



IST532 Organization Informatics
Spring 2008
Course Syllabus
DRAFT



CLASS:

Meeting time: Wednesday 3:35 p.m. – 6:35 p.m.
Classroom: IST Building 201A
Course URL:
Prerequisite: IST501

INSTRUCTOR: Carleen Maitland
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Office hours:

INSTRUCTOR: Angsana A. Techatassanasoontorn
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Office hours:

COURSE DESCRIPTION:

This course is concerned with information and communication technologies (ICTs) and organizational contexts. It examines the intricate role of ICTs within organizations, between organizations, and among organizations. This seminar examines ICTs and organizations using various theoretical lenses from economics, management, sociology, and information systems. The course introduces students to relevant theories that are used to enable better understanding of ICTs in organizational contexts across multiple levels of analysis including organizational, interorganizational, industry, regional, and global.

The course is broken down into 4 modules:

- **What is theory?**
- **Organizations and their context**
- **Network effects, technologies and organizations**
- **IT in organizations**

COURSE OBJECTIVES:

At the end of this course, students should be able to:

- Understand different perspectives to understand and investigate ICT and organizations research
- Critique and provide developmental reviews of ongoing or completed research in this domain
- Articulate research problems, research questions, and select appropriate theories and research methods to conduct research in the ICT and organizational context

COURSE REQUIREMENTS:

(1) Attendance and Participation (20%)

This course will be conducted in a seminar format. It is expected that students are prepared to contribute in the discussion.

(2) Commentary and Developmental feedback to peers (20%)

Each week, you will write a 1 page commentary on the topic. The write-up should give a high level synthesis of the topic based on the assigned readings as well as other materials that you research on your own. In general, the write-up should include relevant problems in practice, brief discussion of the theory, how the theory has been applied across studies, and critique of the theory. The write-up should be posted on ANGEL before class.

Here is the guideline of how to summarize the main points of each reading:

- What is the research problem?
- What are the specific research questions?
- What is the main contribution?
- What are the surprising elements of the study? What do you learn from the study that you didn't know before?
- What are the theories and how the study applies the theories?
- What are the strengths and weaknesses of the study?
- How do the articles relate to each other in the same week?

You are also required to provide developmental feedback to other students on their research proposal.

(3) Discussion Leader (20%)

In pairs, students will be asked to facilitate the discussion of several papers in one session of the course, by arrangement with the instructor. Students will be matched to sessions based on research interests and background. Instructor evaluation is based on the quality of your prep work and in-class contribution. As a discussion leader, you need to prepare the following:

- 2 slides that layout the key elements of the theory
- 2 slides per reading to discuss how the studies in the readings applies the theory
- 3-4 discussion questions with the class
- A 4-page critical review of all the assigned readings
- Upload all the materials on ANGEL before class

(4) Research Proposal (40%)

Select at least two theories and apply them to problems in the context of ICTs and organizational contexts. You can either (1) integrate the theories and apply them to study the problems, or (2) design research studies around these theories with the specific goals of how different theories provide different understanding of the problems. The research project has four deliverables:

- **Project proposal:** You should target the proposal to have approximately 5 pages. Describe the research problems. Articulate the research questions. Describe the theories and how they can be applied to study the research problems. Describe the methodologies you might use. Finally, discuss potential contribution of the research.
- **Project proposal presentation:** You will make a 15 minute presentation of the project proposal to the class roughly after the Spring break. The goal of this presentation is to seek developmental feedbacks from your peers and instructors to refine the research plan.

- **Final proposal:** The final proposal should have a minimum of 15 pages. The proposal should have the following sections:
 - i. Research problem
 - ii. Research questions
 - iii. Theory
 - iv. Methodology
 - v. Expected results
 - vi. Significance and Contribution

- **Final proposal presentation:** You will make a 25 minute presentation of the final proposal to the class towards the end of the semester.

COURSE SCHEDULE (Subject to change)

Week	Topics and Readings
Jan. 16	What is Theory?
Jan. 23	Institutional Theory (1)
Jan. 30	Institutional Theory (2)
Feb. 6	Organizational Learning
Feb. 13	Inter-organizational networks and coordination
Feb. 20	Network Economics
Feb. 27	Standards, Standardization
Mar. 5	IT and Organizational Innovation
Mar. 12	Spring Break
Mar. 19	Boundary Object Theory
Mar. 26	Project Proposal Presentation
Apr. 2	To Be Decided by faculty and students according to students' research interests
Apr. 9	To Be Decided by faculty and students according to students' research interests
Apr. 16	Reviewing and Publishing
Apr. 23	Final Project Presentation
Apr. 30	Final Project Presentation

UNIVERSITY POLICIES

ACADEMIC INTEGRITY: According to the Penn State Principles and University Code of Conduct: *Academic integrity is a basic guiding principle for all academic activity at Penn State University, allowing the pursuit of scholarly activity in an open, honest, and responsible manner. In accordance with the University's Code of Conduct, you must not engage in or tolerate academic dishonesty. This includes, but is not limited to cheating, plagiarism, fabrication of information or citations, facilitating acts of academic dishonesty by others, unauthorized possession of examinations, submitting work of another person, or work previously used without informing the instructor, or tampering with the academic work of other students.*

Any violation of academic integrity will be investigated, and where warranted, punitive action will be taken. For every incident when a penalty of any kind is assessed, a report must be filed. This form is used for both undergraduate and graduate courses. This report must be signed by both the instructor and the student, and then submitted to the Senior Associate Dean.

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AN INVITATION TO STUDENTS WITH LEARNING DISABILITIES: It is Penn State's policy to not discriminate against qualified students with documented disabilities in its educational programs. If you have a disability-related need for modifications in your testing or learning situation, your instructor should be notified during the first week of classes so that your needs can be accommodated. You will be asked to present documentation from the Office of Disability Services (located in 116 Boucke Building, 863-1807) that describes the nature of your disability and the recommended remedy. You may refer to the

Week	Topics and Readings
Jan. 16	<p>What is Theory?</p> <ul style="list-style-type: none"> • Reynolds, P.D. (1971) Introduction and Testing Theories –chapters from <u>A Primer in Theory Construction</u>, Macmillan: New York, pp: 3-20 & 115-137. • Gregor, S. (2006) The nature of theory in information systems. <i>MIS Quarterly</i>, 30(3), 611-. • Eisenhardt, K.M. (1989) Building theories from case study research. <i>The Academy of Management Review</i>, 14(4), 532-551.
Organizations and their context	
Jan. 23	<p>Institutional Theory (1)</p> <ul style="list-style-type: none"> • Menard (2005) A New Institutional Approach to Organization. In Menard and Shirley (eds) <i>Handbook of New Institutional Economics</i>, Netherlands: Springer, 281-318. • Klein & Teuber (2000) Web-based procurement new roles for intermediaries. <i>Information Systems Frontiers</i>, 2(1), 19-30. • Sawyer et al. (2003) The social-embeddedness of transactions: Evidence from the residential real-estate industry, 19, 135-154.
Jan. 30	<p>Institutional Theory (2)</p> <ul style="list-style-type: none"> • Scott (1995) <i>Institutions and Organizations</i>. Sage: Thousand Oaks. Chapters 3 & 4 pp. 47-90. • Miller (2005) Solutions to Principal-Agent Problems in Firms. In Menard and Shirley (eds) <i>Handbook of New Institutional Economics</i>, Netherlands: Springer, 349-370. • Kohli and Kettinger 2004. Informating the clan: Controlling physicians' costs and outcomes. <i>MIS Quarterly</i>, 28(3), 363-394.
Feb. 6	<p>Organizational Learning</p> <ul style="list-style-type: none"> • Argote, L., McEvily, B., and Reagans, R. (2003) Managing Knowledge in Organizations: An Integrative Framework and Review of Emerging Themes, <i>Management Science</i>, 49(4), 571-582. • Kane, G.C. and Alavi, M. (2007) Information Technology and Organizational Learning: An Investigation of Exploration and Exploitation Processes. <i>Organization Science</i>, 18(5), 796-815. • Malhotra, A., Gosain, S., and El Sawy, O.A. (2005) Absorptive Capacity Configuration in Supply Chains: Gearing for Partner-enabled Market Knowledge Creation, <i>MIS Quarterly</i> 29(1), 145-187.
Feb. 13	<p>Inter-organizational networks and coordination</p> <ul style="list-style-type: none"> • Powell, W.W. and Smith-Doerr, L. (1994) Networks and economic life. In <i>The Handbook of Economic Sociology</i>, Smesler et al. (eds), Princeton University Press: Princeton, N.J., 368-402. • Kellogg, Orlikowski and Yates (2006) Life in the trading zone: Structuring coordination across boundaries in a postbureaucratic organization. <i>Organization Science</i>, 17(1), 22-44. • TBA

Week	Topics and Readings
	Network effects, technologies and organizations
Feb. 20	<p>Network Economics</p> <ul style="list-style-type: none"> • Shapiro, C., and Varian, H.R. (1998) Information Rules: A Strategic Guide to the Network Economy, Harvard Business School Press: Massachusetts Chapter 7: Networks and Positive Feedback • Gawer, A., and Cusumano, M.A. (2008) How Companies Become Platform Leaders, Sloan Management Review, 49(2), 28-35. • Suarez, F. (2005) Network Effects Revisited: The Role of Strong Ties in Technology Selection, Academy of Management Journal, 48(4), 710-720.
Feb. 27	<p>Standards, Standardization (information and technology)</p> <ul style="list-style-type: none"> • Shapiro, C., and Varian, H.R. (1998) Information Rules: A Strategic Guide to the Network Economy, Harvard Business School Press: Massachusetts Chapter 9: Waging a Standards War • David, P.A. (1985) Clio and the economics of Qwerty. American Economic Review, 75(2), 332-337. • Fomin, V., Keil, T. and Lyytinen, K. (2003) Theorizing about Standardization: Integrating Fragments of Process Theory in Light of Telecommunication Standardization Wars, <i>Sprouts: Working Papers on Information Environments, Systems and Organizations</i>, Volume 3, Issue 1 (Winter) pp 29-60. http://sprouts.case.edu/2003/030102.pdf
	IT in organizations
Mar. 5	<p>IT and Organizational Innovation</p> <ul style="list-style-type: none"> • Abrahamson, E., and Rosenkopf, L. (1997) Social Network Effects on the Extent of Innovation Diffusion: A Computer Simulation, Organization Science, 8(3), 289-309. • Fichman, R. (2004) Going Beyond the Dominant Paradigm for Information Technology Innovation Research: Emerging Concepts and Methods, Journal of the AIS, 5(8), 314-355. • Lyytinen, K., and Rose, G.M. (2003) The Disruptive Nature of Information Technology Innovations: The Case of Internet Computing in Systems Development Organizations, MIS Quarterly, 27(4), 557-595.
Mar. 12	Spring Break
Mar 19	<p>Boundary Object Theory</p> <ul style="list-style-type: none"> • Star, S.L., and Griesemer, J.R. (1989) Institutional Ecology, 'Translations' and Boundary Objects: Amateurs and Professionals in Berkeley's Museum of Vertebrate Zoology, 1907-39, Social Studies of Science, 19(3), 387-420. • Bergman, M., Lyytinen, K., Mark, G. (2007) Boundary Objects in Design: An Ecological View of Design Artifacts, Journal of the AIS, 8(11), 546-568. • Puri, S.K. (2007) Integrating Scientific with Indigenous Knowledge: Constructing Knowledge Alliances for Land Management in India, MIS Quarterly, 31(2), 355-379.
Mar. 26	Project Proposal Presentation

Week	Topics and Readings
Apr. 2	To Be Decided by faculty and students according to students' research interests
Apr. 9	To Be Decided by faculty and students according to students' research interests
Apr. 16	Reviewing and Publishing <ul style="list-style-type: none"> • Whetten, D.A. (1989) What constitutes a theoretical contribution? The Academy of Management Review, 14(4), 490-495. • Schminke, M. (2004) Raising the Bamboo Curtain, Academy of Management Journal, 47(3), 310-314. • Harrison, D. (2002) Obligatons and Obfuscations in the Review Process, Academy of Management Journal, 46(6), 1079-1084.
Apr. 23	Final Project Presentation
Apr. 30	Final Project Presentation