

MANUFACTURING STRATEGY

MS&E 268

Spring 2003

DEPARTMENT OF MANAGEMENT SCIENCE
AND ENGINEERING

Professor Robert C. Carlson

Course Description

PERSPECTIVE

The emphasis in this course is on general management. However, we will deal only with a subset of management — the operations function in manufacturing firms. In this course the perspective is that of the director of operations, vice president of manufacturing, or other senior-level general manager with primary responsibility for the production of manufactured products. In some instances, we will examine the general management tasks of executives at middle functional levels within operations and then tie those to the overall general management of manufacturing.

A major theme throughout the course is the primary importance of manufacturing and operations in the formulation and implementation of business and corporate strategy in manufacturing-based companies. We will look at strategic decisions within manufacturing as they affect the ability of the firm to achieve its goals and carry out its strategies. We also will look at the role of the manufacturing general manager in integrating those strategic manufacturing decisions with overall business and corporate strategies. Finally, we will look at the contributions to competitive advantage that manufacturing can make when it fulfills a role equal to those of the other functions.

To emphasize the role of the general manager in setting manufacturing strategy, the course will use cases. Each case has a decision orientation with a specific manager or group of managers having responsibility for developing action plans. One objective of this course is to help you understand how manufacturing functions within a company, the primary operating tasks that accompany different environments, and the ways in which it is possible to organize manufacturing to accomplish those tasks.

COURSE OBJECTIVES

In this course, as in any business situation, there are multiple and occasionally conflicting objectives. They include the following:

1. To develop a managerial point of view — a capacity for analyzing operating problems on a functional, a business, and a company-wide basis.
2. To develop an understanding of the “state of the art” of strategic management thinking as it applies to manufacturing firms.
3. To integrate the knowledge gained in other courses and to extend that in the area of manufacturing and operations, particularly with regard to the job of the general manager and the operating function.
4. To develop an awareness of the organizational structures and procedures used in manufacturing firms and their strengths and weaknesses.
5. To suggest the range of general management issues that you should consider in handling individual manufacturing decisions with a strategic point of view.
6. To develop habits of orderly thinking and rigor in formulating, evaluating, and recommending changes in manufacturing strategy.
7. To gain an appreciation of the complexities associated with implementing changes in functional, business, and corporate strategies.

ON-CAMPUS AND OFF-CAMPUS STUDENTS

Students will take this course both on and off-campus. We have not yet found a way for Off-Campus Students to effectively participate in and be evaluated for classroom participation, which is an important element of the course for On-Campus Students and thus accounts for 40% of their final grade. Therefore Off-Campus Students will have additional requirements as explained below.

On-Campus Students

Class attendance is required for On-Campus Students, and they must take this course for 3 units. Their grades will be determined by their performance

- (1) On 2 written case analyses (approximately 60%) (25% and 35%)
- (2) In classroom case discussions (approximately 40%)

One or two on-campus study groups may elect to conduct a Student Session. In that case, the students in such a group will have 60% of their final grades determined by this Student Session (in place of the 2 written case analyses), and they will not be required to submit the 2 written case analyses

Off-Campus Students

Off-Campus Students must take this course for 3 units and must write a short paper on manufacturing strategy in their company/division/organization. The main objective of this paper is to allow each student to investigate the manufacturing strategy of an organization and to use some of the ideas of this course to determine, classify, and evaluate that strategy. Any student who believes this is not appropriate for that student's particular situation (their company provides a service, uses another company to do their manufacturing, is a consulting firm, etc.) should contact Professor Carlson who will aid in selecting a topic. This paper is due no later than the beginning of class on Thursday, May 29, 2003, and may be no more than 8 pages (plus exhibits). The formatting requirements for all written work in this course must be followed. The grades for Off-Campus Students will be determined by their performance

- (1) On 2 written case analyses (approximately 60%) (25% and 35%)
- (2) On the individual paper (approximately 40%)

FORMATTING REQUIREMENTS FOR WRITTEN WORK

All submitted written work should conform to the following requirements. It should be printed on standard-size 8.5 x 11 inch paper. It should be double-spaced with margins of at least 1 inch, left and right, and 0.5 inches, top and bottom. The font size should be 12 point. Exhibits must be titled and included only if they are referred to in the text.

Cases for Written Assignment

First Assignment	(Both On and Off-Campus Students)	Nucleon
Second Assignment	(Both On and Off-Campus Students)	Eli Lilly

You are encouraged to work together in preparing for every class for which you are not handing in a written case analysis. All of the analysis and the actual preparation of the written case analysis should be done on an individual basis. Working together on such an assignment will be considered a violation of the Stanford Honor Code. All the work submitted must yours only.

GUIDELINES FOR WRITTEN CASE ANALYSES

- 1. General:** Each student must individually and independently prepare a written analysis of each assigned case. Written papers are due at the start of class on the day that case is being discussed and must conform to the previously mentioned formatting requirements. Late papers will incur a 50% grade penalty. Papers more than 24 hours late will not be accepted. They may be either brought to class and handed in, sent to Professor Carlson and to all course assistants by e-mail (a pdf file is preferred), or given to a courier at remote locations to be delivered to SCPD at Stanford. The due-dates are the same for all students both on and off campus. The name of the case and your Student ID number should be on a title page. Please do not put your name on the paper.
- 2. Page Limitation:** Each written case analysis should involve a thorough analysis of the case, but you are limited in your written work to four pages of text plus exhibits. Note that these are maximum limits. Please try to make your papers concise and coherent.
- 3. Exhibits:** Exhibits should contain specific types of analyses, such as financial analyses, breakeven charts, capacity analyses, cost analyses, etc. In general, exhibits should contain information that supports and is relevant, but would be too detailed for the body of the paper. Exhibits should not simply be an extension of the text. Exhibits must be titled and included only if they are referred to in the text.
- 4. Proofreading:** You should proofread all papers. Papers for this course should be of the same quality that you would provide to the management of a business with which you are dealing. When submitting by e-mail, send yourself a copy and open and read it to assure that what is sent is what you intended.

THE CASE METHOD

This course uses the case method. The use of cases in this course is similar to their use in other courses. For each case, we have attached suggested questions to help you prepare the case. However, these questions should serve only as a starting point. You should decide what the key issues are and how to address them.

Case Discussions

In a typical case, we will ask someone to start the class by answering a specific question. Anyone who has prepared the case thoroughly will be able to handle such a leadoff assignment. Study groups may also be asked to lead off and present their analysis to the class. After a few minutes of initial analysis and recommendations, we will open the discussion to the rest of the class. As a group, we will try to build a complete analysis of the situation and address the problems and issues it presents. We also will talk about the implementation of those recommendations and the complexities of effecting change in manufacturing firms.

Most general managers spend very little time reading, and even less time writing reports. Most of their interactions with others are verbal. This is true for general managers in manufacturing, as well as in other functions. For this reason, we have given a high priority in this course to the development of verbal skills. You should consider the classroom as a laboratory in which you can test your ability to convince your peers of the correctness of your approach to complex problems and of your ability to achieve the desired results through the use of that approach. Some criteria for effective class participation are:

1. Is the participant a good listener?
2. Are points that are made relevant to the discussion and linked to the comments of others?
3. Do the comments show evidence of analysis of the case?
4. Is there a willingness to participate?
5. Is there a willingness to test new ideas, or are all comments “safe” ?
(for example, repetition of case facts without analysis and conclusions is “safe”, but a somewhat off-the-mark comment that leads to creative discussion will be considered valuable))
6. Do comments clarify, highlight, and synthesize the important aspects of earlier comments and lead to a clearer statement of the concepts being covered and to new insights?
7. Do the comments identify overlooked points and points that turn out to be influential in further discussion?
8. Are comments well thought out rather than just thrown out?

Student Sessions

The student-run sessions can be a key part of the learning experience of the course. During the first week of the course you should form a group of 3 to 5 individuals that will comprise your study group for this course. If your group decides that it would like to run a STUDENT SESSION, you should follow the directions given below. All the members of the groups selected for these STUDENT SESSIONS will be excused from writing both of the written case analyses required in this course. Two (or possibly fewer) class sessions will be devoted to topics of particular interest to the students in this course. These sessions must cover material in the general area of manufacturing strategy, and the topics must be ones not covered in great detail in other sessions of this course. Each of these sessions will be led by a student group, and this group will be responsible for the entire class session. The material may be covered in several formats such as lecture, discussion, audio and/or visual presentation, etc. However, the traditional case study format, as used extensively in this course, will not be acceptable. Whichever formats are used, reading assignments for the class will be appropriate; and formats that plan for and promote active class participation are encouraged. These sessions will be held on May 27 and 29.

Since we can have at most two such sessions, groups wishing to be considered for leading these student sessions must submit a one-to-two page proposal by the 5th class on April 15 (Tuesday), specifying:

1. the names of the team members
2. the topic area to be covered
3. a brief description what the session will cover
4. the likely presentation format to be used
5. the likely source of the information upon which the presentation will be based

The groups submitting proposals will be notified on April 17 (Thursday), as to which proposals have been accepted.

OTHER ADMINISTRATIVE DETAILS

Since every faculty member has somewhat different expectations as to class behavior and course norms, we would like to outline a few of ours.

1. There are only 19 class sessions in this course, and we consider that the minimum required to cover the essentials of this topic area. We understand that other demands may require you to miss a class, but you should not have more than one absence from class.
2. Please let us know in advance if you must miss a class. If you do miss a class, it will be your responsibility to find out from your classmates what materials were covered, what additional assignments were made, and what handouts you may have missed.
3. We expect you to be prepared for every class. Since we sometimes call on individuals whose hands are not raised, you should let us know before class if some emergency has made it impossible for you to be prepared adequately for that class.
4. If at any point during the term you would like to see us about your class participation, written work, course matters, or anything else, please make an appointment with us or stop by during our office hours.
5. As stated previously, for purposes of general class preparation, group work is acceptable and encouraged. However, at no time should you use notes or papers from other courses where these materials might have been taught.
6. There will be no exams in this course.