

JOHN PAUL MACDUFFIE

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A. EDUCATIONAL BACKGROUND

Ph.D. in Management, MIT Sloan School of Management, MIT, Cambridge, MA. 1991.

Dissertation: Beyond Mass Production: Flexible Production Systems and Manufacturing Performance in the World Auto Industry.

Winner of Zenon and Clotilde Zannetos Ph.D. Thesis Prize

B.A. in Sociology, magna cum laude. Harvard University, Cambridge, MA. 1977.

B. EMPLOYMENT HISTORY

Professor, Wharton School, University of Pennsylvania, 2014-present

Associate Professor, Wharton School, University of Pennsylvania, 1997-2014.

Assistant Professor, Wharton School, University of Pennsylvania, 1991-1997.

C. PUBLICATIONS

1. Articles Published or Forthcoming in Refereed Journals

- [1] Kochan, Thomas A., John Paul MacDuffie, and Paul Osterman (1988). "Employment Security at DEC: Sustaining Values Amid Environmental Change," Human Resource Management, Vol. 27, No. 2, pp. 121-144. (Also reprinted in Thomas J. Allen and Michael S. Scott Morton (eds.), Information Technology and the Corporation of the 1990s, pp. 499-518. New York: Oxford University Press, 1994.)
- [2] MacDuffie, John Paul and Thomas A. Kochan (1995). "Do U.S. Firms Invest Less in Human Resources? Training in the World Auto Industry," Industrial Relations, Vol. 34, No. 2, pp. 147-168. (Reprinted in F. Green (ed.), Recent Developments in the Economics of Training, Vol. 1, pp. 189-210. Cheltenham, UK: Edward Elgar, 2007.)
- [3] MacDuffie, John Paul (1995). "Human Resource Bundles and Manufacturing Performance: Organizational Logic and Flexible Production Systems in the World Auto Industry," Industrial and Labor Relations Review, Vol. 48, No. 2, pp. 197-221.

- [4] Ittner, Christopher D. and John Paul MacDuffie (1995). "Explaining Plant-Level Differences in Manufacturing Overhead: Structural and Executional Cost Drivers in the World Auto Industry," Production and Operations Management, Vol. 4, No. 4 (Fall), pp. 312-334.
- [5] MacDuffie, John Paul, Kannan Sethuraman, and Marshall L. Fisher (1996). "Product Variety and Manufacturing Performance: Evidence from the International Automotive Assembly Plant Study," Management Science, Vol. 42, No. 3, pp. 350-369.
- [6] Pil, Frits K. and John Paul MacDuffie (1996). "The Adoption of High Involvement Work Practices," Industrial Relations, Vol. 35, No. 3, pp. 423-455. (Reprinted in Casey Ichniowski, David I. Levine, Craig Olson, and George Strauss (eds.), The American Workplace: Skills, Pay, and Employment Involvement, pp. 137-171. Cambridge, UK: Cambridge University Press, 2000.)
- [7] MacDuffie, John Paul (1997). "The Road to 'Root Cause': Shop-Floor Problem-Solving at Three Auto Assembly Plants," Management Science, Vol. 43, No. 4, pp. 479-502. (Also reprinted in Robert E. Cole and W. Richard Scott (eds.), The Quality Movement and Organization Theory, pp. 175-200. Thousand Oaks, CA: Sage Publications, 2000.)
- [8] MacDuffie, John Paul and Susan Helper (1997). "Creating Lean Suppliers: Diffusing Lean Production Through the Supply Chain," California Management Review, Vol. 39, No. 4, pp. 118-151.
- [9] Pil, Frits K. and John Paul MacDuffie (1999). "What Makes Transplants Thrive: Managing the Transfer of 'Best Practice' at Japanese Auto Plants in North America," Journal of World Business, Vol. 34, No. 4, pp. 372-391.
- [10] Helper, Susan, John Paul MacDuffie, and Charles Sabel (2000). "Pragmatic Collaborations: Advancing Knowledge While Controlling Opportunism," Industrial and Corporate Change, Vol. 9, No. 3, pp. 443-487.
- [11] Hunter, Larry W., John Paul MacDuffie, and Lorna Doucet (2002). "What Makes Teams Take? Employee Reactions to Work Reorganization," Industrial and Labor Relations Review, Vol. 55, No. 3, pp. 448-472.
- [12] Kogut, Bruce, John Paul MacDuffie, and Charles Ragin (2004). "Prototypes and Strategy: Assigning Causal Credit Using Fuzzy Sets," European Management Review, Vol. 1, No. 2, pp. 114-131.
- [13] Adler, Paul S., Mary Benner, David James Brunner, John Paul MacDuffie, Emi Osono, Bradley R. Staats, Hirotaka Takeuchi, Michael Tushman, and Sidney G. Winter (2009). "Perspectives on the Productivity Dilemma," Journal of Operations Management, Vol. 27, No. 2, pp. 99-113.
- [14] Kim, Jaewon, John Paul MacDuffie, and Frits K. Pil (2010). "Employee Voice and Organizational Performance: Team vs. Representative Influence," Human Relations, Vol. 63, No. 3, pp. 371-394.

- [15] MacDuffie, John Paul (2011). “Inter-organizational Trust and the Dynamics of Distrust,” Journal of International Business Studies, Vol. 42, No. 1, pp. 35-47.
- [16] MacDuffie, John Paul (2013). “Modularity-as-Property, Modularization-as-Process, and ‘Modularity’-as-Frame: Product Architecture Initiatives in the Global Auto Industry,” Global Strategy Journal, Vol. 3, pp. 8-40.
- [17] Schulze, Anja, John Paul MacDuffie, and Florian Täube (2015). “Knowledge Generation and Innovation Diffusion in the Global Automotive Industry: Change and Stability During Turbulent Times,” Industrial and Corporate Change, Vol. 24, No. 3, pp. 603-611.
- [18] Stevens, Merieke, John Paul MacDuffie, and Susan Helper (2015). “Repairing Damage in Inter-Organizational Relationships: Strategies for Achieving Optimal Trust,” special issue on “Organizational and Institutional Trust: Failures and Repair,” Organization Studies, Vol. 36, No. 9, pp. 1237-1264.
- [19] Jacobides, Michael, John Paul MacDuffie, and C. Jennifer Tae (2016). “Agency, Structure, and the Dominance of OEMs: Change and Stability in the Automotive Sector,” Strategic Management Journal, Vol. 37, No. 9, pp. 1942–1967.
- [20] MacDuffie, John Paul (2018). “Pay Attention to What Is and Isn’t Unique about Tesla: Response to Perkins and Murmann”. In "Forum on Tesla and the Future of the Global Auto Industry," Management and Organization Review, Vol. 14, No. 3, pp. 481-489.

2. Articles Submitted to Refereed Journals

- [21] Alochet, Marc, John Paul MacDuffie, and Christophe Midler (2021). “Mirroring in Production? Early Evidence from the Scale-up of Electric Vehicles,” Forthcoming in Special Issue on “The Power of Modularity Today: 20 Years of ‘Design Rules’”, *Industrial and Corporate Change*.
- [22] MacDuffie, John Paul, Takahiro Fujimoto, and Daniel Heller (2021). “Supply Chain Continuity Capabilities: Coping with Visible-Regional and Invisible-Global Disasters,” under revision for resubmission to *Journal of Operations Management*.

3. Other Articles (including Chapters in Books)

- [23] London, Manuel and John Paul MacDuffie (1987). “Technological Innovations: Case Examples and Guidelines.” Personnel, Vol. 64, No. 11, pp. 26-35.
- [24] MacDuffie, John Paul and John F. Krafcik (1992). “Integrating Technology and Human Resources for High Performance Manufacturing: Evidence from the International Auto Industry,” in Thomas A. Kochan and Michael Useem (eds.), Transforming Organizations, pp. 209-226. New York: Oxford University Press.

- [25] Kochan, Thomas A., Joel Cutcher-Gershenfeld, and John Paul MacDuffie (1992). "Employee Participation, Work Redesign, and New Technology: Implications for Manufacturing and Engineering Practice," in Gavriel Salvendy (ed.), Handbook of Industrial Engineering (2nd ed.), Volume 2, pp. 798-814. New York: John Wiley and Sons, Inc. Also published as "Integrating Employee Participation, Work Redesign, and New Technology: Experience in the U.S.," in Eliezer Rosenstein and William Lafferty (eds.), International Handbook of Participation in Organizations, pp. 250-266. New York: Oxford University Press, 1992.
- [26] MacDuffie, John Paul (1995). "Workers' Roles in Lean Production: The Implications for Worker Representation," in Steve Babson (ed.), Lean Work: Empowerment and Exploitation in the Global Auto Industry, pp. 54-69. Detroit, MI: Wayne State University Press.
- [27] MacDuffie, John Paul and Frits K. Pil (1995). "The International Assembly Plant Study: Philosophical and Methodological Issues," in Steve Babson (ed.), Lean Work: Empowerment and Exploitation in the Global Auto Industry, pp. 181-196. Detroit, MI: Wayne State University Press.
- [28] Fisher, Marshall L., Anjani Jain, and John Paul MacDuffie (1995). "Strategies for Product Variety: Lessons from the Auto Industry," in Edward Bowman and Bruce Kogut (eds.), Redesigning the Firm, pp. 116-154. New York: Oxford University Press.
- [29] Katz, Harry and John Paul MacDuffie (1995). "Collective Bargaining in the U.S. Auto Assembly Sector," in Paula Voos (ed.), Contemporary Collective Bargaining in the Private Sector, pp. 181-224. Madison, WI: Industrial Relations Research Association.
- [30] MacDuffie, John Paul (1996). "International Trends in Work Organization in the Auto Industry: National-Level vs. Company-Level Perspectives," in Kirsten Wever and Lowell Turner (eds.), The Comparative Political Economy of Industrial Relations, pp. 71-113. Madison, WI: Industrial Relations Research Association.
- [31] MacDuffie, John Paul (1996). "Automotive White-Collar: The Changing Status and Roles of Salaried Employees in the North American Auto Industry," in Paul Osterman (ed.), Broken Ladders: Managerial Careers in the New Economy, pp. 81-125. New York: Oxford University Press.
- [32] MacDuffie, John Paul and Frits K. Pil (1996). "From Fixed to Flexible: Automation and Work Organization Trends from the International Assembly Plant Study," in U. Jürgens and T. Fujimoto (eds.), Transforming Auto Assembly — International Experiences with Automation and Work Organization, pp. 238-254. Frankfurt: Springer-Verlag.
- [33] Shimada, Haruo and John Paul MacDuffie (1998). "Industrial Relations and 'Humanware': Japanese Investments in Automobile Manufacturing in the United States," in Schon Beechler (ed.), The Japanese Enterprise. London: Routledge.
- [34] Pil, Frits K. and John Paul MacDuffie (1999). "Organizational and Environmental Factors Influencing the Use and Diffusion of High-Involvement Practices," in Peter

Cappelli (ed.), Employment Practices and Business Strategy, pp. 81-106. New York: Oxford University Press.

- [35] MacDuffie, John Paul and Susan Helper (1999). "Creating Lean Suppliers: Diffusing Lean Production Through the Supply Chain," in Jeffrey Liker, Paul Adler, and Mark Fruin (eds.), Remade in America: Transplanting and Transforming Japanese Production Systems, pp. 154-200. New York: Oxford University Press. (Note: This is a longer version of the California Management Review article [8].)
- [36] Pil, Frits K. and John Paul MacDuffie (1999). "Transferring Competitive Advantage Across Borders: A Study of Japanese Transplants in North America," in Jeffrey Liker, Paul Adler, and Mark Fruin (eds.), Remade in America: Transplanting and Transforming Japanese Production Systems, pp. 39-74. New York: Oxford University Press. (Note: This is a longer version of the Journal of World Business article [9].)
- [37] MacDuffie, John Paul (1999). "The Transfer of Organizing Principles in the World Auto Industry: Cross-Cultural Influences on Replication at Opel Eisenach," in Anna Comacchio, Giuseppe Volpato, and Arnaldo Camuffo (eds.), Automation in Automotive Industries, pp. 119-137. Berlin: Springer-Verlag.
- [38] Helper, Susan and John Paul MacDuffie (2001). "E-volving the Auto Industry: E-Business Effects on Consumer and Supplier Relationships," in Robert Litan and Alice Rivlin (eds.), Tracking a Transformation: E-business and the Terms of Competition in Industries, pp. 178-213. Washington, DC: Brookings Institution Press.
- [39] Katz, Harry, John Paul MacDuffie, and Frits K. Pil (2002). "Autos: Continuity and Change in Collective Bargaining," in Paul F. Clark, John T. Delaney, and Ann C. Frost (eds.), Collective Bargaining in the Private Sector, pp. 55-90. LERA Research Volumes. Madison, WI: Industrial Relations Research Association.
- [40] MacDuffie, John Paul (2003). "Leaning Toward Teams: Divergent and Convergent Trends in Diffusion of Lean Production Work Practices," in Thomas A. Kochan and David P. Lipsky (eds.), Negotiations and Change: From the Workplace to Society, pp. 94-116. Ithaca, NY: Cornell University Press.
- [41] Helper, Susan and John Paul MacDuffie (2003). "Suppliers and Intermediaries," in Bruce Kogut (ed.), The Global Internet Economy, pp. 331-380. Cambridge, MA: MIT Press. Also cited under pre-publication working title "B2B and Modes of Exchange: Evolutionary and Transformative Effects."
- [42] MacDuffie, John Paul and Susan Helper (2006). "Collaboration in Supply Chains: With and Without Trust," in Charles Heckscher and Paul S. Adler (eds.), The Firm as a Collaborative Community: The Reconstruction of Trust in the Knowledge Economy, pp. 417-466. New York: Oxford University Press.
- [43] MacDuffie, John Paul (2008). "HRM and Distributed Work: Managing People Over Distance," in James P. Walsh and Arthur P. Brief (eds.), Annals of the Academy of Management, Vol. 1, No. 1, pp. 549-616. New York: Lawrence Erlbaum Inc.

- [44] Brookfield, Jonathan, Ren-Jye Liu, and John Paul MacDuffie (2008). "Taiwan's Bicycle Industry A-Team Battles Chinese Competition with Innovation and Cooperation." Strategy & Leadership, Vol. 36, No. 1, pp. 14-19.
- [45] MacDuffie, John Paul and Takahiro Fujimoto (2010). "Get Ready for the Complexity Revolution: Why Automakers Will Keep Ruling the Auto Industry." Harvard Business Review (June), pp. 23-25.
- [46] Jacobides, Michael G. and John Paul MacDuffie (2013). "How to Drive Value Your Way," Harvard Business Review (July-August), pp. 46-56.
- [47] Katz, Harry, John Paul MacDuffie, and Frits K. Pil (2014). "Crisis and Recovery in the U.S. Auto Industry: Tumultuous Times for a Collective Bargaining Pacesetter," in Howard R. Stanger, Paul F. Clark, and Ann C. Frost (eds.), Collective Bargaining Under Duress: Case Studies of Major North American Industries. LERA Research Volumes. Ithaca, NY: ILR Press.
- [48] Keith, David and John Paul MacDuffie (2020). "Why 'Autos Plus Tech' Is the Best Path for Automated Vehicles," Sloan Management Review.
- [49] MacDuffie, John Paul (2021). "The Industrial Relations Perspective on Lean Systems," Chapter 4 in The International Handbook of Lean Organizations, Thomas Janoski and Darina Lepadatu (eds.), Cambridge University Press, pp. 92-123.
- [50] Fujimoto, Takahiro and John Paul MacDuffie (2022). "Capability, Architecture, and Performance: Evolutionary Dynamics in the Global Automotive Industry," in preparation for Oxford Handbook of Industry Dynamics, Matthias Kipping, Takafumi Kurosawa, and D. Eleanor Westney (eds.), Oxford University Press.

4. Books

- [51] Kochan, Thomas A., Russell D. Lansbury, and John Paul MacDuffie (eds.) (1997). After Lean Production: Evolving Employment Practices in the World Auto Industry. Ithaca, NY: Cornell University Press, 352 pages.

Co-author of Chapter 1 ("Introduction" with Kochan and Lansbury); pp. 3-8.

Chapter 2 ("Changes in Auto Industry Employment Practices: An International Overview" with Frits K. Pil); pp. 9-42.

Chapter 4 ("United States: Variations on a Theme," with Kochan, Pil, Paul S. Adler, and Saul Rubenstein); pp. 61-83.

Chapter 16 ("Conclusion: After Lean Production?") with Kochan and Lansbury); pp. 303-324.

5. Invited Papers

See publication #42; I was invited to write the chapter for AOM Annals.

6. Reports and Other Materials

- [52] "Preparing U.S. Workers and Employers for an Autonomous Vehicle Future" (2018). Erica L. Groshen, Susan Helper, John Paul MacDuffie, and Charles Carson (Department of Labor). Prepared for Securing America's Future Energy (SAFE).
- [53] "EV Turning Point: Momentum Builds for U.S. Electric Vehicle Transition," (2021). John Paul MacDuffie and Sarah E. Light, Yale E360.
- [54] "Mobility Becomes Electric: The Role of Automotive Original Equipment Manufacturers (OEMs) in Fast-Tracking the Battery-Electric-Vehicle Future," (2021). John Paul MacDuffie. Prepared for Engine No. 1.

Published book reviews

- [55] Review of Japan's California Factories: Labor Relations and Economic Globalization by Ruth Milkman (1993), in Industrial and Labor Relations Review, Vol. 47, pp. 132-3.
- [56] Review of Alternatives to Lean Production: Work Organization in the Swedish Auto Industry by Christian Berggren (1994), Contemporary Sociology, Vol. 23, pp. 204-206.
- [57] Review of The New American Workplace: Transforming Work Systems in the United States by Eileen Appelbaum and Rosemary Batt (1995), in Industrial and Labor Relations Review, Vol. 48, No. 3, pp. 593-595.
- [58] Review of Competitive Advantage through People: Unleashing the Power of the Work Force by Jeffrey Pfeffer (1995), in Administrative Science Quarterly, Vol. 40, No. 3, pp. 524-527.
- [59] Review of The Taylorized Beauty of the Mechanical: Scientific Management and the Rise of Modernist Architecture by Mauro Guillén (2007), in Administrative Science Quarterly, Vol. 52, No. 3, pp. 492-496.

Unpublished working papers

- [60] MacDuffie, John Paul and Michael Maccoby (1986). "Organizational Implications of New Technologies: Remote Work Centers at AT&T Communications," Working Paper #154D, Kennedy School of Government, Harvard University.
- [61] Krafcik, John F. and John Paul MacDuffie (1989). "Explaining High Performance Manufacturing: The International Assembly Plant Study," International Motor Vehicle Program, MIT.
- [62] MacDuffie, John Paul, Bruce Kogut, Frits Pil, and Charles Ragin (2019). "Systems of Complementarities and Learning by Managerial Foresight: Work Practices and Competition in the World Auto Industry."

[63] Fujimoto, Takahiro and John Paul MacDuffie (2020). "Competing Between the Ground and the Sky."

D. SELECTED PRESENTATIONS (2001-2021)

"Taking Charge - Batteries for Electric Vehicles and the Transformation of the Automotive Supply Chain," Industry Studies Association webinar, December 1, 2021.

"Mobility Trends: Capital, Consumers, & China," Sparkworks, University of Zurich webinar, July 1, 2021.

"Post-Pandemic Strategy: Reconciling Efficiency and Resilience," University of South Carolina, Folks Center for International Business webinar, April 15, 2021.

"Getting to Zero: How the US-China Race for Electric Vehicles is Changing the World," China Institute webinar, April 6, 2021.

"AI and Transportation," class in Wharton-level course "Managing Disruptive Change: AI for Business, Finance, and Sustainability," November 24, 2020

"Challenges and Opportunities Arising from COVID-19: Industry Studies Perspectives," Industry Studies Association virtual conference, June 5, 2020

"Mobility Innovations: Their Fate in a (Current and Post) COVID-19 World," Wharton Alumni Webinar, May 28, 2020

"Supply Chain Risk Management and COVID-19," class in Wharton-level course "Epidemics, Natural Disasters, and Geopolitics," April 1, 2020

"Preparing U.S. Workers & Employers for an Autonomous Vehicle Future," Federal Reserve Bank of Philadelphia, February 11, 2020

"Forecasting Tournaments: Designing for a Full Inference Cycle," PVMI Colloquium, Ecole Polytechnique, Palaiseau, France, January 21, 2020

"U.S. Employment Consequences of Autonomous Vehicles: Future Scenarios for Trucks and Cars," Industry Studies Association conference, Nashville, TN, June 1, 2019

"Automation and the Workforce," Stakeholder Conference at U.S. Department of Transportation, March 20, 2019

"Fast-Moving Vehicle & Mobility Ecosystems: How Much Disruption and How Soon?," Wharton Future Mobility Club Lunch & Learn, February 27, 2019

“The Policy Trajectories of Autonomous Vehicles,” U.S. Senate Automotive Caucus, Washington, D.C., January 19, 2019

"Connecting the Ground and the High Sky: Impact on Automobile/Mobility Industry of the Future," PVMI-MMRC Conference "The New Mobility: Opportunities and Challenges," University of Tokyo, Japan, November 16, 2018

"Preparing U.S. Workers & Employers for an Autonomous Vehicle Future," Institute for Work and Employment Research, MITSloan School, Cambridge, MA, November 6, 2018

'Studying Fast-Moving Vehicle and Mobility Ecosystems," Professional Development Workshop, Academy of Management Annual Conference, Chicago, IL, August 11, 2018

"Who Will Prevail: 'The Dinosaurs' (Automotive OEMs) or 'The Upstarts' (Tech Companies)?" GERPISA Annual Conference, Sao Paulo, Brazil, June 12, 2018

"Systems of Complementarities and Learning by Managerial Foresight: Work Practices and Competition in the World Auto Industry," System Dynamics Group, MITSloan School of Management, Cambridge, MA, May 4, 2018

"The New Mobility: Strategic and Policy Challenges," Canadian Automotive Policy Council, Toronto, Ontario, Canada, April 6, 2018

"The New Mobility: Innovation, Investors & Industrial Transformation," CEO Summit, Chief Executive Leadership Institute, New York, NY, December 13, 2017.

“Strategy & Policy Challenges in Shaping Mobility Ecosystems,” PVMI/Mack Institute conference "Reshaping Vehicle and Mobility Ecosystems," co-organized with London Business School, London, UK, November 15, 2017.

“What’s Industry Got To Do With It?” TIMES Distinguished Speaker Address, INFORMS Annual Conference, Houston, TX, October 23, 2017.

“Connecting the Ground and the Sky: Who Will Prevail?” Ford Motor Company Strategy Group “Lunch and Learn,” Dearborn, MI (via remote presentation), August 23, 2017.

“Technology Forecasting at an Industry Inflection Point,” Industry Studies Association Annual Conference, Washington, D.C., May 25, 2017.

“Ecosystems for Vehicle Innovation and Sustainable Mobility," Extension Workshop, sponsored by Strategic Management Society, EUREF, Berlin, Germany, September 2016.

“Competition and Collaboration Amid Disruptive Technologies," presented at:

Behavioral Economics and Climate Change Conference, Baltimore, MD October 2016

Strategic Management Society, Berlin, Germany September 2016

Beyond the (Traditional) Automobile: New Capabilities and New Paradigms (PDW),
Academy of Management, Anaheim, CA August 2016

"Does Process Improvement Stifle Innovation?", Pragmatism, Organizations, and
Management, Professional Development Workshop (PDW), Academy of Management,
Anaheim, CA August 2016

"Volkswagen Emissions Scandal: Corporate Governance and Regulatory Issues," Institute
for Law and Economics, Penn Law School, January 2016.

"Building the New Research Agenda," Automotive Research Conference, co-sponsored by
Program on Vehicle and Mobility Innovation (PVMI) and Center on Automotive and
Mobility Innovation (CAMI), Venice, Italy, September 2015.

"Beyond the Automobile: Car Sharing, App-Based Transport Networks, Urban Mobility &
Sustainability," Academy of Management PDW, Vancouver, B.C., Canada, August 2015.

"Building Collaborative Supply Chains," White House Supply Chain Innovation
Roundtable, Washington, D.C., July 2015.

"Self-Driving Cars: How Disruptive, How Soon?," Industry Studies Association
Conference, Kansas City, MO, May 2015.

"Mobility 2.0: Car- and Ride-Sharing in North America," presented at Chaire Armand
Peugeot Conference on Electromobilité, ESSEC, Paris, France, December 2014.

"The Interplay of Structure and Agency in Tesla's Battle with U.S. Automotive Franchise
Laws," Industry Studies Association, Portland, OR, May 2014.

"Converging Performance and Persistently Divergent Practices: Prototypes and Learning in
Global Automotive Manufacturing," ILR School, Cornell University, NY, February 2014.

"Divergent Strategies in the World Auto Industry: Choice between Lean and Mass
Production," Labor and Employment Relations conference, Philadelphia, PA, January 2014.

"Competition Among Systems of Complements: Learning Among Prototypes and the Race
to Catch Up," Bocconi Business School, Milan, Italy, June 2013.

"Repairing Damage in Inter-organizational Relationships: Strategies for Achieving Optimal
Trust," Bocconi Business School, Milan, Italy, June 2013.

"Strategic and Operational Influences on Manufacturing Location Decisions," Industry
Studies Association Conference, Kansas City, MO, May 2013.

“When Value Sticks Around: Why Automobile OEMs Still Rule Their Sector,” presented at:

Evolution of Organizations & Industries Seminar, Wharton School, November 2012.
Strategic Management Society, Prague, Czech Republic, October 2012.
Academy of Management, BPS/ENT symposium, Boston, MA, August 2012.
Industry Studies Association, Pittsburgh, PA, May 2012.
New York University, Strategy Seminar, New York, April 2012.

“Managing Complexity in the Global Auto Industry: Challenges for Toyota,” Toyota Custom Program, University of Pennsylvania, Philadelphia, PA, September 2012.

“International Trends in Work Organization in Advanced Manufacturing: Moving Towards and Away from Flexibility,” International Labor and Employment Relations Association, Philadelphia, PA, July 2012.

“Innovation and Strategy in the Global Auto Industry,” Academy of International Business, Washington, DC, July 2012.

“Innovation Blowback in the Global Auto Industry: China, Korea, and Japan,” conference on Emerging Market Firm Competitiveness, Fox School, Temple University, Philadelphia, PA, November 2011.

“Prototypes Under Pressure: Complementarities and the Race to Catch Up,” presented at:

Operations and Management Science Group, Ross School, University of Michigan, September 2011.
Bowman Seminar, Wharton School, University of Pennsylvania, Philadelphia, PA, October 2011.

“Taking Stock and Looking Forward: The HR-Performance Research Agenda,” Professional Development Workshop, Academy of Management, San Antonio, TX, August 2011,

“Davids & Goliaths in the Global Automotive Industry,” Academy of Management Symposium, San Antonio, TX, August 2011.

“The International Motor Vehicle Program: Beyond The Machine That Changed the World,” symposium in honor of Prof. Daniel Roos, MIT, Cambridge, MA, April 2011.

“Red Queen Dynamics and Organizational Design: Does Convergence in Performance Lead to Convergence in Form?” presented at:

Institute for Work and Employment Relations, MIT Sloan School, Cambridge, MA, September 2010.
Anderson School of Management, UCLA, Los Angeles, May 2010.

“Inter-Organizational Collaboration: Why Ecosystems Matter,” Professional Development

Workshop on Ecosystems, Academy of Management, Montreal, Quebec, August 2010.

“Inter-organizational Trust and the Dynamics of Distrust,” Academy of International Business, Rio de Janeiro, Brazil, June 2010.

“Modularization Amid Integrality,” Academy of International Business, Rio de Janeiro, Brazil, June 2010.

“The Disintegration of Production,” presented at:

Society for the Advancement of Socio-Economics, Philadelphia, PA, June 2010.

AIB/CIBER Conference on Research Frontiers, Charleston, SC, December 2009.

“Production Flexibility and Modularity,” Federal Reserve Bank of Chicago annual conference on the state of the U.S. auto industry, Detroit, MI, May 2010.

“Location Trends in the Global Auto Industry,” Industry Studies Association, Chicago, IL, May 2010.

“After the Recovery: Prospects for the U.S. Auto Industry,” Wharton School, Joint Boards Meeting, University of Pennsylvania, Philadelphia, PA, October 2009.

“The Global Auto Industry Crisis: Looking Back and Ahead,” presented at:

Professional Development Workshop, Academy of Management, Chicago, IL, August 2009.

Lauder/CAN Summer Workshop, Wharton School, University of Pennsylvania, Philadelphia, PA, July 2009.

“How Industry Studies Research Can Inform Public Policy in a Crisis,” Industry Studies Association, Chicago, IL, May 2009.

“Equifinal Paths to High Performance? Red Queen Competition in the World Auto Industry,” Management Science Seminar, Fisher School of Business, Ohio State University, Columbus, OH, October 2008.

“Exploration, Exploitation, and Continuous Learning: Toyota and Bypassing Dichotomies,” All-Academy Symposium on “Perspectives on the Productivity Dilemma,” Academy of Management, Anaheim, CA, August 2008.

“Increasing the Academic Relevance of Industry Studies: Research and Methodological Considerations,” Sloan Industry Studies Conference, Boston, MA, May 2008.

“Technological and Organizational Barriers to Modularity: Persistent Integrality in the Global Automotive Industry,” Operations and Management Science Seminar, Carlson School of Management, University of Minnesota, Minneapolis, MN, April 2008.

“Still Young at Forty: Challenges of Maturation for the Korean Auto Industry,” Global Automotive Conference in honor of the 40th anniversary of Hyundai Motor Company, Seoul, Korea, February 2008.

“Automotive Supplier Relations Trends: International Comparisons,” Symposium, Labor and Employment Relations Association, New Orleans, LA, January 2008.

“Convergence In (and Evolution of) Best Practice: A Longitudinal Perspective,” Academy of Management Symposium, Philadelphia, PA, August 2007.

“Modularity and the Geography of Innovation,” invited plenary speaker, Sloan Foundation Industry Centers Annual Meeting, Cambridge, MA, April 2007.

“Human Resource Management Practices and Manufacturing Performance: Methodological Issues in International Comparative Research,” Academy of Management Symposium, Atlanta, GA, August 2006.

“Modularity and the Automobile: What Happened When the Concept Hit the Road,” IMVP Automotive Mini-Conference, Cambridge, MA, June 2006.

“High Performance Work Systems and Worker Representation: Combined Effects on Manufacturing Performance,” Labor and Employment Relations Research Association 58th Annual Meeting, Boston, MA, January 2006.

“Collaboration in Supply Chains: With and Without Trust,” presented at:

Sloan Foundation Industry Centers Annual Meeting, Cambridge, MA, December 2005.

IMVP Sponsors’ Meeting, Seoul, Korea, and Tokyo, Japan, October 2005.

Academy of Management, Showcase Symposium, Honolulu, HI, August 2005.

Intercollegiate Committee for Organizational Studies Seminar, University of Michigan, Ann Arbor, MI, March 2005.

Reginald H. Jones Center Seminar, Wharton School, University of Pennsylvania, Philadelphia, PA, March 2005.

“Coordination in Supply Chains: Comparing Modes of Exchange,” Academy of Management, Professional Development Workshop, Honolulu, HI, August 2005.

“Convergence in High Performance Systems: Red Queen Innovation of New Capabilities,” (with Bruce Kogut), Academy of Management, Honolulu, HI, August 2005.

“Modularity and Outsourcing: Myths and Realities, Risks and Benefits,” IMVP Annual Sponsors Meeting, Cambridge University, October 2004.

“Training, Teams, and Manufacturing Performance,” Institute for Work and Employment Relations, Sloan School of Management, MIT, Cambridge, MA, April 2004.

“Outsourcing in the Global Automotive Industry: Implications for U.S. Employment,” Sloan Foundation Industry Centers Annual Meeting, Atlanta, GA, April 2004.

“Overview of International Motor Vehicle Program Research,” IMVP-RIETI Automotive Symposium, Tokyo, Japan, September 2003.

“Toyota’s Path to Globalization: Implications for Theory and Practice,” Reginald H. Jones Center Seminar, Wharton School, University of Pennsylvania, Philadelphia, PA, February 2003.

“Tensions in Supplier Relations from Changing Division of Labor and Blurred Knowledge Boundaries,” Research Advisory Group, Center for Human Resources, Wharton School, University of Pennsylvania, Philadelphia, PA, November 2002.

“Navigating Auto’s Next Economy,” International Motor Vehicle Program Annual Sponsors Meeting, Endicott House, Dedham, MA, September 2002.

“Designed in China: Implications for Asian Comparative Advantage,” Wharton Asian Alumni Meeting, Tokyo, Japan, July 2002.

“The Quality Challenge: How the Global Automotive Industry Has Responded,” Nokia Compass 17 Global Leadership Conference, Detroit, MI, May 2002.

“Flexible Factories and Manufacturing Performance,” Society of Automotive Engineers Annual Conference, Spartanburg, SC, April 2002.

“B2B and Modes of Exchange,” Research Advisory Group, Center for Human Resources, Wharton School, University of Pennsylvania, Philadelphia, PA, November 2001.

“The New Locational Logic: Implications for Employment Relationships,” Research Advisory Group, Center for Human Resources, Wharton School, University of Pennsylvania, Philadelphia, PA, June 2001.

“Modularity and Build-to-Order,” Wharton e-Business Initiative (WeBI) conference, Wharton School, University of Pennsylvania, Philadelphia, PA, May 2001.

“The Global Supply Chain in the World Auto Industry: Role of the New ‘Mega-Suppliers,’” Sloan Foundation Annual Industry Centers Meeting, Cambridge, MA, April 2001.

“Flexible Work Organization and High-Commitment HR Policies in the Auto Industry: What We’ve Learned,” Sloan Foundation Annual Industry Centers Meeting, Cambridge, MA, April 2001.

E. RESEARCH CENTER ADMINISTRATION

Director, Program on Vehicle and Mobility Innovations (PVMI), 2012-present. New program established within Wharton's Mack Center on Technological Innovation. Primary organizer of conferences featuring researchers from PVMI's global network, including "When Disruptive Innovations Meet Integrated Systems" (Philadelphia, 2013); "Global Automotive Industry in Transition" (with CAMI, Venice, 2015); "Connected Truck, Connected Car" (Philadelphia, 2017); "Studying Fast-Moving Vehicle and Mobility Ecosystems" (London, 2017); "The New Mobility: Opportunities and Challenges" (Tokyo, 2018); "Electric, Autonomous, and Mobility-as-a-Service (MaaS) Initiatives" (Palaiseau, France, 2020). Also organized symposia and workshops at Academy of Management (2014-2016, 2018) and Strategic Management Society (2016) Annual Conference.

Director, International Motor Vehicle Program (IMVP), 2001-2012. Primary administrator for international research network involving 30+ researchers from 15+ universities in the U.S., Europe, and Asia. Responsible for setting research agenda, soliciting research proposals, fundraising from sponsors, and allocating funds to research projects. Managed annual budget ranging from \$400,000 to \$1.2 million. Extensive interaction with industry sponsors, including General Motors, Ford, DaimlerChrysler, Renault, BMW, Volkswagen, Toyota, Honda, Nissan, Subaru, Hyundai/Kia and Hyundai Mobis (supplier group), Delphi, Johnson Controls, and Lear. Participated in 2004, 2005, 2006, and 2007 Automotive Governors Meeting at World Economic Forum, Davos, Switzerland. Primary organizer of annual briefing meetings for industry sponsors and annual researchers' meeting, including: Automotive Research Conferences in Zurich, Switzerland (2012); Tokyo, Japan (2011); Berlin, Germany (2009); Detroit, MI (2009); Tokyo, Japan (2009); and Seoul, Korea (2008). Member of Federal Reserve Bank's Automotive Experts Group, 2010-present. Member of World Economic Forum's Industry Agenda Council, 2010-2012.

Co-Director, Reginald H. Jones Center for Management Policy, Strategy, and Organization, Wharton School, 2001-2005. Primary administrator from January 2003. Primary responsibility for organizing conferences, including "Putting Ideas to Work: From Knowledge to Action" (May 2004); "Sidfest," a *festschrift* for Prof. Sidney Winter (October 2003); "Catching Our Breath: Reorienting Strategy During the Internet's Quiet Time," Wharton Impact Conference (May 2003); and "New American Rules for Business? Post-Scandal Directions for Policy and Governance," Wharton Impact Conference (October 2002). Joint responsibility for allocating research funds to Wharton faculty, for convening weekly "brown bag" seminar series, fundraising and sponsor relations, and supervising administrative staff.

F. TEACHING

1. Courses Taught

Management 243X, Work and Technology: Choices and Outcomes, Undergraduate elective

in the “Technology/Innovation/Analytics” bracket of Flex Fundamentals, 2020, 2021, 2022.

MBAExec Management 613, Managing the Enterprise, Summer 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021 for Philadelphia and San Francisco students. Core course for MBAExec students that combines MGMT 611 (Established) and MGMT 612 (Emerging) content.

Management 611, Management of the Established Enterprise, core course in Wharton’s MBA curriculum that integrates human and social capital, strategy, and global management topics, Fall 2017, 2018, 2019, 2020. Also taught to JD/MBA students, Summer 2013-2021.

Management 612, Management of the Emerging Enterprise, new required course in Wharton’s redesigned MBA curriculum that integrates human and social capital, strategy, and global management topics. Head of department committee designing the course. Spring 2013, 2014, 2015, 2016, 2017, 2018, 2019.

Management 897, Sustaining National Competitiveness by Leveraging Capabilities: Japan’s Approach, Progress, and Future Challenges, Global Modular Course, Spring 2017, 2018, 2019.

Management 890 / OPIM 890, Global Supply Chain Management in Japan, Global Modular Course (with Prof. Morris Cohen), Summer 2013, 2014, 2015.

Management 611, Management of the Established Enterprise, core course in Wharton’s redesigned MBA curriculum that integrates human and social capital, strategy, and global management topics. Fall 2017, 2018, 2019, 2020.

Management 612, Management of the Emerging Enterprise, new required course in Wharton’s redesigned MBA curriculum that integrates human and social capital, strategy, and global management topics. Head of department committee designing the course. Spring 2013, 2014, 2015, 2016, 2017, 2018, 2019.

Management 751, Strategic Management of Human Assets, 2006, 2007, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016. Also taught in 2012 (Spring & Fall), 2013 (Spring), 2015 (Spring), and 2018 (Spring) to MBAExec students.

Management 621, Managing People at Work, Fall 1991-1998, 2000-2006, 2008-2011. MBA core course on human resource management and organizational behavior issues. Course head, 1995-1998, 2000-2006, 2008-2011.

MBAExec Management 621/653, Managing People at Work/Field Application Project, Summer 2000-2010 in Philadelphia; Summer 2007-2012 in San Francisco.

Management 391, The Economic and Financial Crisis, Spring and Fall 2009.

Management 918. Perspectives on Human Resources and Industrial Relations. Ph.D. course, Spring 2000.

Management 104, Human Resource Management / Industrial Relations, Spring 1991, 1992, 1993, and 1995. Undergraduate course focused on labor market issues and comparative employment systems.

Management 899, Independent Study with MBA or MBAExec students (multiple times).

Executive Education

Chief Human Resources Officer Program and Future of Work Program, Emeritus, 2021.

Hero Motor Corporation, 2018.

Genuine Parts Leadership Program, 2018.

Nissan Global Executive Training, 2016, 2017.

SAIC Executive Leadership Program, 2016, 2017, 2018, 2019.

KPMG Global Insurance Academy, 2014, 2015, 2016, 2017, 2018.

SMBC Global Leadership Program, 2015, 2017.

Nanjing Sumpower Technologies Program, 2017.

Saudi Oil Ministers Program, 2017.

Penske – Senior Executive Development Program, 2016.

Academic Director, Hyundai Motor Group Custom Program, 2013.

Academic Director, Toyota Executive Development Program, 1999-2008.

Academic Director, IMVP/Wharton Global Automotive Program, 2005.

International Forum, Wharton Executive Education, Philadelphia and Kyoto, Japan, 1995, 1996, 1998, 1999, 2000, 2001.

IBM Strategy and Transformation Program, 2011.

Glaxo Smith Kline Transformational Leadership for Executives, 2009-2010; 2010-2011.

Tyco Electronics, 2009.

Drexel Human Capital Leadership Program, 2008-2009.

AXA Executive Leadership Council, 2008.

DaimlerChrysler Executive Development Program, 2006-2007.

Implementing Strategy, 2006, 2008.

Securities Industry Branch Management Leadership Institute, 1998-2007.

Managing the Workplace. Wharton Direct, 1999-2000.

Essentials of Management, 1997-1999.

Executive Development Program (EDP) and Insurance EDP, 1997-1998.

2. Courses Created/Developed

Management 243, Work and Technology: Choices and Outcomes, Undergraduate elective, 2020.

Management 623, High Performance Work Systems, MBA elective, 1996-1997.

Management 890/OPIM 890: Global Supply Chain Management in Japan, Global Modular Course, 2013-14 (developed with Prof. Morris Cohen).

Management 897, Sustaining National Competitiveness by Leveraging Capabilities: Japan's Approach, Progress, and Future Challenges, Global Modular Course, 2017-present.

3. Cases Written

“Dynamic Capability Development Through Human Capital Upgrading at Infosys Technologies,” with Joydeep Chatterjee, Wharton Case #63 (Part A) and #87 (Part B).

G. PROFESSIONAL SERVICE ACTIVITIES

1. Wharton School Committees

Legal Studies and Business Ethics Department, Q-Review Committee, Chair, 2022
Academic Freedom and Responsibility Committee, 1999-2000, 2003-5; Chair 2019-20
Personnel Committee, 2016-18 (Chair 2017-18)
Coordinator, Human & Social Capital Subgroup, Management Department, 2016-
present
Management Department Flexcore Curriculum Evaluation Committee (Chair), 2016-17
Risk and Insurance Center Q-Review Committee, 2016
Curriculum Innovation and Review Committee, 2014-15
Management Department Chair Search Committee, 2010, 2013
MBA RC Response Team, Management Department, 2010-2011
Undergraduate Curriculum Committee, 2010-2011
Management Department Faculty Survey Follow-up Committee, Chair, 2008-2010
Financial Institutions Q-Review Committee, 2002
Management Department Space Committee, 2002-2003
MBA Executive Committee, 2001-2002
MBA Core Implementation Committee, 2000-2003; 2006-2007
MBA Curriculum Committee, 1997-1998, 2000-2001, 2002-2003
Management Department Quinquennial Review, 1999
Management Department Graduate Curriculum Committee, 1992-1995

2. Doctoral Dissertation Committees

Daniel Wilde, Joan Allatta, Elizabeth Craig, Jaewon Kim, Frits Pil, Clint Chadwick,
Sherry Bushnell, Management Department.

Kannan Sethuraman, Leonora Fuxman, Kamalini Ramdas, Canberk Ucel
Operations Information and Decisions (OID) Department.

3. Refereeing of articles, books, or proposals for:

Academy of Management Discoveries
Academy of Management Journal
Academy of Management Review
Administrative Sciences Quarterly
American Sociological Review
British Journal of Industrial Relations
California Management Review
Cambridge Journal of Economics
Cornell University Press
Enterprise and Society

Human Relations
IEEE Transactions in Engineering Management
Industrial and Corporate Change
Industrial and Labor Relations Review
Industrial Relations
Journal of Engineering and Technology
Journal of International Business Studies
Journal of Operations Management
Management Science
Management and Organization Review
Manufacturing and Service Operations Management
The MIT Press
National Science Foundation
Oxford University Press
Organization Science
Organization Studies
Production and Operations Management
Research Policy
Sloan Foundation
Sloan Management Review
Stanford University Press
Strategic Management Journal
Strategy Science

4. Professional Affiliations and Memberships

Academy of International Business
Academy of Management
Industry Studies Association
Institute for Operations Research and Management Science (INFORMS)
Labor and Employment Research Association
Strategic Management Society

H. GRANTS, HONORS, AND AWARDS

1. University-related

Teaching Excellence Award, Wharton School, University of Pennsylvania, 2019, 2020, 2021.

MBAExec Excellence in Teaching Award, Core Curriculum (Philadelphia), Wharton School, University of Pennsylvania, 2018.

MBAExec Excellence in Teaching Award, Core Curriculum (San Francisco), Wharton School, University of Pennsylvania, 2012.

MBA Excellence in Teaching Award, Core Curriculum, Wharton School, University of Pennsylvania, 1996, 1997, 1998, 2000.

Miller-Sherred Teaching Award for teaching in the MBA core curriculum, Wharton School, University of Pennsylvania, 1994.

Outstanding Teaching Award at the undergraduate level, Wharton School, University of Pennsylvania, 1992.

2. Professional

President, Industry Studies Association, 2019-2022; Vice-President, 2017-19.

Board of Directors, Industry Studies Association, 2008-present.

Distinguished Speaker Award, Technology, Innovation Management, and Entrepreneurial Studies (TIMES) Division, INFORMS, award given at INFORMS conference, Houston, TX, October 23, 2017

Automotive Experts Group, Federal Reserve Bank of Chicago, 2010-2018.

Co-Curator, Automotive Transformation Map, World Economic Forum, 2016 to present.

Industry Agenda Council (Automotive), World Economic Forum, 2010-2012.

Advisor to Automotive Governors (CEO group), World Economic Forum, 2004-2007.

Outstanding Young Scholar Award, Industrial Relations Research Association, 1997.

Research grants from International Motor Vehicle Program, MIT, 1991-2009.

Zenon and Clotilde Zannetos Ph.D. Thesis Prize, Sloan School of Management, MIT, 1991.

International Professional Practice Research Award, American Society of Training and Development (with John F. Krafcik), 1989.

Harman Fellowship, Program on Public Policy, Technology, and Human Development, Kennedy School of Government, Harvard University.

Research on the impact of information technology on work organization, job design, skill levels and the influence of system design. 1983-1985.

Shaw Fellowship, Harvard University. Studied government support for musical arts in 6 European countries. 1977-1978.

I. PREVIOUS EMPLOYMENT

Research Assistant, Harvard Business School. Worked with Profs. Robert Hayes and Kim Clark on inter-plant productivity comparisons in three manufacturing companies. 1982-1983.

Director of Outreach Services, Coastal Economic Development, Bath, ME. 1979-1982.

Country of citizenship: United States
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