

BUSMHR 8401
PhD Survey in Strategic Management
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Fall 2019

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Class: Weds., 9:00 to 12:00 (Fisher 700 or 600)

Office Hours: By Appointment

Introduction to the Course:

This course provides a Ph.D. level survey of the field of Strategic Management. Given our limited time, we will focus on the management of competitive strategy (as opposed to other areas such as corporate strategy, entrepreneurial strategy, or innovation strategy). This course is organized around five foundational theories that are applied in several areas of the strategic management field: 1) industrial organization economics; 2) the economics of organizations, particularly transaction cost theory (see me for additional readings on agency theory and property rights theory); 3) resource based theory (see me for additional readings on the knowledge based view); 4) evolutionary theory and dynamic capabilities, and 5) behavioral real options. Though developed from a strategic management perspective, the readings and discussion will likely interest students of entrepreneurship, international business, organizational behavior and human resource management, public policy, and other related disciplines that are interested in understanding why managers at different firms make different decisions or how managerial decisions affect relative firm performance.

Enrollment is restricted to Ph.D. students. Masters students may enroll with the permission of the instructor, but they are unlikely to find the material covered helpful in completing their degree plans.

Course Objectives:

The course is equally concerned with providing students with an overview of the most important topics in the field of strategic management and promoting their scholarly development. Acknowledging the importance of publishing for career progress, the course includes discussions regarding the process of conducting high-quality research and crafting impactful papers. In brief, this course aims to help students:

1. Develop skills to evaluate and critically review academic research. This implies:
 - a. identifying how individual research papers are motivated and framed,
 - b. determining whether the assumptions, causal mechanisms, and insights in a paper are clearly presented,
 - c. evaluating whether the appropriate evidence is provided to test an argument, and
 - d. concluding whether and how a paper makes a substantive contribution to the field.

2. Develop skills to create, refine, and present your own research. This implies identifying ways to:
 - a. systematically generate new ideas and/or approaches that advance knowledge in your field,
 - b. develop, frame, and communicate (in oral and written form) logical arguments,
 - c. appropriately test an argument,
 - d. anticipate and understand the evolving conversation in your field.

Required Materials:

Readings are listed in the detailed syllabus below. I've identified a set of required readings as well as some supplementary readings on specific topics. The intent of the supplementary readings is to give you a head start for your research proposal or another paper where you'd like to develop deeper expertise.

Most readings are available electronically through the library. Go to OSU library at

<http://library.osu.edu/>. Click on Research Databases. Search for “Business Source Complete.” Access Business Source Complete, search (e.g., insert article title or author name), and download *.pdf file. If you are accessing from off campus you will need your “name.#” osu account name and password. I will post electronic copies of book chapters and difficult to find readings on Carmen.

Instructional Procedure:

The course will be taught using a seminar style. This means that each student must take responsibility for the success of the class. Students are expected to come to class fully prepared to discuss their: (a) evaluation of the assumptions and insights associated with the assigned papers, (b) analysis of how these papers collectively fit with other literature streams, and (c) identify opportunities to contribute to the body of knowledge on this topic. All students will be responsible for a common set of readings. Simply reading the assigned materials is not sufficient class contribution.

As for any well-established area of research, it is impossible to cover all the important contributions to Strategic Management in the space of a single doctoral seminar. *Many of the topics that we cover in one day could be the topic of a semester long doctoral seminar.* All that we can achieve in this short course is to introduce you to the theoretical foundations of the field and to expose you to some well-done research in promising and critical areas. It is your responsibility to expand your knowledge of the area through individual exploration and conversation with other faculty and students. To help out in your individual exploration, I have structured each session around a few basic questions that may guide our discussion and help us think about the next generation of research in an area. In addition, I have provided some extra references on each of the covered topics. I am willing to review additional references brought to the room by student participants and/or provide additional references on request.

Evaluation:

The grading plan describes the relative importance attached to each of the individual activities used to assign a course grade. The overall course grade will reflect your performance in terms of the: **(1) Weekly Synthesis Notes (30%), (2) In-Class Discussion (30%) , and (3) Research Proposal (40%).** Each of the grade components are described below.

1. Weekly Summaries (30%). Each student should write a two- to three-page reflection piece providing a personal summary and synthesis of the readings for each week in the course.

The summary portion of the document should include your thoughts on the research question and contribution of each paper in the required portion of the reading list (the paper review form at the end of the syllabus may provide a useful template to organize your thoughts in a way useful for your comprehensive exams). The summary section should conclude with a statement of “what is interesting” about the paper as defined by Murray Davis (1971).

The synthesis portion of the document should aim to establish linkages between the articles and suggest some provocative questions for future research (e.g., Are there inconsistencies across the papers that need to be resolved? Are there ways in which the insights from this set of papers might be applied to contemporary business problems?). In sum, what do you anticipate will be the *next* topic of conversation among scholars in this area?

Students should bring to class sufficient copies of their summary for distribution to each of the other students and the professor.

Each weekly homework assignment will be graded on a scale of 0 to 3, as follows:

- 0 Assignment either not submitted or totally unacceptable in quality
- 1 Sub-standard quality
- 2 Good and acceptable, but not especially brilliant, interesting, or insightful
- 3 Truly outstanding in some way

Grades of 3 are expected to be awarded rarely, if ever. So, don't worry if you are not getting 3's. Only worry about not getting 2's.

2. Classroom Discussion (30%). All students are required to fully participate in each session. Participating in an academic discussion requires reading all papers, comparing assumptions, associations, and causal mechanisms highlighted by each reading, identifying patterns in the findings and conclusions and their implications for other academics and business practitioners, evaluating the strengths and weaknesses of each article and how we judge the contribution of an article, and identifying new (and potentially interesting) new research topics that might be pursued based on your reading of the area (see Bloom's taxonomy of learning objectives).

As a means to explore potential research topics and to stimulate research creativity, I used to ask students to write short "idea pages." The concept behind these one-page outlines was to provide a low cost way to encourage experimentation. While we won't use this tool in this course, I encourage you to come to class with your ideas about potential new questions that one might pursue in the research proposal or a paper after our seminar.

Each participant's contribution will be graded after each session on a scale of 0 to 3, as follows:

- 0 Assignment either not submitted or totally unacceptable in quality
- 1 Sub-standard quality
- 2 Good and acceptable, but not especially brilliant, interesting, or insightful
- 3 Truly outstanding in some way

Grades of 3 are expected to be awarded rarely, if ever. So, don't worry if you are not getting 3's. Only worry about not getting 2's.

3. Research Proposal (40%). All students are required to provide a 30 minute research presentation during the last session and a brief written research proposal (5-10 pages, double spaced) shortly after the course. The goal of the presentation will be to provide you with feedback on your idea. The research proposal will be due two weeks after the last class (to give you time to further develop your thoughts). Each proposal should clearly identify the research question, including dependent and independent variables and the theoretical relationship between them. You should also clearly identify the core issue you're addressing, the received wisdom on that issue (literature review), gaps in the literature, and how you intend to fill the gaps. My hope is that this proposal would be something that you could develop into a submission for an international conference in January or February.

I will not provide incomplete course grades for incomplete papers. If you want to further polish the paper, it can be done after the deadline. This later work will not be graded, however. To receive a grade of "C" on the proposal, students must show a broad knowledge of the relevant research literature. To receive a "B" on the proposal, students must show a broad knowledge of the relevant research literature and an ability to integrate that literature. To receive an "A" on the proposal, students must show a broad knowledge of the relevant research literature, an ability to integrate that literature, and some creative insights that are not already present in the literature.

Course Curriculum & Schedule

Class 1: Fundamental Issues in the Field of Strategic Management

Defining the Field: What is academic research in the field of strategic management? How does strategic management differ from disciplines such as economics, psychology, or sociology? How does strategic management differ from fields such as entrepreneurship, human resources, international business, or organizational behavior?

1. Rumelt, R.P., Schendel, D.E., & Teece, D.J. 1994. Fundamental Issues in Strategy: A Research Agenda. Boston, MA: Harvard Business School Press: <http://goo.gl/TivJaT>
 - a. See pages 9-47 (Fundamental Issues in Strategy)
 - b. See pages 527-555 (Afterword ... includes references for whole book).
2. Ghemawat, P. 2002. Competition and Business Strategy in Historical Perspective. *Business History Review* 76(1): 37-74.
3. Leiblein, MJ, JJ Reuer, and TR Zenger. 2018. "What Makes a Decision Strategic?" *Strategy Science*. Vol 3(4): 558-573. DOI.org/10.1287/stsc.2018.0074
4. Bettis, R., & Blettner, D. 2020. Strategic reality today: Extraordinary past success, but difficult challenges loom. *Strategic Management Review*, 1(1): forthcoming.

Defining the Hallmarks of High Quality Research:

5. Davis, M.S. 1971. That's Interesting!: Towards a Phenomenology of Sociology and a Sociology of Phenomenology. *Philosophy of Social Science*, 1: 309-344.
<http://pos.sagepub.com/content/1/2/309.full.pdf>
6. Oxley, J., Rivkin, J. W., Ryall, M. D., & the Strategy Research Initiative. 2010. The Strategy Research Initiative: Recognizing and encouraging high-quality research in strategy. *Strategic Organization*, 8: 377-386. (see <http://strategyresearchinitiative.wikispaces.com/file/view/Ph.D.%20reader1.0-1.pdf>).

Supplemental Readings on theory development:

7. Hambrick, Don. 1993. What if the academy actually mattered? *Academy of Management Review*, 19:11-16.
8. Mahoney, JT 1993. Strategic management and determinism: sustaining the conversation, *Journal of Management Studies*, 30: 173-191
9. Varian, H. 1994. How to Build an Economic Model in Your Spare Time.
<http://people.ischool.berkeley.edu/~hal/Papers/how.pdf>
10. Weick, Karl 1989. Theory construction and disciplined imagination. *Academy of Management Review*, 14: 516-531.
11. Whetten, D.A. 1989. What Constitutes a Theoretical Contribution? *Academy of Management Review*, 14(4): 490-495. <http://www.jstor.org/stable/258554>

Supplemental Readings on strategic management:

12. Bettis, R.A., Gambardella, A., Helfat, C. & Mitchell, W. (forthcoming). Editorial: Theory in Strategic Management. *Strategic Management Journal*. (forthcoming).
13. Bettis, R.A., Gambardella, A., Helfat, C. & Mitchell, W. (forthcoming). Editorial: Qualitative Empirical Research in Strategic Management. *Strategic Management Journal*.
14. Bettis, R.A., Gambardella, A., Helfat, C. & Mitchell, W. 2014. Editorial: Quantitative Empirical Analysis in Strategic Management. *Strategic Management Journal*, 35: 949-953.
15. Bowman, E.H., Singh, H. & Thomas, H. 2002. The domain of strategic management: History and evolution. In Pettigrew, A., Thomas, H., Whittington, R. (Eds.) Handbook of Strategy and Management. Newberry Park, CA: Sage, pp. 31-51.

Course Curriculum & Schedule

Class 2: Industrial organization, strategy and performance

Background: What factors does industrial organization propose leads to superior performance? How is industrial organization economics related to strategic management? Is all IO strategy?

1. Porter, M.E. (1981). The contributions of industrial organization to strategic management. *Academy of Management Review*, **6**: 609–620.
2. MacDonald, G., M.D. Ryall. 2004. How do value creation and competition determine whether a firm appropriates value? *Management Science* 50(10) 1319–1333.
3. Makadok, R. and Ross, D.G. 2013. Taking Industry Structuring Seriously: A Strategic Perspective on Product Differentiation. *Strategic Management Journal* 34(5): 509-532.
<http://www.jstor.org/stable/10.2307/23471056>

Evidence: How much variance in profitability is due to firm, industry, and innovation effects?

4. Schmalensee, R. (1985). Do markets differ much? *American Economic Review*, **75**: 341-351.
<http://www.jstor.org/stable/1814804>
5. Rumelt, R. (1991). How much does industry matter? *Strategic Management Journal*, **12**, pp. 167-185.
6. McGahan, A.M. & Porter, M.E. (1997). How much does industry matter, really? *Strategic Management Journal*, **18** (summer special issue): 15-30. <http://www.jstor.org/stable/3088208>

Supplementary readings regarding industrial organization, conduct, and performance

7. Conner, K.R. 1991 A historical comparison of resource-based theory and five schools of thought within industrial organization economics: do we have a new theory of the firm? *Journal of Management*, **17**: 121-154.
8. Geroski PA, Machin S, Van Reenen J. 1993. The profitability of innovating firms. *RAND J. of Economics*. **24**: 198-211.
9. Khanna, Tarun, and J. Rivkin. 2001, "Estimating the Performance Effects of Business Groups in Emerging Markets." *Strategic Management Journal* **22**, 45-74.
10. Klepper, S., & Graddy, E. 1990. The evolution of new industries and the determinants of market structure. *RAND Journal of Economics*, **21**: 27-44.
11. Makowski, L., J.M. Ostroy. 2001. Perfect competition and the creativity of the market. *Journal of Economic Literature* **39**(2) 479–535
12. McGahan, A M & Porter, M E (2003), "The Emergence and Sustainability of Abnormal Profits, *Strategic Organization* **1**:1 (February), pp. 79-108.
13. Oster, S. 1994. Modern Competitive Analysis. Chapter 2.
14. Porac, J.F., Thomas, H., Wilson, F., Paton, D., and Kanfer, A. 1995. Rivalry and the industry model of Scottish knitwear producers. *Administrative Science Quarterly* **40**(2): 203-227.
15. Porter, M.E. 1991. Towards a dynamic theory of strategy. *Strategic Management Journal*, **12**(S2): 95-117.

Course Curriculum & Schedule

Class 3: Resource-based sources of heterogeneity and performance

Background: (How) do firm-level factors affect competitive advantage? What does the SFM theory propose? What does the RBV propose? Are microfoundations useful?

1. Lippman, S. and R. Rumelt (1982). Uncertain Imitability: An analysis of Inter-firm Differences in Efficiency under Competition. *Bell Journal of Economics*, 13, 418-438.
2. Barney, J.B. 1986. Strategic factor markets: Expectations, luck, and business strategy. *Management Science*, 32: 1231-1241. <http://www.jstor.org/stable/2631697>
3. Dierickx, I., and Cool, K. 1989. Asset stock accumulation and sustainability of competitive advantage. *Management Science*, 35(12): 1504-1511. <http://www.jstor.org/stable/2632235>
4. Peteraf, M. A. 1993. The cornerstones of competitive advantage: A resource-based view. *Strategic Management Journal*, 14: 179-191.
5. Foss, N.J. 2011. Why micro-foundations for resource-based theory are needed and what they might look like. *Journal of Management*, 37: 1413-1428.
6. Wernerfelt, B. 2020. [A possible micro-foundation for the RBV and its implications](#). *Strategic Management Review*, 1(1): forthcoming.

Supplementary readings on strategic factor markets or the resource-based view:

1. Adegbesan, A. 2009. On the origins of competitive advantage: Strategic factor markets and heterogeneous resource complementarity. *Academy of Management Review*, 34(3): 463-475
2. Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management*, 17(1): 99-120. <http://jom.sagepub.com/content/17/1/99.full.pdf>
3. Barney, J. B. (2001). "Is the resource-based "view" a useful perspective for strategic management research? Yes," *Academy of Management Review*, 26: 41-56.
4. Barney, J.B. 1989. Asset Stocks and Sustained Competitive Advantage: A Comment. *Management Science*, 35(12): 1511-1513. <http://www.jstor.org/stable/2632236>
5. Cockburn, I. M., Henderson, R. M., & Stern, S. 2000. Untangling the origins of competitive advantage. *Strategic Management Journal*, 21(10-11): 1123-1145.
6. Denrell, J., Fang, C., & Winter, S. G. 2003. The economics of strategic opportunity. *Strategic Management Journal*, 24(10): 977-990.
7. Kraaijenbrink, J., Spender, J.C., & Groen, A.J. 2010. The resource-based view: A review and assessment of its critiques," *Journal of Management*, 36: 349-372.
8. Leiblein, MJ. 2011. "What do resource and capability theories propose?" *Journal of Management*. Vol. 37(4): 909-932. DOI 10.1177/0149206311408321. <http://jom.sagepub.com/content/37/4/909.abstract>
9. Newbert. 2007. Empirical research on the resource-based view of the firm: An assessment and suggestions for future research. *Strategic Management Journal*.
10. Priem, R.L. & Butler, J. (2001). Is the resource-based "view" a useful perspective for strategic management research? *Academy of Management Review*, 26: 22-40. (Also "Further Comments" by the same authors).
11. Rumelt, R.P., 1984. Towards a strategic theory of the firm. In Lamb. R.B (Ed.) *Competitive Strategic Management*. Englewood Cliffs, N.J.: Prentice Hall.
12. Wernerfelt, B. 1984. A resource-based view of the firm. *Strategic Management Journal*, 5: 171-180.

Class 4: Evolutionary Theory and Dynamic Capabilities

Background: What does evolutionary theory propose? What are dynamic capabilities? How does Eisenhardt's view differ from Teece & Pisano's view? (How) Do dynamic capabilities differ from the RBV?

1. Nelson and Winter. 1982. An evolutionary theory of economic change. Chapters 1 and 2.
2. Teece, D.J., Pisano, G. & Shuen, A. 1997. Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7): 509-533. <http://www.jstor.org/stable/3088148>
3. Eisenhardt, K.M. & Martin, J.A. 2000. Dynamic capabilities: What are they? *Strategic Management Journal*, 21: 1105-1121. <http://www.jstor.org/stable/3094429>
4. Helfat, C.E. & Peteraf, M.A. 2003. The dynamic resource-based view: Capability lifecycles. *Strategic Management Journal*, 24: 997-1010.
5. Schilke, O. 2014. On the contingent value of dynamic capabilities for competitive advantage: The nonlinear moderating effect of environmental dynamism. *Strategic Management Journal*, 35: 179-203.
6. Teece, D. 2020. Fundamental issues in strategy: Time to reassess? *Strategic Management Review*, 1(1): forthcoming.

Supplementary readings on evolutionary theory and dynamic capabilities:

1. Adner, R. & Helfat, C.E. 2003. Corporate effects and dynamic managerial capabilities. *Strategic Management Journal*, 24: 1101-1126.
2. Helfat, C.E. & Winter, S.G. 2011. Untangling dynamic and operational capabilities: Strategy for the (n)everchanging world. *Strategic Management Journal*, 32: 1243-1250.
3. Helfat, C.E., Finkelstein, S. Mitchell, W., Peteraf, M.A., Singh, H., Teece, D.J. & Winter, S.G. 2007. Dynamic Capabilities: Understanding Change in Organizations. Malden, MA: Blackwell Publishing. Chapter 1: Dynamic Capabilities Foundations.
4. Maritan, C.A. & Peteraf, M.A. 2011. Building a bridge between resource acquisition and resource accumulation. *Journal of Management*, 37: 1374-1389.
5. Nelson, R.R. & Winter, S.G. 1982. An Evolutionary Theory of Economic Change. Cambridge, MA: Harvard University Press. Chapter 4: Skills and Chapter 5: Organizational Capabilities and Behavior.
6. Pacheco-de-Almeida, G. and P. Zemsky (2007). The Timing of Resource Development and Sustainable Competitive Advantage. *Management Science*, 53: 651-666.
7. Parmigiani, A. & Howard-Grenville, J. 2011. Routines revisited: Exploring the capabilities and practice perspectives. *Academy of Management Annals*, 5: 413-453.
8. Peteraf, M., Di Stefano, G., and Verona, G. 2013. The Elephant in the Room of Dynamic Capabilities: Bringing Two Diverging Conversations Together. *Strategic Management Journal* 34(12): 1389-1410. <http://onlinelibrary.wiley.com/doi/10.1002/smj.2078/abstract>
9. Pisano, GP. 2016. Towards a Prescriptive Theory of Dynamic Capabilities: Connecting Strategic Choice, Learning, and Competition. Harvard Business School working paper.
10. Teece, D.J. 2007. Explicating dynamic capabilities: The nature and microfoundations of (sustainable) enterprise performance. *Strategic Management Journal*, 28: 1319-1350.
11. Winter, S.G., 2003. Understanding dynamic capabilities. *Strategic Management Journal*, 24: 991-995.
12. Zollo, M. & Winter, S.G. 2002. Deliberate learning and the evolution of dynamic capabilities. *Organization Science*, 13: 339-354.

Course Curriculum & Schedule

Class 5: Economic Theories of the Firm (Particularly Transaction Cost Economics)

Background: Why do firms exist? This is perhaps *the* question in management. What are the salient differences between firm and market organization? (How) do asset specificity and uncertainty affect the costs and benefits of firm and market organization? How do differential resources affect these choices? Does the institutional environment matter? How?

1. Mahoney, J.T. 2005. Economic Foundations of Strategy. Thousand Oaks, CA: Sage Publications. Chapter 2: Transaction Costs Theory, pp. 55-107.
2. Williamson, O.E. 1991. Comparative economic analysis: The analysis of discrete structural alternatives. *Administrative Science Quarterly*, 36: 269-296.
3. Foss, K. and N.J. Foss. 2005. Resources and transaction costs: how property rights economics further the resource based view. *Strategic Management Journal*, 26(6): 541-553
4. Gibbons, R. 2005. Four formal(izable) theories of the firm? *Journal of Economic Behavior & Organization*, 58(2), 200-245
5. Argyres, N.S. & Zenger, T.R. 2012. Capabilities, Transaction Costs, and Firm Boundaries. *Organization Science*, 23: 1643-1657.
6. Oxley, J.E. 1997. Appropriability hazards and governance in strategic alliances: A transaction cost approach. *Journal of Law, Economics, & Organization*, 13: 387-409.

Supplementary readings. Classic organizational economics

7. Alchian, A. A., and H. Demsetz. 1972. Production, Information Costs, and Economic Organization. *The American Economic Review*, 62, 777-795.
8. Armour, H. and D. Teece. 1978. Organizational structure and economic performance. *Bell Journal of Economics*, 9: 106-122.
9. Coase, R. 1937. The nature of the firm. *Economica N.S.*, 4: 386-405
10. Grossman, S. and O. Hart. 1986. The costs and benefits of ownership: A theory of lateral and vertical integration. *Journal of Political Economy*, 91: 907-928. <http://www.jstor.org/stable/1833199>
11. Klein, B., R. Crawford and A. Alchian. 1978. Vertical integration, appropriable rents, and the competitive contracting process. *Journal of Law and Economics*, 21: 297-326.
12. Riordan, M. H., & Williamson, O. E. (1985). Asset specificity and economic organisation. *International Journal of Industrial Organization*, 3(4), 365-378.
13. Williamson, O. E. (1979). Transaction cost economics: The governance of contractual relations. *Journal of Law & Economics*, 22(2), 233-261.

Supplementary readings. Applications w/ misalignment

1. Leiblein, MJ, JJ Reuer & F. Dalsace. 2002. Do make or buy decisions matter? The influence of organizational governance on technological performance. *Strategic Management Journal*, 23(9): 817-833.
2. Masten, S. E., J. W. Meehan, Jr., and E. A. Snyder 1991. The Cost of Organization, *Journal of Law, Economics and Organization*, 7, 1-25
3. Mooi, Erik A., and Mrinal Ghosh 2010. Contract Specificity and its Performance Implications, *Journal of Marketing*, 74 (March), 105-120.
4. Nickerson, J. and B. Silverman. 2003. Why firms want to organize efficiently and what keeps them from doing so: Inappropriate governance, performance and adaptation in a deregulated industry. *Administrative Science Quarterly*, 48: 433-465
5. Sampson, R. 2004. The cost of misaligned governance in R&D alliances. *Journal of Law, Economics and Organization*, 20: 484-526.
6. Silverman, B., Nickerson, J., and Freeman, J. 1997. Profitability, Transactional Alignment, and Organizational Mortality in the U.S. Trucking Industry. *Strategic Management Journal*, 18(1): 31-52.

Course Curriculum & Schedule

Class 6: Real Options Logic

Background: Flexibility and Commitment. What is uncertainty in the real options framework? How does this conception of uncertainty differ from use of the word in earlier readings? How does uncertainty affect resource allocation decisions and the pursuit of competitive advantage?

Entry.

1. McDonald R, Siegel D. 1986. The value of waiting to invest. *Quarterly Journal of Economics*, 101(4): 707–728.
2. Kogut, B. 1991. Joint ventures and the option to expand and acquire. *Management Science*, 37: 19-33.
3. Bowman EH, Hurry D. 1993. Strategy through the option lens. *Academy of Management Review* 18(4): 760–782.
4. Kogut, B., and N. Kulatilaka (2001). “Capabilities as Real Options,” *Organization Science* **12**(6): 744-758.
5. Adner, R.A., and D.A. Levinthal (2004). “What is Not a Real Option: Considering Boundaries for the Application of Real Options to Business Strategy,” *Academy of Management Review* **29**(1): 74-85.
6. Posen, H. MJ Leiblein, and J Chen. 2018. “Towards a behavioral theory of real options: Noisy signals, bias, and learning.” *Strategic Management Journal*. Vol. 39(4): 1112-1138. DOI: 10.1002/smj.2757
7. Trigeorgis L, Reuer J. 2017. Real options theory in strategic management. *Strategic Management Journal*, 38(1): 42-63.

A Partial List of Select Other Readings:

1. Barnett M.L. 2008. An attention-based view of real options reasoning. *Academy of Management Review*, 33: 606–628.
2. Black F, Scholes M. 1973. The pricing of options and corporate liabilities, *Journal of Political Economy* 81(3): 637–654.
3. Dixit AK, Pindyck RS. 1994. *Investment under Uncertainty*. Princeton, NJ: Princeton University Press.
4. Folta, T. (1998). Governance and Uncertainty: The Tradeoff Between Administrative Control and Commitment. *Strategic Management Journal*, vol. 19, 1007-1028.
5. Folta, T.B., and J.P. O’Brien (2004). “Entry in the Presence of Dueling Options,” *Strategic Management Journal* **25**:121-138.
6. McGrath, R.M. (1997). “A Real Options Logic for Initiating Technology Positioning Investments,” *Academy of Management Review* **22**(4): 974-996.
7. McGrath R, Ferrier W, Mendelow A. 2004. Real options as engines of choice and heterogeneity. *Academy of Management Review* 29(1), 86–101.
8. McGrath RG, Nerkar A. 2004. Real options reasoning and a new look at the R&D investment strategies of pharmaceutical firms. *Strategic Management Journal* 25: 1–21.
9. Myers SC. 1977. Determinants of corporate borrowing. *Journal of Financial Economics* 5(2): 147–175.
10. Sakhartov A, Folta T. 2014. Resource relatedness, redeployability, and firm value. *Strategic Management Journal* 35: 1781-1797.
11. Trigeorgis L. 1996. *Real Options: Managerial Flexibility and Strategy in Resource Allocation*. Cambridge: MIT press.
12. Ziedonis, A.A. (2007). “Real Options and Technology Licensing,” *Management Science* **53**(10): 1618-1633.
13. Trigeorgis, L, Chi, T. forthcoming.

Class 7: Summary & Presentations

About Your Instructor

Michael Leiblein is an associate professor with expertise in strategic management and innovation management. Michael's academic research focuses on the relationship between strategic decisions, organizational form, and firm performance in technology-intensive industries. He has published over two-dozen academic articles and monographs in academic journals such as the *Strategic Management Journal*, *Strategy Science*, the *Academy of Management Journal*, the *Journal of Industrial Economics*, the *Journal of Management*, and the *Journal of Management Studies*.

Michael's research has been recognized with several academic awards from the *Academy of Management*, *Academy of International Business*, and *Strategic Management Society*. His dissertation research on the adoption of new technologies was recognized by the Academy of Management as one of the best dissertations in the field of strategic management (1997 *Free Press Award*). He was the primary investigatory on a *National Science Foundation* grant that extends his prior work on the causes and innovative consequences of organizational decisions in the global semiconductor industry. His work has received international media coverage in outlets such as *The Financial Times* (London), *Les Echos*, *Red Herring*, and *USA Today*.

Michael created the Advanced Competitive Strategy, Technology Strategy, and Innovation Field Study MBA elective courses at the Fisher College of Business. He has previously taught the MBA business core and MBA corporate core strategy courses, electives on corporate strategy and strategy consulting, and executive and PhD seminars on competitive strategy, innovation management, and research design. He has won multiple outstanding core course instructor awards, led masters, executive, and PhD level seminars in the US and Europe for academic and non-academic institutions, and been invited to be a strategy and innovation subject matter expert for the *Accenture Academy*.

Michael is a founding co-editor of the *Strategic Management Review* and co-chair of the *Strategy Research Foundation*. In 2019, he was elected to a five year leadership position at the AoM's STR (formerly BPS) division. He currently serves on the editorial and advisory boards of journals including the *Strategic Management Journal* (since 2004), the *Academy of Management Review* (since 2005), and *Strategy Science* (since its founding in 2013). He has previously served as an advisory panelist for the National Science Foundation, as an associate editor for the *Journal of Management*, as chair of the SMS's competitive strategy interest group, and as an executive committee member of the AoM's BPS division.

At Ohio State, Leiblein serves as academic director of OSU's *Integrated Business and Engineering Program* and as a co-director for OSU's multidisciplinary *Food Innovation Center*. He helped organize and presented at the OSU YPO-WPO innovation program (2015), co-organized an innovation summit with Cherry Bekaert, the National Center for the Middle Market, and the Strategic Management Society (2015), served as founding member and academic director of the *OSU Center for Innovation* (2016), and co-developed the OSU@CERN TransAtlantic Innovation program (2016). Previously, he developed the TechColumbus Innovation Summit (2009 through 2012). He has consulted in the United States, Europe, and Asia for a variety of organizations and associations.

Michael received his Ph.D. from Purdue University and his M.B.A. and a B.S. in Electrical Engineering from Rensselaer Polytechnic Institute. Prior to his doctoral studies, he worked as a consultant for Andersen Consulting (Accenture) and as an engineer for Johnson Controls. In his free time, Michael enjoys attending collegiate sporting events, opera, and hiking through New England and the American Southwest.

How to Read an Academic Article (adapted from note by Peter G. Klein)

As an academic you will need to become not only avid readers but also efficient readers, able to extract the maximum information from an article with the least effort. You will need to learn, in other words, the art of the skim. While many of these tips may be painfully obvious, some students have told me they appreciate having this information. So, I reproduce the handout below. Any comments and suggestions for improvement are welcome.

1. Caveat: no single style works for everyone!
2. Basic steps for skimming, scanning, processing...
 - a. Read the abstract (if provided); Read the introduction; Read the conclusion.
 - b. Skim the middle, looking at section titles, tables, figures, etc.—try to get a feel for the style and flow of the article.
 - i. Is it methodological, conceptual, theoretical (verbal or mathematical), empirical, or something else?
 - ii. Is it primarily a survey, a novel theoretical contribution, an empirical application of an existing theory or technique, a critique, or something else?
 - c. Go back and read the whole thing quickly, skipping equations, most figures and tables.
 - d. Go back and read the whole thing carefully, focusing on the sections or areas that seem most important.
3. Once you've grasped the basic argument the author is trying to make, critique it!
 - a. Ask if the argument makes sense. Is it internally consistent? Well supported by argument or evidence? (This skill takes some experience to develop!)
 - b. Compare the article to others you've read on the same or a closely related subject. (If this is the first paper you've read in a particular subject area, find some more and skim them. Introductions and conclusions are key.) Compare and contrast. Are the arguments consistent, contradictory, orthogonal?
 - c. Use Google Scholar, the Social Sciences Citation Index, publisher web pages, and other resources to find articles that cite the article you're reading. See what they say about it. See if it's mentioned on blogs, groups, etc.
 - d. Check out a reference work, e.g. a review or survey article, to see how this article fits in the broader context of its subject area.

How to Prepare a Literature Review (adapted from a post on the Organizations & Markets blog)

A country practitioner was retained one day by a client whose red cow had broken into his neighbor's grain field, and litigation ensued. The practitioner went carefully over the details of the facts in the case with a student in his office, and assigned to the student the duty of "looking up the law" on the subject. Sometime after he asked the student what success he had had with the authorities bearing on the case. The student replied: "Squire, I have searched diligently through every law book in the library, and there isn't a red cow case in them." (see *Central Law Journal*, Vol. 79, p. 299 (1914))

The joke of course is that this lawyer thought the issue was red cows rather than trespassing, negligence, and other abstract legal concepts. This was a lot less funny when I realized that when I was in college and my first year or two of grad school, this kind of substantively-focused literalism was exactly how I would approach doing a lit review for a research paper. I would open up Sociofile (now called "Sociological Abstracts") and search for substantive key terms, something like "social movements AND television." That is, I was searching for prior literature on my substantive issue.

A substantive literature search is worth doing to a certain extent, but it's not nearly as important as getting (and understanding) the underlying theory. A single theory often involves wildly disparate empirical issues. So how do you do the theoretical aspect of the review? Well, to a large extent it's just an issue of learning a large body of literature inside out, but that takes a very long time. In the meantime, here's the advice I give to my grad students.

1. Use Business Source Complete, Google Scholar, etc. for queries of key terms but realize that this will only be about a quarter of the work. These databases aren't very good at queries by theory.
2. Figure out what theoretical problems are at issue in your work. These problems may be the result of inconsistencies in the assumptions or causal mechanisms in applications of the theory, inconsistencies across multiple theories addressing a single phenomenon, or inconsistencies or limitations in the empirical evidence. Discuss these issues with your friends and mentors. They may suggest explanations or theoretical solutions you've never heard of. Also ask them for specific citations that they recommend.
3. Search for essays on these theories in high quality journals such as the *Strategic Management Journal*, *Organization Science*, or *Management Science* (or even the annual review issues from the *Journal of Management*). If you're lucky, you may even find a graduate seminar on your target literature. You can also use a few empirical publications that you've read or which are recommended to you as providing particularly good theoretical syntheses.
4. Use these to snowball sample, both backwards and forwards in time. To snowball backwards, read the articles and whenever they mention a citation that sounds interesting, add it to your list. To snowball forward, use Google Scholar to do a cited reference search of your key citations and again, take the stuff that looks promising. As you read, you'll find still more good cites.
5. Actually read and pull out the theoretical problems involved and how they hang together in the different articles. Try to find one to three important theoretical problems and use each of them to derive a proposition that can be operationalized into an empirically-testable hypothesis. Read empirical articles that you admire and note how they structure their lit review / theory section. Note that this step is as much imposing structure on the literature as about recognizing the structure that pre-exists because, frankly, the literature is often muddled.
6. Get back to your advisors and colleagues once you've finished doing all of this and we can talk about actually doing the empirical part of the project.

How to Write a “One-Pager”

A “one pager” is a succinct summary and commentary on either a book or journal article. It is intended to establish that you can grasp the key points of a particular work, and contribute constructively to scholarly dialogue. I first encountered the one pager through Roger Congleton, and have found it to be a highly effective training device to interpret information. As the name suggests, it *must* be kept to one page.

Component Parts

There are four parts to a one pager:

1. Provide an accurate citation of the book/article
2. Include your own name and relevant details.
3. Use three bullet points to provide a holistic summary. Each paragraph should be short, and pick up on a critical part of the thesis. If you’re reading the text with a specific reason in mind (e.g. a literature review on a particular subject), the summary can be focused on that aspect of the piece.
4. Use three bullet points for constructive analysis. These might be aspects of the manuscript that you didn’t understand, sections you feel could/should be expanded, or parts you outright disagree with. The three points should demonstrate that you can critically assess the material, think creatively about how to build upon it, and draw upon a wider knowledge of the subject.

Finally

As with most skills you can develop your ability to write a one-pager with practice. It’s a method to focus your attention whilst reading an article, and therefore – I find – can drastically reduce the time it takes to absorb material, and increase the effectiveness of your reading.

A Suggested Outline for an Academic Paper

1. An “Introduction” section summarizing the justification for the research question and its theoretical rationale. A good way to write an introduction section is the “3 paragraph” model (pay particular attention to audience and intended contribution):
 - a) Which stream of literature (e.g., theory or phenomenon) are you contributing to? What are the main research questions in this literature stream, and which specific research question will this paper focus on? Who has already said what in this literature stream about that research question?
 - b) What problem or weakness have you identified in that literature stream? What is incomplete or incorrect in that literature stream?
 - c) How will you solve that problem in this paper? What new ideas, methods, data, theories, constructs, variables, measures, analytical techniques, etc., will you use in this paper to fix the problem or weakness that you have identified? What benefits will these new approaches provide, relative to the prior literature?
2. A “Theory” section where you more fully and thoroughly develop, explain, and justify your unique contribution to theory. A complete, full-blown theory would include three main components – what causes what, why and how, and under what conditions:
 - a) What causes what? An empirically falsifiable *prediction*, with independent and dependent variables that are clearly articulated and defined.
 - b) Why and how? A logical and internally-consistent *causal mechanism*, which provides a bridge or a process through which the assumptions and boundary conditions provided in part (c) below will lead naturally to the prediction provided in part (a) above.
 - c) Under what conditions? A clear statement of the bare minimum set of *assumptions and boundary conditions* that must be fulfilled in order for the causal mechanism in part (b) above to apply, and in order for the prediction in part (a) above to be derived. (Imposing additional assumptions and boundary conditions beyond the bare minimum is viewed as undesirable, because it unnecessarily restricts the theory’s range of applicability.)
3. As it is essentially impossible to develop a complete, new, full-blown, paradigm-shifting theory in the space of a 30-page journal article, you should aim for making a smaller “bite-sized” contribution to theory, such as:
 - a) Articulating a theory’s hidden assumptions or boundary constraints or identifying internal inconsistencies in a theory or previously overlooked points of inconsistency between theories.
 - b) Introducing a new conceptual construct or variable or improving upon an existing conceptual construct or variable.
 - c) Deriving new predictions from an old theory (or theories). Often these predictions will result from one of the following:
 - i. Finding “dualities” between seemingly different theories/constructs that can actually be viewed as “two sides of the same coin”
 - ii. Synthesizing multiple theories, where the combined whole is different than just the sum of the parts – i.e., interaction effects, where the combination of theories generates new and different predictions than the individual theories would predict in isolation.
 - iii. Extending a theory, by considering the consequences of relaxing restrictive assumptions or boundary constraints. Frequently, this occurs through examination of special cases, where more and/or stronger predictions can be derived under additional assumptions or boundary constraints; or by considering predictions across levels of analysis.
4. A “Data and Methods” section in which you describe a research design that would be appropriate to address your question or idea, using data that could *realistically* be collected, organized, and analyzed within a one-year time horizon (taking into account the financial constraints, data-access constraints, and time constraints). Although this “Methodology” section will most likely consider how and where you might collect data, it is nevertheless possible that the relevant data might be readily available (e.g., in public databases or in data sets already collected by other researchers), in which case you are strongly encouraged to go ahead and perform the actual data analysis and report the results in the paper, in a separate “Results” section.

How to Critically Review a Paper

The following points offer criteria for reviewing papers suggested by the BPS division of the Academy of Management.

- Introduction
 - Is there a clear research question, with a solid motivation behind it?
 - Is the research question interesting?
 - After reading the introduction, did you find yourself motivated to read further?
- Theory
 - Does the submission contain a well-developed and articulated theoretical framework?
 - Are the core concepts of the submission clearly defined?
 - Is the logic behind the hypotheses persuasive?
 - Is extant literature appropriately reflected in the submission, or are critical references missing?
 - Do the hypotheses or propositions logically flow from the theory?
- Method (for empirical papers)
 - Are the sample and variables appropriate for the hypotheses?
 - Is the data collection method consistent with the analytical technique(s) applied?
 - Does the study have internal and external validity?
 - Are the analytical techniques appropriate for the theory and research questions and were they applied appropriately.
- Results (for empirical papers)
 - Are the results reported in an understandable way?
 - Are there alternative explanations for the results, and if so, are these adequately controlled for in the analyses?
- Contribution
 - Does the submission make a value-added contribution to existing research?
 - Does the submission stimulate thought or debate?
 - Do the authors discuss the implications of the work for the scientific and practice community?

An Article Summary Template
(adapted from a note by Mike Lennox)

Citation:

Study Type:	Exploratory (e.g., taxonomies, descriptive), theoretical, or empirical				
Research Question:					
Argument:					
Framing:					
Theoretical Lens(es):	Industrial Organization, BTOF, Resource / Strategic Factor Market, or Dynamic Capability Logic, Transaction Cost Economics, Real Options, Agency theory, _____				
Theoretical Approach:	Verbal explication; analytical / mathematical modeling; empirical examination				
Hypotheses:	H1. H2. H3. H4.				
Constructs:	(name)		(nominal definition)		
Context:	(e.g. industry, phenomenon)				
Unit of Analysis:	(e.g. firm, individual, firm-year, event)				
Sampling Strategy:	archival; survey; case study; or experiment				
Sample Description:				panel; cross section	
Measures:	class	construct	Description	range	type
	DV, IV, or control	(name)			continuous; binary; ordinal; or cardinal
Empirical Model(s):	(e.g., OLS, GLS, Probit / logit, Fixed-Effects, Cox / event-history; GMM)				
Key Findings:					
Contribution:					