

*The University of Pennsylvania*  
*The Wharton School*  
*Operations and Information Management Department*

**OIDD 615: Managing the Productive Core of the Firm: Operations Strategy**

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Canvas Site: <https://canvas.upenn.edu/courses/1371187>

Study.net: [http://www.study.net/r\\_mat.asp?crs\\_id=30114530](http://www.study.net/r_mat.asp?crs_id=30114530)

10:30 - 12:00 section – Vance Hall B10  
1:30 – 3:00 section – Vance Hall B10

**Final Exam: Friday, October 13, 3:00 - 5:00 p.m., JMHH G06**

## **I. Course Description**

Operations strategy is about organizing people and resources to gain a competitive advantage in the delivery of products (both goods and services) to customers. This course approaches this challenge primarily from two perspectives: (1) how should a firm design their products so that they can be profitably offered; (2) how can a firm best organize and acquire resources to deliver its portfolio of products to customers. To be able to make intelligent decisions regarding these high level choices, this course provides a foundation of analytical methods. These methods give students a conceptual framework for understanding the linkage between how a firm manages its supply and how well that supply matches the firm's resulting demand.

This course is a mixture of theory and case discussions. Both factors are important for a complete learning experience.

## II. Classroom expectations

For transparency and clarity, listed here is a set of classroom expectations that hopefully will facilitate our collective learning and encourage an enjoyable classroom experience for everyone:

- Please sit in your assigned seat according to the course seating chart (which will be posted on Canvas).
- Please use your name tent in each class.
- Please be ready to participate at the start of each class session (10:30, or 1:30, not afterwards).
- Please do not use electronic devices (details below).
  - To facilitate note taking, hard copies of all slides are distributed and electronic copies are posted on Canvas.
  - Please bring hard copies of cases to class for your reference during the discussion.
- Please remain in the classroom during the entire session.
- Please direct your questions and comments to the entire class (i.e., no parallel discussions)

## III. Electronics Device Policy

OIDD 615 follows the MBA program's policy regarding electronic devices. Specifically: *the use of phones, laptops and tablets during a class session is not allowed. Phones should be turned off and put away.*

If a student must keep a phone on by reason of a personal emergency, the student must inform the instructor before class begins.

A student using electronics during the class will be asked to refrain from further use and lose class participation points for the session.

## II. Grading

Each student's final grade is based on the following components:

*Three equally weighted homework assignments (30%)*

- Assignments are due by 11:59pm ET on the due date. Late assignments are not accepted; i.e., late assignments receive zero credit.
- Submissions must be submitted electronically through Canvas.
  - Be aware that Canvas is a bit creepy – it tracks every log in and click from any device. Hence “Canvas ate my assignment” reasons for late assignments are not accepted.
- Each student must complete his or her own assignment. However, to promote learning, students are allowed to discuss questions with other students registered for OIDD 615 this term. Use collaboration judiciously, and only for learning purposes.
- No partial credit is given on quantitative questions.

### *Class participation (30%)*

- You receive 1 point each session for being ready to participate at the start of class (literally in your assigned seat at the start) and remaining engaged throughout the session while meeting course expectations.
- You receive 1 point for submitting your case preparation responses via the ForClass tool on Canvas before 9am on the day of the session.
- You receive 1-2 additional points each session based on the quality of your contributions to classroom discussion.

### *Final exam (40%)*

- Friday, October 13, 3:00 – 5:00pm, JMHH G06
- All students must take the final exam at the above assigned time and room.

Be aware, if you add the course after the class starts, you remain responsible for all material in the course. In particular, there is no adjustment to your class participation score for the days you do not attend.

Your final grade is based on your ranking across sections of the class, subject to MBA grading requirements. This is expected to follow (approximately) this distribution: 12% A and A+, 21% A-, 33% B+, 21% B, 10% B-, 3% C+ or lower. A failing grade is received when performance on a component is particularly poor (e.g., 35% or fewer correct responses on the final exam).

## **III. Course Materials**

### Handouts:

- Hard copies of handouts are distributed during class and posted on the course Canvas.

### Cases:

- Cases are available via Study.net.
- You must have access to the course cases. As electronics are not allowed during class sessions, be sure to bring a hard copy of the case to class.

### Text

- Selected chapters from Cachon, G. P. & Terwiesch, C. 2009. Matching supply with demand: An introduction to operations management. 3<sup>rd</sup> edition, McGraw Hill, Boston MA. (ISBN #: 978-112196929-2)
- Available at the Penn Bookstore, probably about \$41.
- You are responsible for the material in the text (i.e., this material can be on assignments, included in the final and part of classroom discussion).

### IV. Summary of Code of Conduct

	Materials							People				
OIDD 615: Operations Strategy	Approved calculator	Laptop / other electronics	Summary sheet	Book / class notes/ Canvas materials	Past notes / summaries	Past exams / assignments	Internet content / other outside materials	Learning team / approved work team	Other student(s) in same section	Student(s) in other sections (same term)	Wharton student not taking the class this term	Person outside of Wharton
Readings & Cases	A	A	A	A	A	A	A	W	W	W		
Assignments	A	A	A	A	A	A	A	W	W	W		
Final Exam Prep	A	A	A	A	A	A	A	W	W	W		
Final Exam	A		A	A	A	A	A					
	A = Allowed material Shaded Cell = Not allowed							W = Allowed to work together D = Discussion of general concepts and procedures is allowed but no sharing of specific answers. Shaded Cell = Not allowed				
The information above covers many common situations but will not cover every circumstance. Remember: The <a href="#">Wharton MBA Code of Ethics</a> that you accepted requires, among other things, that you represent yourself and your work honestly, don't try to gain unfair advantage over other students, follow the instructor's guidelines and respect confidentiality of your work and the work of others.  Should you have questions, please contact your ethics liaison or professor.												

**OIDD 615 – Class Sessions and Schedule**

<b>Session #</b>	<b>Topic and Readings</b>	<b>Date</b>
1	Introduction and Business Model Innovation Case: Zipcar Text : Chapter 19	Tue, 8/29
2	Betting on uncertain demand - Newsvendor model Text: Chapter 12	Thr, 8/31
3	Procurement and assortment Case: Le Club Text: Chapter 13, Sections 0-2	Tue, 9/5
4	Flexible operations Case: Sport Obermeyer	Thr, 9/7
	<b>Assignment #1 due by 11:59 p.m.</b>	<b>Mon, 9/11</b>
5	Mass customization and make-to-order Case: Timbuk2 Text: Chapter 13, Sections 3-4	Tue, 9/12
6	Lead times and the order up-to model Text: Chapter 14	Thr, 9/14
7	Delayed differentiation Case: HP	Tue 9/19
8	Managing risk in operations Text: Chapter 15	Thr, 9/21
	<b>Assignment #2 due by 11:59 p.m.</b>	<b>Mon 9/25</b>
9	Internet distribution Case: Amazon	Tue, 9/26
10	Fast fashion Case: Zara	Thr, 9/28
11	Revenue management Case: Uber Text: Chapter 16	Tue, 10/3
12	Review	Thr, 10/5
	<b>Assignment #3 due by 11:59 p.m.</b>	<b>Mon, 10/6</b>
	<b>FINAL EXAM: 3:00 - 5:00 p.m, JMHH G06</b>	<b>Fri, 10/13</b>

## OIDD 615: Session Descriptions

### **Session 615.1 Introduction/Business Model Innovation**

Zipcar is a good example of business model innovation. About 2/3<sup>rd</sup>s of this session is dedicated to a discussion of Zipcar and their operational design. We conclude with a summary of course procedures and general principles driving many business model innovations.

*Case:* Zipcar: Influencing customer behavior

*Preparation:*

- What competition does Zipcar face? (In other words, what alternatives do customers have to satisfy their needs?)
- What ‘wants’ do customers have that are important for Zipcar to satisfy with its service? For example, an airline customer may want sufficient overhead luggage space, and a restaurant customers may want vegetarian options, etc.
- Who ensures those wants are delivered?
- What should Zipcar do to manage situations like the one between Sal Fishman and Anita Karr?

### **Session 615.2 Betting on uncertain demand - the Newsvendor Model**

This session introduces the newsvendor model, which captures situations in which there is one ordering opportunity while facing uncertain demand. We cover how to use the model to make procurement choices and to evaluate several useful performance measures.

*Reading:* Text, Chapter 12

Text, Appendix A

*Preparation:*

Chapter 12 covers the newsvendor model. As this session covers a substantial amount of material, reading this chapter before class is useful.

Appendix A contains a tutorial on the statistics needed for this course. You should at least skim through these pages to determine if you are comfortable with this material, and if not, you should read through this tutorial carefully.

### **Session 615.3 Procurement and Assortment**

This session explores the challenges of procurement for a wine catalog retailer.

*Case:* Forecasting and Procurement at Le Club Français du Vin

*Read:* Chapter 13, Sections 0-2

*Case preparation:*

- How many bottles of the FAUGERES would you purchase if you followed the newsvendor model?
- How would you choose an order quantity for each bottle of wine? Would it differ from the quantity recommended by the newsvendor model? If so, how would it differ and why?

### **Session 615.4 Flexible supply chains**

This session studies how early sales information can be used to increase supply flexibility.

*Case:* Sport Obermeyer (HBS, 9-695-022)

*Case preparation:*

- Contrast Sport Obermeyer's forecasting process with Le Club's forecasting process. What are the disadvantages and advantages of their approach? Does their approach make sense for their market? Why or why not?
- If you had only one production opportunity, how many of the Gail parka would your purchase?
- What is the value of having two opportunities to make a production decision?
- Which styles should be produced in the first production run and where should they be produced (Hong Kong or China)? (Give qualitative arguments.)
- How would you modify their current system to better match supply to demand?

## **Session 615.5 Mass Customization and Process Location**

Mass customization offers an infinite variety of goods that are customized to a consumer's exact specifications. What are the pros and cons of this strategy? How does this strategy need to be modified if you move it overseas?

*Read:* Text, Chapter 13, Sections 3-4

*Case:* Where in the World in Timbuk2?

*Case Preparation:*

- How should Timbuk2 go about deciding which mass-customization options to offer customers? Brennan talks about a very vague process based on management intuition. Can general guidelines be established? For example, discuss the decision by Timbuk2 on whether to allow customers to choose a different buckle? Timbuk2 currently offers a choice of colors for the three panels -- how do you think costs would change if customers also were allowed to choose the dimensions of the panels?
- Compare the cost of producing in San Francisco with China.
- Should Timbuk2 source from China?

## **Session 615.6 Lead times and the Order Up-To Model**

This session studies service levels and lead times in a supply chain. Unlike as in the newsvendor model, we now consider a supply chain that has demand over a long time horizon, so multiple replenishments are possible.

*Reading:* Text, Chapter 14

*Preparation:*

- Read chapter 14. We will discuss the mechanics of the model and its qualitative implications.



### **Session 615.7 Delayed differentiation**

Postponement (or localize remotely) is a strategy to redesign a product and its supply chain to increase supply flexibility.

*Case:* Hewlett-Packard: DeskJet Printer Supply Chain A and B

*Case preparation:*

- What are the root causes of HP's problems?
- Should HP consider air shipments from Vancouver WA to Europe instead of ocean shipping? Provide a quantitative analysis along with qualitative arguments.
- Should HP consider a "localize remotely" strategy as discussed in the "B" case? Provide a quantitative analysis as well as a qualitative discussion of the implementation challenges (and how they may be overcome or mitigated).
- In your quantitative analysis you may wish to make the following assumptions:
  - They seek a 99% in-stock probability, order weekly and their lead times are 5 weeks by sea and 1 week by air from Vancouver to Europe.
  - The marginal cost of this product is \$250 and their inventory holding cost is 25% per year.
  - Shipping via sea costs \$5 per printer, whereas air freight costs \$15 per printer.

### **Session 615.8 Managing Risk in Operations**

This session explores several operations strategies for reducing and hedging uncertainty.

*Reading:* Text, Chapter 15

*Preparation:*

- Read the chapter 15. We will discuss the various techniques for redesigning products, services and supply chains to improve performance.

### **Session 615.9 Internet Distribution**

Internet retailing requires less inventory and retail space than brick-and-mortar retailing. But Internet retailing introduces additional costs. We shall compare these two models from an operations perspective.

*Case:* Online Book Retailing: Operational Strategies.  
Amazon, forced to collect a tax, is adding roots.

*Preparation:*

Based on the first reading, we'll begin with a discussion of the online business model (Amazon) vs the brick-and-mortar model (B&N). Then we'll consider recent changes to Amazon business model (excerpts from the NY Times article) and Amazon's prospects going forward.

- What operational advantages and disadvantages does Amazon have relative to B&N's superstores?
- Compare costs at B&N with Amazon using data in the case. Does Amazon's operational advantage outweigh its operational disadvantage? Discuss the source of cost advantage/disadvantage for every item of financial data in Exhibit 5.
- What do you think is the rationale for Amazon's current strategy to build more warehouses (NY Times article)?
- Do you like Amazon's prospects going forward?

### **Session 615.10 Fast fashion**

In this session we will discuss how a company can revolutionize its performance in an otherwise mature industry, not by changing products per se but by changing its supply chain structure and management.

*Reading:* Zara: How Zara Grew Into the World's Largest Fashion Retailer  
Inditex Annual Report (available in the file folder of the Canvas site)

*Preparation:*

In this session we will discuss Zara and its business model. The NY Times article provides a good introduction to the company. The annual report provides additional details.

- What makes Zara's product offering distinct to consumers?
- What is different in Zara's operations?
- Is there a connection between how Zara produces and how they sell (i.e., between their operations and their marketing)?
- For which countries outside of Europe is their business model most suitable for?
- Should their business model change as they consider additional international expansion?

### **Session 615.11 Revenue management and dynamic pricing**

*Reading:* Text, Chapter 16  
Uber materials

*Preparation:*

This session begins with an exploration of two revenue management practices, booking limits and overbooking, discussed in Chapter 16.

In the second part of the session we will discuss Uber's pricing model. Materials and preparation questions for the Uber case will be provided via Canvas (hopefully) a week before the session.

### **Session 615.12 Review**

We will review the course material to prepare for the exam.

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