

MGSC 873

Service Operations Management

Syllabus – Fall 2007

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Office hours: Tuesdays, 2:00pm-4:00pm
(or any other time – just email me to make an appointment)

Classroom: 364
Class Time: Tuesday/Thursday, 12:30pm-1:45pm

Course Description

Service organizations represent a significant portion of the global economy, accounting for more than 70% of total economic output and 60% of employment worldwide. However, the service sector has consistently lagged the manufacturing sector in terms of productivity growth. Considerable opportunities remain for service firms to better manage their operations.

This course focuses on the management of service operations, with considerable attention paid to cutting-edge quantitative techniques that can help services firms improve their operations. We will discuss approaches to key managerial decisions such as waiting line management, facility location, multiple site performance evaluation, and others.

Course Materials

Metters, R. et al., *Successful Service Operations Management*, 2e.

Hartvigsen, D., *SimQuick*, second edition. [one copy per team]

Case Packet: available at the University Bookstore

Grading Policy and Class Design

The course grade will be determined as follows:

Team case reports	54% (6 x 9%)
Team case presentation	6%
Final Project/Presentation	20%
Class participation	20%

Team grades for case reports will be adjusted using team peer evaluations – students who fail to pull their own weight in their teams will be penalized.

Class participation

Active participation is expected throughout the class, particularly during case discussions. Frequency (i.e. quantity) of class participation is **not** a key criterion for your grade. Rather, I will judge class participation on the extent to which you appear prepared, the relevance and depth of your comments, and the degree to which you listen carefully and respond to your peers.

Although attendance is required, I understand that scheduling conflicts might arise. Please let me know in advance (via e-mail) if you must miss a class – I'll be happy to meet with you individually to go over the material that you missed.

Written case reports

Before the beginning of the second class, please send me an e-mail with the members of your case analysis team (4 or 5 members per team). This will be your team for both the written reports and the final project. ***Please form teams carefully***, given that high quality analysis will require both strong analytical skills and strong communication skills. Teams are most effective when the skill sets of individual members are complementary.

Written case reports are due at the beginning of the sessions in which we will be discussing the case. ***The text for each report is limited to 3 pages, double spaced, plus any exhibits.*** These reports will be graded from the perspective of a senior executive or consulting client who has received this analysis from your team. As such, papers should be concise, coherent, and polished (see the note on professionalism below). Do not turn in anything that you would not be comfortable submitting in a professional setting. Be certain that your analysis and recommendations are complete and comprehensive:

- State your assumptions explicitly
 - State the criteria you used to come up with your recommendations
 - Carefully explain your analysis
 - Link your plan of action to the analysis
- Exhibits, if any, should be used to support the main text on key points. Exhibits should be clearly labeled and self-explanatory.

Case presentations

A distinguishing characteristic of many world-class managers is the ability to explain complex material in a clear and convincing way. Each team will have an opportunity to practice its presentation skills by presenting one of the case reports to the class. ***Please submit a hard copy of your slides, along with any supporting documentation, to me before the beginning of the class session in which your presentation will be made.*** These presentations, like the written reports, should be prepared as if the target audience is composed of senior executives in your own organization or a consulting client. Although all team members should contribute to the preparation of this presentation, everyone need not participate in the presentation itself. Presentation length should be approximately 20 minutes.

Final project and presentation

Each team will complete a final project involving the use of Geographic Information Systems (GIS) software to support a service location decision. Teams will use specially equipped laptop computers from the Management Science Department's Mobile GIS Lab. These computers are loaded with state-of-the-art GIS software and data from ESRI, the world's leading GIS software company. ESRI has generously donated the software and data for their Business Analyst package, which is widely used by leading corporations and has a retail price of more than \$10,000 per user. More details on the project will be provided when it is assigned on September 25. ***All final projects will be due at the start of class on December 4.*** In the last two class meetings, teams will give short presentations (15-18 minutes) describing their projects. Although the project grade is based primarily on the written report, project grades will be adjusted to reflect outstanding (or awful) presentations.

A note on professionalism: As professionals, you are all aware of the importance of strong communication skills. Letters, reports, and even short e-mail notes all indicate to others our ability to communicate. People develop opinions about our talents and work ethic based upon our written correspondence. Typographical errors, grammatical errors, misspelled words, and poor diction dramatically reduce the impact of our work no matter how excellent the content. Thus, the quality of your writing, as well as the content of your reports, plays a significant role in the grading process. A well-written case analysis uses impeccable grammar and spelling and is presented using a clear and clean physical layout. You should write in fully formed sentences and carefully proofread the document to ensure proper grammar and diction. Sloppy mistakes such as spelling and grammar errors would reflect very poorly on the authors in a professional setting, and therefore the grade penalty in these cases will be significant. Similarly, final presentations should be professional and polished, as would be expected by clients/senior executives (who are paying you well for your services!).

MGSC 873 Service Operations Management – Topic Overview:

Sessions	Topic
1-3	Managing Waiting Lines
4-6	Designing the Service Delivery System
7-10	Selecting the Location for a Service Operation
11	Six Sigma in Services
12-14	Selecting Customers
15-17	Service Site Performance Evaluation
18-20	Revenue Management
21-22	Airport Tour
23-27	Service Quality & Strategy
28-29	Final Project Presentations

MGSC 873 Service Operations Management – Detailed Course Outline:

PART I – Managing Waiting Lines

8/23/2007:

Session 1 – Course Overview and Waiting Lines Introduction

Class Topic	Required Preparation
Course Introduction and Waiting Lines Introduction	none

8/28/2007:

Session 2 – Quantitative Tool Introduction: Waiting Line Analysis

Class Topic	Required Preparation
Quantitative Methods for Analyzing Customer Waiting	none

8/30/2007:

Session 3 – Case discussion: Managing Waiting Lines in Call Centers

Class Topic	Required Preparation
Megacard case (case packet)	Case report is due at the beginning of class. Your analysis should address the four items below (at a minimum). <i>NOTE that these items differ from the questions in the case.</i> To assist with your analysis, you will find on Blackboard the file “MegaCardWorksheet” that has the queuing functions <i>WaitInSystem</i> and <i>WaitInQueue</i> programmed in (if you are asked by Excel, enable macros). The file also includes the data in Exhibit 1. One team will present their case analysis during the first portion of the class.

1. How many total travel counselor hours per day would be needed at each BTC in the central time zone (Dallas, K.C., and Indianapolis)?
2. How many total travel counselor hours per day would be needed if the three BTCs in the central time zone were combined? Using this analysis, is this consolidation a better approach? Justify your answer financially.
3. How much could be saved if calls in Indianapolis were handled in 4 minutes or 3 minutes (time each counselor spends with a customer)?

For question 4, assume that the three BTCs in the central time zone are consolidated and service times average 5 minutes. To answer this question, you may use a trial-and-error approach or Excel Solver.

4. Develop a shift plan if you are restricted to scheduling 8-hour shifts, but the shifts can be overlapping during the day. How many people will start working at 8:00, 8:30, 9:00, 9:30 and 10:00? What is the total labor cost (at \$15/hour)?

PART II – Service Delivery System Design

9/4/2007:

Session 4 – Overview: Service Delivery System Design

Class Topic	Required Preparation
Service Delivery Systems	None

9/6/2007:

Session 5 – Quantitative Tool Introduction: Simulation

Class Topic	Required Preparation
Simulation using SimQuick	Install SimQuick on your laptop (see Section 4 on pages 6-7 in the SimQuick booklet)

9/11/2007:

Session 6 – Case discussion: Delivery System Design for Airline Check-in

Class Topic	Required Preparation
Nash Vegas Air case (on Blackboard)	Case report is due at the beginning of class. Your analysis should answer the questions in the case. One team will present their case analysis during the first portion of the class.

PART III – Service Location

9/13/2007:

Session 7 – Overview: Site Selection Methods

Class Topic	Required Preparation
Site selection methods	none

9/18/2007:

Session 8 – Case discussion: Regression-based Site Selection for Hotels

Class Topic	Required Preparation
La Quinta case (Meters, Chapter 16)	Case report is due at the beginning of class. Your analysis should address the five items below (at a minimum). One team will present their case analysis during the first portion of the class.

1. Which of the three success measures is appropriate (use both intuitive and data driven arguments)?
2. Are the variables considered (Table 16.15) appropriate for the decision at hand? What other variables might you want to consider?
3. Determine appropriate predictors of operating margin. Comment on the variables both in and not in your predictive model.
4. How should your model be used in site selection?
5. Make recommendations concerning the Dallas expansion

9/20/2007 & 9/25/2007:

Sessions 9 & 10 – Global Information Systems for Site Selection

Class Topic	Required Preparation
Using GIS software to support service site selection: In these two classes you will learn about ESRI, the industry-leading GIS software. You will use the skills covered in these classes to complete the final course project.	None

9/27/2007 – meet in Lumpkin Auditorium (8th floor)
Session 11 – Guest Speaker, 6 Sigma in Services:
Ken Hamill, VP of Process Improvement and Customer Service Operations,
Resurgent Auto Finance

PART IV – Customer Selection

10/2/2007 & 10/4/2007:

Sessions 12 & 13 – Overview: Scoring Systems for Customer Selection

Class Topic	Required Preparation
Scoring Systems	none

10/9/2007:

Session 14 – Case discussion: Scoring Systems for Credit Applications

Class Topic	Required Preparation
MBA Savings & Loan case (Metters, Chapter 18)	Case report is due at the beginning of class. Your analysis should address questions 1 and 2 in the case. In addition, you should comment on how profitable the S&L would have been for the prior 500 applicants (whose data is provided) had your scorecard been in use. One team will present their case analysis during the first portion of the class.

PART V – Multiple Site Performance Evaluation

10/16/2007 & 10/18/2007:

Sessions 15 & 16 – Quantitative Tool Introduction: Data Envelopment Analysis (DEA)

Class Topic	Required Preparation
DEA	none

10/23/2007:

Session 17 – Case discussion: DEA Application to Bank Branches

Class Topic	Required Preparation
Nashville National Bank case (Metters, Chapter 17)	Case report is due at the beginning of class. Your analysis should address the items below (at a minimum). One team will present their case analysis during the first portion of the class.

1. What are the strengths and weaknesses of each of the available techniques for measuring bank branches in general?
2. Specifically, is DEA a good choice for NNB?
3. Construct a superior DEA model. Report the efficiencies for each branch.

PART VI – Revenue Management

10/25/2007 & 10/30/2007:

Sessions 18 & 19 – Overview: Revenue Management

Class Topic	Required Preparation
Revenue Management	none

11/1/2007:

Session 20 – Game: Revenue Management

Class Topic	Required Preparation
MotherLand Air Case (Metters, Chapter 12)	<i>Read the case and prepare as a group to play this in-class game</i>

11/6/2007 & 11/8/2007:

Sessions 21 and 22 will be **CANCELLED** – the airport tour on Friday, 11/9/2007, will count as two class meetings

11/9/2007
3:00pm – Columbia Metropolitan Airport site visit:
a behind-the-scenes look at airport operations
meet at the airport information desk (bring parking ticket for validation)

PART VII – Service Quality & Strategy

11/13/2007:

Session 23 – Overview: Service Quality

Class Topic	Required Preparation
Ensuring and Improving Service Quality	None

11/15/2007:

Session 24 – Case discussion: Quality in Airline Operations

Class Topic	Required Preparation
Southwest Airlines (case packet)	Read the case carefully and consider the key managerial issues. No written case report is due, but you should consider the questions below when reading the case. One team will present their case

	analysis during the first portion of the class.
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1. How does Southwest Airlines compete? What are its advantages relative to other airlines?
2. Evaluate the plane turnaround process in Baltimore. Why is turnaround so critical for Southwest? How are fast turnarounds achieved?
3. Why is operational performance at Baltimore eroding? What issues can you identify that require immediate action?
4. What would you recommend to Matt Hafner?

11/20/2007:

Session 25 – Video: 1-800-INDIA

Class Topic	Required Preparation
Watch this documentary of the impact of offshoring service operations to India. Additional readings on offshore services will be posted on Blackboard.	None

11/27/2007:

Session 26 – Case discussion: Quality in Retail Food/Beverage

Class Topic	Required Preparation
Starbucks (case packet)	Case report is due at the beginning of class. Your analysis should address the items below (at a minimum). One team will present their case analysis during the first portion of the class.

1. How does the Starbucks of today differ from the Starbucks of 1992?
2. How do Starbucks customers define service quality?
3. Describe the ideal Starbucks customer from a profitability standpoint. What would it take to ensure that this customer is highly satisfied?
4. How many customers per company-operated location would Starbucks need to convert from “satisfied” to “highly satisfied” in order to justify the \$40 million investment?
5. Provide a simple example to help management understand the impact of staffing levels on waiting times. For example, you could show how adding an extra barista during a busy time might be expected to change the average line length or waiting time.

11/29/2007

Session 27 – Guest Speaker, Investment Firm Strategy:

John Bachmann

Former Managing Partner, Edward Jones

Former Chairman, United States Chamber of Commerce

Required Preparation: Read the Edward Jones case (case packet) carefully and consider the tradeoffs and issues faced by the firm. Prepare questions for Mr. Bachmann.

12/4/2007 & 12/6/2007

Sessions 28 & 29 – FINAL GROUP PROJECT PRESENTATIONS!

Important Note: all written project reports are due by the start of class on 12/4/2007