

Research in Information Systems: Organizational and Behavioral Perspectives

Fall 2007, Thursdays 9 to 12 p.m., OM Conference Room (CBA 3.414)

MIS 381N.2 Section: 03875

Professor Sirkka Jarvenpaa, Ph.D. MBA

CBA 6.480

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Required Readings:

All the required readings can be retrieved from the Blackboard.

Recommended Readings

Kuhn, T. The Structure of Scientific Revolutions, University of Chicago Press, 2nd Edition, 1970

Course Overview

This course is designed to provide doctoral students across different disciplines a broad introduction to key management, organizational, and behavioral research issues and challenges in topics of information technology (IT). The course is designed for both information systems (IS) and non-IS Ph.D. students. The course covers topic areas such as IT related innovation, IT adoption, IT-mediated communication, corporate strategy and IT, business value of IT, knowledge management and learning, organizational change and IT, and IT supported market, team, community, and interorganizational relationships (including outsourcing) at varying levels of analysis (organization, group, individual). The readings in the course will deepen the students' understanding of the role of the information technology and enhance their ability to theorize about IT related to their own various research themes. The course will also survey various research methodologies used to study the various topics. We also discuss challenges in publishing IT related research in IS and non-IS journals. This course aims to help you open the black box of IT and enrich your research by understanding the relevance and implications of IT to key contemporary business and organizational challenges.

We will achieve the course objectives through individual reading of papers, class discussions, guest lectures and thorough work on short and long research papers.

Grading

The final letter grade for this course will be based on the following:

Class participation (including short assignments to be handed out in class): 30%

Topic analyses: 20%

Moderator/ critiques: 10%

Debate Performance: 10%

Final paper: 30%

Discussion of Assigned Readings (all assigned readings will be posted on Blackboard)

CLASS PARTICIPATION

Students will be graded based on their contribution to the discussion of the readings. All students are expected to be ready to discuss ALL assigned articles on the assigned day. The class discussion grade will be based on the relative contribution of each student to the class as a whole. In determining the class discussion grade we will consider the following: familiarity with the assigned readings, the ability to integrate material from a diverse set of readings, the ability to develop new ideas based on the readings, the ability to provide real-world examples to support or refute the readings, and the ability to ask and/or answer relevant questions.

To ensure both breadth and depth in each student's learning, each student is asked to moderate one of the discussions of readings. Additionally, each student is expected to provide critiques of three articles during the semester.

MODERATED SESSIONS: STUDENTS ACTING AS MODERATORS OF DISCUSSION ON ARTICLES

Each student will take on the task of moderating one session during the semester. The moderation entails coming up with thought provoking discussion questions and leading the discussion for the first hour. The discussion should integrate the insights from different readings and place them in the context of research in the field. Discussion questions should help integrate across the readings, rather than discuss them one by one. The moderator needs to submit a plan of the session moderation to the instructor three days prior to the session.

CRITIQUES

Three times a semester students need to provide a critique for one of the empirical articles to be discussed in an upcoming week (critiques need to be submitted a night before the article is discussed in class). The assignment gives one an opportunity to read an article in depth and discern the weaknesses and strengths. **The first critique must be submitted no later than session 4; the second no later than session 9, and the last one no later than session 13.** The critiques can follow any format, but need to accomplish the following: the critique should not merely summarize the paper but rather (1) evaluate the paper's research question (strengths and weaknesses in comparison to the others assigned for that day), (2) highlight theoretical and empirical issues related to the paper (strengths and weaknesses), and (3) suggest a research question that would extend the work and justify why such a question would be theoretically and practically significant. The critique should be about two pages long (single spaced). Students are expected to prepare their critiques independently, but may consult others on some specific issues (e.g., statistical methods used in the study). **Please email the critiques to the instructor and the session's moderator a night before the related session (by 9 p.m.).**

DEBATE SESSIONS: STUDENTS DEBATING THE ARTICLES

Some days we will discuss research papers or articles in a debate format. For each article a student will be assigned to be an "advocate" of the paper and another student will be assigned to be a "critic." In class, each side will make a short presentation outlining the view of the paper, followed by a brief period in which rebuttals can be made. A general debate will then ensue, in which other members of the class can ask questions of either side, or bring up other issues.

Topic Analysis

On two separate occasions, each student will **INDIVIDUALLY** prepare and submit a 3-5-page topic analysis based on the readings from the previous three weeks. **The first one is due on October 18, and the second one on November 8.**

The following excerpt from Davis and Parker (1979) provides guidelines on what constitutes a topic analysis (Davis, Gordon B. and Parker, Clive, "Writing the Doctoral Dissertation: A Systematic Approach.")

The topic analysis is essentially a simplified proposal form, providing a rough outline of factors relating to a dissertation. The parts are as follows:

1. *Problem, hypothesis, or question*
2. *Significant prior research*
3. *Theory, framework, hypotheses (why it is worthy of doctoral research)*
4. *Possible research approach or methodology*
5. *Potential theoretical and practical outcomes of research and importance of each*

NO LATE REPORTS WILL BE ACCEPTED.

Final Paper: A Research Proposal

[On December 14 (5 p.m.), students will submit a research proposal for a highly focused study that can be completed in the following 6 to 8 months. However, to ensure that every student will submit a passing proposal, students are expected to seek feedback on their early draft from the professor. **All first drafts of completed proposals are due on Monday November 26 (9 am)**. These early drafts will not be graded, but will have feedback for revision. **An early draft is a not an outline, rather it is a full paper.**

The research proposal should identify a problem domain and provide a problem definition. The motivation, a relevant literature review, theoretical underpinnings (not restricted to the subset that is covered in the course), and hypotheses should also be incorporated. A plan for conducting the research and research materials (e.g., surveys), as well as potential results and contributions should be discussed.

With additional work after this semester (in the spring and summer), it is expected that the paper would be of quality accepted in IS research conferences such as AIS, ICIS, HICSS, AoM-OCIS, SIGCPR, WITS, WISE, etc.

To ensure that everyone is making good progress in selecting a topic for their research proposal, **one page overview and a one to two page outline of the proposal are due on October 8.**

About the Instructor

Sirkka L. Jarvenpaa is the James Bayless/Rauscher Pierce Refsnes Chair in Business Administration at the University of Texas at Austin. She received her Ph.D. at the University of Minnesota. She was the holder of the distinguished Marvin Bower Fellowship at Harvard Business School in 1994. She has also held visiting appointments at Massachusetts Institute of Technology, University of Melbourne, Queens University, University of Jyväskylä, Helsinki School of Technology, City University of Hong Kong, Hong Kong University of Science and Technology, etc. At the University of Texas at Austin, she serves as Director of the Center for Business, Technology and Law. Dr. Jarvenpaa has served as the Editor of Chief of the Journal of Association for Information Systems, co-editor in chief of the Journal of Strategic Information Systems, the senior editor for MIS Quarterly and Information Systems Research. She has served in many chair roles (program, Ph.D. consortium, planning) for the International Conference on Information Systems, the largest and most prestigious conference in her field. She is also a frequent contributor in Industry conferences on mobile business.

Course Schedule and Readings

Session 1: Introduction to the study of information technology and the field of information systems and Orientation – August 30

- Hirschheim, R.A., “Information Systems Epistemology: An Historical Perspective,” in Galliers, R. (ed.) *Information Systems Research: Issues, Methods, and Practical Guidelines*, 1991, 28-60.
- Orlikowski, W. J. and Iacono, C.S., “Research Commentary: Desperately Seeking the ‘IT’ in IT Research--A Call to Theorizing the IT Artifact,” *Information Systems Research*, 12, 2 (June 2001), 121- 135.
- Barley, S.R. “When I Write My Masterpiece: Thoughts on What Makes a paper Interesting,” *Academy of management Journal*, 2006, Vol. 49, 1, 16-20.
- Lee, A.S., “Reviewing a Manuscript for Publication,” *Journal of Operations Management*, 13 (1995), 87-92.
- Editorial statement for MISQ: <http://www.misq.org/archivist/edstates.html>
- Editorial statement for ISR: <http://iol-a.informs.org/site/ISR/index.php?c=3&kat=Editorial+Statement>
- Editorial statement for Management Science- Information Systems Department: <http://www.informs.org/site/ManSci/index.php?c=5&kat=Editorial+Statement>

Recommended Reading During the Semester:

Kuhn, T. *The Structure of Scientific Revolutions*, University of Chicago Press, 2nd Edition, 1970

Session 2: Epistemology and Theory Building - September 6

- How to theorize: <http://www.analytictech.com/mb313/howto.htm>.
- Whetten, D. A., “What constitutes a theoretical contribution?” *Academy of Management Review*, 14(4), October 1989, 490-495.
- Sutton, R.I. and Staw, B.M., “What Theory is Not,” *Administrative Science Quarterly*, 40, 3 (September 1995), 371-384
- Gregor, Shirley, “The nature of theory in Information Systems,” *MIS Quarterly*, Sep2006, 30, 3, 611-642.
- Jiang, Z. and Benbasat, I., “The Effects of Presentation Formats and Task Complexity on Online Consumers’ Product Understanding,” *MIS Quarterly*, Sep2007, 31, 3, 475-500. (NOTE: Critique this paper using the guidelines proposed in the above articles)

SKIM:

- Webster, J. and Watson, R.T., “Analyzing the Past to Prepare for the Future: Writing a Literature Review,” *MIS Quarterly*, 26, 2 (June 2002), xiii-xxiii.
- Theories Used in IS Research: <http://www.istheory.yorku.ca/>

Session 3: User Acceptance and Diffusion of Information Technology – September 13

Short Assignment 1 Due

- Venkatesh, V., Morris, M.G., Davis, G.B., and Davis, F.D., “User Acceptance of Information Technology: Toward a Unified View,” *MIS Quarterly*, 27, 3 (September 2003), 425-478.
- Wixom, B.H. and Todd, P. A., “A Theoretical Integration of User Satisfaction and Technology Acceptance,” *Information Systems Research*, Mar2005, Vol. 16 Issue 1.
- Venkatesh, V., Davis, F.D., and Morris, M.G. “Dead or Alive? The Development, Trajectory and Future of Technology Adoption Research,” *Journal of the AIS*, April 2007, 8, 4, 267-286.
- Sabherwal, R., Jeyaraj, A., and Chowa, C. “Information System Success: Individual and Organizational Determinants,” *Management Science*, 2006, 52, 12, 1849-1864.

- Fichman, R.G. "Going Beyond the Dominant Paradigm for Information Technology Innovation Research: Emerging Concepts and Methods," *Journal of Association for Information Systems (JAIS)*, 5, 8, 2004.

Session 4: Research on Technology Enabled Communication – September 20

Short Assignment 2 Due **Last day to turn in Critique 1**

- Daft, R.L and Lengel, R.H., "Organizational Information Requirements, Media Richness and Structural Design," *Management Science*, 32, 5 (May 1986), 554-172.
- Ngwenyama, O.K. and Lee, A.S. "Communication richness in electronic mail: Critical social theory and the contextuality of meaning," *MIS Quarterly*, Jun97, Vol. 21 Issue 2.
- Carlson, J. R. and Zmud, R. W., "Channel Expansion Theory and the Experiential Nature of Media Richness Perceptions," *Academy of Management Journal*, 42, 4 (April 1999), 153-170.
- Carte, T. and Chidambaram, L. "A Capabilities-Based Theory of Technology Deployment in Diverse Teams: Leapfrogging the Pitfalls of Diversity and Leveraging Its Potential with Collaborative Technology," *Journal of Association for Information Systems*, 5, 11-12, December 2004, 448-471.
- Watson-Manheim, M.B, and Bélanger, F. "Communication Media Repertoires: Dealing with the Multiplicity of Media Choices," *MIS Quarterly*, Jun2007, Vol. 31 Issue 2, p267-293

SKIM:

Wagner, C. and Majchrzak, A. "Wiki in Your Company: Lessons for Collaborative Knowledge Management"

Session 5: Empirical Research Methodologies I – September 27

Short Assignment 3 Due

- Cook and Campbell, "Quasi-Experimentation: Design and Analysis Issues for Field Settings," CHAPTER 1 and 2
- Quantitative, Positivist Research Methods in Information Systems:
<http://dstraub.cis.gsu.edu:88/quant/>
- Straub, D.W., "Validating Instruments in MIS Research," *MIS Quarterly*, 13, 2 (June 1989), 146-169.
- Straub, D., Boudreau, M., and Gefen, D. "Validation guidelines for IS positivist research," *Communications of the AIS* (13), 2004, pp. 380-427.

SKIM:

- Chin, W.W. "Issues and Opinion on Structural Equation Model," *MIS Quarterly*, March 1998
- Malhotra, N.K., Kim, S.S., Patil, A. "Common Method Variance in IS Research: A Comparison of Alternative Approaches and a Reanalysis of Past Research," *Management Science*, 52, No. 12, December 2006, 1865-1883.
- Application for Approval of a Research Project Involving Human Subjects

Session 6: Empirical Research Methodologies II – October 4

- Markus, M.L. & Robey, D. "IT and organizational change: Causal structure in theory and research," *Management Science* (34:5), 1988, pp. 583-598.
- Myers, M., "Qualitative Research in Information Systems," *IS World*:
<http://www.qual.auckland.ac.nz/>
- Eisenhardt, K.M., "Building Theories from Case Study Research," *Academy of Management Review*, 14, 4 (October 1989), 532-550.
- Mingers, J. "Combining IS Research Methods: Towards a Pluralist Methodology," *Information Systems Research*, 12, 3, 2001, 240-259

- Dube, L. and Pare, G. Rigor in Information Systems Positivist Case Research: Current Practices, Trends, and Recommendations, *MIS Quarterly*, 27, 4, 597-635, December 2003.

OCTOBER 8: ONE PAGE OVERVIEW AND A ONE TO TWO PAGE OUTLINE OF THE PROPOSAL ARE DUE

Session 7: Research on Information Technology and Markets – October 11

- Malone, T.W., Yates, J., and Benjamin, R.I., “Electronic Markets and Electronic Hierarchies: Effects of Information Technologies on Market Structure and Corporate Strategies,” *Communications of the ACM*, 30, 6 (June 1987), 484-497.
- Gurbaxani, V. and Whang, S., “The Impact of Information Systems on Organizations and Markets,” *Communications of the ACM*, 34, 1 (January 1991), 59-73.
- Hitt, L.M., “Information Technology and Firm Boundaries: Evidence from Panel Data,” *Information Systems Research*, 10, 2 (June 1999), 134-149.
- Granados, N.F., Gupta, A., and Kauffman, R.J. “The Impact of IT on Market Information and Transparency: A Unified Theoretical Framework,” *Journal of Association for Information Systems (JAIS)*, 7, 3, 2006, 148-178.
- Soh, C., Markus, M.L., and Goh, K.H., “Electronic Marketplaces and Price Transparency: Strategy, Information Technology, and Success,” *MIS Quarterly*, Sep2006, Vol. 30 Issue 3, p705-723.

Guest Professor (11:00 – 12:00 noon): Bin Gu, Assistant Professor, Ph.D. The University of Texas at Austin

Session 8: Resource-Based Theory of the Firm and IT Research – October 18

Topic Analysis on previous three weeks of reading (S3,4,7) Due

- Barney, J.B., “Firm Resources and Sustained Competitive Advantage,” *Journal of Management*, 17, 1 (March 1991), 99-120.
- Mata, F.J., Fuerst, W.L., and Barney, J.B., “Information Technology and Sustained Competitive Advantage: A Resource-Based Analysis,” *MIS Quarterly*, 19, 4 (December 1995), 487-505.
- Wade, M. and Hulland, J., “The Resource-Based View and information Systems Research: Review, Extension, and Suggestions for Future Research,” *MIS Quarterly*, 28, 1 (March 2004), 107-142.
- Pavlou, P.A., and El Sawy, O.A. “From IT Leveraging Competence to Competitive Advantage in Turbulent Environments: The Case of New Product Development,” *Information Systems Research*, 2006, 17, 198-227.

Session 9: Knowledge Management – October 25

Last day to turn in Critique 2

- Nonaka, I., “A Dynamic Theory of Organizational Knowledge creation,” *Organization Science*, 5, 1 (Jan/Feb 1994), 14-37.
- Alavi, M. and Leidner, D.E., “Knowledge Management and Knowledge Management Systems: Conceptual Foundations and Research Issues,” *MIS Quarterly*, 25, 1 (March 2001), 107-136.
- Tanriverdi, H. "Information technology relatedness, knowledge management capability, and performance of multibusiness firms," *MIS Quarterly* (29:2), Jun 2005, pp 311-334.
- McClure Wasko, M. and Faraj, S. “Why Should I Share? Examining Social capital and Knowledge Contribution in Electronic Networks of Practice.” *MIS Quarterly*, Mar2005, 29, 1, 35-58.
- Faraj, S. and Xiao, Y. “Coordination in Fast-Response Organizations,” *Management Science*, 52, 8, August 2006, p. 1155-1169.

Guest Professor (9:00 to 10:00 noon): Huseyin Tanriverdi, Assistant Professor, Ph.D. The University of Texas at Austin

Session 10: Emergent Perspectives on Organizational Change and Structuration Theory – November 1

- Markus, M.L. & Robey, D. "IT and organizational change: Causal structure in theory and research," *Management Science* (34:5), 1988, pp. 583-598.
- Barley, S.R., "The Alignment of Technology and Structure through Roles and Networks," *Administrative Science Quarterly*, 35, (March 1990), 61-103.
- DeSanctis, G., "Capturing the Complexity in Advanced Technology Use: Adaptive Structuration Theory," *Organization Science*, 5, 2 (May 1994), 121-147.
- Sabherwal, R. & Robey, D. "Reconciling variance and process strategies for studying ISD," *Information Systems Research* (6:4), 1995, pp. 303-327.
- Orlikowski, W. J., "Improvising Organizational Transformation Over Time: A Situated Change Perspective," *Information Systems Research*, 7, 1 (March 1996), 63-92.

Session 11: Business Value of IT – November 8

Topic Analysis on previous three weeks of reading (S8,9,10) Due

- Barua, A., Kriebel, C. H., and Mukhopadhyay, T., "IT and business value: an analytic and empirical investigation," *Information Systems Research*, 6, 1 (March 1995), 3-23.
- Melville, N., Kraemer, K., and Gurbaxani, V., "Information Technology and Organizational Performance: An Integrative Model of IT Business Value," *MIS Quarterly*, 28, 2 (June 2004), 283-322.
- Oh, W., and Pinsonneault, A., "On the Assessment of the Strategic Value of Information Technologies: conceptual and Analytical Approaches," *MIS Quarterly*, Jun2007, 31, 2, 239-265.
- Chircu, A. M., and Mahajan, V. "Managing Electronic Commerce Transaction Costs for Customer Value," *Decision Support Systems*, 42, 2, November 2006, pp. 898-914

Guest Professor (11:00 to 12:00 noon): Alina Chircu, Assistant Professor, Ph.D. The University of Texas at Austin

Session 12: Design Science in Information Systems Research– November 15

- Walls, J.G., Widmeyer, G.R., and El Sawy, O. "Building an IS design theory for vigilant EIS," *MIS Quarterly* (3:1), 1992, pp. 36-59.
- Markus, M.L., Majchrzak, A., and Gasser, L. "A design theory for systems that support emergent knowledge processes," *MIS Quarterly* (26:3), 2002, pp. 179-213.
- Hevner, A.R., March, S.T., Park, J., and Ram, S., "Design Science in Information Systems Research," *MIS Quarterly*, 28, 1 (March 2004), 75-105.
- Widmeyer, G.R., El Sawy, O., & Walls, J.G. Looking for Bluetooth in Design Science and Information Systems Design Theory. *Under review MISQ*

Guest Professor (9:00 to 10:00 noon): Maytal Saar-Tsechansky, Assistant Professor, Ph.D. The University of Texas at Austin

NOVEMBER 26: DRAFTS OF RESEARCH PROPOSALS ARE DUE

Session 13: Team, Community and Interorganizational Relationships – November 29

Last day to turn in Critique 3

- Gibson, C.B. and Gibbs, J.L. "Unpacking the Concept of Virtuality: The Effects of Geographic Dispersion, Electronic Dependence, Dynamic Structure, and National Diversity on Team Innovation," *Administrative Science Quarterly*, 51, 2006, 451-495.
- Hart, P.J. and Saunders, C.S. "Power and Trust: Critical Factors in the Adoption and Use of Electronic Data Interchange," *Organization Science*, 8, 1, 1997, 23-42.
- Tiwana, A., and Bush, A.A. "A Comparison of Transaction Cost, Agency, and Knowledge-Based Predictors of IT Outsourcing Decisions: A U.S.-Japan Cross-Cultural Field Study," *Journal of Management Information Systems (JMIS)*, 2007, 24, 1, 259-300.
- Meng M., and Agarwal, R., "Through a Glass Darkly: Information Technology Design, Identity Verification, and Knowledge Contribution in Online Communities," *Information Systems Research*, Mar2007, 18, 1, 42-67.
- Bin, G., Konana, P., Rajagopalan, B., and Chen, H.M., "Competition Among Virtual Communities and User Valuation: The Case of Investing-Related Communities," *Information Systems Research*, Mar2007, 18,1,

Session 14: Developing a Research and Publication Strategy - December 6

- Bem, D.J., "Writing the empirical journal article," (1987), in the complete academic: *A practical guide for the beginning social scientist*, edited by M. P. Z. J. M. Darley (New York: Random House). Available online at: http://comp9.psych.cornell.edu/dbem/writing_article.html
- Knock, N. and Davison, R., "Dealing with Plagiarism in the Information Systems Research Community: A Look at Factors that Drive Plagiarism and Ways to address them," *MIS Quarterly*, 27, 4 (December 2003), 511-532.
 - <http://education.indiana.edu/~frick/plagiarism/item1.html>
 - <http://exlibris.memphis.edu/help/plagiarism/index.html>
 - <http://panther.indstate.edu/tutorials/plagiarism>
 - <http://www.lib.sfu.ca/researchhelp/tutorials/interactive/plagiarism/tutorial/introduction.htm>
- Valacich, J.S. Fuller, M.A., Schneider, C., Dennis, A.R. "Publication Opportunities in Premier Business Outlets: How Level is the Playing Field," *Information Systems Research*, Jun2006, 17, 2, 107-125.

SKIM:

- Davis, G.B. "Advising and Supervising Doctoral Students," *A working paper, University of Minnesota*, April 28, 2003.
- Advice articles for doctoral students: <http://www.decisionsciences.org/DecisionLine/col-doctoral.htm>
- van Slyke, C et al "Experts' Advice to Information Systems Doctoral Students" *Communications of the Association for Information Systems*, 12, 28, Nov 2003.

DECEMBER 14: RESEARCH PROPOSALS ARE DUE

On December 14 at 5 p.m., students will submit a final paper that is a research proposal for a highly focused study that can be completed in the following 6 to 8 months.