

(19/01/07)

OM 337 & ME 397 TOTAL QUALITY MANAGEMENT

SPRING 2007

MW 3:30–4:45 PM UTC 1.146

Unique # 03865, 18340

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COURSE TOPICS:

This course focuses on the essence, principles, and practices of total quality management (TQM). Some of the ideas and topics that are covered are: process improvement; process orientation; service quality; customer satisfaction programs; quality function deployment; process control and capability; role of inspection; economics of quality; report cards; learning and organizational performance measures; and teachings of Deming, Juran, and Crosby.

LEARNING MATERIALS:

The Memory Jogger II by Brassard and Ritter (ISBN: 187936441)

A **readings packet** containing all the readings and cases is available from the University Co-op Custom Publishing. A **class companion packet** containing some materials we shall use in class is available from the GSB Copy Center (GSB 3.136). Please remember to bring the class companion packet to class starting with Session 6.

PERFORMANCE EVALUATION:

Class Participation	20%
Case Reports (5)	10%
ISO Report - Group Assignment (due <i>Monday, April 23</i>)	10%
Group Presentation (<i>March 5, 7</i>)	10%
Group Presentation (<i>April 30, May 2</i>)	10%
Exam 1 (<i>February 28</i>)	20%
Exam 2 (<i>April 25</i>)	<u>20%</u>
Total	100%

Case Reports: At the beginning of every class session in which a case report is due, you will turn in a written report, not to exceed 1 double-spaced page, which addresses the case discussion questions listed in the detailed schedule. The report should not have any attachments. **No late report will be accepted.** These reports will not be returned to you, so please keep a copy for yourself.

ISO Project: It can be argued that no single set of standards has had more impact on increasing the worldwide awareness of quality than the ISO series of standards. This project is an opportunity to learn about what ISO is (assessment, certification, and registration) and what it is not. Imagine that your help has been solicited by the CEO of an American company. The company embarked on an organization-wide TQM initiative about a year ago and is currently using the MBNQA criteria for self-assessment. Recently, the CEO attended a seminar where a consultant proclaimed the virtues of ISO. The CEO does not know anything about ISO. She also wants to understand how the MBNQA and the ISO series do or do not fit together. Prepare a written report, not to exceed 5 double-spaced pages excluding exhibits, to enable the CEO to form an informed opinion. This is a group assignment. The report is due in class on *Monday, April 23*.

Class Participation: This, the most important component of your course grade, is essentially a measure how actively you are engaged in class proceedings, and what you contribute to the learning of others.

Group Presentations:

Your group will make two oral presentations to the class of approximately 10-15 minutes duration on topics assigned to you. The presentations are scheduled for March 5, March 7, April 30, and May 2.

DETAILED SCHEDULE:

SESSION 1 (M, 1/22) Readings:	INTRODUCTION "Made in U.S.A.: A Renaissance in Quality"
SESSION 2 (W, 1/24) Readings:	WHAT IS QUALITY? "Competing on the Eight Dimensions of Quality" <u>Memory Jogger</u> - Radar Chart
SESSION 3 (M, 1/29) Case: Questions:	WHAT IS TQM? Paul Chesler, director, Quality Assurance 1. What are the causes of the quality problem on the Greasex line? 2. What should Paul Chesler do about the quality problem?
SESSION 4 (W, 1/31) PROCESS IMPROVEMENT Readings:	<u>Memory Jogger</u> - Brainstorming, Cause & Effect, Flowchart, Force Field, NGT (and Multivoting), Pareto Chart, Problem-Solving/Process-Improvement Model: Improvement Storyboard, Run Chart, Scatter Diagram, and Tree Diagram
Case: Questions:	Florida Power and Light Quality Improvement (QI) Story Exercise(A) 1. Consider the seven-step problem solving mechanism known as the quality-improvement story (QI story). How would you characterize its role at FPL? 2. Why use a storyboard? 3. What is the role of tools such as fishbone diagram, Pareto chart, and force field analysis?
SESSION 5 (M, 2/5) Readings: Case: Questions: Assignment:	PROCESS IMPROVEMENT (cont...) <u>Memory Jogger</u> - Team Guidelines Massachusetts General Hospital: CABG Surgery (A) 1. What are the reasons for using CABG as the starting point for care path creation at MGH? 2. For each stakeholder at MGH, identify why there may be resistance to the care Path. <i>Case Report</i>

SESSION 6 (W, 2/7)**SERVICE QUALITY**

Case:

Singapore Airlines (A)

Questions:

1. What are the two or three key elements of SIA's strategy?
2. SIA management states that cabin crews are a vital component of its service strategy. Evaluate the elements of SIA's work-force-management program (e.g., training program, performance measurement, feedback, and communication procedures).

Assignment: *Case Report***SESSION 7 (M, 2/12)****SERVICE QUALITY**

Readings:

"Improving Service Quality in America: Lessons Learned"

Case:

Singapore Airlines (A)

Questions:

1. How about SIA's system for measuring service quality? Do you recommend any changes?

SESSION 8 (W, 2/14)**CUSTOMER SATISFACTION**

Readings:

"The Power of Unconditional Service Guarantees"

Case:

Xerox Corporation: The Customer Satisfaction Program

Questions:

1. Should Xerox offer a guarantee? Give two reasons for and two reasons against.
2. If Xerox chooses to offer a guarantee, what kind of guarantee should it offer and why?

Assignment: *Case Report***SESSION 9 (M, 2/19)****GAP MODEL OF CUSTOMER SATISFACTION**

Readings:

Memory Jogger- Radar Chart**SESSION 10 (W, 2/21)****QUALITY FUNCTION DEPLOYMENT**

Readings:

"The House of Quality" by Hauser and Clausing
Memory Jogger - Affinity Diagram, Interrelationship Digraph,
 Matrix Diagram, Prioritization Matrices, Tree Diagram

SESSION 11 (M, 2/26)**QUALITY FUNCTION DEPLOYMENT (CONT...)****SESSION 12 (W, 2/28)****EXAM 1**

SESSION 13 (M, 3/5)	GROUP PRESENTATIONS
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SESSION 14 (W, 3/7)	GROUP PRESENTATIONS
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SESSION 15 (M, 3/19)	PROCESS CONTROL/CAPABILITY
Readings:	"Understanding Variation" <u>Memory Jogger</u> - Control Charts, Data Points, Process Capability
Case:	Quality Wireless (A)
Questions:	
	1. What fraction of the days in 2003-2004 failed to meet the targeted hold time of 110 seconds? Given that the daily average hold time was normally distributed with a mean of 99.67 and a standard deviation of 24.24, what fraction of days where the call center failed to meet the targeted hold time of 110 seconds would you expect?
	2. What fraction of the days in April 2005 failed to meet the targeted hold time of 110 seconds? Given that the daily average hold time after process improvements was normally distributed with a mean of 79.50 and a standard deviation of 16.86, what fraction of days where the call center failed to meet the targeted hold time of 110 seconds would you expect?
	3. Based on the performance in April 2005, do you think that the performance of the call center has improved?
Case:	Quality Wireless (B)
Questions:	
	1. What do you think of Jackson's management approach?
	2. If we assume that call center performance during the month of September is continuing at the improved level with a mean of 79.50 and a standard deviation of 16.86, what is the probability of observing ten days that average 86.6 or more? What is the probability of observing ten days that average 74.4 or less?
	3. What would you do if you were in Jackson's position?

SESSION 16 (W, 3/21)	PROCESS CONTROL/CAPABILITY
Readings:	"Six-sigma Quality Programs" <u>Memory Jogger</u> - Control Charts, Data Points, Process Capability

SESSION 17 (M, 3/26)	INSPECTION
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SESSION 18 (W, 3/28)	INSPECTION
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SESSION 19 (M, 4/2)**COST OF QUALITY**

Case:

Texas Instruments: Cost of Quality (A) and (B)

Questions:

1. Why did TI choose to adopt a financial measure of quality?
2. Why use COQ instead of direct measures of quality (DMOQ)?
3. Why did ISD's first attempt to implement a COQ system fail?

Assignment: *Case Report***SESSION 20 (W, 4/4)****ECONOMICS OF QUALITY**

Readings:

"Zero Defections: Quality Comes to Services"

SESSION 21 (M, 4/9)**REPORT CARDS**

Case:

Productivity and Performance Systems: A Comparative Analysis of Northern Telecom and United Parcel Service

Questions:

1. Productivity and performance systems reflect how management views the nature of work itself and why employees work. Articulate in a concise manner the relevant views of the UPS management and those of the NT management.
2. "If you do it our way, you'll be less tired at the end of the day," says a UPS spokesman. Is the spokesman right? If yes, where does process knowledge reside at UPS?
3. Where does process knowledge reside at NT?

SESSION 22 (W, 4/11)**ORGANIZATIONAL PERFORMANCE MEASURES**

Readings:

"Using the Balanced Scorecard as a Strategic Management System"

Case:

Analog Devices: The Half-Life System

Questions:

1. How is Schneiderman's half-life effect different from the well-known experience/learning curve effect?
2. What is the role of the half-life method at Analog?

Assignment: *Case Report***SESSION 23 (M, 4/16)****LEARNING**

Readings:

"Building a Learning Organization"

Questions:

1. What five activities, according to Garvin, must a learning organization be skilled at?
2. What slows down learning? What speeds up learning?
3. How can we reconcile 'Drive out Fear' with 'Only the Paranoid Survive'?

SESSION 24 (W, 4/18)**HEALTH AND SAFETY**

Case:

Workplace Safety at Alcoa (A)

Questions:

1. What has been and needs to be the half-life of Mission Valley's safety improvement?
2. As Paul O'Neil, how do you describe what has and has not worked at Mission Valley?
3. What is your evaluation of Linda Merton's plan for 1992?

SESSION 25 (M, 4/23)	COURSE REVIEW
Assignment:	ISO Report

SESSION 26 (W, 4/25)	EXAM 2
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SESSION 27 (M, 4/30)	GROUP PRESENTATIONS
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SESSION 28 (W, 5/2)	GROUP PRESENTATIONS
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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.

Class Web Sites and 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 e-mail, 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, Room 1. For information on restricting directory information see: <http://www.utexas.edu/student/registrar/catalogs/gi02-03/app/appc09.html>.

Students With Disabilities

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<u>Session</u>	<u>Day</u>	<u>Date</u>	<u>Topic</u>	<u>Case</u>	<u>Assignment</u>
1	M	(1/22)	Introduction		
2	W	(1/24)	What is Quality?		
3	M	(1/29)	What is TQM?	Paul Chesler	
4	W	(1/31)	Process Improvement	Florida Power Light	
5	M	(2/5)	Process Improvement	Mass Gen Hosp	Case Report
6	W	(2/7)	Service Quality	Sing Airlines (A)	Case Report
7	M	(2/12)	Service Quality	Sing Airlines (A)	
8	W	(2/14)	Customer Satisfaction	Xerox	Case Report
9	M	(2/19)	Gap Model of Customer Satisfaction		
10	W	(2/21)	Quality Function Deployment		
11	M	(2/26)	Quality Function Deployment		
12	W	(2/28)	Exam 1 (Sessions 1-11)		
13	M	(3/5)	Group Presentations		
14	W	(3/7)	Group Presentations		
Spring Break					
15	M	(3/19)	Process Control/Capability	Qual Wire (A) & (B)	
16	W	(3/21)	Process Control/Capability		
17	M	(3/26)	Inspection		
18	W	(3/28)	Inspection		
19	M	(4/2)	Cost of Quality	Tex Instr (A) & (B)	Case Report
20	W	(4/4)	Economics of Quality		
21	M	(4/9)	Report Cards	North Telec & UPS	
22	W	(4/11)	Organizational Performance Measures	Analog Devices	Case Report
23	M	(4/16)	Learning		
24	W	(4/18)	Health and Safety	Alcoa (A)	
25	M	(4/23)	Course Review		ISO Report
26	W	(4/25)	Exam 2 (Sessions 13-25)		
27	M	(4/30)	Group Presentations		
28	W	(5/2)	Group Presentations		