

Syllabus

Course	INFM718Z
Section	0101
Title	Managing Information Technology Innovations in Organizations
Time & Place	Mondays, 5:30-8:15 pm, HBK 2116 (except Mar. 3 & 31 in HBK 1112)
Instructor	Dr. Ping Wang [pwang@umd.edu]
Office hours	By appointment in Hornbake 2118B
Description	Organizations innovate with new information technologies to compete in the marketplace, collaborate with partners, serve customers, motivate employees, and improve operations. This course provides the students with the opportunities to learn the main theoretical perspectives on managing IT innovations, familiarize with current best practices of innovating with IT, and develop innovation skills in various organizational settings such as project teams, functional departments, organizations, communities, and society at large.
Goals	Upon completing the course, students will be able to: <ul style="list-style-type: none">• explain main theoretical perspectives on managing IT innovations• recognize current best practices of innovating with IT• understand the impact of technological innovations on the economy and society• develop innovation skills needed for today's dynamic, global, and technology-enabled competitive environment• apply innovation skills to various organizational settings such as project teams, functional departments, organizations, communities, and society at large
Course Wiki	http://infm718z-2014spring.wikispaces.com/ All course materials will be posted in the course wiki.
Activity	This special topic elective course is organized as a club of information professionals aspiring to innovate with IT . This "club" operates like a combination of a reading group, a research lab, and consulting projects. Correspondingly, the course consists of three activities: (1) discussion of required readings, (2) collection of innovation studies, and (3) term projects. (1) <u>Discussion of required readings</u> : Every week, one to three articles are assigned as required readings. Students read the articles before class. For each article, one student serves as the discussant. At least <i>two days before the article is discussed in class</i> , the discussant posts a summary of the article on the course wiki. The summary should contain a synopsis of the article and two or three discussion questions. During each class session, the discussant gives an oral summary of the article and then other students join the discussion. Each student should serve as the

discussant for one or two articles this semester. In some weeks, several articles are recommended that complement the required readings. Recommended articles are not required so interested students are welcome to read these articles outside the class.

(2) Collection of innovation studies: During the first half of the semester, students, *working individually or in pairs*, search in formal and informal sources for interesting cases where organizations innovate with contemporary information technologies. Each student or two-person team contributes in total four such innovation studies to the course wiki. Each case should be about one-page in length and specify the following elements:

- *Title*: Write a title that summarizes the gist of this innovation study
- *Date posted*: When did you post this study?
- *IT innovation*: What is the primary IT innovation in this case? What is the core technology that drives or enables the innovation? What is the necessary change in the business process that complements the core technology?
- *Innovating organization*: What organization is innovating with the IT in this case?
- *Industry*: To what industry does the primary innovating organization belong?
- *Innovation process*: How has the organization innovated with the IT? What problems, obstacles, or challenges did the organization face? How did the organization solve the problems or overcome the obstacles or challenges?
- *Outcome of innovation*: As a result of the innovation, what new product, service, or process has come out?
- *Benefits*: What benefits has the organization realized or expected to realize?
- *Costs*: What have been the major costs in financial or non-financial terms?
- *Lessons learned*: What can the organization in this case learn from this innovation experience? Does this case have implications to other organizations? What other organizations may learn from this case?
- *References*: Full citations of the sources you have used to write this study

The innovation studies are posted to the course wiki. During each class session in the first half of the semester, these studies are be discussed, compared, and explained. We also explore the linkages between the studies with the ideas and insights found in the readings. Each student should read the studies contributed by other students in this class. These studies form the basis for the students to select and develop their term projects in the second half of the semester.

(3) Term project: During the second half of the semester, students select novel and high-impact studies from the wiki collection, conduct further research and analysis, and develop in-depth case studies as their own term projects. Each project can be a single case study or a set of case studies tied together with a common theme. Students may conduct the term projects individually or in two-person teams based on their shared interests (e.g. in the specific technologies, industries, or market spaces). If a student has worked with another student on the four innovation studies, he/she may choose to work on the term project with the same partner, with another classmate, or individually. A one-page proposal is prepared at the beginning of the project. In each class session during the second half of the semester, we discuss the progress of the term projects. The projects will be presented orally in the last two class sessions and in project papers of no more than 8,000 words (everything included) each.

Deliverables All deliverables in this course should be posted on the course wiki. Each discussant of a required article should post the summary of the article at least two days before the class when the article is scheduled to be discussed. Other deliverables and their due times are listed below:

Due Time	Deliverable
January 28, 2014, 5:30 pm	Each student signs up as the discussant of one or two required articles on course wiki.
February 8, 2014, 5:30 pm	Innovation study 1
March 1, 2014, 5:30 pm	Innovation studies 2 & 3
March 22, 2014, 5:30 pm	Innovation study 4
March 31, 2014, 5:30 pm	One-page proposal of the term project
May 5, 2014, 5:30 pm	Presentation for project scheduled to be presented on that day
May 12, 2014, 5:30 pm	Presentation for project scheduled to be presented on that day Papers for all term projects

Grading

The three activities of the course are evaluated and summed up to form each student's grade:

- (1) Discussion of required readings (33% of course grade): Each student's reading score depends on:
 - Quality of the summary written by the discussant
 - The discussant's effort to encourage others to participate in the discussion
 - Preparedness for the discussion in class
 - Quantity of contributions to the discussion in class
 - Quality of contributions to the discussion in class

- (2) Wiki collection of innovation studies (33% of course grade): Each student's innovation study score depends on:
 - Quality of contributed studies (e.g., evidences for breadth and depth of research, efforts to synthesize data and information, potential to generate insights)
 - Awareness of and familiarity with studies contributed by classmates
 - Effort to offer insights that summarize or integrate various innovation studies into broader patterns while discussing the studies in class

- (3) Term project (34% of course grade): Students working in the same team receive the same score for their project. The project score depends on:
 - Clarity in describing the subject of study and the rationale for choosing the subject
 - Clarity in identifying the innovation issues to be addressed
 - Effort to collect and analyze appropriate data
 - Validity of the analysis
 - Clarity in identifying the beneficiaries of the innovations and describing the potential benefits and risks for the beneficiaries
 - Validity or practicality of solutions/recommendations/conclusion based on the data analysis
 - Effectiveness in communicating the project orally and in written form

Work completed late without a legitimate reason discussed with the instructor in advance will be given no higher than a “B” or equivalent grade.

Honor code Students should abide by the University’s Code of Academic Integrity. For details, please visit: www.shc.umd.edu/code.html. This is important. Please do read and abide by it.

Special needs Students with disabilities should inform the instructor of their needs at the beginning of the semester. Please also contact the Disability Support Services (301-314-7682 or

www.counseling.umd.edu/DSS). DSS will make arrangements with the student and the instructor to determine and implement appropriate academic accommodations. Students encountering psychological problems that hamper their course work are referred to the Counseling Center (301-314-7651 or www.counseling.umd.edu) for expert help.

Attendance Students are expected to attend all class sessions. If a session has to be missed, provide the reason and proof to the instructor by email *before* the class. Absence from a session without advance notice or a legitimate reason will result in a zero score for the activities conducted in that session. Due to the seminar nature of this course, missing two or more sessions without legitimate reasons will lead to a significant negative impact on the course grade.

CourseEvalUM Participation in the evaluation of courses through CourseEvalUM is a responsibility that students hold as members of our academic community. Student feedback is confidential and important to the improvement of teaching and learning at the University. Please go directly to the website (www.courseevalum.umd.edu) to complete the evaluations at the end of the semester.

Course schedule

<p>Session 1 <i>Introduction and Course Overview</i></p>	<p>Required Reading:</p> <ul style="list-style-type: none"> Hopkins, M. S. "The Four Ways IT Is Revolutionizing Innovation: An Interview with Erik Brynjolfsson," <i>MIT Sloan Management Review</i> (51:3), 2010, pp. 51-56.
<p>Session 2 <i>Production of Innovation</i></p>	<p>Required Reading:</p> <ul style="list-style-type: none"> Christensen, C. M. <i>The Innovator's Dilemma</i>, Harvard Business School Press, Boston, 1997, Introduction, pp. ix-xxiv. Chesbrough, H. W. and Appleyard, M. M. "Open Innovation and Strategy," <i>California Management Review</i> (50:1), 2007, pp. 57-76.
<p>Session 3 <i>Diffusion of Innovation</i></p>	<p>Required Reading:</p> <ul style="list-style-type: none"> Rogers, E. M. <i>Diffusion of Innovations</i>, Free Press, New York, NY, 2003, Chapter 1. Swanson, E. B. and Ramiller, N. C. "Innovating Mindfully with Information Technology," <i>MIS Quarterly</i> (28:4), 2004, pp. 553-583.
<p>Session 4 <i>Innovating with Social Media</i></p>	<p>Required Reading:</p> <ul style="list-style-type: none"> The Economist "A World of Connections: A Special Report on Social Networking," January 30, 2010. Gladwell, M. "Small Change: Why the Revolution Will Not Be Tweeted," <i>New Yorker</i> (October 4), 2010, pp. 42-49. <p>Recommended Reading:</p> <ul style="list-style-type: none"> Malhotra, A., Malhotra, C. K., and See A. "How to Get Your Messages Retweeted," <i>MIT Sloan Management Review</i> (53:2), 2012, pp. 61-66. Malhotra, A., Malhotra, C. K., and See A. "How to Create Brand Engagement on Facebook," <i>MIT Sloan Management Review</i> (54:2), 2013, pp. 18-20..

<p>Session 5 <i>Technology Cycles</i></p>	<p>Required Reading:</p> <ul style="list-style-type: none"> • Anderson, P. and Tushman, M. L. "Managing Through Cycles of Technological Change," <i>Research Technology Management</i> (34:3), 1991, pp. 26-31. • Fenn, J. and Raskino M. "Understanding Gartner's Hype Cycles," 2013, Gartner, Inc. <p>Recommended Reading:</p> <ul style="list-style-type: none"> • LeHong, H. and Fenn, J. "Hype Cycles for Emerging Technologies, 2013" 2013, Gartner, Inc. • Markoff, J. "After the Transistor, a Leap into the Microcosm," <i>New York Times</i>, September 1, 2009. • Markoff, J. "H.P. Sees a Revolution in Memory Chip," <i>New York Times</i>, April 7, 2010. • Service, R. F. "Is Silicon's Reign Nearing Its End?" <i>Science</i> (323) February 20, 2009, pp. 1000-1002.
<p>Session 6 <i>Creativity and Innovation</i></p>	<p>Required Reading:</p> <ul style="list-style-type: none"> • Ogle, R. <i>Smart World: Breakthrough Creativity and the New Science of Ideas</i>, Harvard Business School Press, Boston, 2007, Book Summary. <p>Recommended Reading:</p> <ul style="list-style-type: none"> • Ogle, R. <i>Smart World: Breakthrough Creativity and the New Science of Ideas</i>, Harvard Business School Press, Boston, 2007, Chapter 1, pp. 7-26.
<p>Session 7 <i>Comprehension of Innovation</i></p>	<p>Required Reading:</p> <ul style="list-style-type: none"> • Swanson, E. B. and Ramiller, N. C. "The Organizing Vision in Information Systems Innovation," <i>Organization Science</i> (8:5), 1997, pp. 458-474. • Heath, C. and Heath, D. <i>Made to Stick: Why Some Ideas Survive and Others Die</i>, Random House, New York, 2006, Introduction, pp. 3-24. <p>Recommended Reading:</p> <ul style="list-style-type: none"> • Berger, J. <i>Contagious: Why Things Catch On</i>, Simon & Schuster, New York, 2013.
<p>Session 8 <i>Innovating with Big Data</i></p>	<p>Required Reading:</p> <ul style="list-style-type: none"> • The Economist "Data, Data Everywhere: A Special Report on Managing Information," February 27, 2010. • Ross, J. W., Beath, C. M., and Quaadgras, A. "You May Not Need Big Data After All," <i>Harvard Business Review</i> (91:12), 2013, pp. 90-98. • Davenport, T. H. and Patil, D. J. "Data Scientist: The Sexiest Job of the 21st Century," <i>Harvard Business Review</i> (90:10), 2012, pp. 70-76. <p>Recommended Reading:</p> <ul style="list-style-type: none"> • McAfee, A. and Brynjolfsson, E. "Big Data: The Management Revolution," <i>Harvard Business Review</i> (90:10), 2012, pp. 60-68.
<p>Session 9 <i>Adoption and Implementation of innovation</i></p>	<p>Required Reading:</p> <ul style="list-style-type: none"> • Swanson, E. B. and Wang, P. "Knowing Why and How to Innovate with Packaged Business Software," <i>Journal of Information Technology</i> (20:1), 2005, pp. 20-31. • Bobrow, D. G. and Whalen, J. "Community Knowledge Sharing in Practice: The Eureka Story," <i>Reflections: The SOL Journal on Knowledge, Learning, and Change</i> (4:2), 2002, pp. 47-59.

<p>Session 10 <i>Entrepreneurship and Innovation</i></p>	<p>Required Reading:</p> <ul style="list-style-type: none"> • The Economist "A Cambrian Moment: Special Report on Tech Startups," January 18, 2014. • Freeman, J. and Engel J. S. "Models of Innovation: Startups and Mature Corporations," California Management Review (50:1), 2007, pp. 94-119. • Gladwell, M. "Creation Myth: Xerox PARC, Apple, and the Truth about Innovation," New Yorker (May 15), 2011, pp. 44-53.
<p>Session 11 <i>Design and Development of Innovation</i></p>	<p>Required Reading:</p> <ul style="list-style-type: none"> • Gould, S. J. "The Panda's Thumb of Technology," Natural History (96:1), 1987, pp. 14-23. • Hargadon, A. B. and Douglas, Y. "When Innovations Meet Institutions: Edison and the Design of the Electric Light," Administrative Science Quarterly (46:3), 2001, pp. 476-501. <p>Recommended Reading:</p> <ul style="list-style-type: none"> • Brustein, J. "Why Innovation Doffs an Old Hat," New York Times, February 13, 2011. • Furchgott, R. "High-Tech Electronics Dressed Up to Look Old," New York Times, December 23, 2010.
<p>Session 12 <i>Learning to Innovate</i></p>	<p>Required Reading:</p> <ul style="list-style-type: none"> • Brown, J. S. and Duguid, P. "Organizational Learning and Communities-of-Practice: Toward a Unified View of Working, Learning, and Innovation," Organization Science (2:1), 1991, pp. 40-57. • Wang, P. and Ramiller, N.C. "Community Learning in Information Technology Innovation," MIS Quarterly (33:4), 2009, pp 709-734. <p>Recommended Reading:</p> <ul style="list-style-type: none"> • Brown, J. S. and Duguid, P. The Social Life of Information, Harvard Business School Press, Boston, 2000.
<p>Session 13 <i>Fashion and Innovation</i> <i>Term project presentations</i></p>	<p>Required Reading:</p> <ul style="list-style-type: none"> • Wang, P. "The Surprising Impact of Fashions in Information Technology," MIT Sloan Management Review (51:4), 2010, pp 15-16. • Swanson, E. B. "The Manager's Guide to IT Innovation Waves," MIT Sloan Management Review (52:2), 2012, pp. 75-93. <p>Recommended Reading:</p> <ul style="list-style-type: none"> • Wang, P. "Chasing the Hottest IT: Effects of Information Technology Fashion on Organizations," MIS Quarterly (34: 1), 2010, pp.63-85.
<p>Session 14 <i>Term project Presentations</i></p>	<p>No reading</p>

Updated February 8, 2014