

THE UNIVERSITY OF SOUTHERN CALIFORNIA
Marshall School of Business
DSO 581 – Supply Chain Management- Fall 2015

Time:	Thursdays, 6:30-9:30 pm	Room:	JKP 212
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Office hours:	Wednesday, 2:00-3:00 pm Thursday, 2:00-3:00 pm		

COURSE SCOPE AND OBJECTIVES

This course will be valuable for someone pursuing a career in consulting or a position in the operations, marketing or finance function in a manufacturing or a distribution firm. The course focuses on the management and improvement of supply chain processes and performance. We explore important supply chain metrics, the primary tradeoffs in making supply chain decisions, and the basic tools for effective and efficient supply chain management, production planning and inventory control, order fulfillment and supply chain coordination. Several recent and influential innovations such as revenue management, revenue sharing, RFID, SaaS, and Internet of Things will be discussed. We also investigate topics such as global supply chain design, sustainable supply chains, e-commerce and outsourcing.

The class format includes lectures, case discussions, movie clips, simulation games, etc. The content covers both quantitative and qualitative materials. The cases will feature high-tech companies as well as firms in more traditional industries such as apparel and manufacturing.

COURSE MATERIALS

Required: *Course Reader* (CR) – Package of cases and readings available at USC bookstore. In the syllabus, a number such as CR#5 refers to 5th article in sequence in the course reader.

Handouts (HO): Handouts posted on the Blackboard.

Recommended: *Supply Chain Management* by S. Chopra and P. Meindl, Prentice Hall, 2012.

Managing Supply Chains by A.V. Iyer, Hercher, 2013.

COURSE POLICIES

This course covers both quantitative and qualitative materials, and uses cases for discussion of issues and illustration of approaches. We will use Excel as a modeling/solution finding tool when addressing several topics. Active participation in class is important throughout the course. To ensure everyone's participation, I may at times resort to cold calling.

You should arrive to classroom on time. If you have conflicting schedules that prevent you from that, please let me know at the beginning of the semester.

GROUP CASE REPORTS

Please form teams of up to four persons within the first two weeks; you will be working in these teams for the case write-ups. Use the "Group" option on the Blackboard to join one of the teams.

The cases are to be discussed within your team and you will submit (as a team) a written report. This Syllabus provides some suggested questions that you should address in your analysis. Each team is required to submit a written report on four case studies (Three Jays on 9/17, Plaza on 10/8,

SportSuff.com on 11/5, and Han Solar on 12/3). Case write-ups should be at most 4 pages and single-spaced (11 or 12 point font), with appendices attached (not included in the number of pages). They should be submitted on-line through the Blackboard, along with the Excel files used in your analysis. You will also need to enter some of the main results of your analysis separately, following the link on the Blackboard.

When preparing your report, imagine that you, as a consultant, have to study an organization, to identify the main issues it faces, and to propose a set of recommendations. Your written report should begin with an executive summary, about half page long, summarizing the most important problems and your recommendations (something a busy executive would read and understand what the report is about). The rest of the report should be organized as follows:

1. Brief description of the company and its environment
2. Brief description of the problems and issues to be addressed (the questions in the syllabus related to the specific case should guide you in identifying those issues).
3. Recommendations and implementation plan.
4. Analysis that discusses why the recommendations will solve the problems identified.

You may choose to organize the report differently; however, please ensure that the above aspects are covered and the report is well organized with clear section and sub-section headers. Please avoid repetition of case facts and long expositions (remember the page limit)! Consider what you believe are the most important factors (and why). General solutions to specific problems will get you little credit. Both quantitative and qualitative analysis is important. Creativity in analysis and suggestions that are grounded in case facts will be given high credit. Please state any assumptions made clearly. Remember that your models are usually based on the forecasted demand and that different parameters and costs in the models are estimated (forecasted), so it is useful to provide some what-if analysis that considers, e.g., different possible demand scenarios, changes in cost estimates, etc.

The **SportSuff.com** case contains less company information of a general nature, but includes more quantitative data and requires development of Excel models. As a result, you need to devote less space to items 1 and 2 listed above. However, you should build analytical models, develop solutions, consider company's evolution, and answer the questions posted in the case. The report for this case should include a description of your quantitative model; in particular, you should describe all variables and write the objective function and the constraints. Please submit the excel file through the Blackboard along with your write-up.

GROUP ASSIGNMENT EVALUATION

Team assignments provide a valuable learning experience – how to work effectively and efficiently in groups, learning from others, and honing your ability to communicate to others. Although your team's grade depends on each member's efforts, some students can be tempted to let others carry their load. In order to provide an incentive for all students to make maximum contributions to the study group, you will be asked to grade each team member's contributions. Your group grades will be adjusted to obtain an individual grade based on performance feedback provided by other members of the group (the group assessment forms are posted on the Blackboard). If you do not submit your group assessment form, I will assume that you gave a rating of 100% to all your group members. The forms can be submitted in person or via e-mail, but no later than the exam date.

INDIVIDUAL (SHORT) SUBMISSIONS

In addition to the cases for which you are required to submit group reports, we will be discussing other cases and articles. You should be prepared for class discussion, and this Syllabus provides some suggested questions that you should address. For the individual submissions, follow the link on the Blackboard and enter the required information before the class. The objective of this short submission is to ensure that you prepare the case. For that reason, no late submissions will be accepted.

To answer short submissions #5 and #7, you can use Excel and submit the files along with your answers. The credit will depend on correctness of your solution. For the remaining submissions, as long as your answer shows that you have given sufficient thought to the analysis, you will get full credit. Note that this in general requires answers that are longer than one sentence.

Each submission is worth up to 2 points, and the maximum number of points you can obtain for individual submissions is 20. If your total exceeds 20 points, it can improve your participation grade (note that in this case, each additional submission does not increase your participation by 2 points).

We will do a simulation game during week 11. As a preparation for this exercise, you need to read the relevant material posted on the Blackboard (Retail game case and instructions), analyze the spreadsheet with historical data, and use them to determine your order quantity for the two products. These quantities should be entered following the link provided on the Blackboard, along with a brief explanation of how these numbers were selected. You can obtain up to 4 points for a thoughtful analysis and quantity choice.

EXAM

There will be two exams, and they will contain both qualitative and quantitative questions. The questions will have several formats: multiple choice/single answer, multiple choice/multiple answers, short answers, and problems. The exams will be closed book; however, you can prepare a “cheat-sheet” for both exams: for each exam, you can prepare one letter-sized sheet of paper hand-written on both sides (for a total of 2 hand-written pages). I will remove all printed or photocopied material!

According to the USC Final Exam Schedule, the final exam is scheduled for **December 10, at 7 pm**. If there are extenuating circumstances that prevent you from taking an exam, you must discuss the reason with me before the time of the exam. You will not be given a make-up exam unless you obtain a permission from me in advance. In addition, you must be able to document the extenuating circumstance. If you miss the exam due to a medical emergency that can be documented and verified, then a make-up exam will be given. Otherwise, a grade of zero will be given for the missed exam. Note that a make-up exam cannot be taken before the actual exam date!

CLASS PARTICIPATION

Class participation requires that you do the assigned readings, analyze the cases based on the questions given and participate actively in class. I prefer substantive comments based on good analysis rather than brief, general comments that add little to the discussion and learning. Be prepared to defend your suggestions or solutions!

If you are reluctant to talk in class or if you are not physically attending, but would like to show your preparation, please provide me with your analysis/comments through email. This may include material related to the topics covered in class from your work experience, from additional articles/videos that you have found, etc.

GRADING

Group case reports (4)	28%
Individual submissions (10 out of 13)	20%
Tests (2)	40%
Retail game	4%
Class participation	8%

GETTING HELP

If you have questions about any aspect of the course, you can always talk to me. If it is a quick question, you can contact me before or after the class, or during the break. If you need more time or privacy, you can come to my office hours. If you cannot make my office hours, you can contact me and we can arrange for an alternative time. The best way to reach me is by e-mail.

RETURN OF PAPERS AND EXAMS

Graded paperwork that is unclaimed by a student will be discarded after 4 weeks. Students who miss class sessions when paperwork is returned are responsible for arranging for an appointment to retrieve the material. Disputes over graded material should be brought to my attention as soon as possible.

NOTICE ON ACADEMIC INTEGRITY

The use of unauthorized material, communication with fellow students during an examination, attempting to benefit from the work of another student, and similar behavior that defeats the intent of an examination or other class work is unacceptable to the University. It is often difficult to distinguish between a culpable act and inadvertent behavior resulting from the nervous tensions accompanying examinations. Where a clear violation has occurred, however, the instructor may disqualify the student's work as unacceptable and assign a failing mark on the paper.

Academic dishonesty includes: (*Faculty Handbook*, 1994: 21-22):

- Examination behavior - any use of external assistance during an examination shall be considered academically dishonest unless expressly permitted by the teacher.
- Plagiarism - the appropriation and subsequent passing off of another's ideas or words as one's own. If the words or ideas of another are used, acknowledgment of the original source must be made through recognized referencing practices.
- Other types of academic dishonesty - submitting a paper written by or obtained from another, using a paper in more than one class without the teacher's express permission, obtaining a copy of an examination in advance without the knowledge and consent of the teacher, changing academic records outside of normal procedures and/or petitions, using another person to complete homework assignments without the knowledge or consent of the teacher.

FOR STUDENTS WITH DISABILITIES

Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to me as early in the semester as possible. DSP is located in STU 301 and is open 8:30 a.m. - 5:00 p.m., Monday through Friday. The phone number for DSP is (213) 740-0776.

STATEMENT ON TECHNOLOGY USE

Please note that communication devices such as cell phones, smart phones, tablets, etc. capable of sending and/or receiving electronic communication and all entertainment devices are to be turned off and kept off throughout the class session. Receiving or sending communication or entertainment during class disrupts the learning environment and is rude to those around you.

Course plan at a glance (tentative)

	Date	Topic	Readings	Cases	Submission
1	8/27	Introduction to Supply Chain Management Key Supply Chain Concepts	The Seven Principles of Supply Chain Management (CR#1)		
2	9/3	Supply chain strategy Inventory management – Cycle inventory		Zappos (CR#2)	short #1 – Zappos (q.#1)
3	9/10	Inventory management – Safety inventory	Note on Inventory Models (CR#3) §1 Inventory-driven costs (CR#4) Retail inventory (CR#5)		short #2 – Inventory-driven cost (q.#1) short #3 – Cycle inventory (p.6, under Week3, q.#1-2)
4	9/17	Inventory management Product availability - Newsvendor model	Note on Inventory Models (CR#3) §2, 3	Three Jays (CR#6)	Group #1 -Three Jays
5	9/24	Decentralized supply chains; double marginalization Supply chain alignment Supply chain evolution		Movie rental business (CR#7)	short #4- Movie rental (q.#6)
6	10/1	Product design and variety Design for supply chain management			short #5 –Mass customization (p.7, under Week 6, q.#2)
7	10/8	Network design in supply chains	Optimization Models for Restructuring BASF North America's Distribution System (CR#9)	Plaza (CR#8)	group #2 – Plaza short #6 –BASF (q.#3)
8	10/15	Logistics	Reverse Logistic Program Design (CR#11)		short #7 – Inventory centralization (p.8, under Week 8, q.#1,2) short #8 – e-commerce (p.9, q.#3)
9	10/22	MIDTERM			
10	10/29	Forecasting and quick response Demand forecasting	Note on forecasting (CR#13)	World Co. (CR #12)	short #9– World Co (q.#3)
11	11/5	Aggregate planning Revenue management	Aggregate planning (CR #14) Note on the "Retail inventory and pricing game" (HO)		group #3 – SportSuff.com (CR#10) Retail game analysis
12	11/12	Supplier management and outsourcing	Supply chain disruptions (CR #16)	HTC (CR#15) Li&Fung (CR#17)	short #10 – HTC (q.#4) short #11 – Li & Fung (q.#2)
13	11/19	Guest speaker Facility location IT in supply chains		Intel (CR#18) SAP (CR#19)	short #12 –Intel (q.#2) short #13–SAP (q.#3)
14	11/26	Thanksgiving Day – no classes			
15	12/3	ERP Sustainability in supply chains		Han Solar (CR#20)	Group #4-Han Solar
	12/10	FINAL EXAM			

Detailed course plan

Week 1 Introduction to Supply Chain Management and Key Supply Chain Concepts

Readings:

- *The Seven Principles of Supply Chain Management*, D.L. Anderson, F.F. Britt, D.J. Favre, *Supply chain management review*, 1997

Week 2 Supply chain strategy: Inventory management-Cycle inventory

Case study: (Stanford case #GS65): *Zappos.Com: Developing a Supply Chain to Deliver Wow!*

Discussion Questions:

1. What are Zappos' core competencies and sources of competitive advantage? How sustainable are they? What role does corporate culture play in these questions?
2. How did Zappos' supply chain evolve? What were the main stages and why did transitions happen?
3. How important is next-day air shipment to the customer experience? Is it worth the cost?
4. How would you expand the business? Would you add more products, more geographies, or by selling private labels? As you expand the business, how can the company become more profitable, particularly in light of the costs associated with the focus on service?
5. How would you expect the environment of a more cost-conscious consumer to affect Zappos' business? What can Zappos do in such an environment to maintain sales growth?

Week 3 Inventory management-Safety inventory

Readings:

- *Note on Inventory Models §1*
- *Inventory-driven costs* (HBR #R0503J)

Discussion Questions:

1. What are the hidden costs of inventory? What impact can neglect of those costs have on supply chain performance?
- *Retail Inventory: Managing the Canary in the Coal Mine* (CMR #560)
- #### Discussion Questions:
1. How is the concept "inventory turns" used in inventory management?
 2. Is "lean" always good? What are the different perspectives that retailers, investors, lenders, and suppliers can have when evaluating appropriate inventory levels for a retailer?

❖ **Cycle inventory assignment:** In solving the problems below it may be best to set up spreadsheets to compute the answers (please submit it through the Blackboard). In all problems assume that the annual holding cost is 15% of product cost $h=0.15$.

1. Motor Company purchases components from three suppliers: Components from supplier Alpha cost \$20 and are used at the rate 300 units/month; components from supplier Beta cost \$12 and are used at the rate 1,000 units/month; components from supplier Gamma cost \$30 and are used at the rate 700 units/month. The trucking company is charging a fixed cost of \$1,000/truck (for the purpose of this exercise assume that you do not need to worry about the truck capacity). Currently they purchase separate truckloads from each supplier. What is the corresponding minimal annual cost? What is the cycle inventory of each component?
2. Motor Company is considering aggregating orders from all three suppliers. In addition to \$1,000 fixed truck cost for deliveries with one pickup the trucking company is charging \$100 for each additional pickup. What is the corresponding minimal annual cost? What is the cycle inventory of each component?

Week 4 Inventory management; Product availability-Newsvendor model**Readings:**

- *Note on Inventory Models §2;3*

Case study: (HBS #9-915-531): *Three Jays Corporation*

Discussion Questions:

1. Using the data in case Exhibit 4 and the 2012 annual demand, calculate the EOQ and ROP quantities for the five SKUs scheduled to be produced in the last week of June. How do these amounts compare with those calculated in 2011? Compare the increases in EOQs with the increases in annual demand.
2. Brodie is uncertain if the costs presented in case Exhibit 2 are appropriate for determining the EOQs. What changes would you recommend, and why? Should the cost of the three idle part-time workers be included when the production line is down? Using the 2012 annual demand, and your recommendations, recalculate the EOQs for the five SKUs.
3. Compare your results with those obtained using the data in case Exhibit 2. What do you attribute the differences to? After speaking to Jake and Josh, Brodie is now not sure if the EOQ model is the most appropriate for the current production process. Evaluate the scheduling method that Jake and Josh are using. Why are they not following the established system?
4. Compare the established EOQ/ROP procedure (described in case Exhibit 2) with the one that Jake and Josh are using. Which system do you prefer? What improvements do you recommend?
5. What recommendations should Brodie present to Jana Fremont at his next meeting with her?

➤ **Case study report on Three Jays due at the beginning of class**

Week 5 Decentralized supply chains; Double marginalization; Supply chain alignment; Supply chain evolution**Readings:**

- *Note on Inventory Models §3*

Case study: (Kellogg case #KEL616): *Movie Rental Business: Blockbuster, Netflix, and Redbox*

Discussion Questions:

1. How do different players in the movie rental value chain provide and capture value?
2. What factors led to the growth of Netflix? How should Blockbuster (BB) have responded to the challenge posed by Netflix?
3. What factors led to the growth of Redbox? How and why was it able to capture market already dominated by big players such as BB and Netflix?
4. What are the key success factors in the movie rental business? How do Redbox, BB and Netflix compare on those dimensions?
5. How would you advise these companies to modify their strategies and structures going forward?
6. What are the pros and cons of the revenue-sharing contract in video industry?
 - a. How does a revenue sharing contract affect BB's inventory stocking policy and service level on **VHS**? Is revenue sharing always a win-win to BB and studios?
 - b. How significant are the benefits if BB uses revenue sharing contracts on **DVDs**? How does it compare with VHS?
 - c. What is the role of revenue sharing contracts in Netflix's DVD business? How does it differ from BB?
 - d. How suitable is revenue sharing for Netflix's streaming videos? Why? How about VOD?

Week 6 Product design and variety; Design for supply chain management

❖ **Mass customization assignment:** Visit and explore three different mass customization websites for customized products—shoes at Nike iD (nikeid.nike.com), jeans at DoMyJeans (<http://www.domyjeans.us> -- make sure you look at "Custom measures", not "Standard size" option), and dolls at My Twinn (<http://www.mytwinn.com/customdoll/>).

- | |
|---|
| 1. Are there any differences between their approaches to mass customization? |
| 2. Which model is most difficult to implement and why? |
| 3. What are the main difficulties/issues that mass customization imposes on supply chains designed for mass production? |

Week 7 Network design in supply chains

(Bring your laptops to class. Please download the files for network design from the Blackboard before the class)

Case study: (HBS #9-609-113): Plaza, the Logistics Park of Zaragoza

Discussion Questions:

1. Calculate total relevant cost of each option for a park customer.
2. How would the customer's conclusions change if the following assumption changed:
 - a. Demand was more/less uncertain
 - b. The number of units per container changed
 - c. The service level increased
 - d. The product cost increased/decreased
3. What other issues (besides the one listed above) should the customers take into account?
4. What opinion would you have about setting up more than one DC to cover Europe (i.e., one in Plaza and one in Rotterdam)?

Readings:

- *Optimization Models for Restructuring BASF North America's Distribution System*

Discussion Questions:

1. What are the key issues and objectives of BASF in developing this application?
2. What are the benefits of this model to BASF? How did it compare with their current approach to distribution planning?
3. What are the major simplifying assumptions made in the model and their implications?
4. What are the main limitations of the approach?

➤ **Case study report on Plaza due at the beginning of class**

Week 8 Logistics

❖ **Inventory centralization assignment:** In solving the problems below, it may be best to set up spreadsheets to compute the answers.

1. Epson produces printers for sale in Europe in its Taiwan factory. Printers sold in different countries differ in terms of the power outlet as well as the language manuals. Currently Epson assembles and packs printers for sale in individual countries. Weekly demand in different countries is normally distributed with mean and standard deviation as shown in table:

Country	Mean weekly demand	Standard deviation of weekly demand
France	30,000	5,000
Germany	23,000	4,000
Spain	14,000	2,500
Italy	34,000	7,000
Portugal	21,000	4,500
UK	45,000	6,000

Assume demand in different countries to be independent. Given that the lead time from the Taiwan factory is ten weeks, how much safety inventory does Epson require in Europe if it targets 95 % probability of no stock out (CSL)?

2. Epson decides to build a central DC in Europe. It will ship base printers (without power supply) to the DC. When an order is received, the DC will assemble power supplies, add manuals, and ship the printers to the appropriate country. The base printers are still to be manufactured in Taiwan with a lead-time of ten weeks. How much savings of safety inventory can Epson expect as a result if it still targets 95 % CSL?

❖ **E-commerce assignment:** Visit and explore three different e-commerce websites and focus on underlined products: buying groceries at vons.com, buying books at amazon.com, and buying personal computers at dell.com.

1. What are the main benefits of e-commerce for supply chains?
2. What are the main challenges that e-commerce imposes on supply chains?
3. Which of the three products (books, groceries, PCs) are most suitable for e-commerce? Which products are least suitable for e-commerce? Why? Would your answer have been different five or ten years ago? What (if anything) has changed?

Readings:

- *Reverse logistics program design: A company study*

Discussion Questions:

1. What is reverse logistics? What are some of the examples of its use?
2. What are the main differences between forward logistics and reverse logistics? What are the potential dangers if reverse channels are established by mimicking forward flows?
3. What operational considerations must be taken into account when designing the reverse flows?

Week 9 MIDTERM

Week 10 Demand forecasting

Case study: (HBS #9-601-072): *Supply Chain Management at World Co., Ltd.*

Discussion Questions:

1. Examine the features of fashion retailing in Japan. How can a company use its supply chain to compete in this environment?
2. Identify important aspects of World's supply chain focusing on the processes for manufacturing, demand forecasting and inventory planning.
3. How do the features of the supply chain explain the company's remarkably short lead times (relative to U.S. apparel supply chains)? Examine the features of the supply chain and identify why the company is able to respond so effectively.
4. Can the World's supply chain processes be replicated at other companies? Identify potential barriers.

- *Note on forecasting*

Discussion Questions:

1. What are key variables that need to be forecasted from an operations perspective and why?
2. What forecasting methods are used in operations?
3. When would time-series models versus other models (e.g. causal models) be used?
4. What are the operational implications of fluctuations in demand and forecast errors?
5. How should demand for C-items be forecasted?

Week 11 Aggregate planning; Revenue management

(Bring your laptops to class. Please download the required files for aggregate planning and for the retail game from the Blackboard before the class)

Readings:

- Chapter 8 *Aggregate Planning* (pp. 203-227) in *Supply Chain Management: Strategy, Planning, and Operation* by S. Chopra and P. Meindl, Prentice Hall, Second Edition, 2004

Discussion Questions:

1. What is the main purpose of aggregate planning?
2. What are the main strategies used for aggregate planning? What are their main differences?
3. How do you choose aggregate planning objective? Variables? Constraints?
4. How can you solve aggregate planning problems?

Retail inventory and pricing game.**Case study: SportStuff.com**Guidelines:

- The case offers you the option to select one of the three possible forms for the inventory cost function. Please use the linear format of the cost function and keep in mind that the formula addresses inventory flow from a *single warehouse*, and should not be applied on total inventory shipped by SportStuff.com.
- As the model contains binary/integer variables, Solver may not give you the optimal solution in a first try – please make sure that your results make sense and do not contain inconsistencies that can be spotted by inspection (this may require some fine-tuning). Moreover, your solution may depend on the initial values – Solver may end in a local optimum, instead of the global optimum.

Discussion Questions:

1. What is the cost SportStuff.com incurs if all warehouses leased are in St. Louis?
2. What supply chain network configuration do you recommend for SportStuff?

➤ **Case study report on SportStuff.com due at the beginning of the class**

Week 12 Supplier management and outsourcing**Readings:**

- *Reducing the Risk of Supply Chain Disruptions*, S. Chopra, M.S. Sodhi, (SMR #484)

Discussion Questions:

1. How can companies protect their supply chains from major disruptions? Think of the following:
 - a. Supply chain efficiency vs. risk reduction
 - b. Performance improvement vs. risk reduction
 - c. Cost efficiency vs. risk reduction

Case study: (HKU case HKU950): Strategic Performance Measurement of Suppliers at HTCDiscussion Questions:

1. What is the purpose of the supplier scorecard at HTC? Is it achieving that goal?
2. What are the strengths and weaknesses of the supplier scorecard at HTC?
3. What should be done with suppliers receiving B grades? Should they be dropped? What alternatives would you suggest?
4. For each supplier (A, B, C, D, and E), should orders be increased or decreased? Why?
5. Are the decisions based entirely on scorecard information? What other considerations may affect future allocations of orders with the five suppliers?

Case study: (HBS #9-312-102) *Li & Fung 2012*Discussion Questions:

- a. What is the main role of a company such as Li&Fung in global supply chains?
- b. How does Li&Fung make the supply chain more responsive (i.e. reduce response time)?
- c. In light of American recession and the “Foxconn effect”, what did Li&Fung do to continue expanding its business and reach its target of US\$20 billion for the period 2008-2010?
- d. How do “three year plans” fit Li&Fung strategy and growth? What are growth opportunities available to Li&Fung?

Week 13 Guest speaker: Richard Sternberg (Sampling International); Facility location; IT in supply chains**Case study:** (HBS #9-713-406): *Intel: Strategic Decisions in Locating a New Assembly and Test Plant (A)*Discussion Questions:

1. What criteria would you use to select the site for Intel’s AT plant in 2005? Why?
2. Where would you build the new plant? Why?
3. If you were Intel, what package of incentives would you seek from the government of your chosen location? Why?

Week 14 No classes – Thanksgiving Day**Week 15 ERP; Sustainability in supply chains****Case study:** (Stanford case #SM-214): *SAP and Cloud Computing in 2012 and Beyond*Discussion Questions:

1. How is ERP different from SCM software?
2. How is SAP different from Oracle?
3. What is the role of cloud computing in ERP adoption and implementation? What is the difference between IaaS, PaaS, and SaaS? What are the drawbacks of cloud computing?

Case study: (Berkeley case #B5723): *Han Solar and the Green Supply Chain*Discussion Questions:

1. Do you think Han Solar’s green strategy will increase shareholder returns? What are some other possible impacts of sustainability efforts?
2. What is the corporate carbon footprint of their manufacturing and distribution processes? Assume one shipment of 1,000 PV panels produced in China and delivered to California (manufacturing and distribution). Explain how you identified the different elements that make up the total footprint.
3. Considering your results from the previous question, why do international companies favor air freight over shipping, when delivering final goods from China?
4. Decide which transportation network should be implemented in order to supply panels to California. The following questions should be considered:
 - a) Between cost, distance, and lead time, which is the most important criteria in deciding which transportation network to take and why?
 - b) Design the locations of the various plants for the entire manufacturing process. Then describe why you chose the locations in a few sentences or less.
5. Overall, what should Han Solar do in order to become a leading company in the PV space again?
6. Which process can be improved and how? Based on your own further research, what changes can be made in some of these processes so that there are fewer emissions to the environment? How can emissions and production cost both be reduced in tandem?

➤ **Case study report on Han Solar due at the beginning of the class**