 7. Any evidence of partnership/strategic alliances in the firm's supply chain? Does the firm outsource any of its activities?
 8. What technologies does your firm use to make supply chain operations more effective (i.e. bar-coding, satellite tracking, etc.)? How are these technologies utilized to make the supply chain ore efficient and effective?
 9. How does the firm utilize e-business? Does its website enable business to business e-commerce? How do industrial customers use it? (Only if relevant – please keep this relevant to SCM and don't cover consumer issues.)
 10. Any good examples/stories of best practices in the popular business press or trade journals/newspapers?
 11. What could the firm be doing better in your opinion (only if relevant)?
 12. Try to integrate key ideas from the textbook and readings into your presentations if and when possible (i.e., apply what you have learned)
- A copy of the Powerpoint presentation (Notes format/3 slides per page) is due at the beginning of class on the day the group presents. In addition, please attach and submit a bibliography that

contains a minimum of 10 credible references to give me an idea of your sources and the level of research that you have done for your presentation. You should make every effort to integrate these references into your presentation to back up your statements.

- Groups will present their projects in the very last session. Presentations should be approximately 40 minutes for each team followed by Question and Answer session. Each group will be required to evaluate and rank the other group's presentations. The instructor will take into account the class' ranking of the team presentations when final grades are assigned. There will be a prize for the best team presentation presented in class. The team presentation is worth 20% of your total grade on the project. Please do not hesitate to consult me if you have any questions. **Key tip:** Don't wait till the last minute!

The project text should be 20-30 pages (1-inch margins, 12 point font, double-spaced) plus appendix for charts, figures, tables, and other references.

MGT/710 GLOBAL SUPPLY CHAIN MANAGEMENT COURSE OUTLINE
Professor Dasgupta

Week	Date	Topics of Discussion	DISCUSSION PAPER or CASE	Team Presentation of Papers	Readings	Event/ Industry Speaker	Group Deliverables
1	Aug 31 st	Course expectations & Logistics & Introduction to Supply Chain problem	Watch DELL and FEDEX CEO's discuss Supply Chain Management		What everyone needs to know about Supply Chain Management		Announce team members by the end of class, varied by background
	Sep 7 th	Labor Day Holiday – no class					
2	Sep 14 th	PLAN: Planning and Order to Cash – DEMAND PLANNING and FORECASTING	What is the Right Supply Chain for your Product - by Marshall Fisher	TEAM A: You need Sales and Operations Planning* (<i>I will place more articles on Sakai</i>)	What Happens when you Supply Chain gets Disrupted	Playing the Online Beer Game to illustrate the effects of Bullwhip effect in Global Supply Chains	
3	Sep 21 st	DELIVER: ORDER MANAGEMENT and Fulfillment	1. Staple Yourself to an order 2. Rapid Fire Fulfillment	TEAM B: Which Supply Chain Design is right for you	Understanding Demand – the case for Sales and Operations Planning		Submit initial outline of Project
4	Sep 28 th	SOURCE: PROCUREMENT	Building Deep Supplier Relationships	TEAM C 1.Procurement Pitfalls 2. We are in this together			
5	Oct 5 th	MAKE: Production and Inventory Control	1. Sport Obermeyer 2. Managing Supply Chain Inventory – pitfalls and opportunities	TEAM D: Aligning Incentives in Supply Chains	1. Why has CPFR failed to scale? 2. Analyzing Inventory Cost and Service in Supply Chains - by van Ryzin		Written Case reports due on cases covered so far
6	Oct 12 th	ENABLE: SCM and IT	Putting the Enterprise into the ERP system	TEAM E: Fast, Global, and Entrepreneurial		Global Supply Chain Simulation – the P&L Game	Submit findings for Project
7	Oct 19 th	Project	Project Presentations	Project Presentations	Project Presentations		Presentations