

STRATEGIC SUPPLY CHAIN MANAGEMENT (OM367, 03925)

SYLLABUS, SPRING 2012

MEETING TIME & LOCATION:

Mondays and Wednesdays, 12:30PM-1:45PM, GSB 5.142A

INSTRUCTOR:

Guoming Lai, Assistant Professor

Office Hours: Mondays 3:00PM-4:00PM, Wednesdays 4:00PM-5:00PM

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Contact Information: guoming.lai@mcombs.utexas.edu, 471-5818

TEACHING ASSISTANT:

Wen Chen

Office Hours: Mondays 10:00AM-11:00AM, Thursdays 10:00AM-11:00AM

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COURSE DESCRIPTION:

Supply Chain Management involves the flows of materials and information among all of the firms that contribute value to a product, from the source of raw materials to end customers. We will integrate issues from marketing (channels of distribution), logistics, and operations management to develop a broad understanding of a supply chain. By taking a strategic perspective, we will focus on relatively long-term decisions involving the investment in productive resources, configuration of processes, product designs, and development of partnerships with suppliers and channels of distribution.

COURSE OBJECTIVES:

The course seeks to both improve your understanding of operations strategies and enhance your analytical skills. The course will present several analytical techniques which would aid you in making decisions in the real world. In the meanwhile, the course will introduce you various aspects, issues, and initiatives in nowadays business operations. At the end of this course, you should have:

- The understanding of the importance of operations strategies and the challenges;
- Developed an appreciation for the major strategic issues and trade-offs in supply chain management;
- Acquired analytical capability to uncover problems and improvement opportunities in supply chain management and recommend improvement along the dimensions of efficiency, quality and speed, and improved team-work capability to cooperate with others to solve business operations problems in supply chain management.

COURSE MATERIALS:

- Required Course Pack: Reading materials for the course are contained in a bulk pack that should be available for purchase at the McCombs Copy Center. Individual homework and group assignments are based on these cases. We will discuss the cases in class.
- Recommended Textbook: (VM) Van Mieghem, Jan, *Operations Strategy: Principles and Practice*, Dynamic Ideas, Charlestown, MA, 2008.
- Course website: All materials available in electronic format (lecture slides/notes, homework assignments, homework solutions, sample exams, exam solutions, etc.) will be posted at Blackboard course website (<http://courses.utexas.edu>). Several lecture slides/notes will be posted before the class.

COURSE EVALUATION:

Quizzes	30%
Mini-quizzes	7%
Individual Homework	18%
Executive Summaries	25%
Supply Chain Game	10%
Class Participation	10%

Based on the past experience of this course, most students receive grades above B-. Grades lower than B- will be assigned on a case by case basis.

Quizzes

There will be two in-class quizzes that take up the entire class period. These are closed-book, but students are permitted a single page of notes. There will also be several (surprise) mini-quizzes that will be administered through Blackboard.

Individual Homework

Individual homework assignments serve one of two purposes. Either they are intended to provide an opportunity to use one of the analytical frameworks from class, or they are intended to help you to prepare for a class discussion of a case. Partial credit might be awarded for evidence of effort.

- You may discuss the assigned problems with your classmates. But you should write YOUR OWN solutions.
- You should provide formulas, steps, or reasons to support your solutions. Submissions with only the final solutions will not be given any credit. Submissions can be either typed or hand-written. However, please make sure that they are *readable*.

Executive Summaries

There are three cases for which I will assign a group homework. Each group needs to submit an executive summary (ES). In those assignments, you will be asked to analyze a specific issue and make a recommendation. In general, an ES should accomplish the following:

- Articulate the operational problem in terms of how it affects important measures of the firm's performance.
- Identify and analyze the major alternatives.
- Present a persuasive argument for a particular course of action.

For each ES, I will provide several questions that are intended to guide your analysis/thought process. However, although the ES that you submit should reflect your consideration of the assignment questions, it should not be just of list of answers to these questions. Instead, it should be a logical and persuasive recommendation for action. A brief description of an ES and a sample are provided at the end of this document. Please restrict yourselves to one page of text (additional pages may be attached for exhibits). You may use single-spacing, but please use a reasonable font size, i.e. at least 11 pt.

Supply Chain Game

There is a specific group assignment which is for you to operate a computer simulation of a supply chain. To play, you will need to log on to the simulation and pay a fee of \$15 with a credit card (\$15 per group). Specific instructions for the exercise will be provided. Grades will be based on both your write-up and your performance in the game.

Grading

Please turn in all assignments at the beginning of the class session listed on the schedule. Solutions to the homework assignments will be distributed in class or on the web-page. Please study each solution carefully even if you received full credit on the assignment. For the executive summaries, I will try to provide hard copies of exemplary papers. I do not accept the submission of written assignments after class on the day that they are due. However, I do allow students to drop one individual homework grade.

Class Participation

To foster a productive learning environment, it is important that everyone come to class prepared and willing to contribute to discussion. Ideally, you will make concise, insightful, and eloquent comments in every class. However, I also recognize the importance of making smaller contributions, including asking good questions. I believe that the learning environment is best when the discussion is not dominated by a few, but moved along incrementally by all of us. Do not be afraid to make points that you may regard as minor, ask clarifying questions, or otherwise contribute in small ways.

Laptops in Class

Unless explicitly stated otherwise at the beginning of class, the use of laptop computers during class is prohibited.

Feedback

Your informal feedback is very important to me. Please let me know throughout the semester if there is anything I can do to make this class better for you.

SCHOLASTIC DISHONESTY:

The McCombs School of Business has no tolerance for acts of scholastic dishonesty. The responsibilities of both students and faculty with regard to scholastic dishonesty are described in detail in the Policy Statement on Scholastic Dishonesty for the McCombs School of Business:

By teaching this course, I have agreed to observe all of the faculty responsibilities described in that document. By enrolling in this class, you have agreed to observe all of the student responsibilities described in that document. If the application of that Policy Statement to this class and its assignments is unclear in any way, it is your responsibility to ask me for clarification. Policy on Scholastic Dishonesty: Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and/or dismissal from the University. Since dishonesty harms the individual, all students, and the integrity of the University, policies on scholastic dishonesty will be strictly enforced. You should refer to the Student Judicial Services website at <http://deanofstudents.utexas.edu/sjs/> or the General Information Catalog to access the official University policies and procedures on scholastic dishonesty as well as further elaboration on what constitutes scholastic dishonesty.

Please do not use any materials (packet of overheads, homeworks, course notes, handouts, exams, homework solutions, case summaries) from previous semesters or from other sections of the course being offered in this semester unless the same has been made available by me to every one of your fellow students in this class. **If the application of the Honor System to this class and its assignments is unclear in any way, it is your responsibility to ask me for clarification.**

COURSE WEBSITES & STUDENT PRIVACY:

Password-protected class sites will be available for all accredited courses taught at The University. Syllabi, handouts, assignments and other resources are types of information that may be available within these sites. Site activities could include exchanging emails, engaging in class discussions and chats, and exchanging files. In addition, class e-mail rosters will be a component of the sites. Students who do not want their names included in these electronic class rosters must restrict their directory information in the Office of the Registrar, Main Building, Rm 1. For information on restricting directory information see:

<http://www.utexas.edu/student/registrar/catalogs/gi02-03/app/appc09.html>.

STUDENTS WITH DISABILITIES:

The University of Texas at Austin provides upon request appropriate academic accommodations for qualified students with disabilities. For more information, contact the Office of the Dean of Students at 471-6259, 471-4641 TTY.

COURSE SCHEDULE:

The following is a tentative schedule of meetings, readings, and deliverables for the semester. This is subject to change. When there are major changes, you will be notified by email; a current schedule will always be available on the Blackboard course website.

Note. VM: the text book; CP: the course pack; IH#: Individual Homework; ES#: Executive Summary (group assignment, one submission per group); SC Game: write-up describing the performance of the game (group assignment, one submission per group).

Session	Day	Date	Topic	Recommended Reading List	Assignments Due
1	W	1/18	Introduction		
2	M	1/23	Managing Strategic Operational Tradeoffs	VM: Chapter 2	
3	W	1/25	Capacity Sizing	VM: Chapter 3	
4	M	1/30	Competitive Cost Analysis	CP: American Connector	IH#1
5	W	2/1	Capacity Timing & Expansion	VM: Chapter 4	
6	M	2/6	Capacity Timing & Expansion	CP: Harley Davidson	IH#2, ES#1
7	W	2/8	Capacity Types & Flexibility	VM: Chapter 5	
8	M	2/13	Sales and Operations Planning	CP: Cross River	IH#3
9	W	2/15	Quiz #1		
10	M	2/20	Operational Hedging	VM: Chapter 9	
11	W	2/22	Guest Lecture – Raymond Archer		
12	M	2/27	Operational Hedging	CP: Seagate	IH#4
13	W	2/29	Product Design to Hedge Demand Risk	CP: HP UPS	
14	M	3/5	Product Design to Hedge Demand Risk		ES#2
15	W	3/7	Financial Hedging	VM: Chapter 9	
16	M	3/19	Capacity Location and Logistical Design	VM: Chapter 6, CP: Note on Logistics in the Information Age	
17	W	3/21	Capacity Location and Logistical Design		
18	M	3/26	Capacity Location and Logistical Design	CP: Dollar Tree Logistics	IH#5
19	W	3/28	Capacity Location and Logistical Design	CP: Merloni	
20	M	4/2	Capacity Location and Logistical Design	CP: Vestel Distribution	IH#6
21	W	4/4	Coordination and Incentives		
22	M	4/9	Coordination and Incentives	CP: Johnson Elevator	IH#7
23	W	4/11	Quiz #2		
24	M	4/16	Mass Customization and Outsourcing	CP: Timbuk2	

25	W	4/18	Guest Lecture – Chevron		
26	M	4/23	Global Supply Chain Game		SC Game
27	W	4/25	Final Case	CP: Morrison Company	ES#3
28	M	4/30	The Outsourcing Game	CP: Pre-read, Decision	
29	W	5/2	The Outsourcing Game	Making in outsourced Supply Chain	

THE EXECUTIVE SUMMARY

Typically, an executive summary is a short synopsis of a longer report. However, for the purposes of this course, your *entire* report will be a single-paged executive summary, the objective of which is to describe and justify a specific course of action as concisely as possible. The intention, in limiting you to a single page of text, is to force you to focus on the most compelling arguments for the course of action that you are advocating. Although you are restricted to a single page of text to present your recommendation, you may attach additional pages as exhibits. For example, it would be appropriate to include details of any quantitative or financial analysis as an exhibit. However, you should make sure that any exhibits are well documented, and you should certainly not include an exhibit that does not merit specific reference in the text of your executive summary.

STRUCTURE

Although executive summaries can be written in different forms, it is important that you open with a statement that sets the tone and context for the recommendation that you will be presenting and captures the strategic relevance of the problem at hand.

Following the opening statement, there are two main approaches that can be adopted. The first is to lead off with the recommendation, and then provide the rationale for it. Alternatively, one can adopt a more linear approach by presenting the analysis that leads logically to the recommendation. Depending upon the situation, either of these two approaches can be effective.

As you write your executive summary, you may want to consider the following:

- The recommendation should be sufficiently operationally specific that it can be acted upon. Avoid wishy-washy phrases like, "They should consider..."; "They might want to..."; etc.
- Explain why you have rejected any reasonable alternatives to the course of action that you are advocating.
- Recognize any significant risks that might be associated with the course of action that you are recommending and suggest how they might be mitigated.
- To the extent that it is possible, quantify the benefits / costs associated with your recommendation. Details of any quantitative analysis can be attached (and appropriately referenced) as exhibits.

When writing an executive summary it is important to focus on important data, conclusions, and recommendations. Avoid including excessive background and detail. One approach developing your executive summary is to imagine that you need to present your recommendation to the CEO of your company while you are with her on an elevator. You need to capture the significance of the issue and make a logical, compelling case for your recommendation in a very short amount of time. Therefore, you cannot afford to waste time on minor points or on summarizing information that is not directly relevant for justifying your recommendation.

The following example shows how an executive summary can be structured and written. Although a right format is important, to provide concise while insightful summary, analysis and recommendation is crucial.

EXECUTIVE SUMMARY

Introduction: BMW faces a threat from the Japanese entry into the high end segment of the automobile market. Although BMW's share has not yet been affected, the threat is real, especially due to the lower prices, better quality and shorter lead times for new product introductions by the Japanese. It takes BMW six years to launch a new product, but the Japanese can do it in four. This difference is due to the fact that the Japanese introduce incremental changes frequently, while BMW made big changes infrequently. It has been proposed that BMW adopt a prototyping system more like that of the Japanese, by requiring design decisions to be locked in 12 months prior to each prototype in order to allow pre-production grade tooling to be used in the construction of each set of prototypes.

Analysis: The major advantage of BMW's current prototyping approach is that it affords maximum flexibility in the design process; i.e., BMW can make changes relatively late in the design cycle. Not only does this allow them to respond to the changing tastes of the market, it also allows them to incorporate technological breakthroughs into their products, enhancing their reputation as a technological leader.

Advantages of proposed approach:

- Improved product quality at launch.
- Using actual materials bought from suppliers will lead to a more accurate prototype testing.
- Use of pre-production tools enables BMW to discover tooling or parts' problems earlier in the product development cycle. Also by procuring parts from suppliers at the prototype stage, any incompatibility issues with parts can be identified earlier.
- Using plant workers for the final prototype more closely approximates the actual assembly line.
- The new approach would speed up the ramp-up and pilot processes due to production problems being identified earlier, and it will allow them time for fine tuning.
- Lower warranty expenses due to improved quality of products at launch.

Disadvantages of proposed approach:

- Higher tooling costs
- Loss of flexibility in design commitment for each prototype build cycle.

Recommendations: To adopt the new prototyping approach BMW will have to trade off flexibility and quality. While to make design changes later is important to keep up with changing consumer demands, the higher quality levels of the Japanese vehicles are a bigger threat. BMW can balance these issues by:

- For now, use the new approach for the cockpit design. The cockpit seems to be the area where design and manufacturing quality matter the most, and it would benefit from the new approach.
- However, in general they should adopt this approach only in the last one or two batches of the prototype development cycle. This would minimize the investment needed in pre-production tools and still offer them enough opportunities to identify problems before the pilot stage.
- They should assess each of the 30 major subsystems regarding the relative importance of design flexibility versus conformance quality at launch. The new approach should be used only for those subsystems in which conformance quality is judged to be more important than design flexibility.

Although there is incremental investment required for the new prototyping approach, the overall savings from all 3 stages (Prototyping, Pilot and Ramp-up) will more than justify these investments. (Attachments skipped.)

Reading List for OM 367 - Spring 2012
Strategic Supply Chain Management, Unique No 03925
Professor Guoming Lai

- 1) "American Connector Company (A)," HBS Case 9-693-035.
- 2) "Harley-Davidson Motor Company," Northwestern University, Case Study. To obtain the case and permission, please contact Prof. Jan Van Mieghem vanmieghem@kellogg.northwestern.edu
- 3) "Cross River Products," HBS Case 9-676-086.
- 4) "Seagate Technology," Northwestern University, Case Study. To obtain the case and permission, please contact Prof. Jan Van Mieghem vanmieghem@kellogg.northwestern.edu
- 5) "Hewlett-Packard Company: Network Printer Design for Universality," Stanford Global Supply Chain Management Forum Case Study.
- 6) "Note on Logistics in the Information Age," Stanford University, Case Study GS19, distributed via HBS Publishing.
- 7) "Dollar Tree Logistics," Darden Business Publishing, University of Virginia, UVA-OM-1180.
- 8) "Merloni Elettrodomestici SpA: The Transit Point Experiment," HBS Case 9-690-003.
- 9) "Vestel: Improving Distribution Management and 3PL Relations," Koc University, Graduate School of Business, available through Epodia.
- 10) "Johnson Elevators," The University of Texas at Austin, Case Study, attached.
- 11) "Where in the World is Timbuk2? Outsourcing, Offshoring, and Mass Customization," available through Epodia.
- 12) "The Morrison Company," HBS Case 4564-PDF-ENG.
- 13) "Pre-Read: Decision-Making in an Outsourced Supply Chain," Emeraldwise, LLC.
jason@emeraldwise.com.