ORGANIZATIONAL LEARNING, KNOWLEDGE, AND DYNAMIC SURPRISES

Martin Schulz
Sauder School of Business, UBC, 2015-16, Term 2

Class Hours: W 2-5pm Classroom: HA 432 Web: http://www.martinshub.org/Academic/courses/OL/	Email: Martin.Schulz@Sauder.ubc.ca Office: HA676 Office hours: By appointment
Administrative Support: Nancy Tang, HA666, nancy.tang@sauder.ubc.ca	

OVERVIEW

Organizational learning is an evocative concept that has inspired many scholars, researchers, students, and practitioners. At its core, it captures the idea that organizations can adapt to their contexts and that their adaptation can reflect some level of intelligence. It entails the possibility of 'advantage' that might arise from organizational learning and that shapes the success and survival of organizations. It portrays organizations as entities that can learn and articulate and retain knowledge (and perhaps even develop understanding and meaning). It has intriguing strategic implications, and it offers powerful explanations of social and organizational order and change.

Organizational learning – though powerful – is not perfect. There are limits to learning, and they can lead into severe pitfalls. Learning can go wrong and can produce undesirable outcomes. For that reason it is important to understand how, when, and why organizational learning can fail. In this course, we will build on notions of *bounded rationality* to develop a solid understanding of *myopic* learning processes and acquire techniques that can help to analyse and manage them.

Organizational learning is inherently *dynamic* – it is a process that unfolds as organizations develop new knowledge and encode it into their structures. It transforms organizations and shapes their performance (e.g., producing characteristic learning curve trajectories). Organizational learning processes at one time and place can produce surprising outcomes at other times and places. Understanding the dynamic surprises of organizational learning processes is not easy, but necessary to harness organizational learning processes successfully. We will study the dynamics of organizational learning processes to understand how they unfold and when and how they produce surprises.

This course is *not* about "The Learning Organization", nor about the virtues (real or imagined) of becoming one. We will stay away from the popular (nebulous and naive) literature on organizational learning, and instead focus on the more rigorous academic discourses on the subject to develop a more accurate understanding of organizational learning processes, their causal structures, their limitations, their intriguing implications, and dynamic surprises.

This course is open to everyone who is interested in the topics of this course. We will read a fair amount of introductory pieces, but also several papers that pursue more intricate issues and use advanced methodologies. The readings and assignments offer diverse opportunities to learn for course participants on all levels.

OBJECTIVES

The main objective of this course is to introduce students to theories, concepts, models, and applications of organizational learning and knowledge. Students taking this course should expect to:

- Develop a solid understanding of theories and current research on organizational learning and knowledge.
- Understand the implications of bounded rationality for organizational learning and knowledge.
- Recognize how important it is for practitioners and students of organizations to understand myopic learning processes.
- Develop an understanding of the inherent limitations and opportunities arising from myopic organizational learning and knowledge, and learn how one can manage them.
- Understand the dynamic surprises arising from organizational learning and knowledge.
- Recognize the intriguing strategic implications of myopic learning and associated threats and opportunities.
- Develop an understanding of current debates in the field and their implications for adjacent fields, including strategic management, innovation, entrepreneurship, performance management, organizational control, organizational change, models of evolutionary economics, and sociological theories of social and organizational order.

REQUIREMENTS

1. **Paper Discussion Leader** [40 %]. Students will prepare and lead class discussions on one or several papers assigned to a given class session. This task involves that you:
   - ❏ Read the assigned papers carefully.
   - ❏ Identify the core concepts, assumptions, and processes/mechanisms of the paper.
   - ❏ Prepare a set of discussion questions (usually 3-4 per article) plus issues that need further clarification and criticisms of the readings.
   - ❏ Analyse the intellectual **roots** of the papers; i.e., analyse the literature that each paper cites (the work that the paper builds on). How did research get here?
   - ❏ Analyse the **impact** of the papers; i.e., analyse the papers that have appeared subsequently and that have cited each focal paper. How did research continue?
   - ❏ Develop and present in class a presentation (using handouts or power point slides) that summarizes the assigned papers, their main knowledge claims, their results, their methods, and their roots and impact.
   - ❏ Lead the class discussion, using your discussion questions and your presentation.
   - ❏ Prepare and submit a 10-page report (plus appendices, etc) that summarises the assigned paper(s) and discusses their roots and impact. The focus is on understanding the role that the assigned paper plays in the evolution of relevant ideas, theories, and research. These paper reports are due two weeks after the corresponding class session.

2. **Case Project** [40 %]. Every student will conduct a research project on an applied case, write a paper, and give a presentation. The purpose of the case project is to study organizational knowledge and learning processes and in an applied context. You will use learning and knowledge perspectives to frame and analyse your case. You will study the diverse forms of knowledge that play a role for your case and identify and analyse the learning processes that operate in that setting. It is advisable that you start thinking about the term paper early in the semester. So please feel free to meet with me and discuss your ideas whenever you feel you are ready to do so. The term paper is due on the last day of classes.

3. **Participation** [20%]. Students are expected to always come to class prepared to participate in a discussion of all the required readings for that class. Each student should be prepared to a) summarize the main ideas in the assigned readings, b) discuss the readings from various theoretical perspectives, and c) to discuss the theoretical and empirical limitations of the research presented in the assigned reading materials. Emphasis is on mastering and responding critically and creatively to the seminar's material. Class participation has many dimensions, including active contributions to the discussion, contributing ideas and questions, summarising lines of argument, making sure that communication processes work, responding to other students and contributing to their learning.

READINGS

There is no textbook for this course; most readings are academic journal articles. There is one required book for this course:

March, James G. *The ambiguities of experience*. Cornell University Press, 2011.

One recommended, but not required book for this course is:

Feller, Willliam. *An introduction to probability theory and its applications.* John Wiley & Sons.

SCHEDULE

Session (1) [Jan 6] Learning and Knowledge: A Carnegie Framing!

Bounded rationality, problem solving, decision making, problemistic search, logics of action, performance programs and routines, learning and knowledge, path dependence, performance feedback

Recommended readings:

Ch 1,"The Knowledge Economy and Intellectual Capital Management", in: Teece, David J., "Managing intellectual capital: organizational, strategic, and policy dimensions." Oxford University Press, 2000.
Note: This paper provides context for this course; in particular the relevance of knowledge in modern economies!

Schulz, Martin (2014) "Logic of Consequences and Logic of Appropriateness", in: Palgrave Encyclopedia of Strategic Management, edited by Mie Augier and David Teece.
http://www.martinshub.org/Download/LoC_LoA_PrePub.pdf
Note: This paper offers an introduction to Carnegie theories, in particular, its model of action! It helps to understand how learning involves encoding of knowledge into rules and routines that shape the lines of action of (individual and collective) actors.

Session (2) [Jan 13] Foundations: Organizational Learning and Knowledge

Lave and March "An Introduction to Models.." Chapter 6, Adaptation and Learning
Levitt, Barbara, and James G. March. "Organizational learning." Annual review of sociology (1988): 319-340.
Schulz, Martin, 2002, "Organizational Learning" pp 415-441 in: Joel A. C. Baum (ed) Companion to Organizations, Blackwell Publishers, Oxford, UK
Chiva, Ricardo, and Joaquín Alegre. "Organizational learning and organizational knowledge towards the integration of two approaches." Management learning 36, no. 1 (2005): 49-68.

Optional readings:
Liang, Diane Wei, Richard Moreland, and Linda Argote. "Group versus individual training and group performance: The mediating role of transactive memory." Personality and Social Psychology Bulletin 21, no. 4 (1995): 384-393.

Session (3) [Jan 20] Myopic Learning

March, James G., and Johan P. Olsen. "The uncertainty of the past: organizational learning under ambiguity" European Journal of Political Research 3, no. 2 (1975): 147-171.
Levinthal, Daniel A., and James G. March. "The myopia of learning." Strategic management journal 14, no. S2 (1993): 95-112.
Benner, Mary J., and Michael Tushman. "Process management and technological innovation: A longitudinal study of the photography and paint industries." Administrative Science Quarterly 47, no. 4 (2002): 676-707.
Denrell, Jerker, and James G. March. "Adaptation as information restriction: The hot stove effect." Organization Science 12, no. 5 (2001): 523-538.

Session (4) [Jan 27] Superstitious Learning

White, Allan P., and Wei Zhong Liu. "Superstitious learning and induction." Artificial intelligence review 9, no. 1 (1995): 3-18.

Zollo, Maurizio. "Superstitious learning with rare strategic decisions: Theory and evidence from corporate acquisitions." Organization Science 20, no. 5 (2009): 894-908.

Heimeriks, Koen H. "Confident or competent? How to avoid superstitious learning in alliance portfolios." Long Range Planning 43, no. 1 (2010): 57-84.

Abrahamson, Eric, and Gregory Fairchild. "Management fashion: Lifecycles, triggers, and collective learning processes." Administrative science quarterly 44, no. 4 (1999): 708-740.

Session (5) [Feb 3] No Class (OSWC)

Session (6) [Feb 10] Knowledge Dynamics Part 1

Grant, Robert M. "Toward a knowledge-based theory of the firm." Strategic management journal 17, no. S2 (1996): 109-122.

Ch 8, "Toward an Understanding of Rules", in: March, James G., Martin Schulz, and Xueguang Zhou. The dynamics of rules: Change in written organizational codes. Stanford University Press, 2000.

Phelps, Corey, Ralph Heidl, and Anu Wadhwa. "Knowledge, networks, and knowledge networks a review and research agenda." Journal of Management 38, no. 4 (2012): 1115-1166.

Fleming, Lee. 2001. "Recombinant Uncertainty in Technological Search". Management Science 47 (1). INFORMS: 117–32.

Optional Readings:

Nonaka, Ikujiro. 1994. "A Dynamic Theory of Organizational Knowledge Creation". Organization Science 5 (1). INFORMS: 14–37.

Session (7) [Feb 17] Midterm Reading Break (no class)

Session (8) [Feb 24] Knowledge Dynamics Part 2

Fleming, Lee, and Olav Sorenson. "Technology as a complex adaptive system: evidence from patent data." Research policy 30, no. 7 (2001): 1019-1039.

Nerkar, Atul. 2003. "Old Is Gold? The Value of Temporal Exploration in the Creation of New Knowledge." Management Science 49(2): 211-29.

Yayavaram, Sai, and Gautam Ahuja. "Decomposability in knowledge structures and its impact on the usefulness of inventions and knowledge-base malleability." Administrative Science Quarterly 53, no. 2 (2008): 333-362.

Carnabuci, Gianluca, and Jeroen Bruggeman. "Knowledge specialization, knowledge brokerage and the uneven growth of technology domains." Social forces 88, no. 2 (2009): 607-641.

Session (9) [March 2] Competency Traps

Anita L. Tucker Amy C. Edmondson Steven Spear, (2002),"When problem solving prevents organizational learning", Journal of Organizational Change Management, Vol. 15 Iss 2 pp. 122 - 137

Liu, Weiping. "Knowledge exploitation, knowledge exploration, and competency trap." Knowledge and Process Management 13, no. 3 (2006): 144-161.

David, Paul A. 1985. "Clio and the Economics of QWERTY." /American Economic Review/75(2): 332-37.

Michael, Steven C., and Tracy Pun Palandjian. "Organizational learning and new product introductions." Journal of product innovation management 21, no. 4 (2004): 268-276.

Optional Readings:

Beck, Nikolaus, Josef Brüderl, and Michael Woywode. 2008. “Momentum or Deceleration? Theoretical and Methodological Reflections on the Analysis of Organizational Change”. The Academy of Management Journal 51 (3). Academy of Management: 413–35. doi:10.2307/20159519.

Arthur, W. Brian. 1989. "Competing Technologies, Increasing Returns, and Lock-In by Historical Events." /The Economic Journal/99(394): 116-31.

Session (10) [March 9] Learning Curves

Yelle, Louis E. "The learning curve: Historical review and comprehensive survey." Decision Sciences 10, no. 2 (1979): 302-328.

Argote, Linda, and Dennis Epple. 1990. “Learning Curves in Manufacturing”. Science 247 (4945). American Association for the Advancement of Science: 920–24.

Schilling, Melissa A., Patricia Vidal, Robert E. Ployhart, and Alexandre Marangoni. "Learning by doing something else: Variation, relatedness, and the learning curve." Management Science 49, no. 1 (2003): 39-56.

Session (11) [March 16] Replication of Success

Galbraith, Craig S. 1990. "Transferring Core Manufacturing Technologies in High-Technology Firms." California Management Review 32(4): 56.

Winter, Sidney G., and Gabriel Szulanski. "Replication as strategy." Organization science 12, no. 6 (2001): 730-743.

Denrell, Jerker. 2003. “Vicarious Learning, Undersampling of Failure, and the Myths of Management”. Organization Science 14 (3). INFORMS: 227–43.

Ch 2: “Learning through replicating success”, in: March, James G. *The ambiguities of experience.* Cornell University Press, 2011.

Session (12) [March 23] Adaptation in Fast Shifting and Complex Environments!

Macy, Michael W., and Andreas Flache. 2002. “Learning Dynamics in Social Dilemmas”. Proceedings of the National Academy of Sciences of the United States of America 99 (10). National Academy of Sciences: 7229–36.

Bendor, Jonathan, Daniel Diermeier, and Michael Ting. "Comment: Adaptive Models in Sociology and the Problem of Empirical Content." American journal of sociology 112, no. 5 (2007): 1534-1545.

Levinthal, Daniel A.. 1997. “Adaptation on Rugged Landscapes”. Management Science 43 (7). INFORMS: 934–50.

Ch 4: “Generating Novelty”, in: March, James G. *The ambiguities of experience.* Cornell University Press, 2011.

Optional Readings:

Barnett, William P., and Elizabeth G. Pontikes. "The Red Queen: History-dependent competition among organizations." Research in Organizational Behavior 26 (2004): 351-371.

Session (13) [March 30] Student Case Presentations

Session (14) [April 6] Wrapup

Ch 3: “Learning through Stories and Models”, in: March, James G. *The ambiguities of experience.* Cornell University Press, 2011.

Ch 5: “The Lessons of Experience”, in: March, James G. *The ambiguities of experience.* Cornell University Press, 2011.

LITERATURE

Abrahamson, Eric, and Gregory Fairchild. "Management fashion: Lifecycles, triggers, and collective learning processes." Administrative science quarterly 44, no. 4 (1999): 708-740.

Argote, Linda, and Dennis Epple. 1990. “Learning Curves in Manufacturing”. Science 247 (4945). American Association for the Advancement of Science: 920–24. http://www.jstor.org.ezproxy.library.ubc.ca/stable/2873885.

Arthur, W. Brian. 1989. "Competing Technologies, Increasing Returns, and Lock-In by Historical Events." /The Economic Journal/99(394): 116-31.

Barnett, William P. 01/2004. Research in organizational behavior: THE RED QUEEN: HISTORY-DEPENDENT COMPETITION AMONG ORGANIZATIONS. 26, : 351

Beck, Nikolaus, Josef Brüderl, and Michael Woywode. 2008. “Momentum or Deceleration? Theoretical and Methodological Reflections on the Analysis of Organizational Change”. The Academy of Management Journal 51 (3). Academy of Management: 413–35. doi:10.2307/20159519. http://www.jstor.org.ezproxy.library.ubc.ca/stable/20159519

Bendor, Jonathan, Daniel Diermeier, and Michael Ting. "Comment: Adaptive Models in Sociology and the Problem of Empirical Content1." American journal of sociology 112, no. 5 (2007): 1534-1545.

Benner, Mary J., and Michael Tushman. "Process management and technological innovation: A longitudinal study of the photography and paint industries." Administrative Science Quarterly 47, no. 4 (2002): 676-707.

Carnabuci, Gianluca, and Jeroen Bruggeman. "Knowledge specialization, knowledge brokerage and the uneven growth of technology domains." Social forces 88, no. 2 (2009): 607-641.

Chiva, Ricardo, and Joaquín Alegre. "Organizational learning and organizational knowledge towards the integration of two approaches." Management learning 36, no. 1 (2005): 49-68.

David, Paul A. 1985. "Clio and the Economics of QWERTY." /American Economic Review/75(2): 332-37.

Denrell, Jerker, and James G. March. "Adaptation as information restriction: The hot stove effect." Organization Science 12, no. 5 (2001): 523-538. http://dx.doi.org.ezproxy.library.ubc.ca/10.1287/orsc.12.5.523.10092

Denrell, Jerker. 2003. “Vicarious Learning, Undersampling of Failure, and the Myths of Management”. Organization Science 14 (3). INFORMS: 227–43. http://www.jstor.org.ezproxy.library.ubc.ca/stable/4135134.

Feller, Willliam. An introduction to probability theory and its applications. John Wiley & Sons.
An older edition of this book is available at
http://ruangbacafmipa.staff.ub.ac.id/files/2012/02/An-Introduction-to-probability-Theory-by-William-Feller.pdf

Fleming, Lee. 2001. “Recombinant Uncertainty in Technological Search”. Management Science 47 (1). INFORMS: 117–32. http://www.jstor.org.ezproxy.library.ubc.ca/stable/2661563.

Fleming, Lee, and Olav Sorenson. "Technology as a complex adaptive system: evidence from patent data." Research policy 30, no. 7 (2001): 1019-1039.

Greve, Henrich R. "Organizational routines and performance feedback." Handbook of organizational routines (2008): 187-204.

Heimeriks, Koen H. "Confident or competent? How to avoid superstitious learning in alliance portfolios." Long Range Planning 43, no. 1 (2010): 57-84.
http://www.koenheimeriks.com/uploads/2014/01/lrp1434.pdf

Levinthal, Daniel A.. 1997. “Adaptation on Rugged Landscapes”. Management Science 43 (7). INFORMS: 934–50. http://www.jstor.org.ezproxy.library.ubc.ca/stable/2634336.

Levitt, Barbara, and James G. March. "Organizational learning." Annual review of sociology (1988): 319-340.

Liu, Weiping. "Knowledge exploitation, knowledge exploration, and competency trap." Knowledge and Process Management 13, no. 3 (2006): 144-161.

Macy, Michael Walton, and Andreas Flache. "Learning Dynamics in Social Dilemmas." In Encyclopedia of the Sciences of Learning, pp. 1842-1845. Springer US, 2012.

Macy, Michael W., and Andreas Flache. 2002. “Learning Dynamics in Social Dilemmas”. Proceedings of the National Academy of Sciences of the United States of America 99 (10). National Academy of Sciences: 7229–36. http://www.jstor.org.ezproxy.library.ubc.ca/stable/3057846.

March, James G. The ambiguities of experience. Cornell University Press, 2011.

March, James G., and Johan P. Olsen. "The uncertainty of the past: organizational learning under ambiguity." European Journal of Political Research 3, no. 2 (1975): 147-171.
https://webfiles.uci.edu/schofer/classes/2012soc219IT/readings/9e%20March%20Olsen%20Learning%20Under%20Ambiguity.pdf
or: http://dx.doi.org/10.1111/j.1475-6765.1975.tb00521.x

March, James G., Martin Schulz, and Xueguang Zhou. The dynamics of rules: Change in written organizational codes. Stanford University Press, 2000.

March, James G., Lee S. Sproull, and Michal Tamuz. 1991. “Learning from Samples of One or Fewer”. Organization Science 2 (1). INFORMS: 1–13.
http://www.jstor.org.ezproxy.library.ubc.ca/stable/2634936.

Michael, Steven C., and Tracy Pun Palandjian. "Organizational learning and new product introductions." Journal of product innovation management 21, no. 4 (2004): 268-276.

Nonaka, Ikujiro. 1994. “A Dynamic Theory of Organizational Knowledge Creation”. Organization Science 5 (1). INFORMS: 14–37. http://www.jstor.org.ezproxy.library.ubc.ca/stable/2635068.

Reynaud, Bénédicte. "The void at the heart of rules: routines in the context of rule-following. The case of the Paris Metro Workshop." Industrial and Corporate Change 14, no. 5 (2005): 847-871.

Rivkin, Jan W.. 2000. “Imitation of Complex Strategies”. Management Science 46 (6). INFORMS: 824–44. http://www.jstor.org.ezproxy.library.ubc.ca/stable/2661488.

Simon, Herbert A. "Bounded rationality and organizational learning." Organization science 2.1 (1991): 125-134.
Stable URL: http://www.jstor.org.ezproxy.library.ubc.ca/stable/2634943

Sproull, Lee (2010) Organizational learning
Research on Organizational Sociology, 28: 59-70

Anita L. Tucker Amy C. Edmondson Steven Spear, (2002),"When problem solving prevents organizational learning", Journal of Organizational Change Management, Vol. 15 Iss 2 pp. 122 - 137
http://dx.doi.org/10.1108/09534810210423008

Teece, David J. Managing intellectual capital: organizational, strategic, and policy dimensions: organizational, strategic, and policy dimensions. Oxford University Press, 2000.

Yelle, Louis E. "The learning curve: Historical review and comprehensive survey." Decision Sciences 10, no. 2 (1979): 302-328.

Zollo, Maurizio. "Superstitious learning with rare strategic decisions: Theory and evidence from corporate acquisitions." Organization Science 20, no. 5 (2009): 894-908.
http://dx.doi.org.ezproxy.library.ubc.ca/10.1287/orsc.1090.0459