

MGMT 939 (Fall 2016 – Q1)
PhD Seminar in Entrepreneurial Innovation (0.5cu)

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This quarter-length class explores topics in entrepreneurial innovation. While innovation management from the perspective of the industry incumbent is a relatively more established literature, our collective knowledge of entrepreneurial innovation is still emerging. This PhD class draws primarily on the smaller literature focused on entrepreneurial innovation. While I have assigned three main readings per 3-hour session, I have also listed optional readings for those interested in more complete coverage, particularly from the standpoint of the established industry incumbent.

At the first session, you will be asked to sign-up to be a discussion leader for one of the remaining five topics in the course. Aside from active class participation (including service as a discussion leader), the other requirement in the class is to EITHER pick a paper from the set listed in this syllabus (or one approved by me) and prepare a referee style report on it, OR to pick a topic (listed here or one approved by me) and prepare a research proposal. More details of class requirements will be given in the first class session. We will meet on Thursdays in Q1 (location: Bowman conference room, SHDH 2039) from 9am-noon.

1. TECHNOLOGY ENTREPRENEURSHIP OVERVIEW; MOTIVATING INNOVATION (9/1)

D.H. Hsu (2008). “Technology-Based Entrepreneurship,” in S. Shane, ed., Handbook of Technology and Innovation Management, Wiley, UK.

F. Ederer and G. Manso. 2013. “Is Pay for Performance Detrimental to Innovation?” *Management Science*, 59: 1496-1513.

H. Sauermann and WM. Cohen. 2010. “What Makes Them Tick? Employee Motives and Firm Innovation,” *Management Science*, 56: 2134-2153.

OPTIONAL:

P. Azoulay, JG. Zivin, and G. Manso. 2011. “Incentives and Creativity: Evidence from the Academic Life Sciences.” *RAND Journal of Economics* 42(3): 527-554.

BH. Hall, AB. Jaffe, and M. Trajtenberg. 2001. “The NBER Patent Citations Data File: Lessons, Insights and Methodological Tools,” NBER working paper 8498.

T. Hellmann (2007). “When Do Employees Become Entrepreneurs?” *Management Science*, 53(6): 919-933.

J. Lerner and J. Wulf. 2007. Innovation and incentives: evidence from corporate R&D. *Review of Economics and Statistics* 89(4): 634–644.

G-C. Li, R. Lai, A. D'Amour, DM. Doolin, Y. Sun, VI. Torvik, AZ. Yu, L. Fleming. 2014. "Disambiguation and co-authorship networks of the U.S. patent inventor database (1975-2010)," *Research Policy*, 43: 941-955.

RR. Nelson. 1962. "The Link Between Science and Invention: The Case of the Transistor." In *The Rate and Direction of Inventive Activity: Economic and Social Factors*, pp. 549-583. Princeton, NJ: Princeton University Press.

A. Seru. 2014. Firm boundaries matter: Evidence from conglomerates and R&D activity. *Journal of Financial Economics*, 111: 381-405.

O. Toivanen and L. Vaananen (2012). "Returns to Inventors," *The Review of Economics and Statistics*, 94(4): 1173-1190.

2. DEVELOPING INNOVATION CAPABILITIES (9/8)

R. Henderson and I. Cockburn. 1994. "Measuring Competence? Exploring Firm Effects in Pharmaceutical Research," *Strategic Management Journal* 15: 63-84.

DC. Mowery, JE. Oxley, BS. Silverman. 1996. Strategic alliances and inter-firm knowledge transfer. *Strategic Management Journal* 17: 77-91.

NS. Argyres and BS. Silverman. 2004. R&D, organization structure, and the development of corporate technological knowledge. *Strategic Management Journal* 25(89): 929-958.

OPTIONAL:

G. Ahuja and R. Katila. 2001. Technological acquisitions and the innovation performance of acquiring firms: a longitudinal study. *Strategic Management Journal* 22(3): 197-220.

A. Arora, S. Belenzon, and LA. Rios, "Make, Buy, Organize: The Interplay Between Research, External Knowledge, and Firm Structure," *Strategic Management Journal*, 35: 317-337.

MJ. Benner and M Tushman. 2002. "Process Management and Technological Innovation: A Longitudinal Study of the Photography and Paint Industries," *Administrative Science Quarterly*, 47: 676-706.

WM. Cohen and DA. Levinthal. 1990. Absorptive capacity: a new perspective on learning and innovation. *Administrative Science Quarterly* 35(1): 128-152.

DH. Hsu and RH. Ziedonis, "Resources as dual sources of advantage: Implications for valuing entrepreneurial-firm patents," *Strategic Management Journal*, 34: 761-781.

GP. Pisano. 1990. The R&D boundaries of the firm: an empirical analysis. *Administrative Science Quarterly* 35(1): 153-176.

P. Puranam, H. Singh, and M. Zollo. 2006. Organizing for innovation: managing the

coordination-autonomy dilemma in technology acquisitions. *Academy of Management Journal* **49**(2): 263–280.

3. EMPLOYEE AND KNOWLEDGE MOBILITY & INNOVATION (9/22)

A. Jaffe, M. Trajtenberg and R. Henderson. “Geographic Localization of Knowledge Spillovers as Evidenced by Patent Citations.” *Quarterly Journal of Economics*. 108. 3 (1993): 577-598.

M. Marx, D. Strumsky, and L. Fleming. 2009. “Mobility, Skills, and the Michigan Non-compete Experiment.” *Management Science* **55**(6): 875-889.

AK. Chatterji, AK. 2009. “Spawned with a Silver Spoon? Entrepreneurial Performance and Innovation in the Medical Device Industry,” *Strategic Management Journal*, 30: 185-206.

OPTIONAL:

R. Agarwal, R. Echambadi, A. Franco, MB. Sarkar. 2004. Knowledge transfer through inheritance: spin- out generation, development, and survival.” *Academy of Management Journal*. **47**(4) 501-522.

P. Almeida and B. Kogut. (1999) “Localization of Knowledge and the Mobility of Engineers in Regional Networks.” *Management Science* 45:905-918.

B. Fallick, CA. Fleischman, and JB. Rebitzer, 2006, Job-hopping in Silicon Valley: Some evidence concerning the microfoundations of a high-technology cluster, *Review of Economics and Statistics* 88:3, 472-81.

P. Gompers, J. Lerner and D. Scharfstein (2005). "Entrepreneurial Spawning: Public Corporations and the Genesis of New Ventures, 1986 to 1999." *The Journal of Finance* **60**(2): 577-614.

CE. Helfat and MB. Lieberman, “The Birth of Capabilities: Market Entry and the Importance of Pre-History,” *Industrial and Corporate Change*, 11(4), August 2002.

S. Klepper and S. Sleeper (2005). "Entry by Spinoffs." *Management Science* **51**(8): 1291-1306.

A. Leiponen and CE. Helfat. 2011. Location, decentralization, and knowledge sources for innovation. *Organization Science* **22**(3): 641–658.

P. Thompson and M. Fox-Kean (2005). “Patent Citations and the Geography of Knowledge Spillovers: A Reassessment.” *American Economic Review*, 95(1): 450-460.

LG. Zucker, MR. Darby and MB. Brewer (1998). “Intellectual Human Capital and the Birth of US Biotechnology Enterprises,” *The American Economic Review* 88(1): 290-306.

4. DISRUPTIVE INNOVATION (9/29)

CM. Christensen and JL. Bower. 1995. Bower and Christensen, “Disruptive Technologies: Catching the Wave,” *Harvard Business Review*, January-February.

M. Tushman and P. Anderson. 1986. Technological Discontinuities and Organizational Environments *Administrative Science Quarterly*, Vol. 31, No. 3), pp. 439-465.

M. Marx, JS. Gans & DH. Hsu. 2014. “Dynamic Commercialization Strategies for Disruptive Technologies: Evidence from the Speech Recognition Industry” *Management Science*, 60: 3103-3123.

OPTIONAL:

R. Foster (1996), “The S-Curve: A New Forecasting Tool,” *Innovation: The Attacker’s Advantage*, Summit Books, Simon and Schuster: NY, Chapter 4, pp. 88-111.

W. Mitchell. 1989. Whether and When? Probability and Timing of Incumbents' Entry into Emerging Industrial Subfields. *Administrative Science Quarterly*. **34**(2) 208-230.

A. King, C. Tucci (2001). Incumbent entry into new market niches: The role of experience and managerial choice in the creation of dynamic capabilities. *Management Science*, 48(2): 171-186.

RM. Henderson, KB. Clark. 1990. Architectural Innovation: The Reconfiguration of Existing Product Technologies and the Failure of Established Firms. *Administrative Science Quarterly*. **35**(1) 9-30.

5. COMMERCIALIZING INNOVATION & TECHNOLOGY STRATEGY (10/6)

J. Gans, S. Stern and J. Wu (2016). “The Foundations of Entrepreneurial Strategy,” Working Paper, MIT Sloan.

A. Arora, A. Fosfuri, and A. Gambardella. 2001. “Markets for Technology and their Implications for Corporate Strategy.” *Industrial and Corporate Change* **10**(2): 419-451.

M. Marx and DH. Hsu. 2015. “Strategic Switchbacks: Dynamic Commercialization Strategies for Technology Entrepreneurs,” *Research Policy*, 44: 1815-1826.

OPTIONAL:

J. Gans and S. Stern. 2003. “The Product Market and the Market for Ideas: Commercialization Strategies for Technology Entrepreneurs,” *Research Policy*.

JS. Gans, DH. Hsu and S. Stern. 2002. “When Does Start-up Innovation Spur the Gale of Creative Destruction?” *RAND Journal of Economics* 33: 571-86.

JS. Gans, DH Hsu and S. Stern. 2008. “The Impact of Uncertain Intellectual Property Rights on the Market for Ideas: Evidence from Patent Grant Delays,” *Management Science*, 54, 982–997.

R. Henderson. 1993. "Underinvestment and incompetence as responses to radical innovation," *RAND Journal of Economics*, 24: 248-269.

D. Teece, 1986. "Profiting from Technological Innovation: Implications for Integration, Collaboration, Licensing and Public Policy." *Research Policy* 15: 285-305.

M. Tripsas. 1997. Unraveling the process of creative destruction: Complementary assets and incumbent survival in the typesetter industry. *Strategic Management Journal*, 18(Special Summer Issue): 119-142.

6. ENTREPRENEURIAL FINANCE AND INNOVATION (10/13)

S. Kortum, and J. Lerner. 2000. Assessing the impact of venture capital on innovation. *RAND Journal of Economics* 31, 674-92.

R. Katila, J. Rosenberger, J., and K. Eisenhardt. 2008. "Swimming with sharks: Technology ventures, defense mechanisms and corporate relationships." *Administrative Science Quarterly*, 53: 295-332.

VA. Aggarwal, DH. Hsu (2014) Entrepreneurial Exits and Innovation. *Management Science* 60(4):867-887.

OPTIONAL:

M. Da Rin, T. Hellmann, and M. Puri (2011), "[A survey of venture capital research](#)"; Forthcoming in George Constantinides, Milton Harris, and René Stulz (eds) *Handbook of the Economics of Finance*, vol 2, Amsterdam, North Holland Bottazzi,

G. Dushnitsky and M. Lenox. "When do incumbents learn from entrepreneurial ventures? Corporate venture capital and investing firm innovation rates." *Research Policy* 34 (2005) 615–639.

G. Dushnitsky and M. Lenox. "When do firms undertake R&D by investing in new ventures?" *Strategic Management Journal*, 26: 947–965 (2005).

P. Gompers, W. Gornall, SN. Kaplan, IA. Strebulaev (2016). "How Do Venture Capitalists Make Decisions?" HBS working paper.

T. Hellmann, and E. Perotti. 2011. "The Circulation of Ideas in Firms and Markets." *Management Science*.

S. Ma (2016). "The Life Cycle of Corporate Venture Capital," Working Paper, Yale University.