

**CASE WESTERN RESERVE UNIVERSITY
WEATHERHEAD SCHOOL OF MANAGEMENT**

MIDS 527 – Seminar in Management Information Systems

Fall 2001

SEMINAR OBJECTIVES

This seminar is designed to help students become familiar with research in MIS. A broad range of research topics in IS literature will be reviewed in this seminar. This seminar, by any means, should not be viewed as a way to gain in-depth knowledge in a particular stream of IS research. Rather, this seminar is designed as a springboard to begin a literature review in your chosen area of interest and ultimately to develop a researchable question in that area. Finally, by the end of the semester, you should be able to constructively review journal and conference manuscripts, and make clear, concise, and interesting research presentations.

MEETING STRUCTURE

In preparation for each meeting, you will critically review and synthesize the articles assigned. In addition to critiquing existing work, the seminar will emphasize constructive discussions toward designing research studies to build upon and go beyond the status quo of the research streams studied.

EVALUATION

1. Two article review (20%). You will be given two articles to review during the course of the seminar. Because these will be “live” reviews, timing and deadlines will be contingent upon the requirements of the conferences and journals for which you review. This will be coordinated by Kalle Lyytinen.
2. Class preparation and participation (30%). For each class session, you should prepare a one page “conversation starter” that integrates the readings prior to each session.
3. Research paper (50%). You will review the literature in an area you are considering for your dissertation, construct a conceptual framework which allows you to organize the relationships among important concepts in the area, and use the framework to offer a research question that you believe merits investigation. In addition, your paper should describe how you would research this question, and why you would believe the methodology is appropriate. The paper is due on December 7.

Guidelines for a Research Paper

This seminar research paper is expected to demonstrate the author's capability to summarize *independently* results of scientific work within a specific field (over a period of c.a. 10 years). The summary should provide to an average scholarly reader an understanding of *scholarly contributions* to the scientific knowledge in a specific research field written in a *review* or *survey form*, and then pose a research question that merits investigation in that field. The report should also discuss used *research methods* which are acceptable to the specific scientific community investigated.

In short the summary should provide information about the following topics:

- basic concepts and theories
- key research problems and their evolution
- major findings and their evolution
- major criticisms and problems in research
- an assessment of the theoretical and practical impact of the research
- used research methods and their limitations
- a research problem formulation within that field

I urge you to examine some examples of how to write a survey and summary of conducted research (there are several examples in the reading packet). Use tables, charts and classifications to improve your presentation and condense the text. Don't write just a reference of several papers you have read but try to synthesize and analyze their relationships and contributions. Develop some frameworks (or imitate others published so far), which you can use to organize your discussion and identify issues etc.

The types of questions which can be covered and assessed are :

- the significance of the obtained results; i.e. what is new, novel and practical in research
- are research designs appropriate and relevant and do they address problems that are important to the internal development of the science (theory, methods) and/or to some stakeholder groups (managers, designers, users, policy makers)
- are studies in the field examples of scholarly work and can you relate the work critically to other works in the field or reference disciplines.

In the area of research methods the types of topics discussed are

- what research methods are used, how good are their research designs, and how well the research methods are applied (flaws, justification)
- how well the research has been carried out

In the area of communication

- how consistent and well-organized are the principal scholarly works in the area
- are there mistakes and flaws in representations,

In the area of research topic development

- how well defined the problem is in relation to the concepts developed?
- what type of research problem (how, why, what)?
- how does the question advance theory in the field?
- how does the question advance empirics in the field?
- how does the question relate to different stakeholders of the research?

A contents outline of the summary report can be

1. Introduction (1-2 pages)
2. Research field overview and summary of results (10 pages)
3. Significance of the contributions (1 page)
4. Critical review of the research methods used (1-2 pages)
5. Research problem and its motivation (3-5 pages)
6. Summary and conclusions (1-2 page)

MIDS 527 Schedule

Week of August 27 Dick Boland

Foundations

Readings:

Management Misinformation Systems, R.L. Ackoff, Management Science, Vol. 14, No. 4, December, 1967.

Management in the 1980's, H.J. Leavitt and T.L. Whisler, Harvard Business Review, November-December 1958

Management Information Systems: The Challenge to Rationality and Emotionality, C. Argyris, Management Science, Vol. 17, No. 6, February, 1971.

A Framework for Management Information Systems, G.A. Gorry, M.S. Scott, Sloan Management Review, Fall 1971.

MIS is a Mirage, J. Dearden

The Nature and Design of Post-Industrial Organizations, G.P. Huber, Management Science, Vol. 30, No. 8, August 1984.

A Keyword Classification Scheme for IS Research Literature: An Update, H. Barki, S. Rivard, J. Talbot, MIS Quarterly, June 1993, pp. 209-226

MIS Research: Reference Disciplines and a Cumulative Tradition, P. Keen, Proceedings of the First International Conference on Information Systems, 9-18.

A Framework for Research in Computer-Based Management Information Systems, B. Ives, S. Hamilton, G.B. Davis, Management Science, Vol. 26, No. 9, September, 1980.

Week of September 3 Dick Boland

Article Review

Readings:

- Normative Stands for IS Research, D. Straub, S. Ang, R. Evaristo, DATABASE, Vol. 25, No. 1, February, 1994, pp. 21-34.
- Why I recommended that your manuscript be rejected and what you can do about it. R. Daft, in L. Cummings & P. Frost (Eds.), Publishing in the Organizational Sciences, 193-209.
- The Reviewer as Defense Attorney, L. Pandy, in L. Cummings & P. Frost (Eds.), Publishing in the Organizational Sciences, pp. 210-219.
- Some notes on the importance of writing in organizational studies, J. Van Maanen, in J. Cash and P. Lawrence (Eds.), Information Systems Research Challenge: Qualitative Research Methods, 27-34, Boston: Harvard Business School, 1991.
- Writing up “intensive” research in the “standard article format” – enablement or constraint? Claremont Graduate School Working Paper, WP 10-92.

Week of September 10 Fred Collopy

Information design, Multimedia, HCI

Readings:

- Computing and Organizations: What We Know and What We Don't Know, P. Attewell, J. Rule
- Power, Politics, and MIS Implementation by M. Lynne Markus in R.M. Baecker and W. Buxton (Eds.) Human-Computer Interaction: A Multidisciplinary Approach, Morgan Kaufmann Publishers, Inc., 1987, pp. 68-82.
- A Historical and Intellectual Perspective in R.M. Baecker and W. Buxton (Eds.) Human-Computer Interaction: A Multidisciplinary Approach, Morgan Kaufmann Publishers, Inc., 1987, pp. 41-54
- Issues and Approaches to Appraising Technological Change in the Office: A Consequentialist Perspective by H.K. Klein and R. Hirschheim in R.M. Baecker and W. Buxton (Eds.) Human-Computer Interaction: A Multidisciplinary Approach, Morgan Kaufmann Publishers, Inc., 1987, pp. 83-92
- The Psychological Study of Programming by B. A. Sheil in R.M. Baecker and W. Buxton (Eds.) Human-Computer Interaction: A Multidisciplinary Approach, Morgan Kaufmann Publishers, Inc., 1987, pp. 165-174.
- Computer Text-Editing: An Information-Processing Analysis of a Routine Cognitive Skill by S.K. Card, T.P. Moran and A. Newell in R.M. Baecker and W. Buxton (Eds.) Human-Computer Interaction: A Multidisciplinary Approach, Morgan Kaufmann Publishers, Inc., 1987, pp. 219-240.
- Designing for Usability: Key Principles and What Designers Think by J. D. Gould and C. Lewis in R.M. Baecker and W. Buxton (Eds.) Human-Computer Interaction: A Multidisciplinary Approach, Morgan Kaufmann Publishers, Inc., 1987, pp. 528-539.

Week of September 17 Fred Collopy

Multiple hypotheses and condition seeking as research strategies

Readings:

- The Method of Multiple Working Hypotheses, T. C. Chamberlin, Science, Vol. 148, pp. 754-759
- Under what Conditions Does Theory Obstruct Research Progress, A.G. Greenwald, M.R. Leippe, A.R. Pratkanis, and M.H. Baumgardner, Psychological Review, 93 (2) 216-229, April 1986
- On the Psychology of Experimental Surprises, P. Slovic and B. Fischhoff, Journal of Experimental Psychology: Human Perception and Performance
- Statistical Significance as a Decision Rule, G.W. Walster and T. A. Cleary in E.F. Borgatta, (Ed.) Sociological Methodology, 1970.

Week of September 24 Youngjin Yoo

Group Support Systems/CMC

Readings:

- Daft, R. L., & Lengel, R. H. (1986). Organizational information requirements, media richness and structural design. Management Science, 32, 554-571.
- Dennis, A. R., & Valacich, J. S. (1993). Computer brainstorming: More heads are better than one. Journal of Applied Psychology, 78(4), 531-537.
- Valacich, J.S., Dennis, A.R., & Connolly, T. (1994). Idea Generation in Computer-Based Groups: A New Ending to an Old Story. Organizational Behavior and Human Decision Processes, 57, 448-467.
- DeSanctis, G., & Gallupe, B. (1987). A Foundation for the study of group decision support systems. Management Science, 33(5), 589-609.
- DeSanctis, G., & Poole, M. S. (1994). Capturing the complexity in advanced technology use: Adaptive Structuration Theory. Organization Science, 5(2), 121-147.
- Sproull, L., & Kiesler, S. (1986). Reducing social context cues: Electronic mail in organizational communication. Management Science, 32(11), 1492-1512.
- Walther, J. B. (1995). Relational aspects of computer-mediated communication: Experimental observations over time. Organization Science, 6(2), 186-203.

Week of October 1 Youngjin Yoo

Strategic Use of Information Technology

Readings:

- Barua, A., Kriebel, C. H., & Mukhopadhyay, T. (1991). An Economic Analysis of Strategic Information Technology Investments. MIS Quarterly, 15(3), 313-331.
- Clemons, E. K., & Row, M. C. (1991). Sustaining IT Advantage: The Role of Structural Differences. MIS Quarterly, 15(3), 275-292.
- Harris, S. E., & Katz, J. L. (1991). Organizational performance and information technology investment intensity in the insurance industry. Organization Science, 2(3), 263-295.
- Porter, M. E., & Millar, V. E. (1985). How information gives you competitive advantage. Harvard Business Review, 64(4), 149-160.
- Powell, T., & Dent-Micallef, A. (1997). Information technology as competitive advantage: The role of human, business, and technology resources. Strategic Management Journal, 18(5), 375-405.

Wernerfelt, B. (1984). A resource-based view of the firm. Strategic Management Journal, 5(2), 171-180.

Week of October 8 Michel Avital

Dependent Variable

Readings:

- DeLone, William H. and Ephraim R. McLean, "Information Systems Success: The Quest for the Dependent Variable," *Information Systems Research*, Vol. 3, No. 1, March 1992, pp. 60-95.
- Barki, H. and J. Hartwick, "Rethinking the Concept of User Involvement," *MIS Quarterly*, Vol. 13, No. 1, March 1989, pp. 53-63.
- Barki, Henri, and Hartwick, Jon, "Measuring User Participation, User Involvement, and User Attitude," *MIS Quarterly*, 18(1), June 1994, pp. 59-82.
- Franz, C. R. and D. Robey, "Organizational Context, User Involvement, and Usefulness of Information Systems," *Decision Sciences*, Vol. 17, No. 3, Summer 1986, pp. 329-356.
- Hitt, Lorin M. and Erik Brynjolfsson, "Productivity, Business Profitability, and Consumer Surplus: Three Different Measures of Information Technology Value," *MIS Quarterly*, Vol. 20, No. 2, June 1996, pp. 121-142.
- Klenke, K. "Construct Measurement in Management Information Systems: A Review and Critique of User Satisfaction and User Involvement Instruments," *INFOR*, vol. 30, no. 4, Nov 1992, pp. 325-348.
- Nunamaker, Jay F., Jr. and Ralph H. Sprague, Jr., "Information Technology and Its Organizational Impact," Special Issue of *Journal of Management Information Systems*, Vol. 12, No. 3, Winter 1995-96, pp. 3-7.

Week of October 15 Julie Rennecker

Technology Implementation

Readings:

- Ginzberg, M.J. (1981). Early diagnosis of MIS implementation failure: Promising results and unanswered questions. *Management Science*, 27(4), 459-476.
- (see Sept 14 readings) Markus, M.L. (1983). Power, politics, and MIS implementation. *Communications of the ACM*, 26(6), 430-444.
- Nutt, Paul C. (1986). Tactics of Implementation. *Academy of Management Journal*, 29(2), 230-261.
- Cooper, R.B. & Zmud, R. W. (1990). Information Technology Implementation Research: A Technological Diffusion Approach. *Management Science*, 36(2), 123-139.
- Newman, Michael and Robey, Daniel (1992). A Social Process Model of User-Analyst Relationships, *MISQ*, 16(2), 249-266.
- Klein, Katherine J. and Sorra, JoAnn Speer (1996). The Challenge of Innovation Implementation. *Academy of Management Review*, 21(4), 1055-1080.
- Nutt, Paul C. (1998). Leverage, Resistance, and the Success of Implementation Approaches. *The Journal of Management Studies*, 35(2), 213-240.
- Weick, Karl E. and Quinn, Robert E. (1999). Organizational Change and Development. *Annual Reviews Psychology*, 50(1), 361-386.

Optional—methodologically interesting

Sabherwal, Rajiv and Robey, Daniel (1993). An Empirical Taxonomy of Implementation Processes based on Sequences of Events in Information System Development. *Organization Science*, 4(4), 548-576.

Week of October 22 Kalle Lyytinen

System Development/Research Theory

Readings:

Hirschheim, R., Klein H.K. and Lyytinen, K., *Information Systems Development and Data Modeling, Conceptual and Philosophical Foundations*, Cambridge University Press, Cambridge, U.K., 1995 (chapters 2-4)

Hirschheim, R., Klein. H.K. and Lyytinen, K., Exploring the intellectual structures of information systems development: A social action theoretic analysis, *Accounting, Management and Information Technologies*, Vol. 6, No. 1/2, 1996, pp. 1-64

Iivari J., Lyytinen K. (1999): "Research on Information Systems Development in Scandinavia- Unity in Plurality", *Scandinavian Journal of Information Systems*, vol 10, No 1-2, pp. 135-185

Iivari, J., "A Paradigmatic Analysis of Contemporary Schools of IS Development", *Eur. J. Inf. Sys.*, Vol. 1, No. 4, 1991, pp. 249-272

Week of October 29 Dick Boland

Wanda Orlikowski's work

Readings:

Integrated Information Environment, W.J. Orlikowski, *Accounting, Management and Information Technologies*, Vol. 1, No. 1, 1991.

Improvising Organizational Transformation Over Time: A Situated Change Perspective, W.J. Orlikowski, *Information Systems Research*, Vol. 7, No. 1, March, 1996, pp. 63-92.

The Contradictory Structure of Systems Development Methodologies: Deconstructing the IS-User Relationship in Information Engineering, C.M. Beath, W.J. Orlikowski, *Information Systems Research*, Vol. 5, No. 4, December 1994, pp. 350-377.

Constituting Genre Repertoires: Deliberate and Emergent Patterns of Electronic Media Use, J. Yates, W.J. Orlikowski, K. Okamura, *Academy of Management Journal*, January, 1995, pp. 353-357.

Genre Repertoire: The Structuring of Communicative Practices in Organizations, W. J. Orlikowski, *Administrative Science Quarterly*, Vol. 39, No. 4, December, 1994, pp. 541-574.

Using Technology and Constituting Structures: A Practice Lens for Studying Technology in Organizations, W.J. Orlikowski, *Organization Science*, Vol. 11, No. 4, July-August 2000, pp. 404-428.

Week of November 5 WooYoung Chung

Technology Acceptance

Readings:

- Adams, D. A., Nelson, R. R., and Todd, P. A. (1992), "Perceived Usefulness, Ease of Use, and Usage of Information Technology: A Replication," *MIS Quarterly*, 16(2), 227-247.
- Davis, F. D., Bagozzi, R. P., and Warshaw, P. R. (1989), "User Acceptance of Computer Technology: A Comparison of Two Theoretical Models," *Management Science*, 35(8), 982-1003.
- Mathieson, K. (1991), "Predicting User Intentions: Comparing the Technology Acceptance Model with the Theory of Planned Behavior," *Information Systems Research*, 2(3), 173-191.
- Taylor, S. and Todd, P. A. (1995), "Understanding Information Technology Usage: A Test of Competing Models," *Information Systems Research*, 6(2), 144-176.
- Moore, G. C. and Benbasat, I. (1991), "Development of an Instrument to Measure the Perceptions of Adopting an Information Technology Innovation," *Information Systems Research*, 2(3), 192-222.
- Charng, H.-W., Piliavin, J. A., and Callero, P. L. (1988), "Role Identity and Reasoned Action in the Prediction of Repeated Behavior," *Social Psychology Quarterly*, 51(4), 303-317.
- Petty, R. E. and Cacioppo, J. T. (1984), "The Effects of Involvement on Responses to Argument Quantity and Quality: Central and Peripheral Routes to Persuasion," *Journal of Personality and Social Psychology*, 46(1), 69-81.
- Rice, R. E. and Aydin, C. (1991), "Attitudes toward New Organizational Technology: Network Proximity As a Mechanism for Social Information Processing," *Administrative Science Quarterly*, 36, 219-244.

Week of November 12 Kalle Lyytinen

Infrastructures/Pervasive Computing

The reading materials for the Infrastructures lectures. There are very few classics in this area so those which are important sources of research and theory building are marked with an asterisk.

Readings: (The classics are marked with an asterisk.)

- Lyytinen K., Yoo Y. "The Next Wave of Nomadic Computing: A Research Agenda for Information Systems Research", paper submitted to *Information Systems Research*
- March S., Hevner A., Ram S. "Research commentary: An Agenda for Information Technology Research in Heterogeneous and Distributed Environments," *Information Systems Research*, 11, 4, pp. 327-341
- *Williams R., Edge David, *The social shaping of technology*, *Research Policy* (1996), 365-399
- *Attewell, 1992] Attewell, P. (1992). Technology diffusion and organizational learning: The case of business computing. *Organization Science*, 3(1):1-19.
- *Hughes T. 1987] Hughes T. (1987): The evolution of Large Technological Systems, in *The Social Construction of Technological Systems*, Bijker W., Hughes T, and Pinch T. (eds), pp.51-82, The MIT Press, Cambridge, Mass

*King et al., 1994] King, J. L., Gurbaxani, V., Kraemer, K. L., McFarlan, F. W., Raman, K. S., and Yap, C. S. (1994). Institutional factors in information technology innovation. *Information Systems Research*, 5(2):139-169.

Week of November 19 WooYoung Chung

Research Approaches

Readings:

- Orlikowski, W. J. and Baroudi, J. J. (1991), "Studying Information Technology in Organizations: Research Approaches and Assumptions," *Information Systems Research*, 2(1), 1-28.
- Ngwenyama, O. K. and Lee, A. S. (1997), "Communication Richness in Electronic Mail: Critical Social Theory and The Contextuality Meaning," *MIS Quarterly*, 21(2).
- Alvesson, M. and Willmott, H. (1992), "On The Idea of Emancipation in Management and Organization Studies," *Academy of Management Review*, 17(3), 432-464.
- Astley, W. G. (1985), "Administrative Science as Socially Constructed Truth," *ASQ*, 30, 497-513.
- Tetlock, P. E. (2000), "Cognitive Biases and Organizational Correctives: Do Both Disease and Cure Depend on the Politics of the Beholder?," *Administrative Science Quarterly*, 45, 293-326.
- Barley, S. R. and Kunda, G. (1992), "Design and Devotion: Surges of Rational and Normative Ideologies of Control in Managerial Discourse," *Administrative Science Quarterly*, 37, 363-399.
- Hesse, B. W., Sproull, L. S., Kiesler, S. B., and Walsh, J. P. (1993), "Returns to Science: Computer Networks in Oceanography," *Communications of the ACM*, 36(8), 90-101.

Week of November 26 Michel Avital

Socio-tech perspective

Readings:

- Boland, R.J. "The Process and Product of System Design," *Management Science*, vol 24, no 9, pp. 887-898.
- Land, F. "Evaluation in Socio-technical Context." In R. Baskerville, J. Stage, and J. DeGross (Eds.) *Organizational and Social Perspective on Information Technology*, Boston: kluwer, 2000, pp. 115-124 <<IFIP 8.2 Denmark>>
- Mumford, E. "Socio-technical Design: An Unfulfilled Promise or a Future Opportunity?" In R. Baskerville, J. Stage, and J. DeGross (Eds.) *Organizational and Social Perspective on Information Technology*, Boston: kluwer, 2000, pp. 33-46 <<IFIP 8.2 Denmark>>
- Klein, H.K. and Hirschheim, R. "The Application of Neohumanist Principles in Information Systems Development." In D. Avison, J.E. Kendall and J. DeGross (Eds.) *Human, Organizational, and Social Dimensions of Information Systems Development*, Elsevier Science, 1993, pp. 263-279 <<IFIP 8.2 The Netherlands>>
- Ketchum, L.D. and Trist, E. "All Teams Are Not Created Equal," Sage Publications, 1992, contents, Ch 1, 2, 10.

Week of December 3 Julie Rennecker

Distributed work — social dimensions

Readings:

- Hiltz, Starr Roxanne and Turoff, Murray (1978/1993). *The Network Nation: Human Communication via Computer*. Cambridge, MA: MIT Press.
(Chapter 2)
- Ellis, Clarence A., Gibbs, Simon J., Rein, Gail L. (1991) Groupware: Some Issues and Experiences. *Communications of the ACM*, 34(1), 38-58.
- Orlikowski, W. J. (1992). Learning from Notes: Organizational Issues in Groupware Implementation. *Proceedings of the Conference on Computer-Supported Cooperative Work*, Toronto, 362-369.
- Malone, Thomas W. and Crowston, Kevin (1990). What is Coordination Theory and How Can It Help Design Cooperative Work Systems? *Proceedings of the Conference on Computer-Supported Cooperative Work*, Los Angeles, CA, 357-370.
- Majchrzak, A., Rice, R. E., Malhotra, A., King, N., & Ba, S. (2000). Technology Adaptation: The Case of a Computer-supported Inter-organizational Virtual Team. *MIS Quarterly*, 24(4), 569-599.
A contemporary look at one type of distributed collaborative work arrangement.

Optional—for further interest

- Malone, Thomas W. and Crowston, Kevin (1994). The Interdisciplinary Study of Coordination. *ACM Computing Surveys*, 26(1), 87-
An indepth development of coordination theory.
- Reder, Stephen and Schwab, Robert G. (1990). The Temporal Structure of Cooperative Activity. *Proceedings of the Conference on Computer-Supported Cooperative Work*, Los Angeles, CA, 303-316.
Not a classic, but useful descriptions of the work activities of different occupational groups with implications for technology design.
- Markus, M. Lynne and Connolly, Terry (1990). Why CSCW Applications Fail: Problems in the Adoption of Interdependent Work Tools. *Proceedings of the Conference on Computer-Supported Cooperative Work*, Los Angeles, CA, 371-380.
Again, not a classic, but adds dimensions to those addressed in the assigned papers.