

MASSACHUSETTS INSTITUTE OF TECHNOLOGY  
Sloan School of Management

15.576

Fall 2008

**Research Seminar in Information Technology and Organizations:  
Social Perspectives**

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*General Information*

**Course Instructor:** Wanda J. Orlikowski  
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**Class Times:** Thursdays: 1 – 4 pm  
E51-385

**Office Hours:** By appointment

**Readings:** Packages of course material will be available in two parts: a print component available from Graphic Arts (E52-045), and an electronic component available from Stellar. Supplemental readings may be distributed during the semester.

**Grading:** Grades will be assigned on the following scheme:

Class participation	25%
Session facilitation	25%
Commentaries (6 @ 5 points)	30%
Research reflection paper	20%

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## COURSE OBJECTIVES AND DESCRIPTION

This course is intended to generate understanding of the philosophical, theoretical, and empirical foundations of the social study of technology in organizations. The course involves consideration and discussion of the research literature that includes a range of social phenomena surrounding the development, implementation, use, and implications of technology in organizations. A particular focus of the discussions will be an examination of the research assumptions guiding the theoretical ideas and empirical studies conducted in this field.

This is a seminar not a lecture course, which means that it is based on active class interaction. Please come to class fully prepared to discuss all the readings on a particular topic. Class participation grades will be allocated on the basis of both the quality and quantity of contribution.

You are asked to lead and facilitate one class session during the course of the semester. This involves activity before, during, and after the class session. Before the class session, please become familiar with all the readings for that class and generate key themes and questions for class discussion. I encourage you to meet with me a few days before the class session to discuss the design of the session and the particular ideas and issues you would like to highlight. During the class session, you will provide a 15–20 minute overview of the important themes and issues raised by the readings, and then facilitate a discussion of these and related topics for the remainder of the session, including offering some closing remarks in the last 10–15 minutes of the class. After the class session, you will prepare a short written summary of the themes and issues discussed, and distribute this to the rest of the class at the next session. Grades for facilitating a session will take into account level of preparation, framing of overview and closing remarks, written summary, and quality of discussion facilitated.

You are asked to prepare six (out of a possible eleven) commentaries on class sessions. These two-page papers are due at the beginning of each class, and are intended to evoke some thoughtful consideration of the material read, for example, exploring an issue or concept in greater depth, raising some theoretical or empirical questions, comparing and contrasting approaches or findings across the readings, etc. A final research reflection paper (six to eight pages) is due at the last class of the semester (on Thursday, December 4, 2008). This paper provides you with an opportunity to reflect on your ideas about research, and how the course material and your experiences in the class have influenced your understanding of the process and content of research on technology in organizations.

## COURSE SCHEDULE

### 9/4 *Prologue:* Introduction to course

Welcome, introductions, overview of course: philosophy, themes, structure, readings, assignments, and ground rules; discussion of the nature of scientific knowledge.

## **PART I: PHILOSOPHICAL DOMAIN — ASSUMPTIONS**

### 9/11 **Research Assumptions in studying Organizational Phenomena**

Burrell, G. and Morgan, G. *Sociological Paradigms and Organizational Analysis*, London: Heinemann, 1979: Chapters 1-3: pp. 1-37.

Pfeffer, J. "Barriers to the Advance of Organizational Science: Paradigm Development as a Dependent Variable," *Academy of Management Review*, 18, 4: 1993: 599-620.

Perrow, C. "Pfeffer Slips," *Academy of Management Review*, 19, 2, 1994: 191-194.

Cannella, A. and Paetzold, R. "Pfeffer's Barriers to the Advance of Organizational Science: A Rejoinder," *Academy of Management Review*, 19, 2, 1994: 331-341.

Van Maanen, J. "Style as Theory," *Organization Science*, 6, 1: 1995: 132-143.

### 9/18 **Research Assumptions in studying Technology**

Markus, M.L. and Robey, D. "Information Technology and Organizational Change: Causal Structure in Theory and Research," *Management Science*, 34, 5, 1988: 583-598.

Orlikowski, W.J. and Baroudi, J.J. "Studying Information Technology in Organizations: Research Approaches and Assumptions," *Information Systems Research*, 2, 1, 1991: 1-28.

Winner, L. "Do Artefacts have Politics?" in *The Whale and the Reactor: A Search for Limits in an Age of High Technology*. Chicago: University of Chicago Press, 1986: 19-39.

Kling, R. "Computerization and Social Transformations," *Science, Technology, & Human Values*, 16, 3, 1991: 342-367.

Orlikowski, W.J. and Iacono, C.S. "Desperately Seeking the 'IT' in IT Research: A Call to Theorizing the IT Artifact," *Information Systems Research*, 12, 2, 2001: 121-134.

## **PART II: THEORETICAL DOMAIN — PERSPECTIVES**

### 9/25 **Functional Perspectives on Technology**

Blau, P.M., Falbe, C.M., McKinley, W. and Tracy, P.K. "Technology and Organization in Manufacturing," *Administrative Science Quarterly*, 21, 1976: 20-40.

Huber, G.P. "A Theory of the Effects of Advanced Information Technologies on Organizational Design, Intelligence, and Decision Making," *Academy of Management Review*, 15, 1, 1990: 47-71.

Pinsonneault, A., and Kraemer, K.L. "Middle Management Downsizing: The Impact of Information Technology," *Management Science*, 43, 5, 1997: 659-679.

Sahaym, A., Steensma, H.K. and Schilling, M. "The Influence of Information Technology on the Use of Loosely Coupled Organizational Forms: An Industry Level Analysis," *Organization Science*, 18, 5, 2007: 865-880.

## **10/2 Contextual/Political Perspectives on Technology**

Gasser, L. "The Integration of Computing and Routine Work," *ACM Transactions on Office Information Systems*, 4, 3, 1986: 205-225.

Zuboff, S. "Automate/Informate: The Two Faces of Intelligent Technology." *Organizational Dynamics*, 14, 2, 1985: 5-18.

Barley, S.R. "Technology, Power, and The Social Organization of Work," *Research in the Sociology of Organizations*, 6, 1988: 33-80.

Thomas, R.J. *What Machines Can't Do: Politics and Technology in the Industrial Enterprise*, Berkeley, CA, University of California Press, 1994: 202-245.

## **10/9 Constructivist Perspectives on Technology**

Pinch, T.J. and Bijker, W.E. "The Social Construction of Facts and Artefacts: Or How the Sociology of Science and the Sociology of Technology Might Benefit Each Other," *Social Studies of Science*, 14, 3, 1984: 399-441.

Woolgar, S. and Grint, K. "Computers and the Transformation of Social Analysis," *Science, Technology, & Human Values*, 16, 3, 1991: 368-381.

Garud, R. and Rappa, M.A. "A Socio-Cognitive Model of Technology Evolution: The Case of Cochlear Implants," *Organization Science*, 5, 3, 1994: 344-362.

Hans K. Klein, H.K. and Kleinman, D.L. "The Social Construction of Technology: Structural Considerations," *Science, Technology, & Human Values*, 27, 1, 2002: 28-52.

## **10/16 Structural Perspectives on Technology**

Barley, S. "Technology as an Occasion for Structuring: Evidence from Observation of CT Scanners and the Social Order of Radiology Departments," *Administrative Science Quarterly*, 31, 1986: 78-108.

Orlikowski, W.J. "The Duality of Technology: Rethinking the Concept of Technology in Organizations," *Organization Science*, 3, 3, 1992: 398-427.

DeSanctis, G. and Poole, M.S. "Capturing the Complexity in Advanced Technology Use: Adaptive Structuration Theory," *Organization Science*, 5, 2, 1994: 121-147.

Orlikowski, W.J. "Using Technology and Constituting Structures: A Practice Lens for Studying Technology in Organizations," *Organization Science*, 11, 4, 2000: 404-428.

## **10/23 Post-Humanist Perspectives on Technology**

Kaghan, W.N. and Bowker, G.C. "Out of Machine Age?: Complexity, Sociotechnical Systems and Actor Network Theory," *Journal of Engineering and Technology Management*, 18, 3, 2001: 253-269.

Latour, B. "Where are the Missing Masses? The Sociology of a Few Mundane Artefacts," in W.E. Bijker and J. Law, (Eds.), *Shaping Technology/Building Society: Studies in Sociotechnical Change*. MIT Press, Cambridge, MA, 1992: 225-258.

Pickering, A. "The Mangle of Practice: Agency and Emergence in the Sociology of Science," *American Journal of Sociology*, 99, 3, 1993: 559-589.

Walsham, G. and Sahay, S. "GIS for District-Level Administration in India: Problems and Opportunities," *MIS Quarterly*, 23, 1, 1999: 39-65.

### **PART III: EMPIRICAL DOMAIN — PHENOMENA**

#### **10/30 Technology and Change**

Burkhardt, M.E. and Brass, D.J. "Changing Patterns or Patterns of Change: The Effects of a Change in Technology on Social Network Structure and Power," *Administrative Science Quarterly*, 35, 1990: 104-127.

Orlikowski, W.J. "Improvising Organizational Transformation over Time: A Situated Change Perspective," *Information Systems Research*, 7, 1, 1996: 63-92.

Barrett, M. and Walsham, G. "Electronic Trading and Work Transformation in the London Insurance Market," *Information Systems Research*, 10, 1, 1999: 1-22.

Volkoff, O., Strong, D.M. and Elmes, M.B. "Technological Embeddedness and Organizational Change," *Organization Science*, 18, 5, 2007: 832-848.

#### **11/6 Technology and Work**

Kraut, R., Koch, S. and Dumais, S. "Computerization, Productivity, and Quality of Employment," *Communications of the ACM*, 32, 2, 1989: 220-238.

Berg, M. "Of Forms, Containers, and the Electronic Medical Record: Some Tools for a Sociology of the Formal," *Science, Technology & Human Values*, 22, 4, 1997: 403-433.

Schultze, U. and Orlikowski, W.J. "A Practice Perspective on Technology-Mediated Network Relations: The Use of Internet-based Self-Serve Technologies," *Information Systems Research*, 15, 1, 2004: 87-106.

Beunza, D. and Stark, D. "Tools of the Trade: The Socio-Technology of Arbitrage in a Wall Street Trading Room," *Industrial and Corporate Change*, 13, 1, 2004: 369-401.

#### **11/13 Technology and Knowing/Learning**

Brown, J.S. and Duguid, P. 1991. "Organizational Learning and Communities of Practice: Toward a Unified View of Working, Learning and Innovation," *Organization Science*, 2, 1, 1991: 40-57.

Bechky, B.A. "Sharing Meaning Across Occupational Communities: The Transformation of Understanding on a Production Floor," *Organization Science*, 14, 3, 2003: 312-330.

Dodgson, M. Gann, D.M. and Salter, A. "In Case of Fire, Please use the Elevator: Simulation Technology and Organization in Fire Engineering," *Organization Science*, 18, 5, 2007: 849-864.

Schultze, U. "A Confessional Account of an Ethnography about Knowledge Work," *MIS Quarterly*, 24, 1, 2000: 3-41.

**11/20 Technology and Communication/Collaboration**

Sproull, L. and Kiesler, S. "Reducing Social Context Cues: Electronic Mail in Organizational Communication," *Management Science*, 32, 11, 1986: 1492-1512.

Markus, M.L. "Electronic Mail as the Medium of Managerial Choice," *Organization Science*, 5, 4, 1994: 502-527.

Hinds, P. and Kiesler, S. "Communication across Boundaries: Work, Structure, and Use of Communication Technologies in a Large Organization," *Organization Science*, 6, 4, 1995: 373-393.

Orlikowski, W.J. and Yates, J. "Genre Repertoire: Examining the Structuring of Communicative Practices in Organizations," *Administrative Science Quarterly*, 39, 4, 1994: 541-574.

**12/4 Epilogue: Review of and reflection on course themes, questions, and implications**

Deetz, S. "Describing Differences in Approaches to Organization Science: Rethinking Burrell and Morgan and their Legacy," *Organization Science*, 7, 2, 1996: 191-207.

Weick, K.E. "Drop your Tools: An Allegory for Organizational Studies," *Administrative Science Quarterly*, 41, 1996: 301-313.

Law, J. and Urry, J. "Enacting the Social," *Economy and Society*, 33, 3, 2004: 390-410.