

## Operations Management

### Lecturer

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### Time and Place

Monday, October 27<sup>th</sup>, 2008. 3.30–5.00pm and 5.15–6.45pm. Room S 108.  
Thursday, October 30<sup>th</sup>, 2008. 3.30–5.00pm and 5.15–6.45pm. Room O 169.  
Friday, October 31<sup>st</sup>, 2008. 12.00–1.30pm and 1.45–3.15pm. Room O 169.  
Monday, November 10<sup>th</sup>, 2008. 3.30–5.00pm and 5.15–6.45pm. Room S 108.  
Thursday, November 13<sup>th</sup>, 2008. 3.30–5.00pm and 5.15–6.45pm. Room O 169.  
Friday, November 14<sup>th</sup>, 2008. 12.00–1.30pm and 1.45–3.15pm. Room O 169.

### Course Description

This course will provide a general introduction to operations management. Along with finance and marketing, Operations is one of the three primary functions of a firm. Looking at these functions in their most basic form it can be said that Finance contributes capital to the firm, Marketing creates demand for a product, and Operations produces the product. The recurring activities of a firm that make up Operations Management generally span the entire organization: Chief Operating Officers (COOs) are frequently in charge of Research & Development (R&D), design/engineering, production operations, marketing, sales, support and service. Therefore the realm of operations management expands well beyond just managing factories. Firms may deal with sales and service support, repair services, customer help lines, continuing product development, and any number of varying functions depending on their products. Each of these areas requires a different set of processes, resources, control systems, people and management style. Thus, Operations Management is an essential part of any firm that generates value for customers through manufacturing, logistics, or service delivery. The principles of Operations Management, however, can be much more expansive and relate to any aspect of an organization that requires resources and processes to operate.

In order to gain competitive advantage through operations, this course intends to orient you with the major operational problems and issues that confront managers, and to provide you with language, concepts, insights and tools to deal with these issues. Whether you are a student aiming for a career in designing and managing business processes, either directly (Operations Departments) or indirectly (e.g., management consulting), or you manage interfaces between operations and other business functions such as finance, marketing, managerial accounting and human resources, this course is essential. In addition a working knowledge of Operations, which typically employs the greatest number of employees and requires the largest investment in assets, is essential for general managers and entrepreneurs. The academic content of this course will help you to:

- Understand the operations contribution to the development and implementation of successful business strategy;
- Define key business processes and establish their performance objectives
- Analyze different key operational dimensions such as capacity management, flow time management, supply chain management, and quality management;
- Understand developments such as lean operations, just-in-time operations, and time-based competition;
- Understand the impact of demand and process variability;
- Use data and tools to evaluate and improve the efficiency and effectiveness of processes.
- Identify the critical issues for any operation and to derive decision models how operational performance might be improved;

Consistent with a managerial perspective and approach, both application and derivation of models will be emphasized. The course thus strives to provide a balance between a qualitative approach and an analytical, applications-oriented, approach. In that spirit, both the strategic and the tactical dimensions of operations management will be addressed.

### **Course Assessment**

The course assessment consists of two parts. A case report written with up to two team members is due at the beginning of the first lecture on November 10<sup>th</sup>, 2008. The report is worth 20 points. The exam will take place on Monday, December 1<sup>st</sup>, 2008. Exams will be graded on an 80-point scale.

### **Reports**

The reports are graded for both content and presentation. A good paper should clearly and succinctly state the recommendations in an executive summary at the beginning to provide the reader with an overview and a framework. The main text should each present a major part of the rationale for the recommendation in terms of the desirable and undesirable consequences of adopting it. The rationale must consider capabilities that the business system under study needs to excel at, and how the current system either provides these capabilities or fails to provide them.

Reports should be typed with double spacing and should not exceed 10 pages (or 2,500 words), not including appendices and exhibits. Some common problems in preparing reports:

#### **Executive Summary:**

Your detailed report should be preceded by a one page executive summary. In this summary, highlight your findings as you would in an internal document aimed for senior management. Therefore, assume that the reader is intimately familiar with the company background and the decision situation. Focus only on your recommendations and your analyses. Be very careful not to waste space by just repeating facts from the case.

❑ **Presentation:**

A good report is not a chronology of analysis (i.e., answering the questions listed in sequence), but a clearly articulated statement of recommendation and support. If there are options under consideration in the case that are rejected by you, a clear rationale for your decision should be provided. Facts stated in the case need not be restated unless used to make a point. I will assume that the most important issues are raised in the report and that all else is less important to the writer. Both desirable and undesirable consequences should be factually stated and supported. In the overall evaluation of the report the discussion of all consequences of the recommendation is of the greatest importance. You must clearly discuss how your recommendations aid in the development of capabilities that are important for the logistics system under study.

❑ **Analysis:**

Other reports suffer from inadequate analysis. Analysis for a report is a time consuming and intellectually challenging task. Each case has a set of questions that are essentially a guide to help you with the analysis. The objective is to evaluate a complete range of alternatives and anticipate and discuss the full consequences of your recommendation. However, please note that these questions are just providing a starting point for your analysis; so answering the questions only may not be sufficient for a complete report.

**Reading and Lecture Notes**

I will roughly follow this textbook:

- ❑ Anupindi, Ravi; Chopra, Sunil; Deshmukh, Sudhakar; Van Mieghem, Jan; Zemel, Eitan. *Managing Business Process Flows: Principles of Operations Management (2<sup>nd</sup> Edition)*. Prentice Hall, New Jersey, 2005.

In addition, we will draw examples and points for discussion during the entire course from the following novel(!):

- ❑ Goldratt, Eliyahu; Cox, Jeff. *The Goal (3<sup>rd</sup> Edition)*. North River Press, Massachusetts, 2004.

*The Goal* is light reading and some sections are quite entertaining. Nevertheless, it has over 300 pages, so you are encouraged to start reading as soon as you read this syllabus. The remainder of the course is self-contained; I will license and print all the cases. Students will be able to pick up a course pack from the departmental office one week prior to the start of the course.

**Additional optional Reading**

In addition to two books mentioned above, you may consult the following texts depending on your interests (none of these are required for the course):

- ❑ Womack, James P.; Jones, Daniel T.; Roos, Daniel. *The Machine that changed the world: The Story of Lean Production*. Harper Perennial, 1991.
- ❑ Treacy, Michael; Wiersema, Fred. *The Discipline of Market Leaders: Choose your Customer, Narrow your Focus, Dominate your Market*. Basic Books, 1997.

### **Resources on the Internet**

The following websites provide interesting updates on current development in the area of Operations Management:

- ❑ INFORMS Manufacturing & Service Operations Society  
<http://msom.society.informs.org>
- ❑ Competitive Advantage through Lean Six Sigma Operations  
Executive Education Course at Lancaster University  
<http://www.leanoperations.com>