Syllabus: PhD Seminar on Models of Organizational Cognition

Strategy 898, Winter B 2014 — Mondays 8:30am–11:30am, Room R4020

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Description

The goal of this seminar is to study some of the processes by which organizations make decisions. The seminar focuses on how different micro-level processes (e.g., individual biases and organizational structure) affect macro-level outcomes that are relevant to the strategy and organizations literatures (e.g., profitability and innovation).

The research covered in this seminar builds on the seminal ideas of the Carnegie tradition. This tradition, with its focus on modeling information processing and decision making in organizations has played a fundamental role in shaping the strategy and organizations fields: concepts such as bounded rationality, exploration/exploitation, organization design, organizational learning, absorptive capacity, routines, and imperfect contracting, all core elements of strategy and organizations fields, were all developed by students of the Carnegie tradition.

Most of the research covered in this seminar can be catalogued under a "Neo-Carnegie" label: research that revisits classic questions of the original Carnegie tradition, now armed with more powerful methodological and theoretical lenses. Among the methodological improvements of the Neo-Carnegie approach, mathematical models (both computational and closed-form) play a central role, as they allow to rigorously describe and analyze central constructs of the Carnegie tradition, such as complexity, search, organizational structure, group decision making, and organizational learning. Among the theoretical improvements, the Neo-Carnegie literature extends the Carnegie tradition, by incorporating recent developments in organizational economics and cognitive science.

Objectives for the seminar

- Study the main ways in which the Neo-Carnegie research contributes to the strategy and organizations literatures.
- Become familiar with a basic set of approaches to model cognition and decision making in organizations: search models, project selection models, and models of organizational structure.
- Explore ways in which your own research may illuminate fundamental questions of the Carnegie tradition as well as ways in which Neo-Carnegie research may illuminate your work.

Requirements

Although the readings have a strong bias toward conceptual and modeling papers, it is not necessary for you to have done any modeling work in the past. The readings, which will be accompanied with short in-class tutorials, will be sufficiently self-explanatory.

You are required to read all the assigned materials for each session and be prepared to actively participate in the discussions. In addition, the course has three other requirements:

1. *Puzzles & gaps.* For four sessions of the course (you choose which ones), you should prepare a one-page document with your critical thoughts about the readings assigned to that session. Do not write a summary of the readings (doing so will be penalized), but provide your own thoughts on what you find particularly remarkable or problematic about the readings, and what novel connections or extensions the readings spark on you. Please upload this document to our shared folder before 5pm of the day before the corresponding session.[1] You can prepare more than four of these documents, and the four with the highest grades will count towards your course grade.

2. *Paper discussion.* All the readings of the course will be evenly split among the students, so that each student will be in charge of leading the discussion of at most one reading per session.[2] For each reading prepare no more than six slides (or an equivalent text outline) with the following suggested headings: (1) main question and why it matters; (2) method; (3) result; (4) implications; (5) discussion (i.e., thoughtful questions and ideas you pose to the class regarding key assumptions, problems, extensions, connections, etc.). You can add a sixth heading anywhere in the structure to delve into further detail about any other aspect of the paper you consider particularly relevant. Please bring to class enough printouts of this document for all the participants (if you prepare slides, print at two slides per page). Also, please upload this document to our shared folder before the beginning of the corresponding session.

3. *Term paper.* Each student is responsible for an individual research project. The project is due on session #6, at which time you should deliver a 10-minute presentation and a write up no longer than 30 pages of double spaced text. Please clear your proposed topic with me before session #4. Your research project should consist of the front end of a paper (i.e., introduction and theoretical motivation) plus an outline of the rest of the paper. For instance, if in the front end of the paper you propose a model, the outline for the rest of the paper could consist of a first draft of the model, a simple analysis, and a preliminary discussion of the results; or if in the front end you propose an empirical test, then the outline for the rest of the paper could discuss the dataset you would use, examples of analyses you would run, and a preliminary discussion. Note: there will be no 'incomplete' grades—if you do not complete the paper in time, you will fail the course.

[1] The Internet address of the folder will be shared prior to the first session. All documents you upload to this folder must be in PDF format. Please include your last name in the file name.

[2] I will assign the readings for session #1, for all the other sessions, you are in charge of assigning the readings among yourselves. All of the readings will be available in an Internet folder (please email me for the link).

Grading

The final grade is computed using the following weights:

Class participation	20%
Paper discussions	20%
Puzzles & gaps	20%
Term paper	40%

Reading List

Note: for each session, all the readings are required, except those that appear below a horizontal bar, which are optional.

Session 1: Introduction

[Monday, March 17]

1. G. Gavetti, D. A. Levinthal, and W. Ocasio. Neo-Carnegie: The Carnegie School's past, present, and reconstructing for the future. *Organization Science*, 18(3):523–536, 2007
2. D. J. C. MacKay. *Information theory, inference, and learning algorithms*. Cambridge University Press, Cambridge, UK, 2003 [Only read chapter 28, pp. 343–354.]
3. R. Radner. Hierarchy: The economics of managing. *Journal of Economic Literature*, 30(3):1382–1415, 1992
4. A. S. Huff. *Mapping Strategic Thought*. Wiley, Chichester, NY, 1990 [Only read chapter 1, pp. 11–49.]
5. J. P. Walsh. Managerial and organizational cognition: Notes from a trip down memory lane. *Organization Science*, 6(3):280–321, 1995

Session 2: Organizations as Interdependent Systems

[Monday, March 24]

1. H. A. Simon. The architecture of complexity. *Proceedings of the American Philosophical Society*, 106:467–482, 1962
2. D. A. Levinthal. Adaptation on rugged landscapes. *Management Science*, 43(7):934–950, 1997
3. J. W. Rivkin and N. Siggelkow. Patterned interactions in complex systems: Implications for exploration. *Management Science*, 53(7):1068–1085, 2007

4. F. A. Csaszar and N. Siggelkow. How much to copy? Determinants of effective imitation breadth. *Organization Science*, 21(3):661–676, May-June 2010

5. M. Raveendran, P. Puranam, and M. Warglien. Object salience in the division of labor: Experimental evidence, 2013. Working paper

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6. P. R. Milgrom and J. Roberts. Complementarities and fit: Strategy, structure, and organizational-change in manufacturing. *Journal of Accounting & Economics*, 19(2-3):179–208, Mar-May 1995

Session 3: Organizational Structure and Group Decision Making

[Monday, March 31]

1. R. K. Sah and J. E. Stiglitz. The architecture of economic systems: Hierarchies and polyarchies. *American Economic Review*, 76(4):716–727, Sep 1986

2. J. W. Rivkin and N. Siggelkow. Balancing search and stability: Interdependencies among elements of organizational design. *Management Science*, 49(3):290–311, Mar 2003

3. T. Knudsen and D. A. Levinthal. Two faces of search: Alternative generation and alternative evaluation. *Organization Science*, 18(1):39–54, 2007

4. F. A. Csaszar. Organizational structure as a determinant of performance: Evidence from mutual funds. *Strategic Management Journal*, 33(6):611–632, June 2012

5. F. A. Csaszar and J. P. Eggers. Organizational decision making: An information aggregation view. *Management Science*, 59(10):2257–2277, October 2013. Forthcoming

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6. F. A. Csaszar. An efficient frontier in organization design: Organizational structure as a determinant of exploration and exploitation. *Organization Science*, 24(4):1083–1101, July/August 2013

Session 4: Cognition in Organizations (I)

[Monday, April 7]

1. G. Gavetti. Toward a behavioral theory of strategy. *Organization Science*, 23(1):267–285, 2012

2. G. Gavetti and D. A. Levinthal. Looking forward and looking backward: Cognitive and experiential search. *Administrative Science Quarterly*, 45(1):113–137, Mar 2000

3. P. N. Johnson-Laird. The history of mental models. In K. Manktelow and M. C. Chung, editors, *Psychology of Reasoning: Theoretical and Historical Perspectives*, pages 179–212. Psychology Press, New York, 2004

4. M. S. Gary and R. E. Wood. Mental models, decision rules, and performance heterogeneity. *Strategic Management Journal*, 32(6):569–594, 2011

5. G. Gigerenzer and D. G. Goldstein. Reasoning the fast and frugal way: Models of bounded rationality. *Psychological Review*, 103(4):650–669, 1996

Session 5: Cognition in Organizations (II)

[Monday, April 14]

1. R. Hastie and T. Kameda. The robust beauty of majority rules in group decisions. *Psychological Review*, 112(2):494–508, 2005

2. M. E. Doherty and R. D. Tweney. Reasoning and task environments: The Brunswikian approach. In K. Manktelow and M. C. Chung, editors, *Psychology of Reasoning: Theoretical and Historical Perspectives*, pages 11–42. Psychology Press, New York, 2004

3. F. A. Csaszar. How organizational structure can compensate for flawed mental representations, 2013. Available at SSRN: papers.ssrn.com/abstract=2259253

4. F. A. Csaszar and D. A. Levinthal. Searching for blue oceans: Mental representation and the discovery of new strategies, 2013. Available at SSRN: http://ssrn.com/abstract=2267568

5. C. Bingham and M. Eisenhardt. Rational heuristics: The 'simple rules' that strategists learn from process experience. *Strategic Management Journal*, 32(13):1437–1464, 2011

Session 6: Knowledge and Learning & Final Presentations

[Monday, April 21]

1. J. G. March. Exploration and exploitation in organizational learning. *Organization Science*, 2:71–87, 1991

2. C. Fang, J. Lee, and M. A. Schilling. Balancing exploration and exploitation through structural design: The isolation of subgroups and organizational learning. *Organization Science*, 21(3):625–642, 2010

3. H. E. Posen and D. A. Levinthal. Chasing a moving target: Exploitation and exploration in dynamic environments. *Management Science*, 58(3):587–601, 2012

4. J. Denrell and C. Fang. Predicting the next big thing: Success as a signal of poor judgment. *Management Science*, 56(10):1653–1667, 2010

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5. F. A. Hayek. The use of knowledge in society. *American Economic Review*, 35(4):519–530, 1945

6. D. A. Levinthal and J. G. March. The myopia of learning. *Strategic Management Journal*, 14:95–112, Win 1993. Special Issue