Service Science
MGMT 150 / COGS 152
University of California Merced
Fall 2008

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Lecture Monday, 4:30 – 7:15 PM
Room Kollig 209

Office hrs By appointment

URL http://faculty.ucmerced.edu/pmaglio/mgmt150.html

Grades

Four short papers	10 points each
Four quizzes	5 points each
Final paper	40 points

Assignments

Sept 15	One-page paper due: Describe a specific *service* you use, explaining how it relates to Teboul's or Fitzsimmons's definition of service
Oct 6	One-page paper due: Describe how *technology* has changed your interaction with three services in the last several years. Are you more or less satisfied with the new service models? Why?
Oct 20	One-page paper due: Propose a possible topic of your final paper. Your final paper must *pose a question about service or a question for service science* more broadly, and then provide a thoughtful, well-reasoned discussion of the issues related to it. This one-page proposal should briefly describe the question your final paper will address.
Nov 3	One-page paper due: Pick two different types of service organizations in different industries that you frequent often, for example, Bank America (banking) and TGI Friday's (eating out)---but don't pick these examples! For each type of service, identify the various factors that you think affect your overall satisfaction with the *quality* that service provides you.
Dec 8	Final paper due: Maximum length, 10 pages

Ground Rules and Other Useful Information

Being in Class

When you're in class, be in class. If you have a laptop, use it to take notes or look things up that are related to the class or to the discussion, but please don't use it for any non-class activities. It's simple: Pay attention, ask questions, participate.

Papers

All papers must be double-spaced with one-inch margins on all sides, and formatted in a legible font (such as Times Roman) with font-size 12. Papers must have a title, and your name must be at the top of all pages. For papers with more than one page, all pages must be numbered and stapled together. All papers must be clearly written (see Strunk and White's classic, *Elements of Style*), and must be proofread so they contain minimal typos and disfluenciues.

Short Papers: Maximum length, 1-page

Each of four short, one-page papers is worth 10 points. Details are above.

Quizzes

Pop quizzes will be given during four different class periods. Each will consist of several multiple-choice and short-answer questions based on required readings and class lectures. Each will also contain extra credit questions based on optional readings.

Final Paper: Maximum length, 10-pages

The final paper must (1) pose a question about service or a question for service science more broadly, and (2) provide a thoughtful, well-reasoned discussion of the issues related to it. All papers must include references to at least five published articles, chapters, or books that are **not** on the reading list. You can use web sources such as wikipedia, but not only web sources. References must be formatted in a standard style, either following *The Chicago Manual of Style*, the *Publication Manual of the American Psychological Association,* or some other standard.

Turning in Work; Late or Missing Work

Papers must be turned in during class, hardcopy only. If you have a problem with this, contact me. Short papers can be turned in late, but points will be deducted. The best any late paper can do is half credit. *The final paper cannot be turned in late*. If you have a problem with this, contact me. Quizzes will be given in class. There will be no make up quizzes. If you have a problem with this, contact me.

Cheating and Academic Honesty

Don't cheat. Like all universities, UC Merced has a formal policy on this: http://studentlife.ucmerced.edu/2.asp?uc=1&lvl2=121&lvl3=121&lvl4=123&contentid=171.

Office Hours and Contact

I have no scheduled office hours. But I expect to be on campus most Mondays, so if you'd like talk, contact me to set up a time, preferably by email to *pmaglio at ucmerced.edu*. And please feel free to contact me with any type of issue or question you have about the class. If you send email, please put MGMT 150 or COGS 152 in the subject line or else I may miss it.

What will you learn in this course?

The US economy – and economies of all industrialized nations – are made primarily of service jobs (about 80% of jobs in the US are service jobs), and the gross domestic product comes primarily from service (more than 70% in the US). Experts suggest that these numbers will only increase over time. So chances are that when you get out of school, you are going to be working in a service job or in the service sector.

In this course, you will learn about service. You will learn what service is, why it is different from other sectors and other jobs, and why it is important. You will learn about problems in service, such as measuring performance, increasing quality, and creating innovation. You will learn how some have recently begun to study service from a variety of different perspectives – including social sciences, cognitive science, management, engineering, and others – to address these problems. You will learn how interdisciplinary research might be effective in studying and understanding service. In the end, you will be able to have an informed and intelligent conversation about the nature of service, how to think about measurement in service, and how to increase innovation in service. And you will be (at least a little more) ready for the workforce you are about to enter.

So what is service science, anyway?

Service science is the study of service, which can be broadly defined as actions that one takes on behalf of another (such as washing a car or managing web servers). But there really is no such thing as service science today – there is no single accepted, integrated, interdisciplinary scientific study of the service economy or of service jobs. Service science is more like a movement whose goal is to focus attention on service-related problems. In service science, the basic unit of analysis is the *service system*, a configuration of people, technologies, and other resources that interact with other service systems to create mutual value. Many systems can be viewed as service systems, including families, cities, and companies, among many others. Just as computer scientists work with formal models of algorithms and computation, someday service scientists will work with formal models of service systems.

More precisely, *service* is the application of resources (including competences, skills, and knowledge) to make changes that have value for another entity. For instance, in information technology (IT) outsourcing services, a service provider operates the computing infrastructure for a service client. The provider augments the client's capabilities, taking on responsibility for monthly service-level agreements and year-over-year productivity improvements. The formal representation and modeling of service systems is nascent, largely because of the complexity of modeling people, their knowledge, activities, and intentions. Service system complexity is a function of the number and variety of people, technologies, and organizations linked in the value creation networks, such as professional reputation systems of a single kind of knowledge worker or profession, work systems composed of multiple types of knowledge workers, enterprise systems, industrial systems, national systems, and even the global service system. Knowledge workers depend on their knowledge, tools, and social-organizational networks to solve problems, be productive, continually develop, and generate and capture value. Service science must combine formal models with models of human behavior to understand service systems.

Readings

Books

Teboul, J. (2006). *Service is front stage: Positioning services for value advantage*. Insead Business Press/Palgrave Macmillan. (Available at the UC Merced Bookstore)

Fitzsimmons, J. A., & Fitzsimmons, M. J. (2008). *Service management: Operations, strategy, and information technology* (6th ed.). New York: Irwin/McGraw-Hill. Chapters 1-10, and 13. (Available at http://www.ebooks.primisonline.com under "Custom eBooks" → "USA" → "California" → University of California, Merced" → "Service Science" for $45.09.)

Articles (Available through UCMCROPS)

Basole, R. C. & Rouse, W. B. (2008). Complexity of service value networks: Conceptualization and empirical investigation. *IBM Systems Journal, 47*, 53 – 70. Available at http://www.research.ibm.com/journal/sj/471/basole.pdf

Blomberg, J. (2008). Negotiating meaning of shared information in service system encounters. *European Management Journal, 26*, 213 – 222.

Chase, R. B. (1978). Where does the customer fit in a service operation? *Harvard Business Review, 56*, 137 – 142.

Clark, H. H. & Brennan, S. E. (1991). Grounding in communication. In L. B. Resnick, J. M. Levine & S. D. Teasley (Eds.), *Perspectives on Socially Shared Cognition.* APA Press.

Drucker, P. (1994). The age of social transformation. *Atlantic Monthly; 274*, 53 – 80.

Frei, F. X. (2006). Breaking the trade-off between efficiency and service. *Harvard Business Review, 84*, 93 – 101.

Glushko, B. & Tabas, L. (2008). Bridging the front stage and back stage in service system design. *Proceedings of the 41st Hawaii International International Conference on Systems Science (HICSS-41 2008).* Available at http://csdl2.computer.org/comp/proceedings/hicss/2008/3075/00/30750106.pdf .

Herzenberg, S., Alic, J. & Wial, H. (1999). A new deal for a new economy. *Challenge, 42*, 102 – 129.

Heskett, J. L., Jones, T. O., Loveman, G. O., Sasser, W. E., Schlesinger, L. A. (1994). Putting the service profit chain to work. *Harvard Business Review, 72,* 164 – 174.

Hutchins, E. (1995). How a cockpit remembers its speeds. *Cognitive Science, 19*, 265 – 288. Available at http://hci.ucsd.edu/lab/hci_papers/EH1995-3.pdf

Johnson, B. C., Manyika, J. M., & Yee, L. A. (2005). The next revolution in interactions. *The McKinsey Quarterly, 2005/4*, 20 – 33.

Lovelock, C. & Gummesson, E. (2004). Whither services marketing? In search of a new paradigm and fresh perspectives. *Journal of Service Research, 7*, 20 – 41.

Maglio, P. P., Kandogan, E., & Haber, E. (2008). Distributed cognition and joint activity in computer-system administration. In M. S. Ackerman, C. Halverson, T. Erickson, & W. A. Kellogg (Eds.), *Resources, co-evolution, and artifacts: Theory in CSCW*. New York: Springer.

Maglio, P. P., Srinivasan, S., Kreulen, J. T., Spohrer, J. (2006). Service systems, service scientists, SSME, and innovation. *Communications of the ACM, 49*, 81–85.

Normann, R. & Ramirez, R. (1993). From value chain to value constellation: Designing interactive strategy. *Harvard Business Review, 71*, 65 – 77.

Oliva, R. & Sterman, J. D. (2001). Cutting corners and working overtime: Quality erosion in the service industry. *Management Science, 47*, 894 – 914.

Palmisano, S. J. (2006). The globally integrated enterprise. *Foreign Affairs, 85*, 127 – 136. Available at http://www.ibm.com/ibm/governmentalprograms/samforeignaffairs.pdf

Quinn, J. B., Doorley, T. L., & Paquette, P. C. (1990). Beyond products: Services-based strategy. *Harvard Business Review, 68,* 58 – 67.

Sampson, S. & Froehle, C. M. (2006). Foundations and implications of a proposed unified services theory. *Production and Operations Management, 15*, 329 – 343.

Schultze, U. & Bhappu, A. D. (2005). Incorporating self-serve technology into co-production design. *International Journal of E-Collaboration, 1*, 1 – 23.

Spohrer, J. & Maglio, P. P. (2008). The emergence of service science: Toward systematic service innovations to accelerate co-creation of value. *Production and Operations Management, 17*, 1-9.

Spohrer, J., Maglio, P. P., Bailey, J. & Gruhl, D. (2007). Steps toward a science of service systems. *Computer, 40*, 71-77.

Vargo, S. L. & Lusch, R. F. (2004). Evolving to a new dominant logic for marketing. *Journal of Marketing, 68*, 1 – 17.

Optional Readings (Available through UCMCROPS)

Allmendinger, G. & Lombreglia, R. (2005). Four strategies in the age of smart services. *Harvard Business Review, 83*, 131 – 145.

Alter, S. (2008). Service system fundamentals: Work system, value chain, and life cycle. *IBM Systems Journal, 47*, 71 – 85. Available at http://www.research.ibm.com/journal/sj/471/alter.pdf

Aral, S., Brynjolfsson, E. & Van Alstyne, M. W. (2006). Information, technology and information worker productivity. Paper presented at the *International Conference on Information Systems (ICIS 2006)*, Milwaukee, WI. Available at http://ssrn.com/abstract=942310

Arthur, W. B. (1999). Complexity and the economy. *Science, 284*, 107 – 109. Available at http://www.santafe.edu/~wbarthur/Papers/Pdf_files/Econ_&_Complex_Web.pdf

Bitner, M. J., Ostrom, A. & Morgan, F. (2008). Service blueprinting: A practical technique for service innovation. *California Management Review, 50*, 66 – 94.

Bitner, M. J., Ostrom, A. L., & Meuter, M. L. (2002). Implementing successful self-service technologies. *Academy of Marketing Executive, 16*, 96 – 109.

Brown, S., Ostrom, A., Bettencourt, L., & Roundtree, R. (2002). Client co-production in knowledge-intensive business services. *California Management Review, 44*, 100 – 128.

Carley, K. M. (2002). Computational organization science: A new frontier. *Proceedings of the National Academy of Sciences, 99*, 7257 – 7262.

Cherbakov, L. Galambos, G, Harishankar, R., Kalyana, S. & Rackham, G. (2005). Impact of service orientation at the business level. *IBM Systems Journal, 44*, 653 – 658. Available at http://www.research.ibm.com/journal/sj/444/cherbakov.pdf

Coase, R. (1937). The nature of the firm. *Economica, 4*, 386 – 405. Available at http://www.cerna.ensmp.fr/Enseignement/CoursEcoIndus/SupportsdeCours/COASE.pdf

Dietrich, B. & Harrison, T. (2006). Serving the services. *OR/MS Today.* Available at . http://www.lionhrtpub.com/orms/orms-6-06/frservice.html

Gadrey, J. (2002). The misuse of productivity concepts in services: Lessons from a comparison between France and the United States. In J. Gadrey & F. Gallouj

(Eds). *Productivity, Innovation, and Knowledge in Services: New Economic and Socio-economic Approaches.* Cheltenham UK: Edward Elgar, pp. 26 – 53.

Hill, T. P. (1977). On goods and services. *The Review of Income and Wealth, 23*, 315 – 338.

Hill, P. (1999). Tangibles, intangibles and services: A new taxonomy for the classification of output. *Canadian Journal of Economics, 32*, 426 – 446. Available at http://www.csls.ca/journals/sisspp/v32n2_09.pdf

Karmarkar, U. (2004). Will you survive the services revolution? *Harvard Business Review, 82,* 100 – 107.

Klein, G., Feltovich, P. J., Bradshaw, J. M., & Woods, D. D. (2005). Common ground and coordination in joint activity. In W.R. Rouse and K.B. Boff, (Eds.), *Organizational Simulation*. John Wiley & Sons. Available at http://csel.eng.ohio-state.edu/woods/distributed/CG%20final.pdf

Lovelock, C. (1983). Classifying services to gain strategic market insights. *Journal of Marketing, 43*, 10 – 20.

Mann, C. (2003). Globalization of IT services and white collar jobs: the next wave of productivity growth. *International Economics Policy Briefs, IIE, No PB03-11*. Available at http://www.iie.com/publications/pb/pb03-11.pdf

Miles, I. (2008). Patterns of innovation in service industries. *IBM Systems Journal, 47*, 115 – 128. Available at http://www.research.ibm.com/journal/sj/471/miles.html

Mills, P. K. & Moberg, D. J. (1982). Perspectives on the technology of service operations. *Academy of Management Review, 7*, 467 – 478.

Shapiro, B. P., Rangan, V. K., & Sviokla, J. J. (1992). Staple yourself to an order. *Harvard Business Review*, *70,* 162 - 171.

Smith, A. (1776). *The wealth of nations*. (Chapter 1). Available at http://www.econlib.org/LIBRARY/Smith/smWN.html

Vargo, S. L. & Morgan, F. W. (2005). Services in society and academic thought: An historical analysis. *Journal of Macromarketing, 25*, 42-53

Voss, C. & Zomerdijk, L. (2007). Innovation in experiential services: An empirical view. In *Innovation in Services*, DTI Occasional Paper No. 9, pp 97-113. Available at http://www.dti.gov.uk/files/file39965.pdf

Syllabus

Sept 8 Lecture 1: Service Science
Reading: Fitzsimmons & Fitzsimmons (2008), Chapters 1 – 2
Teboul (2006), Chapter 1
Optional: T. P. Hill (1977), P. Hill (1999)

Sept 15 Lecture 2: Service Systems
Reading: Chase (1978)
Spohrer et al (2007)
Teboul (2006), Chapters 2 – 3
Optional: Alter (2008)
First Assignment Due

Sept 22 Lecture 3: Service Markets
Reading: Fitzsimmons & Fitzsimmons (2008), Chapter 3
Lovelock & Gummeson (2004)
Teboul (2006), Chapter 5
Vargo & Lusch (2004)
Optional: Lovelock (1983)

Sept 29 Lecture 4: Service Design
Reading: Fitzsimmons & Fitzsimmons (2008), Chapter 4
Glushko & Tabas (2008)
Sampson & Froehle (2006)
Teboul (2006), Chapter 4
Optional: Bitner et al (2008)

Oct 6 Lecture 5: Service Quality
Guest: **Mark Davis, Bentley College**
Reading: Fitzsimmons & Fitzsimmons (2008), Chapters 5 – 7
Quinn et al (1990)
Teboul (2006), Chapters 6 – 7
Optional: Bitner et al (2002), Mills & Moberg (1982)

Oct 13 Lecture 6: Service Work I
Guest: **Marietta Baba, Michigan State University**
Reading: Blomberg (2008)
Fitzsimmons & Fitzsimmons (2008), Chapters 8 –10
Optional: Brown et al (2002)
Second Assignment Due

Oct 20 Lecture 7: Service Supply Chain
Guest: **Jim Freeman, IBM Global Services**
Reading: Fitzsimmons & Fitzsimmons (2008), Chapter 13
Teboul (2006), Chapter 8
Optional: Dietrich & Harrison (2006), Shapiro et al (1992)

Oct 27 Lecture 8: Service Work II
Reading: Clark & Brennan (1991)
Hutchins (1995)
Maglio, Kandogan, & Haber (2007)
Optional: Klein et al (2005)

Nov 3 Lecture 9: Service Productivity
Reading: Frei (2006),
Johnson et al (2005)
Schultze & Bhappu (2005)
Teboul (2006), Chapter 9 – 10
Optional: Aral et al (2005), Gadrey (2002)

Nov 10 Lecture 10: Service Economy
Reading: Drucker (1994)
Herzenberg et al (1999)
Optional: Coase (1937), Smith (1776)
Vargo & Morgan (2005)
Third Assignment Due

Nov 17 Lecture 11: Service Modeling
Guest: **Jim Spohrer, IBM Research**
Reading: Basole & Rouse (2008)
Oliva & Sterman (2001)
Optional: Arthur (1999), Cherbakov et al (2005), Carley (2002)

Nov 24 *No Lecture (Thanksgiving Week)*

Dec 1 Lecture 12: Service Value-Creation
Guest: **Paul Hofmann, SAP Research**
Reading: Heskett et al (1994)
Norman & Ramirez (1993)
Palmisano (2006)
Optional: Allmendinger & Lombreglia (2005)
Karmarkar (2004), Mann (2003)

Dec 8 Lecture 13: Service Innovation
Reading: Maglio et al (2006)
Spohrer & Maglio (2008)
Optional: Miles (2008), Voss & Zomerdijk (2007)
Final Paper Due