

MASSACHUSETTS INSTITUTE OF TECHNOLOGY  
Sloan School of Management  
SPRING 2011 – PROFESSOR STUART MADNICK

## 15.565J / ESD565J: Evolution towards Web 3.0 and the Emergence of Management 3.0

(Tues & Thurs, 2:30-4, Room E62-250)



### Course Description

The course starts by describing **Web 2.0** that emphasize interactivity by online collaboration and sharing among users, such as social networking sites, wikis, and communication tools. It then introduces **Web 2.x**, transitional technologies that make the web more proactive, such as cloud computing and web services.

It then presents the emerging **Web 3.0**, providing high proactivity, including transforming the Web into a database and the leveraging of artificial intelligence technologies, such as the Semantic web.

In addition to describing the range of new Web technologies, this course also focuses on the new applications made possible, and the business opportunities and challenges provided by the emergence of **Management 3.0**.

Discussions of basic principles, cases, industry and academic speakers, and a team project complete the student experience. Although some materials will be presented by the instructor, significant input, views, and experiences from students are expected to enrich the discussion and guide the direction of the course.

For more information, contact Prof. Madnick (E53-321, smadnick@mit.edu, 253-6671).

**DRAFT**

**SYLLABUS-AT-A-GLANCE**

Assignment due

**INTRODUCTION**

1	1-Feb	T	Introduction and Overview	
			<b><u>WEB 2.0</u></b>	
			<b><u>WEB 2.0 EXAMPLES</u></b>	
2	3-Feb	Th	Web 2.0 & User generated content	
3	8-Feb	T	Early Mashups	
4	10-Feb	Th	Social networks	
5	15-Feb	T	Collective Intelligence. <b><u>Guest Speaker: Tom Malone</u></b> (Director, MIT Center for Collective Intelligence)	<i>HW2(a): Job Mashup recommendation</i>
6	17-Feb	Th	Two-sided platforms/markets. <b><u>Guest speaker: Erik Brynjolfsson</u></b> (Director, MIT Center for Digital Business)	<i>HW3: 3D Web - debate pro &amp; con</i>
	22-Feb	T	<i>President's Day Holiday (Monday schedule on Tuesday)</i>	
			<b><u>WEB 2.0 TECHNOLOGIES</u></b>	
7	24-Feb	Th	3D Web / 2 <sup>nd</sup> Life ( <i>include Student Debate segment</i> )	<i>TP member list</i>
8	1-Mar	T	Mobile / Geo / Location-based Web. <b><u>Guest speaker: Sandy Pentland</u></b> (Director, MIT Human Dynamics Lab and MIT Media Lab Entrepreneurship Program)	
			<b><u>WEB 2.0 IMPACT</u></b>	
9	3-Mar	Th	Open Innovation	
10	8-Mar	T	General impacts & success stories. <b><u>Guest speaker: Stephen Kaufer</u></b> , (CEO TripAdvisor)	<i>TP proposal</i>
11	10-Mar	Th	Broad Impact on Business and Society. <b><u>Guest speaker: Lee Selwyn</u></b> (President, Economics and Technology, Inc.)	<i>HW4- I (a) Identify Reference</i>
			<i>Sloan Innovation Period Week and MIT Spring Vacation Week</i>	
			<b><u>WEB 2.x</u></b>	
12	29-Mar	T	Introduction to Web 2.x technologies	<i>TP proposal - Peer reviews</i>
			<b><u>WEB 2.x TECHNOLOGIES</u></b>	
13	31-Mar	Th	Web Services	
14	5-Apr	T	Cloud Computing.	<i>HW4- I (b) Comment on References</i>
			<b><u>WEB 2.x EXAMPLES</u></b>	
15	7-Apr	Th	Component Examples, OpenAPIs, and Advanced Mashups	<i>HW2(b): Job Mashup – Data Extraction</i>
16	12-Apr	T	Collaboration Examples. <b><u>Guest speaker: Daniel Debow</u></b> (Co-CEO, Ryppe)	
			<b><u>WEB 3.0</u></b>	
17	14-Apr	Th	Introduction to Web 3.0 & Semantic web concept	<i>HW2(c): Job Mashup – Data Integration</i>
	19-Apr	T	<i>Patriots Day Holiday</i>	
			<b><u>WEB 3.0 TECHNOLOGIES</u></b>	
18	21-Apr	Th	Semantic Web. <b><u>Guest speaker: Tim Berners-Lee</u></b> (MIT and Director, World Wide Web Consortium – W3C) [ <i>Tentative</i> ]	<i>HW4-II (a) Identify Reference</i>
19	26-Apr	T	Semantic Representation: Ontology Languages	<i>HW5 – Debate materials</i>
20	28-Apr	Th	Semantic Reasoning	<i>HW4-II(b) Comment</i>
			<b><u>WEB 3.0 APPLICATIONS &amp; IMPACTS ON MANAGEMENT</u></b>	
21	3-May	T	Web 2.0, 2.x. 3.0 -- Debates by Students	<i>TP Project Reports</i>
22	5-May	Th	Web 3.0 Applications & Principles of Management 3.0	
			<b><u>STUDENT PRESENTATIONS</u></b>	
23	10-May	T	Student Presentations	<i>TP Presentations</i>
24	12-May	Th	Student Presentations	

*HW1 due dates: Questions for a Guest Speakers - due 4 days before guest speaker presentation.*

## Useful Information

### STAFF

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### WEB SITE

15.565J / ESD.565J web site is accessed via Stellar

If you do not have access to Stellar, let the TA know.

### READINGS

The sources for the Readings are primarily Internet Downloads:

The readings that we had included in the Course Packet in the past (and that you had to pay for) are now available for free on the Internet. That also gives you the choice of printing them out or reading them online.

Some of the Internet Downloads are available free because of MIT's subscription to certain services. In that case, you must access them through a computer on the mit.edu network or use the special procedures (see <http://libraries.mit.edu/vera> ) available through the MIT Library Services (requiring MIT certificates).

You will be held responsible for reading the assigned materials and being prepared for class discussion. Optional or suggested readings may also be identified for various topics to allow further study for those interested in more depth.

### ASSIGNMENTS AND EXAMS

#### Assignments:

- There are 3 kinds of assignments in this class: (1) assigned readings, (2) written homework assignments, including case write-ups and a computer exercise, and (3) a term project.
- Each assignment is due before (or in) class on the date indicated on the syllabus. In most case, you must submit your assignment through Stellar. These due dates are firm. If you anticipate a problem, see the instructor beforehand!
- Since partial credit is given, it is much better for you to turn in a partially complete assignment than to turn in nothing at all. Points will be subtracted for late homework. These assignments are important because: (1) they help to reinforce the concepts presented in class, (2) they prepare you for the examinations, and (3) they constitute a significant portion of your final grade.

## GRADES POLICY

Grades will be assigned based on the following guidelines (*subject to change*):

- Class participation: 10%
- Homework: 55%
  1. Questions for guest speaker 5%
  2. Job Mashup computer exercise (multiple parts) 20%
  3. 1<sup>st</sup> debate materials (3D web) 6%
  4. Identify relevant references (2 parts) 14%
  5. 2<sup>nd</sup> debate materials 10%
- Term Project: 35%

### Professional Conduct and Academic Integrity:

- Students are expected to be knowledgeable about and observe Sloan's Professional Conduct standards. A copy of "Values@MITSloan: Values in Practice in the Classroom" is attached. If you have any questions about these policies, please contact the instructor or the TA.
- All assignments, except if indicated otherwise, are to be done individually, as explained in the memo, "Sloan School Policy on Individual Work."
- However, the Term Project and Job Mashup computer exercise, except for part (a), are intended to be team efforts. In those cases, all members of the team are expected to contribute equally.

# Description of Sessions and Reading List

(as of 12/03/2010 – subject to change)

To save both most printing and copyright charges, we have provided the URLs for most of the readings. They can be accessed for free while on the MIT network (it is recommended that you access and either print or save to disk while at MIT). Sometimes merely clicking on the URLs will get you the article, sometimes you may need to “cut & paste” URL into your browser. Most can be also accessed at home, using the MIT private virtual network and/or instructions that can be found at <http://libraries.mit.edu/vera>

## **INTRODUCTION**

### **1 Introduction and Overview**

Introduction to the course. Class will discuss the characteristics and distinctions between Web 1.0, 2.0, 2.x, and 3.0 and current trends.

*No readings for this session.*

## **WEB 2.0**

### **WEB 2.0 EXAMPLES**

### **2 Web 2.0 & User generated content**

Discussion of the definition of “Web 2.0” and the transition of the Web from users who only are consumers of content to users as generators of content, known as User Generated Content (UGC)? Discussion of successful consumer and business applications.

- a) Tim O’Reilly, “What is Web 2.0: Design Patterns and Business Models for the Next Generation of Software,” Communications & Strategies, No. 1, 2007, pp. 17-37.

*Tim O’Reilly is generally credited with coining the term “Web 2.0” This paper was his first initiative to define “Web 2.0” and understand its implications. He defined the core competencies of Web 2.0 companies to be: (1) services, not packaged software, with cost-effective scalability, (2) control over unique, hard-to-recreate data sources that get richer as more people use them, (3) trusting users as co-developers, (4) harnessing collective intelligence, (5) leveraging the long tail through customer self-service, (6) software above the level of a single device, (7) lightweight user interfaces, development models, and business models.*

[ [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1008839](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1008839) ]

### **3 Early Mashups and Web Aggregators**

Mashups have recently become the basis of many new business models and online services.

- a) “Mashup (web application hybrid),” Wikipedia, (last modified on 30 November 2008, at 03:58), 6 pages (in print format).

*In web development, a mashup is a web application that combines data from more than one source into a single integrated tool. The term Mashup implies easy, fast integration, frequently done by access to open API's and data sources to produce results data owners had no idea could be produced. An example is the use of cartographic data from Google Maps to add location information to real-estate data, thereby creating a new and distinct web service that was not originally provided by either source.*

[ [http://en.wikipedia.org/wiki/Mashup\\_\(web\\_application\\_hybrid\)](http://en.wikipedia.org/wiki/Mashup_(web_application_hybrid)) ]

- b) Stuart Madnick and Michael Siegel, “Seize the Opportunity: Exploiting Web Aggregation”, MISQ Executive, Vol 1, Issue 1, March 2002, pp. 35-46.

*This paper examines the development of aggregators, entities that collect information from a wide range of sources, with or without prior arrangements, and add value*

*through post-aggregation services. Two key types of aggregators are comparison and relationship aggregators. It also suggests different business models as possible aggregator entry points into an industry and describes their impact on the value chain.*

[ <http://web.mit.edu/smadnick/www/wp/2001-13.pdf> ]

- c) (Optional) Hongwei Zhu and Stuart Madnick, “One Size does not Fit All: Legal Protection for Non-Copyrightable Data”, Communications of the ACM, to be published, expected 2009.

*This paper discusses the legal issues related to data re-use, including the European Union’s Database Directive.*

[ <http://web.mit.edu/smadnick/www/wp/2007-04.pdf> ]

#### 4 Social networks

Many social network services, such as Facebook, MySpace and LinkedIn, have emerged. Class will discuss social networking theory in the fields of information dissemination, marketing and productivity, and how business can harness emerging social web technologies to their advantage.

- a) Josh Bernoff, Charlene Li, “Harnessing the Power of the Oh-So-Social Web,” Sloan Management Review, Spring 2008, Vol. 49, Issue 3, pp. 36-42.

*People are connecting with one another in increasing numbers, thanks to blogs, social networking sites like MySpace and countless communities across the Web. Some companies are learning to turn this growing groundswell to their advantage.*

[Go to <http://libraries.mit.edu/vera> Select Exact Search for “Sloan Management Review” and choose “Continued by MIT Sloan management review”, then choose “Full text - ProQuest ABI/INFORM Global,” then select “Spring 2008” and go to article #5]

- b) Danah m. Boyd, Nicole B. Ellison, “Social Network Sites: Definition, History, and Scholarship”, Journal of Computer-Mediated Communication, Volume 13, Issue 1, 17 Dec 2007, pp. 210-230.

*Social network sites (SNSs) are increasingly attracting the attention of academic and industry researchers intrigued by their affordances and reach. This paper describes features of SNSs and propose a comprehensive definition. It then present one perspective on the history of such sites, discussing key changes and developments. After briefly summarizing existing scholarship concerning SNSs, it discusses other relevant articles and concludes with considerations for future research.*

[Go to <http://libraries.mit.edu/vera> Select Exact Search for “Journal of Computer-Mediated Communication” and choose “Full text - Synergy Blackwell” then select “2007”, then select “Volume 13 Issue 1 - October 2007”, go to the 11<sup>th</sup> article]

#### 5 Collective Intelligence and Recommendation systems

Guest Speaker: Tom Malone (MIT Center for Collective Intelligence).

While people have talked about collective intelligence for decades, new communication technologies—especially the Internet—now allow huge numbers of people all over the planet to work together in new ways. The successes of systems like Google and Wikipedia suggest that the time is now ripe for many more such systems, and the goal of the MIT Center for Collective Intelligence (CCI) is to understand how to take advantage of these possibilities. CCI’s basic research question is: How can people and computers be connected so that—collectively—they act more intelligently than any individuals, groups, or computers have ever done before?’

- a) Thomas W. Malone, Robert Laubacher, Chrysanthos Dellarocas. “Harnessing Crowds: Mapping the Genome of Collective Intelligence,” MIT Center for Collective Intelligence Working Paper 2009-001, February 2009 (20 pages)

*This article offers a new framework to help identify the underlying building blocks—to use a biological metaphor, the “genes”—that are at the heart of collective*

*intelligence systems, the conditions under which each gene is useful, and the possibilities for combining and re-combining these genes to harness crowds effectively.*

[ <http://cci.mit.edu/publications/CCIwp2009-01.pdf> ]

- b) (Optional) Jeff Howe, "The Rise of Crowdsourcing," Wired magazine, downloaded December 2008, 5 pages.

*Remember outsourcing? Sending jobs to India and China is so 2003. The new pool of cheap labor: everyday people using their spare cycles to create content, solve problems, even do corporate R & D.*

[ [http://www.wired.com/wired/archive/14.06/crowds\\_pr.html](http://www.wired.com/wired/archive/14.06/crowds_pr.html) ]

- c) (Optional) Scott Cook, "The Contribution Revolution: Letting Volunteers Build Your Business," Harvard Business Review, Vol. 86 Issue 10, October 2008, pp.60-69.

*Many internet superstars owe much of their success to the contributions made by countless people from outside their organizations. Cook, the founder of Intuit (maker of products such as Quicken and TurboTax), challenges traditional companies to tap this emerging source of value by actively creating what he calls user contribution systems. He creates a taxonomy of the systems that can capture user contributions and shows the variety of ways in which companies from Honda to Procter & Gamble to Hyatt Hotels are leveraging them. He offers advice on how business leaders can catalyze action to create user contribution systems in their own organizations.*

[Go to <http://libraries.mit.edu/vera> Do Exact Search on "Harvard Business Review", choose year 2008, then month October, and go to paper #15.]

- d) (Optional) Yochai Benkler, "Peer Production and Sharing," chapter 3 of Wealth of Networks (Yale U. Press), 2006, 22 pages.

*This chapter provides an overarching model that includes detailed descriptions of several interesting case studies in a way that nicely illustrates the framework.*

[ <http://www.congo-education.net/wealth-of-networks/ch-03.pdf> ]

## 6 Two-sided platforms/markets

Guest speaker: Marshall van Alstyne

Many successful Web 2.0 businesses are based on a two-sided platform--between, for example, social network users and advertisers. This session will discuss strategies for two-sided markets and ways to exploit the network efforts of Web 2.0.

- a) Thomas Eisenmann, Geoffrey Parker and Marshall van Alstyne, "Strategies for Two-Sided Markets" Harvard Business Review, Vol. 84, Issue 10, October 2006, pp. 92-101.

*This article reports on strategies for two-sided markets. Companies in industries such as banking, software, and media make money by linking markets from different sides of their customer networks – e.g., audiences and advertisers. The distinct character of these businesses demands a new approach to strategy. Of the blockbuster products and services that have redefined the global business landscape, you will find that many of them tie together two distinct groups of users in a network.*

[Go to <http://libraries.mit.edu/vera> Do Exact Search on "Harvard Business Review", choose year 2006, then month October, and go to paper #19.]

- b) Parker, G & Van Alstyne, M. (2009). Six Challenges in Platform Innovation and Open Licensing. *Communications & Strategies*. 74:17-36.  
*This article describes six common challenges of design, incentives, and governance that arise in establishing platform businesses. It also proposes solutions. It considers, for example, how to open a platform to decentralized innovation yet still earn a return; how to incorporate best-of-breed innovations from different sources while avoiding problems of multi-party hold-up; and how to encourage sources of good ideas to contribute those ideas despite the risk of losing them to owners of indispensable complements. We express these issues and solutions as a reduced set of tradeoffs useful for managing information and technology property.*
- c) Rich, Motoko, "With Kindle, Publishers Give Away E-Books to Spur Sales" - NYTimes.com, January 22, 2010 [3 pages]  
*Here's a riddle: How do you make your book a best seller on the Kindle? Answer: Give copies away.*
- d) (Optional) Eisenmann, T., Parker, G., & Van Alstyne, M. (2009). Opening Platforms: How, When and Why. In Gawer, A. (ed). *Platforms, Markets and Innovation*. Cheltenham, UK and Northampton, MA, US: Edward Elgar. 6:131-162.  
*Selecting optimal levels of openness is crucial for firms that create and maintain platforms. Decisions to open a platform entail tradeoffs between adoption and appropriability. Opening a platform can spur adoption by harnessing network effects, reducing users' concerns about lock-in, and stimulating production of differentiated goods that meet the needs of user segments. At the same time, opening a platform typically reduces users' switching costs and increases competition among platform providers, making it more difficult for them to appropriate rents from the platform.*

## WEB 2.0 TECHNOLOGIES

### 7 3D web/2<sup>nd</sup> Life

Class discussion of 3D web application and technologies, such as 2<sup>nd</sup> Life.

- a) "Special Report: Living a Second Life - Virtual online worlds," *The Economist*, London, Sep 30, 2006. Vol. 380, Iss. 8497; pg. 98, 4 pages (when printed)  
*Second Life is a "metaverse" (ie, metaphysical universe), a three-dimensional world whose users, or "residents", can create and be anything they want. Second Life is not just a game. Increasing numbers use Second Life for things that are quite serious. They form support groups for cancer survivors. They rehearse responses to earthquakes and terrorist attacks. They build Buddhist retreats and meditate. Many use it as an enhanced communications medium. Everything about Second Life is intended to make it an engine of creativity, Linden Lab early on decided that residents should own the intellectual property inherent in their creations. Linden Lab does not sell advertising; instead it is a virtual property company.*  
 [Go to <http://libraries.mit.edu/vera> Do Exact Search on "The Economist", select option: "Full text - ProQuest ABI/INFORM Global," choose date Sep 30, 2006; Vol.380, Iss.8497, and go to paper #67.]
- b) Adam Reuters, "IBM to host private Second Life regions," *Reuters*, April 2, 2008, 2 pages.  
*IBM said it will become the first company to host private regions of the Second Life Grid on its own servers, marking a new focus by Linden Lab on serving corporate customers.*  
 [ <http://secondlife.reuters.com/stories/2008/04/02/ibm-to-host-private-second-life-regions/> ]
- c) Eric Krangel, "IBM Drinks Second Life Kool-Aid, Makes More For Lotus Users," September 4, 2008, 3 pages.  
*This article describes how IBM is integrating support for Second Life (and a few other virtual world platforms) into its Lotus Sametime corporate instant-messaging product. It also includes a YouTube video demonstration.*



## 8 Mobile/Geo/Location-based Web

Guest Speaker: Sandy Pentland (Director, MIT Human Dynamics Lab and MIT Media Lab Entrepreneurship Program)

The proliferation of mobile devices, as well as satellite imagery and geographic databases, is quickly changing the way we access the internet, search for information and interact socially. In the meantime, these technologies allow companies to collect more detailed and personal data about us.

- a) Barrett Sheridan, "A Trillion Points of Data," Newsweek, March 9, 2009, pp. 34-37.

This article starts by noting "How tracking cell-phone users via GPS could do for the real world what Google did for the virtual world."

[<http://www.newsweek.com/id/186970> ]

- b) Alex Pentland, "Understanding 'Honest Signals' in Business," MIT Sloan Management Review, Vol. 50, No. 1, Fall 2008, pp. 70-75.

*Prof Pentland describes new research that reveals the surprising power of ancient, and largely unconscious, forms of human communication.*

[<http://hd.media.mit.edu/Sloan%20Management%20Review%20Honest%20Signals.pdf> ]

- c) Alex Pentland, "Chapter 1.6: Reality Mining of Mobile Communications: Toward a New Deal on Data," in The Global Information Technology Report 2008-2009: Mobility in a Networked World (Eds: Soumitra Dutta and Irene Mia), The Global Information Technology Report 2008-2009, World Economic Forum, pp. 75-80.

*Reality mining, which pulls together crumbs of diverse information from all kinds of digital "transactions" (e.g., cell phone calls) using statistical analysis and machine learning methods, offers increasingly extensive information about our lives, both individually and collectively. This technology's potential to transform our understanding of ourselves, our organizations, and our society is the reason that MIT's Technology Review recently identified reality mining as one of "10 Emerging Technologies That Will Change the World."*

[[http://books.google.com/books?id=5jN\\_rk7S2cC&lpg=PA66&ots=8pNnneOX4p&dq=Pentland%20Reality%20Mining%20Dutta&pg=PA66#v=onepage&q=&f=false](http://books.google.com/books?id=5jN_rk7S2cC&lpg=PA66&ots=8pNnneOX4p&dq=Pentland%20Reality%20Mining%20Dutta&pg=PA66#v=onepage&q=&f=false) ]

## WEB 2.0 IMPACT

### 9 Open Innovation

Many companies have discovered that there is an alternative to total reliance on internal R&D. By harnessing the power of the web, companies can tap into a world-wide pool of experts.

- a) Henry W Chesbrough, "The era of open innovation," MIT Sloan Management Review, Vol.44, Issue.3, Spring 2003, pp. 35-41.

*This paper discusses how companies are increasingly rethinking the fundamental ways in which they generate ideas and bring them to market — harnessing external ideas while leveraging their in-house R&D outside their current operations.*

[Go to <http://libraries.mit.edu/vera> Select Exact Search for "Sloan Management Review" and choose "Continued by MIT Sloan management review", then choose "Full text - ProQuest ABI/INFORM Global," then select "Spring 2003" and go to article #10]

- b) Milton Sousa, "Open innovation models and the role of knowledge brokers," InsideKnowledge, Volume 11, Issue 6, February 29, 2008, pp. 18-22.  
*The movement from internal R&D to external connect and develop opens the door for companies – large and small – to reach beyond their core competencies to remain competitive in an increasingly complex, uncertain and changing environment. This report explains the phenomenon, the process and provides examples and a case report.*  
 [ <http://www.openinnovatie.nl/download/LowResIKMarch08Case%20Study.pdf> ]
- a) InnoCentive, "InnoCentive Corporate Overview", InnoCentive, Inc., 2008, 2 pages.  
*InnoCentive inspires and unites a web community of scientists, engineers, professionals and entrepreneurs worldwide who collaborate to deliver breakthrough solutions for some of the world's most progressive organizations.*  
 [ [http://www.innocentive.com/assets/pdfs/InnoCentive\\_Corporate\\_Overview.pdf](http://www.innocentive.com/assets/pdfs/InnoCentive_Corporate_Overview.pdf) ]

## 10 General impacts & success stories

Guest speaker: Stephen Kaufer, (CEO TripAdvisor)

Web 2.0 provides opportunities to create new businesses and change existing businesses. These can be based on Consumer-consumer; consumer-business, or business-business interactions. This session will discuss a successful example: TripAdvisor.

- a) Sramana Mitra, "TripAdvisor: The Web's Strongest Travel Community," ReadWriteWeb, April 25, 2007, 5 pages.  
*TripAdvisor was founded in February 2000 and is among the world's largest online travel communities with over 20 million unique monthly visitors and approximately 5 million registered members. TripAdvisor is currently part of Expedia. The site is a winner of PC Magazine's Top 100 Web Sites and Forbes' Best of the Web.*  
 [ [http://www.readwriteweb.com/archives/tripadvisor\\_the.php](http://www.readwriteweb.com/archives/tripadvisor_the.php) ]
- b) Nancy Keates, "Deconstructing TripAdvisor," WSJ Weekend Journal, June 1, 2007, 6 pages.  
*Nancy Keates on how seasoned travelers decode the ratings on the nation's most influential hotel review site.*  
 [ <http://online.wsj.com/article/SB118065569116920710.html> ]
- c) Peter O'Connor, "User-Generated Content and Travel: A Case Study on TripAdvisor.Com," Information and Communication Technologies in Tourism, Publisher Springer Vienna, February 17, 2008, Pages 47-58  
*This paper focuses on TripAdvisor.com. Using a sample of London hotels, it was shown that the system displays detailed, rich and relevant data for use by consumers in their travel planning. Analyses also suggest that the belief that the system is compromised by false reviews posted to enhance a hotels reputation or tarnish that of competitors is unfounded. Little evidence was found of characteristics that typify false reviews.*  
 [First go to <http://libraries.mit.edu/get/springer> (you will need MIT certificate), once there, search for the document by using full title (or this might work if you are on MIT network <http://www.springerlink.com/content/v41163686402r3x7/> )]
- d) Jessica Livingston, "Founders at Work - Book Chapter, Stephen Kaufer, Cofounder, TripAdvisor," Founders at Work, Publisher Apress, 2007, pp. 361-375  
*Steve Kaufer, Langley Steinert, Nick Shanny, and Thomas Palka started TripAdvisor, an online travel site, in 2000. The online travel forum was a pioneer in the now common practice of having users pick the winners, instead of leaving the choices up to human editors. TripAdvisor became the largest online travel community in the world, and was acquired in 2004 by Barry Diller's InterActiveCorp (IAC). As of July 2006, TripAdvisor had amassed more than five million user reviews and opinions, covering 220,000-plus hotels and attractions.*

[First go to <http://libraries.mit.edu/get/springer> (you will need MIT certificate), once there, search for the document by using full title (or this might work if you are on MIT network <http://www.springerlink.com/content/xu732647wl71650v/> )]

## 11 Broad Impact on Business and Society

Guest speaker: Guest speaker: Lee Selwyn (President, Economics and Technology, Inc.)

An important debate over “Net Neutrality,” with significant consequences for almost everyone, has raged amongst and between many important organizations (e.g., AT&T vs. Google) to influence the decisions to be made by the FCC.

- a) Federal Communications Commission, “Policy Statement,” FCC 05-151, September 23, 2005, pp. 1-3.

*In this Policy Statement, the FCC offers guidance and insight into its approach to the Internet and broadband that is consistent with Congressional directives.*

- b) Lee Selwyn, Colleen Boothby, Andrew M. Brown, “Comments of the Ad Hoc Telecommunications Users Committee,” In the Matter of GN Docket No. 09-191 & WC Docket No. 07-52, January 14, 2010, pp. 6-23.

*In this report the Ad Hoc Committee argues that the FCC’s proposed Net Neutrality rules appropriately balance the legitimate network management concerns of “last mile” providers with the need to protect subscribers and competing providers of Internet access, content, applications, and services from Internet access service providers’ market power with respect to the “last mile.”*

- c) D. Wayne Watts et al, “Comments of AT&T, Inc.,” In the Matter of GN Docket No. 09-191 & WC Docket No. 07-52, January 14, 2010, pp. 1-14

*In this report, AT&T argues that “by any measure, the FCC’s decision not to regulate the Internet in general or broadband Internet access in particular is still, in Chairman Kennard’s words, ‘the best decision government ever made with respect to the Internet.’”*

- d) Richard Whitt et al, “Comments of Google, Inc.” In the Matter of GN Docket No. 09-191 & WC Docket No. 07-52, January 14, 2010, pp. i-iii.

*In typical Google fashion, the Executive Summary starts with the sentence, “Our interest in this proceeding is straightforward: to keep the Internet awesome for everybody.”*

- e) (Optional) Federal Communications Commission, “Notice of Proposed Rulemaking,” In the Matter of GN Docket No. 09-191 & WC Docket No. 07-52, October 22, 2009, pp. 1-6 and 41-45.

*The FCC seeks public input on draft rules to preserve an open Internet. The FCC has considered the issue of Internet openness in a wide variety of contexts and proceedings, which have generated over 100,000 pages of input in approximately 40,000 filings from interested companies, organizations, and individuals. Throughout this extensive process, one point has attracted nearly unanimous support: The Internet’s openness, and the transparency of its protocols, have been critical to its success.*

### WEB 2.x

## 12 Introduction to Web 2.x technologies

This session provides an introduction and overview of the Web 2.x technologies to be discussed in the following sessions, including: cloud computing, web services, Service Oriented Architectures (SOA), Open APIs, Advanced Mashups, and Collaboration services.

*No readings for this session.*

### **WEB 2.x TECHNOLOGIES**

### 13 Web Services

This session will discuss: what are web services and the technologies behind them. Some of the key players and their respective platforms will be discussed, as well as perspectives among providers and consumers.

- a) "The Strategic Value of Web Services," The McKinsey Quarterly, November 2002, 35 pages.

*This is a collection of three articles that address: (1) how web services will automate the flow of information among companies, (2) what are web services, and (3) how web services are making companies more flexible and more profitable.*

[ [http://download.mckinseyquarterly.com/web\\_services.pdf](http://download.mckinseyquarterly.com/web_services.pdf) ]

### 14 Cloud Computing

This session will discuss: what is cloud computing and its origins and technologies. Discussion of some of the key vendors in this space and applications of cloud computing, including Amazon Web Services, Google App Engine, Salesforce.com, and Rackspace's.

- a) Ludwig Siegele, "Let it Rise; Special Report on Cloud Computing," The Economist, Vol.389, Issue 8603, Oct 25, 2008, 16 pages.

*Information technology is turning into a global "cloud" accessible from anywhere. This Special Report contains several short articles that discuss what it means for the way people conduct business.*

[<http://www.economist.com/surveys/downloadSurveyPDF.cfm?id=12446057&surveycode=NA&submit=View+PDF> contains all the articles in one PDF file or

[http://www.economist.com/specialreports/displayStory.cfm?story\\_id=12411882](http://www.economist.com/specialreports/displayStory.cfm?story_id=12411882) to get first article and then link to get the subsequent articles ]

### WEB 2.x EXAMPLES

### 15 Component Examples, OpenAPIs, and Advanced Mashups

Web services, OpenAPIs, and other Web 2.x technologies provide capabilities for much more advanced mashups, but they also entail a need to understand the interdependencies and risks created.

- a) Urs Gasser, John G. Palfrey Jr., "Case Study: Mashups Interoperability and eInnovation," Harvard University - Berkman Center for Internet & Society, Research Publication No. 2007-10, November 2007, 36 pages.

*Mashups are an area of enormous innovation that is manifested through new business models, new technologies, and clever new ways to use and share data.*

*The focus of this case study is the relationship between innovation in Web services applications and their interoperability (or interoperability potential). This paper discusses several options for creating greater sustainability over time, such as license interoperability, open standards, and back-up in the form of traditional law enforcement.*

[ <http://ssrn.com/abstract=1033232> ]

### 16 Collaboration Examples

Guest speaker: Guest speaker: Daniel Debow or David Stein (Co-CEO, Ryppele) Email, IM and have widely reduced the use of paper mail, travel and phone as collaboration tool, but they have not fundamentally changed how people work together. Novel technologies, such as online workspaces, wikis, and search can fundamentally change how team can work together and increase productivity.

- a) Aaron Levie, "Is Free The Future of Enterprise Software? Yes and No," Tech Crunch, July 12, 2009, 2 pages.

*Freemium is great strategy for products that have high switching costs – why not allow people to start using a free version, get hooked, and begin charging when they hit a threshold of activity?*

[ <http://techcrunch.com/2009/07/12/guest-post-is-free-the-future-of-enterprise-software-yes-and-no/> ]

- b) Marc Benioff , “The Facebook Imperative,” Tech Crunch, February 24, 2010, 1 page.  
*New realtime cloud applications, platforms, and infrastructure offer the path to redefine the future of collaboration. Now in beta, Salesforce Chatter takes the best of Facebook, Twitter, and other social leaders, for instance, and applies it to enterprise collaboration—making people more productive and businesses more competitive.*  
[ <http://techcrunch.com/2010/02/24/the-facebook-imperative/> ]
- c) Yochai Benkler, “Coase’s Penguin, or Linux and the Nature of the Firm,” The Yale Law Journal, 2002, 1 page – Note: Only required to read the Abstract (you are welcome to read entire 79 page article at your leisure!)  
*This paper explains that while free software is highly visible, it is in fact only one example of a much broader social-economic phenomenon, which the author calls this “commons-based peer-production,” to distinguish it from the property- and contract-based models of firms and markets. Its central characteristic is that groups of individuals successfully collaborate on large-scale projects following a diverse cluster of motivational drives and social signals, rather than either market prices or managerial commands.*  
[ <http://www.benkler.org/CoasesPenguin.html> ]
- d) Jeffrey Pfeffer, “Low Grades for Performance Reviews,” BusinessWeek, March 9, 2010, 2 pages.  
*Possibly the biggest issue is that performance appraisals focus on precisely the wrong thing: individuals. As W. Edwards Deming, the father of the quality work movement, taught a long time ago, a company’s performance arises more from variations in systems than from differences among individuals..*  
[ <http://www.informationweek.com/shared/printableArticle.jhtml?articleID=210700289> ]
- e) Dan Pink, “Dan Pink on the Surprising Science of Motivation,” TEDGlobal 2009, Filmed July 2009, Video: 18 minutes.  
*Career analyst Dan Pink examines the puzzle of motivation, starting with a fact that social scientists know but most managers don’t: Traditional rewards aren’t always as effective as we think. Listen for illuminating stories -- and maybe, a way forward.*  
[ [http://www.ted.com/talks/dan\\_pink\\_on\\_motivation.html](http://www.ted.com/talks/dan_pink_on_motivation.html) ]

### **WEB 3.0**

#### **17 Introduction to Web 3.0 & Semantic web concept**

Discussion of the long-term vision of the “data web” and “semantic web.” Brief explanation of the Semantic Web and its “Layer Cake” of technologies.

- a) Tim Berners-Lee, James Hendler, and Ora Lassila, “The Semantic Web: A new form of Web content that is meaningful to computers will unleash a revolution of new possibilities,” Scientific American, Vol. 284 Issue 5, May 2001, pp. 34-43.

*This is the seminal paper when Tim Berner-Lee first introduced the notion of the “semantic web.”*

[[http://www.ryerson.ca/~dgrimsha/courses/cps720\\_02/resources/Scientific%20American%20The%20Semantic%20Web.htm](http://www.ryerson.ca/~dgrimsha/courses/cps720_02/resources/Scientific%20American%20The%20Semantic%20Web.htm) or, for a slightly longer version, Go to <http://libraries.mit.edu/vera> Do Exact Search on “Scientific American”, select “Full text - EBSCOhost Business Source Complete,” choose year 2001, then month May 2001, and go to paper #21.]

- b) Cody Burleson, "Introduction to the Semantic Web Vision and Technologies - Part 1 – Overview", 24 Sept 2007, [Semantic Focus blog](#), 3 pages.

*The Web has been evolving towards the vision of the Semantic Web — an extension of the existing web through which machines are better able to interoperate and work on our behalf. It is a dramatic vision that stands to transform the existing Web in devastatingly powerful ways. This paper also briefly introduces the Semantic Web "layer cake" of technologies.*

[ <http://www.semanticfocus.com/blog/entry/title/introduction-to-the-semantic-web-vision-and-technologies-part-1-overview> ]

## **WEB 3.0 TECHNOLOGIES**

### **18 Semantic Web**

Guest speaker: Tim Berners-Lee (MIT and World Wide Web Consortium – W3C). The Semantic Web is an evolving extension of the World Wide Web in which the semantics of information and services on the web is defined, making it possible for the web to understand and satisfy the requests of people and machines to use the web content. It derives from Tim Berners-Lee's vision of the Web as a universal medium for data, information, and knowledge exchange.

- a) Nigel Shadbolt, Wendy Hall, Tim Berners-Lee, "The Semantic Web Revisited," [IEEE Intelligent Systems](#), Volume 21, Issue 3, Jan.-Feb. 2006 pp. 96 – 101.

*This article includes many scenarios in which intelligent agents undertook tasks on behalf of their human or corporate owners. Of course, there are shopbots and auction bots on the Web, but these are essentially handcrafted for particular tasks: they have little ability to interact with heterogeneous data and information types. Because there is not yet large-scale, agent-based mediation, some commentators argue that the semantic Web has failed to deliver. This paper argues that intelligent agents can only flourish when standards are well established. Web standards for expressing shared meaning have progressed steadily over the past five years.*

[ Go to <http://libraries.mit.edu/vera> Do Exact Search on "IEEE intelligent systems", select "Continued by IEEE intelligent systems," select "Full text - IEEE Journals," first choose year "2006," then choose "Volume 21, Issue 3," and go to paper entitled ""The Semantic Web Revisited" which is next to last on list.]

- b) (Optional – will be shown in class) Tim Berners-Lee, "The year open data went worldwide," [TED Conferences, LLC](#), Filmed: Feb 2010, Posted: March 2010, 5 minutes , 34 seconds.

*At TED2009, Tim Berners-Lee called for "raw data now" -- for governments, scientists and institutions to make their data openly available on the web. At TED University in 2010, he shows a few of the interesting results when the data gets linked up.*

[ [http://www.ted.com/talks/tim\\_berniers\\_lee\\_the\\_year\\_open\\_data\\_went\\_worldwide.html](http://www.ted.com/talks/tim_berniers_lee_the_year_open_data_went_worldwide.html) ]

### **19 Semantic Representation: Ontology Languages**

An "ontology" is a representation of "what exists" and is based on the meaning (als known as "semantics") from traditional philosophy. In the Semantic Web, there are ontology languages such as RDF and OWL.

- a) Deborah McGuinness, "Ontologies Come of Age," in Dieter Fensel, Jim Hendler, Henry Lieberman, and Wolfgang Wahlster, editors, [Spinning the Semantic Web: Bringing the World Wide Web to Its Full Potential](#), MIT Press, 2003, 13 pages.

*Ontologies have moved beyond the domains of library science, philosophy, and knowledge representation. They are now the concerns of marketing departments, CEOs, and mainstream business. Ontologies are used as central controlled vocabularies that are integrated into catalogues, databases, web publications, knowledge management applications, etc. This paper discusses ontologies and*

requirements in their current instantiations on the web today and how both simple and complex ontologies are being and may be used to support varied applications. [ [http://www-ksl.stanford.edu/people/dlm/papers/ontologies-come-of-age-mit-press-\(with-citation\).htm](http://www-ksl.stanford.edu/people/dlm/papers/ontologies-come-of-age-mit-press-(with-citation).htm) ]

- b) David Hay, "Data Modeling, RDF & OWL – Part One: An Introduction to Ontologies," The Data Administration Newsletter, April 2006, 14 pages.  
*This article discusses both old and new ideas of semantics and ontology and how they affect the way we analyze data. It introduces the main concepts and shows examples of the Resource Description Framework (RDF) and the Web Ontology Language (OWL) languages.*  
[ <http://www.tdan.com/view-articles/5025> ]

## 20 Semantic Reasoning

Although semantic representation provides meanings, it is semantic reasoning that makes that knowledge useful. In this session, a particular application – information integration – is presented and semantic reasoning techniques developed at MIT are presented.

- a) Hongwei Zhu and Stuart Madnick, "Scalable Interoperability Through the Use of COIN Lightweight Ontology," ODBIS 2005/2006, (M. Collard (Ed.), LNCS 4623, published by Springer-Verlag Berlin Heidelberg, 2007, pp. 37–50.  
*There are many different kinds of ontologies, from lightweight ontologies to formal ontologies. This paper compares and contrasts the lightweight and formal ontology approaches to data interoperability. It also provides a structure for context descriptions. The structure can be exploited to facilitate semantic reasoning for automatic composition of context mappings. This mechanism leads to a scalable solution to semantic interoperability among disparate data sources and contexts.*  
[ <http://web.mit.edu/smadnick/www/wp/2007-13.pdf> ]
- b) Hongwei Zhu and Stuart Madnick, "Improving Data Quality Through Effective Use of Data Semantics", Data & Knowledge Engineering, Vol. 59, Issue 2, 2006, pp. 460-476.  
*Data quality issues have taken on increasing importance in recent years, especially when integrating information from multiple sources. This paper notes that many "data quality" problems are actually "data misinterpretation" problems – that is, problems caused by heterogeneous data semantics, especially the issue of aggregational ontological heterogeneity, which concerns how complex entities and their relationships are aggregated. It is shown how the MIT COntext INterchange (COIN) technology can be used to capture data semantics and apply semantic reasoning to reconcile semantic heterogeneities, thereby improving data quality.*  
[Free pre-print version available from <http://ssrn.com/abstract=825650> ]

## WEB 3.0 APPLICATIONS & IMPACTS ON MANAGEMENT

### 21 Web 2.0, 2.x. 3.0 -- Debates by Students

### 22 Web 3.0 Applications

- a) Chimezie Ogbuji, Eugene Blackstone and Chris Pierce, "Case Study: A Semantic Web Content Repository for Clinical Research," October 2007, 6 pages.  
*Activity area: health care and public institution; Application area of SW technologies: data integration; SW technologies used: RDF(S), OWL, GRDDL, Rules, Rules (N3), and public vocabularies; SW technology benefits: automation, incremental modeling, and improved search*  
[ <http://www.w3.org/2001/sw/sweo/public/UseCases/ClevelandClinic> ]

- b) Nigel Wilkinson, Melliylal Annamalai, and Lee Harland , Case Study: Applying the Semantic Web to Internal Compound Repurposing, December 2007, 5 pages.

*Activity area: life sciences; Application area of SW technologies: data integration and text mining; SW technologies used: RDF(S) and in-house vocabularies; SW technology benefits: incremental modeling, rapid response to change, faceted navigation, and share and re-use data*

[ <http://www.w3.org/2001/sw/sweo/public/UseCases/Pfizer/> ]

## **STUDENT PRESENTATIONS**

### **23 Student Presentations**

Presentations of selected student term projects

### **24 Student Presentations (continued)**

Presentations of selected student term projects





## Values@MIT Sloan

### Values in Practice in the Classroom

#### The MIT Sloan Mission

The mission of the MIT Sloan School of Management is to develop principled, innovative leaders who improve the world and to generate ideas that advance management practice.

To accomplish this, we:

- Offer premier programs for shaping leaders who will create, redefine, and build cutting-edge products, services, markets, and organizations;
- Collaborate across MIT to capitalize on and contribute to the Institute's distinctive intellectual excellence and entrepreneurial culture;
- Attract, develop, and retain outstanding faculty and staff who lead the world in management education and research;
- Enroll students with integrity, strong leadership potential, high aspirations, and exceptional intellectual ability; and
- Foster a cooperative and adventurous learning community that includes alumni and business partners, works on important problems, and is based on mutual respect, rigorous analysis, and high ethical standards.

#### Values@MIT Sloan

The MIT Sloan Mission statement (above) provides the context for core values that express who we are at our best. These core values include *integrity, respect, collaboration, innovation, and positive impact*. We invite all members of our community – students, staff, faculty, alumni – to practice these values in all the ways we work together, both inside and outside of the classroom.

#### Core Values in Practice

The following language supports the expression of these core values in the classroom at MIT Sloan.

#### ACADEMIC HONESTY – INTEGRITY IN PRACTICE

As a member of the MIT Sloan academic community, you are expected to uphold the highest standards of academic integrity. Violations of academic integrity include, but are not limited to, cheating, plagiarism, unauthorized collaboration, and facilitating academic dishonesty. Please see the document [Academic Integrity at the Massachusetts Institute of Technology: A Handbook for Students](#) for further discussion of this topic. These standards are also discussed below, specifically regarding plagiarism, individual work, and team work.

***It is your responsibility to make yourself aware of MIT's rules of academic integrity and to adhere to them.*** When students are found to have violated academic standards, disciplinary action will result. Possible consequences include grade reduction, an F grade, a transcript notation, delay of graduation, or expulsion from MIT.

This discussion of academic integrity below is not exhaustive, and there may be areas that remain unclear to you. ***If you are unsure whether some particular course of action is proper, it is your responsibility to consult with your professor and/or teaching assistant for clarification.***

## **Plagiarism**

Plagiarism occurs when you use another's intellectual property (words or ideas) and do not acknowledge that you have done so. Plagiarism is a very serious offense. If it is found that you have plagiarized -- deliberately or inadvertently -- you will face serious consequences, as indicated above.

The best way to avoid plagiarism is to cite your sources - both within the body of your assignment and in a bibliography of sources you used at the end of your document.

Materials gathered through research via the Internet must be cited in the same manner as more traditionally published material. Lack of such citation constitutes plagiarism.

These definitions were drawn from the MIT Libraries website. For more information please visit: <http://libraries.mit.edu/tutorials/general/plagiarism.html>

## **Individual Assignments**

Many assignments in the MIT Sloan courses are expected to be done individually. The information below outlines what is meant by "individual" work. These rules should be observed unless otherwise defined by the instructor.

When you are asked to do ***individual*** work, you are expected to adhere to the following standards:

- Do not copy all or part of another student's work (with or without "permission").
- Do not allow another student to copy your work.
- Do not ask another person to write all or part of an assignment for you.
- Do not work together with another student in order to answer a question, or solve a problem, or write a computer program jointly.
- Do not consult or submit work (in whole or in part) that has been completed by other students in this or previous years for the same or substantially the same assignment.
- Do not use print or internet materials directly related to a case/problem set unless explicitly authorized by the instructor.
- Do not use print or internet materials without explicit quotation and/or citation.
- Do not submit the same, or similar, piece of work for two or more subjects without the explicit approval of the two or more instructors involved.

Please note that many classes will require a combination of team work and individual work. ***Be sure that you follow all the guidelines for individual work when a faculty member identifies an assignment as an individual one.***

## Team Assignments

When you are asked to ***work in teams***, there is a broad spectrum of faculty expectations. Three general types of appropriate collaboration on team assignments are described below. The instructor will indicate in the syllabus what his/her expectations are. If there is any uncertainty, it is the student's responsibility to clarify with the professor or TA the type of team work that is expected.

*Type 1 collaboration: the professor states that collaboration is allowed, but the final product must be individual.* An example of this might be a problem set.

- You are allowed to discuss the assignment with other team members and work through the problems together.
- What you turn in, however, must be your own product, written in your own handwriting, or in a computer file of which you are the sole author.
- Copying another's work or electronic file is not acceptable.

*Type 2 collaboration: the professor states that collaboration is encouraged but that each person's contribution to the deliverable does not have to be substantial (taking a "divide and conquer" approach).* An example of this might be a brief progress report.

- Each team member is encouraged to contribute substantially to the team assignment, however, the team may choose to assign one or more team members to prepare and submit the deliverable on behalf of the team.
- Regardless of how work is shared or responsibilities are divided among individual team members, each member of the team will be held accountable for the academic integrity of the entire assignment. If, for example, one member of the team submits plagiarized work on behalf of the team, the entire team will be subject to sanctions as appropriate.
- The team may not collaborate with other students outside of the team unless the professor explicitly permits such collaboration.

*Type 3 collaboration: the professor states that collaboration is expected and that each team member must contribute substantially to the deliverable.* An example of this might be the OP project.

- Each team member must make a substantial contribution to the assignment. It is not, for example, acceptable to divide the assignments amongst the team members (e.g., part of the team completes the OP Project while the rest of the team prepares a team case for DMD), though the team may divide the work of any one assignment to complete it as they deem appropriate.
- The team may not collaborate with other students outside of the team unless the professor explicitly permits such collaboration.

***If you are unsure whether some particular form of interaction is proper in individual or team work, it is your responsibility to consult the instructor and/or teaching assistant for clarification and guidance.***

## PERSONAL CONDUCT – RESPECT IN PRACTICE

The MIT Sloan School is committed to creating an environment in which every individual can work and study in a culture of mutual respect. Therefore, it has developed a set of expectations regarding personal conduct in the classroom. These include, but are not limited to, adhering to MIT Sloan Time, using electronic devices appropriately, and refraining from distracting activities. We urge faculty, staff, and students to adhere to these expectations in order to support a strong learning community and to demonstrate the highest standards of professionalism to our guests.

Some examples of respectful behavior include the following:

**MIT (Sloan) Time:** All classes at MIT start at 5 minutes past the posted time and end 5 minutes prior to the posted time. Please arrive on time and remain for the duration of all class sessions and other classroom-based presentations. Please move post-class discussions into the hallway to allow the next professor a few minutes to prepare the classroom for his/her students.

**Attendance:** Attendance expectations vary according to the circumstances of an event. In classes where attendance is mandatory, the instructor may pass around a sign-in sheet. Signing in on behalf of another person is considered a serious infraction and may result in disciplinary action. In the case of professional or club events where a rsvp is requested, please keep your commitments. Not doing so may result in others missing an opportunity to attend the event and/or in damage to your or the School's reputation.

**Appropriate Engagement:** Please give your full attention to the instructor or presenter for the duration of all classroom-based sessions. If participation is expected of you, please demonstrate respect to the presenter and to your colleagues in your comments. Be aware that quality of contribution is more important than quantity.

**Avoiding Distractions:** Please silence all wireless devices while classes and presentations are in session. To avoid distracting others, please refrain from using laptops or PDAs while classes and presentations are in session, unless this has been specifically permitted by the instructor or presenter. Side conversations should be kept to a minimum, as they can distract your colleagues and can be considered disrespectful of instructors and presenters. If food is served during a meeting, please take care to keep noise to a minimum, and leave your seating area clean at the end of the session.

If you are unsure what guidelines to follow in a particular setting, we urge you to follow the most conservative standards and to seek guidance from a faculty or staff member or a peer, when the opportunity presents itself.

For more information about Values@MIT Sloan, please refer to our website, located at

<https://sloanpoint.mit.edu/administration/values/Pages/default.aspx>

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