



Management 932: Formal Modeling of Competitive Strategy: Value-Based Approaches

Time and location: Thursdays of Q4, 3-6pm, SHDH 2034

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Course description

This is a PhD level course examining the recent stream within strategic management research that has relied on formal modeling, and particularly on coalitional game theory, to advance strategy theory.

The goal of the seminar is to introduce management scholars to the logic of formal modeling as well as discuss the core topics that have emerged in the recent literature around value capture and value creation. In particular, we will see how the use of game theory can enable scholars to clarify key assumptions that verbal theory is not well equipped to identify. We will also discuss the tradeoffs associated with this style of research.

Grades

I expect that you will come to class prepared to discuss all of the assigned readings. There will be two assignments for this class. The first is an essay in model development. The second is a full paper.

Model development essay

This essay will select a question of interest to strategy – a phenomenon in need of explanation, a theoretical puzzle – and briefly sketch a very simple model that shed some light on the question. This essay will be short (about 5 pages).

Final paper

I expect the final paper to be of any topic that you are interested in and that is related to the material presented in the course. It will take the form of a proposal (12-15) to be potentially developed in an independent study. The paper can be of two kinds:

- Theoretical, with a more extensive analysis as in the model development essay and ideas as to how to take it further. In particular, I expect to have some parts of the model solved.
- Empirical, as long as it relates to and leverages the questions and papers presented in the course. This should involve a research design that addresses issues of identification and estimation.

Background references

On formal modeling

Adner, Ron, Laszlo Polos, Michael D. Ryall, and Olav Sorenson. "The Case for Formal Theory." *Academy of Management Review* (forthcoming) 34, no. 2 (2009): 201–208.

Krugman, Paul. "The New Economic Geography, Now Middle-aged." *Regional Studies* 45, no. 1 (2011): 1–7.

Lave, Charles A., and James G. March. *An Introduction to Models in the Social Sciences*. University Press of America, 1993.

Neumann, John von, and Oskar Morgenstern. *Theory of Games and Economic Behavior* (Introduction). Princeton University Press, 2007.

Classics of Industrial organization and applied non-cooperative game theory

Tirole, Jean. *The Theory of Industrial Organization*. MIT Press, 1988.

Gibbons, Robert. *Game Theory for Applied Economists*. Princeton University Press, 1992.

Cooperative game theory

Adam Brandenburger's website: <http://pages.stern.nyu.edu/~abranden/technical.html>

Owen, Guillermo. *Game Theory*. Academic Press, 1995.

Session 1: Formal models in strategy research: The Formalization of the Resource-Based View – 14 March

(*) Mandatory reading – will be assigned ahead of the session

Lippman, S.A., and R.P. Rumelt. "Uncertain Imitability: An Analysis of Interfirm Differences in Efficiency Under Competition." *Bell Journal of Economics* 13, no. 2 (1982): 418.

Barney, Jay B. "Strategic Factor Markets: Expectations, Luck, and Business Strategy." *Management Science* 32, no. 10 (October 1, 1986): 1231–1241.

Dierickx, Ingemar, and Karel Cool. "Asset Stock Accumulation and Sustainability of Competitive Advantage." *Management Science* 35, no. 12 (December 1, 1989): 1504–1511.

(*) Ghemawat, Pankaj. "The Snowball Effect." *International Journal of Industrial Organization* 8, no. 3 (September 1990): 335–351.

(*) Makadok, Richard. "Toward a Synthesis of the Resource-based and Dynamic-capability Views of Rent Creation." *Strategic Management Journal* 22, no. 5 (2001): 387–401.

(*) Pacheco-de-Almeida, Gonçalo, and Peter Zemsky. “The Effect of Time-to-Build on Strategic Investment Under Uncertainty.” *The RAND Journal of Economics* 34, no. 1 (April 1, 2003): 166–182.

(*) Almeida Costa, Luís, Karel Cool, and Ingemar Dierickx. “The Competitive Implications of the Deployment of Unique Resources.” *Strategic Management Journal* (2012): n/a–n/a.

Session 2: Value-based analysis in strategy: Foundations – 21 March

(*) Makowski, Louis, and Joseph M. Ostroy. “Perfect Competition and the Creativity of the Market.” *Journal of Economic Literature* 39, no. 2 (June 1, 2001): 479–535.

(*) Brandenburger, Adam M., and Harborne W. Stuart. “Value-based Business Strategy.” *Journal of Economics & Management Strategy* 5, no. 1 (March 1, 1996): 5–24.

(*) Lippman, Steven A., and Richard P. Rumelt. “A Bargaining Perspective on Resource Advantage.” *Strategic Management Journal* 24, no. 11 (2003): 1069–1086.

(*) MacDonald, Glenn, and Michael D Ryall. “How Do Value Creation and Competition Determine Whether a Firm Appropriates Value?” *Management Science* 50, no. 10 (October 1, 2004): 1319–1333.

Mandatory technical readings

To be downloaded from Adam Brandenburger’s website:

[Cooperative Game Theory: Characteristic Functions, Allocations, Marginal Contribution](#)

[Cooperative Game Theory: The Core](#)

Session 3: Applications of value-based analysis: Biform games and classic IO models revisited – 28 March

(*) Brandenburger, Adam, and Harborne Stuart. “Biform Games.” *Management Science* 53, no. 4 (April 1, 2007): 537–549.

(*) Stuart Jr., Harborne W. “Profitability: A Value-Based Perspective” *Mimeo*

(*) Stuart, Harborne W. “Biform Analysis of Inventory Competition.” *Manufacturing & Service Operations Management* 7, no. 4 (September 21, 2005): 347–359.

Stuart Jr., Harborne W. “Efficient Spatial Competition.” *Games and Economic Behavior* 49, no. 2 (November 2004): 345–362.

(*) Stuart Jr., Harborne W. “Creating Monopoly Power.” *International Journal of Industrial Organization* 25, no. 5 (October 2007): 1011–1025.

Optional

Stuart, Harborne W. Jr. “The Supplier–firm–buyer Game and Its M-sided Generalization.” *Mathematical Social Sciences* 34, no. 1 (August 1, 1997): 21–27.

Stuart Jr., Harborne W. “Buyer Symmetry in Monopoly.” *International Journal of Industrial Organization* 25, no. 3 (June 2007): 615–630.

Session 4: Applications of value-based analysis: Competition in product and factor markets – 4 April

(*) Adegbesan, T. 2009. “On the Origins of Competitive Advantage: Strategic Factor Markets and Heterogeneous Resource Complementarity.” *Academy of Management Review* 34(3):463–475.

(*) Adner, R., and P. Zemsky. 2006. “A demand-based perspective on sustainable competitive advantage.” *Strategic Management Journal* 27(3):215–239.

(*) Adner, Ron, Felipe A. Csaszar, and Peter B. Zemsky. “Positioning on a Multi-Attribute Landscape.” *SSRN eLibrary* (February 15, 2010).
http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1553128.

(*) Chatain, Olivier, and Peter Zemsky. “Value Creation and Value Capture with Frictions.” *Strategic Management Journal* 32, no. 11 (November 1, 2011): 1206–1231.

Optional

Chatain, O., and P. Zemsky. 2007. “The Horizontal Scope of the Firm: Organizational Tradeoffs vs. Buyer-Supplier Relationships.” *Management Science* 53(4):550–565.

Session 5: Applications of value-based analysis: vertical relationships and networks – 11 April

(*) Ryall, M.D., and O. Sorenson. 2007. “Brokers and Competitive Advantage.” *Management Science* 53(4):566–583.

Stole, Lars A., and Jeffrey Zwiebel. “Intra-firm Bargaining Under Non-binding Contracts.” *The Review of Economic Studies* 63, no. 3 (July 1, 1996): 375–410.

De Fontenay, Catherine C, and Joshua S. Gans. “Bilateral Bargaining with Externalities” (2007).
<http://works.bepress.com/joshuagans/14>.

(*) De Fontenay, Catherine C., and Joshua S. Gans. "A Bargaining Perspective on Strategic Outsourcing and Supply Competition." *Strategic Management Journal* 29, no. 8 (2008): 819–839.

(*) Grossman, Sanford J., and Oliver D. Hart. "The Costs and Benefits of Ownership: A Theory of Vertical and Lateral Integration." *Journal of Political Economy* 94, no. 4 (August 1, 1986): 691–719.

Session 6: Empirical work on value-based theory – 18 April

(*) Besanko, David, Sachin Gupta, and Dipak Jain. "Logit Demand Estimation Under Competitive Pricing Behavior: An Equilibrium Framework." *Management Science* 44, no. 11 (November 1, 1998): 1533–1547.

(*) Chatain, Olivier. "Value Creation, Competition, and Performance in Buyer-supplier Relationships." *Strategic Management Journal* 32, no. 1 (January 1, 2011): 76–102.

Fox, Jeremy T. *Estimating Matching Games with Transfers*. Working Paper. National Bureau of Economic Research, October 2008. <http://www.nber.org/papers/w14382>.

(*) Mindruta, Denisa. "Value Creation in University-Firm Research Collaborations: A Matching Approach." *SSRN eLibrary* (February 2012).
http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1351904.

(*) Chatain, Olivier. "Estimating Value Creation From Revealed Preferences: Application to Value-Based Strategy". *Mimeo*.

(*) Baccara, Mariagiovanna, Ayşe İmrohoroğlu, Alistair J Wilson, and Leeat Yariv. "A Field Study on Matching with Network Externalities." *American Economic Review* 102, no. 5 (August 2012): 1773–1804.

Optional

Ho, Katherine. "Insurer-Provider Networks in the Medical Care Market." *The American Economic Review* 99, no. 1 (March 1, 2009): 393–430.

Capps, Cory, David Dranove, and Mark Satterthwaite. "Competition and Market Power in Option Demand Markets." *The RAND Journal of Economics* 34, no. 4 (December 1, 2003): 737–763.