

Surya D. Pathak

Associate Professor and Area Coordinator, Operations and Supply Network Management
 School of Business, University of Washington, Bothell
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EDUCATION

Vanderbilt University , Nashville, TN	May 2005
Ph.D. in Interdisciplinary Program in Management of Technology	
Vanderbilt University , Nashville, TN	May 2001
M.S. in Electrical Engineering	
Pune University , Pune, India	July 1999
B.E. in Industrial Electronics Engineering	

RESEARCH INTERESTS

- Supply networks: Strategic sourcing, buyer-supplier relationship, knowledge integration
- Complex adaptive systems and chaos theory
- Marketing-Manufacturing interface, Accounting-Operations interface, Sustainable operations

EMPLOYMENT SUMMARY

- September 2014 – Present, **Associate Professor**, School of Business, University of Washington, Bothell, WA.
- July 2008 – August 2014, **Assistant Professor**, School of Business, University of Washington, Bothell, WA.
- December 2006 – July 2008, Vanderbilt University (VU), Nashville, TN,
Lecturer (Engineering Management) and **Senior Research Associate** (Civil and Env Engineering)
- May 2005 - December 2006, Advanced Computing Center for Research and Education, VU, TN
Research Associate and Lead Scientist, Lecturer (Engineering Management)
- September 2001 - April 2005, Vanderbilt University, Nashville, TN
Research and Teaching Assistant, Instructor
- September 1999 - August 2001, Institute for Software Integrated Systems, VU, TN
Research Assistant
- June 1998 - August 1999, Logic Power, Pune, India **Application Development Engineer**

AWARDS AND HONORS

- Nominated for University-wide Distinguished Teaching Award for Innovation with Technology (2017).
- Inducted as Research Collaborator at the Digital Innovations Lab, Indian Institute of Management, Bengaluru, India, (2016-Present).
- Invited to join Editorial Review Board of Journal of Operations Management.
- MBA faculty of the year, University of Washington, Bothell, (2016, TMBA)
- MBA faculty of the year, University of Washington, Bothell, (2015, LMBA)
- MBA faculty of the year, University of Washington, Bothell, (2015, TMBA)
- Nominated for University wide Distinguished Teaching Award (Finalist, 2015)
- Nominated for University wide Distinguished Research Award (Finalist, 2014)

- Nominated for University wide Distinguished Teaching Award (Finalist, 2014)
- MBA faculty of the year, University of Washington, Bothell, (2014, LMBA)
- MBA faculty of the year, University of Washington, Bothell, (2014, TMBA)
- MBA faculty of the year, University of Washington, Bothell, (2013, LMBA)
- MBA faculty of the year, University of Washington, Bothell, (2012, LMBA)
- MBA faculty of the year, University of Washington, Bothell, (2009, TMBA)
- Member of Center for Supply Network, Arizona State University (invitation only, 2007)
- Society of Operations Management, 8th annual conference, best paper award, Mumbai, India, (2004)
- University award for best undergraduate academic performance in industrial electronics, Pune, India, (1999)

PUBLICATIONS

10. Kauffman S, **Pathak SD**, Sen PK, and Choi TC. 2017. Jury Rigging: Evolutionary “Tinkering” and Supply Network Design in the presence of Unknown-Unknowns. *Journal of Supply Chain Management (forthcoming)*.
9. Sawaya WJ, **Pathak SD**, Day J, and Kristal M. 2015. Sensing resource flow changes using adaptive limit process charts to enable supply network coordination. *Decision Sciences*, vol 46(5), 961-979.
8. **Pathak SD**, Wu Z, and Johnston D. 2014. Towards a theory of co-competition of supply networks. *Journal of Operations Management*, vol 32 (5), 254-267.
7. Balakrishnan PV (Sundar) and **Pathak SD**, 2014. Impeding the juggernaut of innovation diffusion: A production constrained model. *Production Operations Management*, vol 23(7), 1189-1197.
6. Jayaram J and **Pathak SD**, 2013. A Holistic View of Knowledge Integration in Collaborative Supply Chains. *International Journal of Production Research*, vol 51 (7), 1958-1972.
5. **Pathak SD**, Pokharel M, and Mahadevan S., 2012. Hyper-Competition, Collusion, Free Riding or Co-competition: Basins of Attraction When Firms Simultaneously Compete and Cooperate. *Non-linear dynamics, Psychology and Life Sciences*, vol 17(1), 133-157.
4. **Pathak SD**, McDonald MP, Mahadevan S, 2010. A Framework for Designing Policies for Networked Systems with Uncertainty. *Decision Support Systems*, vol 49, 121-131.
3. **Pathak SD**, Dilts D.M, and Mahadevan S, 2009. Investigating population and topological evolution in a complex adaptive supply network. *Journal of Supply Chain Management*, vol 45(3), Wiley-Blackwell, USA.
2. **Pathak SD**, Dilts DM, and Biswas G, 2007. On the evolutionary dynamics of supply network topologies. *IEEE Transactions on Engineering Management*, vol 54(4), 662-672.
1. **Pathak SD**, Day J, Nair A, Sawaya WJ, and Kristal M, 2007. Complexity and adaptivity in supply networks: building supply network theory using a complex adaptive systems perspective. *Decision Sciences*, vol 38(4), 547-580, (**2nd most cited paper, 2007-2012**).

MANUSCRIPTS UNDER REVIEW

1. Dooley K, **Pathak SD**, Kull T, Johnson J, Rabinowich E, and Wu Z. Process network modularity and environmental performance. *Journal of Operations Management (Revise and Resubmit, Fourth Round)*.
2. **Pathak SD**, Sen, PK, Miller J, and Jayaram J. Focal-Firm R&D, Commercialization, and Performance: Does Supply Base R&D Play a Role? *Decision Sciences (Revise and Resubmit)*.
3. Pathak SD, Sharma A, Borah S, Adhikary A. Cohesiveness, Supply-base Clustering, and Centralization: Linking Supply Network Structure to sustainable firm performance. *Production Operations Management (First Round)*.

ONGOING PROJECTS

1. Adhikary A, Sundar KD, **Pathak SD**, Sharma A. Impact of Supply Network Structure on Network Level Environmental Performance. *Journal of Operations Management*.
2. **Pathak SD** and Balakrishnan PV (Sundar). “Brilliance or Blunder?” Leveraging Product Shortage to Speed

- Up New Product Diffusion. *Journal of Marketing*.
3. Doogar R, **Pathak SD**, Sen PK. The drivers of set up time: A field study of aircraft gate turnaround. *Manufacturing & Service Operations Management*.
 4. **Pathak SD**, Ozkan-Seeley G, Nye P, and Tatikonda M. Relating Mental Models of Project Managers to Project Performance. *Operations Research*.
 5. **Pathak SD**, Sen PK, Jayaram J, Blackhurst J. Preemptive Resilience: Monitoring Financial Health of Supply Network. *Journal of Operations Management*. *Journal of Operations Management*.
 6. **Pathak SD**, Miller J, Jayaram J, Balakrishnan PV (Sundar). Diamonds in the Rough: Identifying suppliers for innovation. *Decision Sciences*.

PEER REVIEWED CONFERENCE PROCEEDINGS

- Menenberg, M, **Pathak, SD**, Udyapuram, H, Gavirneni, S, Roychowdhury, S. 2016. Topic Modeling for Management Sciences: A Network-based Approach. *IEEE Big Data Conference*.
- **Pathak SD**, Miller J, Sen, P.K., Jayaram J. 2014. Supply Base and the Creation of Absorptive Capacity. Presented at Production and Operations Management Society, NITIE Conference, Mumbai, India.
- **Pathak SD**, Tackett AR, McCord KL, 2005. Logistical storage. IEEE Usenix, file and storage technology (FAST) conference, San Francisco, CA.
- **Pathak SD**, Dilts DM, Biswas G, 2003. A multi-paradigm simulator for simulating complex adaptive supply chain networks. Presented at the Winter Simulation conference, New Orleans, LA.
- Dilts DM, **Pathak SD**, 2002. Simulating supply networks using complex adaptive systems theory. Presented at the IEEE International Engineering Management conference, IEEE catalog No 02CH37329, Cambridge, UK.
- **Pathak SD**, Nordstrom G, Kurokawa S, 2000. Modeling of supply chain: a multi-agent approach, *IEEE Systems Man and Cybernetics*, Proceedings, CD ROM Reference 00ch37166c, Nashville, TN.

INVITED TALKS AND WORKSHOPS

- Green House Gas Mystery: Reducing the Global Carbon Footprint. Presented at Anderson High School, Bothell as part of the UW Bothell-McMenamin's Pub Talk Public Lecture Series.
- Focal-Firm R&D, Commercialization, and Performance: Does Supply Base R&D Play a Role? 2016. Presented at Arizona State University.
- "Brilliance or Blunder?" Leveraging Product Shortage to Speed Up New Product Diffusion. 2016. Presented at Indian Institute of Management, Bengaluru, India.
- Chains or Networks? Supply Chain Management in the 21st Century. 2015. Presented at the Institute for Supply Management.
- Network Analysis: The case of the missing links. 2015. Presented at the Fall Research in Progress Series, UW Bothell.
- Antagonistic Synergy Among Components of Absorptive Capacity and the Role of Supply Base on Firm Performance. January 2015. Presented at Indian Institute of Management, Kolkata.
- At the Interface of Marketing and Manufacturing: Diffusion of Innovation in a Capacity-Constrained World. November 2014. Presented at Decision Sciences annual meeting, Tampa, FL.
- Managing uncertainty and getting organized with Lean. May 2010. University of Washington, Bothell, 20th anniversary celebrations, Bothell, WA.
- Policy design for large scale transportation networks under uncertainty. March 2010. Frank L. Parker Distinguished lecture series, Vanderbilt University, Nashville, TN.
- To Compete or Cooperate: Addressing the challenge of "Coopetition" in Supply Networks, November 2008. Invited guest talk at University of Houston, Bauer College of Business.

- Complexity and Adaptivity in Supply Networks, April 2008. Invited guest talk at Daniels College of Business, University of Denver.
- The emergence of a third paradigm: Agent based modeling and simulation in Operations Management and Decision Sciences, November 2007. Invited workshop at Decision Sciences annual meeting, Phoenix, AZ
- Policies, decision making and managing supply network, March 2007. Talk presented at Arizona State University, Tempe, AZ
- Evolution of Supply Networks: A System of System Perspective, February 2007. Talk presented at University of Notre Dame, South Bend, IN
- Designing effective supply chains, September, 2006. Talk presented at Vanderbilt University, Nashville, TN
- Managing large scale storage, September, 2006. Talk presented at Lawrence Berkeley National Lab (LBNL), Berkeley, CA
- Computing in the third paradigm, March, 2006. Talk presented at Vanderbilt University, Nashville, TN
- Managing large scale computing, September, 2005. Talk presented at the symposium organized by Vanderbilt University's Civil and Environmental Engineering program, Nashville, TN
- Discrete event and discrete time modeling of supply networks, Oct, 2004. Talk presented at Vanderbilt University, Nashville, TN
- Model based system development, January, 2001. Talk presented at Indian Institute of Technology, Mumbai, India.

TEACHING EXPERIENCE AT UNIV OF WASHINGTON, BOTHELL

August 2008-Present

School of Business, University of Washington, Bothell, WA

Courses Taught	Course Number	Description	Average OWAR
Introduction to Operations and Project Management	BBUS 340	Undergraduate core course for business majors	27.68/35
Quantitative Business Methods	BBUS 500 (TMBA and LMBA)	MBA level course	22.8/35
Introduction to Operations and Project Management	BUS 509 A/522 (TMBA and LMBA)	Mandatory core for MBA's	26.67/35
Management Consulting	BBUS 549	MBA Elective (New)	30.49/35
Intro to Process Mngt and Dec Mkg in Healthcare Systems	BBUS 532	Swedish MS in Nursing Prog	29.76/35
Business Process Improvement	BBUS 479	Senior undergraduate electives	-NA-
Retail Operations and SCM	BBUS 447	New courses	

RESEARCH GRANTS

- University of Washington, Bothell**, Teaching and Learning Center Grant \$5400 Spring of 2011
- **Role:** Co-Principal Investigator (50% effort); (Dr. James Miller, UWB, Co-PI)

- **Title:** Investigating the network effects of supplier disruptions on shareholder wealth
- **Goal:** We hypothesize that a supplier glitch not only affects the buyer firm but may affect its competitors and their suppliers positively or negatively depending on the underlying structure of the network. We intend to use secondary data available from number of databases such as Bloomberg Database, Factiva, Lexis-Nexis, Compustat and some paid databases such as SNL financials and combine it with advanced statistical and data mining methods to develop a theory of “network effects” related to supply glitches

National Science Foundation \$311,205 Summer of 2010

- **Role: Subcontractor (10% effort @ \$25,000); (Dr. Kevin Dooley, Arizona , PI)**
- **Title: Supply Network Design and Product Environmental Performance**
- **Goal:** We investigate how different configurations of supply networks cause more or less work to be coordinated, yield different exposure to externalities, and different patterns of product and information flow. These mid-level effects lead to more or less economies of scale in resource usage and product transportation, thus impacting environmental performance.

Darla Moore School of Business, University of South Carolina, Columbia, SC

(Internal Research Grant) \$1,300 Spring of 2010

- **Role: Co-Principal Investigator (50% effort); (Dr. Jayanth Jayaram, Univ of SC, PI)**
- **Title: Towards a financial flow based resiliency model of a supply network**
- **Goal:** The major goal of this project is to map a real life supply networks using financial flow information from secondary data bases such as compustat. The mapped network would then be analyzed using network metrics in order to understand resiliency signatures in a complex supply network.

Advanced Computing Center For Research and Education, Vanderbilt University, Nashville, TN (Summer research grant) \$10,700 Summer of 2004

- **Role: Co-Principal Investigator (70% effort); (David M Dilts, PI)**
- **Title: Large scale distributed multi-agent simulation for growing complex adaptive supply networks**
- **Goal:** The major goal of this project was to design and implement a large-scale parallel computing infrastructure to grow and simulate, complex adaptive supply networks using multi-agent based techniques. As a validation we simulated the supply network growth of the US automobile industry over the last 100 years

CONFERENCE PROCEEDINGS AND PRESENTATIONS

- **Pathak SD**, Sen, PK, Miller J, and Jayaram J. Focal-Firm R&D, Commercialization, and Performance: Does Supply Base R&D Play a Role? Presented at Production and Operations Management Society, Annual Meeting, Orlando, Florida.
- **Pathak SD** and Balakrishnan PV (Sundar). 2015. Production Capacity and New Product Diffusion. Presented at POMS annual meeting, Washington DC.
- **Pathak SD**, Roychowdhury S, Gavirneni S, Bendoli E, Prasad H. 2015. Evolution or Revolution? Sixty years of change in Management Science. Presented at Decision Sciences annual meeting, Seattle, WA.
- **Pathak SD**, Tatikonda, M, and Nye P, 2014. Overcoming “Unknown Unknowns”: Successful Project Adaptations in High Uncertainty Product Innovation. Presented at Decision Science Annual Meeting, Tampa, FL.
- Balakrishnan PV (Sundar) and **Pathak SD**, 2013. The Tale of the Waiting Customer: Innovation Diffusion, Service Quality, and Production Policies. Presented at NASMEI annual conference, Chennai, India.

- **Pathak SD**, Blackhurst J, Sen, P.K., Jayaram J. 2013. Preemptive Resilience: Monitoring Financial Health of a Supply Base. Presented at Decision Science Annual Meeting, Baltimore MD.
- **Pathak SD**, Wu Z, Johnston D. 2013. A theory of cooptation of supply networks. Presented at Production and Operations Management Society, Annual Meeting, Denver, CO.
- Balakrishnan PV (Sundar) and **Pathak SD**, 2013. Waiting for the iPhone? Production Constrained Diffusion of Innovation. Accepted for presentation at Marketing Science Annual Conference, Istanbul, Turkey.
- Balakrishnan PV (Sundar) and **Pathak SD**, 2012. Impeding the juggernaut of innovation diffusion: Supply constrained models. Presented at NASMEI annual conference, Chennai, India.
- **Pathak SD** and Balakrishnan PV (Sundar), 2012. Production Capacity and New Product Diffusion. Presented at Decision Sciences annual meeting, San Francisco, CA.
- **Pathak SD**, Miller J, Jayaram J. 2012. Searching for the Innovative Supplier. Presented at Production and Operations Management Society, Annual Meeting, Chicago, IL.
- Balakrishnan PV (Sundar) and **Pathak SD**, 2012. Supply Constrained Diffusion Models: An Investigation of Parameter Bias. Presented at Marketing Science, Boston, MA.
- **Pathak SD**, Mackenzie C, Kull T, Rabinovich E, Dooley K and Wu Z, 2011. The Missing Link: Connecting The Structures Of Products' Technological Process Networks To Their Environmental Performance. Presented at Decision Science Annual Meeting, Boston, MA
- Sawaya WJ, **Pathak SD**, Day J, and Kristal M, 2011. Utilizing adaptive limit control charts to identify significant events in supply networks. Presented at Production and Operations Management Society, annual meeting, Reno, NV.
- **Pathak SD** and Balakrishnan PV (Sundar), 2011. Forecasting Demand for New Products Using Agent Based Models. Presented at Production and Operations Management Society, annual meeting, Reno, NV.
- **Pathak SD**, Miller J, Jayaram J, Adsitt J, and Yuen R, 2011. Investigating the network effects of supplier disruptions on shareholder wealth. Presented at Production and Operations Management Society, annual meeting, Reno, NV.
- **Pathak SD**, Reagan A, and Nye P, 2010. Relating Mental Models of Project Managers to Project Performance. Presented at Decision Science Annual Meeting, San Diego, CA.
- **Pathak SD**, Jayaram J, Ramseyer C, and Leitch R, 2010. Designing Resilient Supply Networks in Uncertain Product Environments Using Financial Flow Information. Presented at Production and Operations Management Society, annual meeting, Vancouver, BC.
- **Pathak SD**, Reagan A, and Nye P, 2009. Resource Estimation for Software Projects with High Levels of Epistemic Uncertainty: An Empirical Investigation. Presented at Decision Science Annual Meeting, New Orleans, LA.
- **Pathak SD**, Pierce J, McDonald MP, Dilts DM, and Mahadevan S, 2008. To Compete or Cooperate: Addressing the Reinvestment Dilemma in a Buyer-Buyer Supply Network Dyad. Presented at Decision Science Annual Meeting, Baltimore, MD.
- **Pathak SD**, Dilts D.M, 2008. Sustaining relationships: evolutionary competition and cooperation in a buyer-buyer dyad. Presented at Production and Operations Management Society, annual meeting, San Diego, CA.
- **Pathak SD**, McDonald MP, Mahadevan S, 2007. Modeling of System of System behavior. Presented at INFORMS Annual Meeting, Seattle, WA.
- **Pathak SD**, Dilts D.M, 2007. Implications of policy decisions on the evolution of a Healthcare Supply Network. Presented at Production and Operations Management Society, annual meeting, Dallas, TX.
- Dilts DM, **Pathak SD**, 2007. "Shrinking demand": Competition between two Supply Chains. Presented at Production and Operations Management Society, annual meeting, Dallas, TX.
- **Pathak SD**, Dilts DM, 2006. Investigating evolution in the US healthcare industry. Presented at Decision

Science Annual Meeting, San Antonio, TX.

- **Pathak S.D**, Dilts D.M, 2006. Survivability in evolving supply networks. Presented at INFORMS Annual Meeting, Pittsburgh, PA.
- **Pathak SD**, Dilts DM, 2005. Identifying the topologies of supply networks. Production and Operations Management Society, annual meeting, Chicago, IL.
- **Pathak SD**, Dilts DM, 2004. Complex adaptive supply network simulator, A scenario analysis tool for analyzing supply networks. Second World Conference on Production and Operations Management and 15th annual POMS Conference, Cancun, Mexico.
- **Pathak SD**, Dilts DM, 2004. Are growth and evolution in supply networks complex adaptive: an investigation of the Utterback model. Presented at DSI Annual meeting Boston, MA.
- **Pathak SD**, Dilts DM, 2004. Managing emergent supply networks. Presented at the 8th annual conference of the Society of Operations Management, Mumbai, India.
- **Pathak SD**, Dilts DM, 2004. Large scale distributed multi-agent simulation for growing complex adaptive supply networks. Presented at the INFORMS Annual meeting, Denver, CO.
- Dilts DM, **Pathak SD**, 2003. Emergent supply chain networks. Presented at the Decision Sciences Institute Annual meeting in Washington DC.

EXTERNAL SERVICES AND PROFESSIONAL ACTIVITIES

- Session Chair, Production Operations Management Society Annual Meeting, Washington DC, 2015
- Session Chair, Decision Sciences Annual Meeting, Washington DC, 2015
- Session Chair, Production Operations Management Society Annual Meeting, Denver, Colorado, 2013
- Session Chair, Decision Sciences Annual Meeting, San Diego, California, 2010.
- Session Chair, Production Operations Management Society Annual Meeting, Orlando, Florida, 2009.
- Member of Recruitment Committee (Operations) for 2008-2009, Business Program, University of Washington, Bothell, WA.
- Web administrator, Reliability and Risk Management, National Science Foundation, IGERT Program, Nashville, TN, 2007
- Session Chair, Decision Sciences Institute, annual meeting, San Antonio, TX, 2006
- Session Chair, INFORMS, annual meeting, Pittsburgh, PA, 2006
- External project supervisor, for senior year undergraduate student in engineering at Victor Jubilee Technical Institute (VJTI), Mumbai, India, 2006
- Participant in the emergent scholar workshop at POMS, Boston, MA, 2006
- Mentor for undergraduate students in the IGERT multidisciplinary graduate program in Reliability and Risk Engineering and Management, Nashville, TN, 2003

PROFESSIONAL AFFILIATIONS

- Executive Advisory Board, Institute for Supply Management (2014-Present)
- Production and Operations Management Society (POMS)
- INFORMS, College of Simulation (2003-2005)
- IEEE, professional member (2005-2008)
- Decision Sciences Institute (DSI)