

UDAY S. KARMARKAR

Anderson Graduate School of Management
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Research and Teaching Interests

The Digital/Information Economy, Competitive Operations, Technology Management, Information Intensive Industries, Manufacturing and Service Strategy and Operations, Supply Chain Management, Industrial and Tech Marketing.

Education

- 1970-1975 ALFRED P. SLOAN SCHOOL OF MANAGEMENT
M.I.T., CAMBRIDGE, MASSACHUSETTS
Ph.D. in Management Science
- 1968-1970 THAYER SCHOOL OF ENGINEERING
DARTMOUTH COLLEGE, HANOVER, NEW HAMPSHIRE
Course work and research towards MS in Engineering
- 1963-1968 INDIAN INSTITUTE OF TECHNOLOGY, MUMBAI, INDIA
B. Tech. (Hons.) in Chemical Engineering

Academic Experience

- 1994-present THE ANDERSON GRADUATE SCHOOL OF MANAGEMENT, UCLA,
LOS ANGELES, CALIFORNIA
Distinguished UCLA Professor, LA Times Chair Professor of Technology and
Management Strategy
Founder and Director, The UCLA Business and Information Technologies
(BIT) Global Research Network (2003 to present)
Research Director, CMIE (2003-2007)
Director, Center for Management in the Information Economy (2000-2003)
Director, Center for Operations and Technology Management (1994-1999)
- 1979-1994 THE WILLIAM E. SIMON GRADUATE SCHOOL OF BUSINESS
ADMINISTRATION, UNIVERSITY OF ROCHESTER, ROCHESTER,
NEW YORK
Xerox Chair Professor of Operations Management (1988-1994)
Director, Center for Manufacturing and Operations Management (1985-1994)
Faculty Director, Executive Seminar Programs (1992-1994).
Professor of Operations Management and Operations Research (1987-1994)
Associate Professor of Operations Management and Operations Research
(1982-1987).
Area Coordinator, Operations Management (1979-1986).
Assistant Professor of Operations Management and Operations Research
(1979-1981).

1975-1979 GRADUATE SCHOOL OF BUSINESS, UNIVERSITY OF CHICAGO,
CHICAGO, ILLINOIS
Assistant Professor of Management Science.

Honors, Awards and Recognition

Distinguished Fellow, MSOM, Informs (2014)
Laudatio, Production and Operations Management (2012)
Honorary Institute Fellow, Indian Institute of Technology, Bombay (2008)
IBM Faculty Research Award (2004)
Distinguished Service Award (2003), Indian Institute of Technology, Bombay
Distinguished Service Award (2003), MSOM, Informs
Distinguished Alumnus Award (1997), Indian Institute of Technology, Bombay
University Mentor (1984-85), University of Rochester
Beta Gamma Sigma (1979), University of Rochester

Editorial Service

Advisory Board, *Service Science* (2008 – present)
Editorial Board, *Business and Information Systems Engineering (Wirtschaftsinformatik & Management)*, (2009 – present)
Chief (founding) Editor, *Foundations and Trends in Technology, Information and Operations Management*, (2003 - 2008); Advisory Board (2008 – present)
Senior Editor, *Manufacturing and Service Operations Management*, (1996 - 2003)
Founding Editor (with G. Dobson), *Technology and Operations Review*, (1995 – 1999).
Founding Editor, *Journal of Manufacturing and Operations Management*, Elsevier Science Publishing (1985-1991).
Editor, *International Journal of Production Economics*, North Holland (1991-2018).
Advisory Board, *Journal of Operations Management* (1989-2010).
Advisory Board, *Journal of Market-Focused Management* (1995 - 2010).
Advisory Board, *International Journal of Internet and Enterprise Management* (2004-2010)
Associate Editor, *Operations Research* (1983-1985).
Associate Editor, *Naval Research Logistics Quarterly* (1977-1984).
Reviewer for *Management Science*, *Operations Research*, *Math. Programming*, *JOTA*, *EJOR*, *J. Pol. Econ.*, *J. of Business*, *J. of Econ. Behavior and Organization*, *Org. Behav. & Human Perf.*, *Marketing Science*, *NRLQ*, *IIE Transactions*, *Automatica*, *J. Acc. Ec.*, *NSF-Computational Mathematics*, *NSF-Design and Mfg Systems*, *NSF-Decision and Risk*, *NSERC (Canada)*, *NSF Directorate for Engineering*.

Professional Service (extramural)

Co-founder (with Gabriel Bitran), O.R.S.A. Special Interest Group in Manufacturing (SIGMA; later TECMAN and now M&SOM); Chairman (1985-86); Advisory Council Member (1986-1991).
Member, INFORMS (1974 to present); previously TIMS/ORSA
INFORMS Ad hoc Committee to select the Chief Editor of M&SOM (2002)
Advisory Board (2010 – present). IITB Heritage Foundation;
Board of Directors, Heritage Fund of IITB, Palo Alto (2003- 2010)
Board of Advisors, Indian Institute of Technology Bombay, India (1999-2006);
Board of Advisors, SJM School of Management, IITB, India (2005-2011)
Co-founder, Faculty Academic Network (FAN) of IITB (2003)

International Council for the Digital Strategy of Chile, Ministry of Economics, Chile (2008-2009)

Global Team, Service Research and Innovation Institute (2014 – present)

Board of Advisors, Service Research and Innovation Institute (2007 - 2012)

Academic Advisor, MISB Bocconi; Mumbai and Milano (2011-2013)

Observer, NSF-CBMS Regional Conference on the Mathematics of Optimal Facility Location, St. Olaf College (1976).

Chairman, Session on Distribution Modelling, Conference on Disaggregation Problems in Manufacturing and Service Organization, The Ohio State University (1977).

Chairman, Session on Production Planning and Scheduling, Joint ORSA/TIMS Meeting, Chicago (1983).

Chairman, Session on Strategic Issues in Operations, Joint ORSA/TIMS Meeting, Chicago (1983).

Chairman, Session on Manufacturing Systems Design, Joint ORSA/TIMS Meeting, San Francisco (1984).

Cluster Chairman, Session on Manufacturing Strategy and Policy, Joint ORSA/TIMS Meeting, Boston (1985).

Cluster Chairman, Sessions on Operations Management, EURO-TIMS Joint Conference, Paris (1988).

Chairman, Session on Quality Management, Joint ORSA/TIMS Meeting, Anaheim (1991).

Service, Intramural: University of Rochester

Conferences

M.I.T.-Rochester Conference on Applied Research in Operations Management, Cambridge (1982). With Gabriel Bitran

Rochester- M.I.T. Conference on Applied Research in Operations Management, Rochester (1983). With Gabriel Bitran

Rochester TIMS/GSM Symposium on New Product Management, Rochester (1983)

Rochester Conference on "Strategic Planning", Rochester (1984). With Subrata Sen and Ron Schmidt.

CMOM Annual Conference on "Scheduling", Rochester (1985)

CMOM Annual Conference on "Justification of Capital Assets", Rochester (1986). With Phil Lederer.

CMOM Annual Conference on "Manufacturing Costs and Performance Measurement", Rochester (1987)

CMOM Annual Conference on "Beyond MRP: Evolution to a New Standard", Rochester (1988)

CMOM Annual Conference on "Supply Chain Management", Rochester (1989)

CMOM Annual Conference on "Real CIM", Rochester (1990)

CMOM Annual Conference on "Manufacturing in Europe after 1992", Rochester (1991)

Director, Center for Manufacturing and Operations Management, (Simon School, University of Rochester, 1985-1994). Started and developed industry sponsored center. Short course programs, annual conferences, research programs, symposia. Sponsors included AC Rochester, Corning Glass Company, Delco Products, Eastman Kodak Company, Gleason, KPMG Peat Marwick, Milton Roy Company, Schlegel Corp and Xerox Corp. Faculty Director, Executive Seminar Program (1992-1994).

Area Coordinator (Simon School, GSM 1980-1986, 1989), Operations Management and Operations Research. Curriculum changes, doctoral program requirements, MBA course development, course scheduling and assignment, faculty recruiting, industrial liaison, etc. Ph.D. Committee (Graduate School of Management, 1983-1985).
 Committee on Educational Policy (Graduate School of Management, 1980-1986).
 Dean Search Committee (Graduate School of Management, 1982-1983).
 Policy Committee (Simon School, 1986-1994).
 Building Committee (Simon School, 1986-1988).
 Promotion and Tenure Committee (Simon School, 1986-1994).
 Dean Review Committee (Simon School, 1987).
 Dean Search Committee (Simon School, 1990-1991).
 Committee on the MBA (Simon School, 1992-1994).
 Dean Search Committee (Simon School, 1993).
 Ph.D. Theses supervised:
 Panayotis Afentakis (1982), "Issues in Material Requirement Planning Systems", Committee member.
 Sham Kekre (1984), "The Management of Job Shops".
 Sunder Kekre (1984), "Issues in Job Shop Design".
 Saligrama Agnihotri (1985), "Performance Evaluation of Field Service Territories".
 Gajanan Hegde (1985), "The Market for Product Support"; co-chaired with Ann Coughlan.
 Shi-Chu Lin (1985), "Aggregate Planning under Uncertainty".
 Vinod Singhal (1988), "Risk in Operations Management"; co-chaired with Philip Lederer.
 Rui Alves (1988), "Performance Evaluation of Continuous Flow Manufacturing Systems with Parallel Machines"; Committee member.
 Jeffrey Rummel (1989), "Manufacturing Costs and Performance Measurement".
 Inder Khosla (1989), "Scheduling Problems in Automated Manufacturing"; Committee member.
 Ann Gray (1992), "Location of Production Facilities: Dynamics and Uncertainty Issues".
 Rajiv Saxena (1993), "Distribution Systems Design"; co-chaired with Harry Groenevelt.
 Ramakrishnan Nambimadom (1993), "Integration of Material Planning and Scheduling".

Service, Intramural: Anderson School, UCLA

Vice Chair of Faculty (2016-present)
 Video Policy Committee (2014)
 Organizer and Director of executive programs for visiting groups from SDA Bocconi, Korea University, GDW Foundation (2008 – present)
 Staffing Committee (2004-2006)
 Instructor in Executive Education programs for Price, Easton, CGM, CIBER and EEP
 Faculty Committees and Boards, Center for Corporate Renewal, Center for Digital Media Research, CIBER, Price Center, Easton Technology Leadership Program
 Co-founder (with Prof. Bob Foster) and Director, Center for Management in the Information Economy (2000-2003);. Research Director, (2003-2006)
 Academic Coordinator, Technical Management Program, UCLA Extension (2002- 2003)
 Conferences at UCLA Anderson
 CMIE Annual Conference: Accelerating Change in the New Economy (2001)

CMIE Academic Conference: The Information Economy and E-business (2001)
 CMIE Annual Conference: The Business of Technology (2002)
 CMIE Academic Conference: Center Directors' Roundtable (2002)
 CMIE Academic Conference: Managing in the Global Information Economy (2003)
 BIT Global Conference (2011)
 BIT Global Conference, "Service Industrialization", (2018)
 Director, Center for Operations and Technology Management (1994 - 1999)
 Faculty Executive Committee (1995 - 1998, 1999- 2003)
 Core Course Coordination Committee (1995 - 96)
 IS Advisory Committee (1995)
 Ad Hoc Promotion and Tenure committees (6)
 Ph.D. Supervision and Thesis Chair
 Bashyam Anant (1996), "Service Design and Competition in Business Data Services"
 Hosun Rhim (1996), "Spatial Competition in Facility Location and Product Positioning"
 David Choi (1997), "Service Technology, Access and Competition in Retail Banking"
 Laura Williams (2000), "Complex Project Portfolio Management in the Public Sector"
 Deming Zhou (2005), "Competition in Supply Chains"
 Morvarid Rahmani, co-chair (2013), "The Dynamics of Collaboration in Knowledge-Based Work Processes"
 Aparupa Dasgupta (2014), "The Design of Experiential Service Processes"
 Boyoun Choi (2016), "Information Chains and Content Management"
 Araz Khodabakhshian (expected 2019), "Bundling under Competition"
 Ph.D. Thesis Committees
 Jovan Grahovac, Management, 1995.
 Hongbo Wang, Management, 1995.
 Rachel Yang, Management, 1996.
 Evan Kempner (1997), SEAS, "Process Simulations for Manufacturing of Thick Composites"
 David Lee (1998), SEAS, "Assembly Modeling and Analysis of Composite Integral Fit Joints"
 Zhenghua Fu (2004), Computer Science, "On Robust and Efficient Performance over Hybrid Wireless Networks"
 Ram Bala, (2005), Management, "Pricing and Competition in the Market for Software Services"
 Jeff Fischer (2008), Computer Science, SEAS, "Robust Service Composition"
 Sandeep Rath (2016), Management, "Resource Planning Models for Health Care Organizations."

Research Grants and Funding

Principal Investigator, "Integration of MRP and Kanban Systems", 1985. Eastman Kodak Co. (KAD), \$5,500.
 Co-principal Investigator (with Gregory Dobson), "Validation of Large Scale Scheduling Methods", 1986-87. Gleason Memorial Fund, \$25,500.
 Co-principal Investigator (with Gregory Dobson), "Call Scheduling", 1987-88. Rochester Gas and Electric Corporation, \$31,600.
 Co-principal Investigator (with Avi Seidmann), "Warehouse Design and Operating Policies", 1988, R. E. Dietz and Co., and NY State Science and Technology Department, \$30,000.

Organizer, CMOM conference on "Manufacturing in Europe 1992", 1991, Sloan Foundation Director's Grant, \$30,000.

Co-principal Investigator (with Larry Matteson), "Process Economics in Optics Manufacturing", 1992. Center for Optics Manufacturing and DOD ManTech program, \$130,000.

Support for Center for Manufacturing and Technology Management (Simon School, U.of Rochester), 1985-1992, from industry sponsors and participants; approx. \$100,000/year

Co-principal Investigator (with Kumar Patel and Wilford Wilms), "The University in Transition: UCLA Case Study", 1996-97, Sloan Foundation, \$250,000.

Co-investigator (with Nirmal Sethia, Richard Buchanan and Arvind Bhambri), "The Role of Design in Creating Customer Valued Quality", 1996-98, NSF Directorate of Engineering, \$125,000

Principal Investigator, "Business Continuity in the Retail Sector", 2002-2003, AT&T Foundation Grant, \$50,000

Support for conferences and research projects on "Management in the Global Information Economy", 2003, CIBER at Anderson UCLA, \$20,000.

"Business and Information Technology; Global Study" (with Rajit Gadh and Jeff Cole), Global Impact Research (GIR) grant, 2003-05, UCLA International Institute, \$27,000.

"Digital Technologies in Film and Video Distribution", Entertainment Management Center Anderson/UCLA, 2003, \$2,000; 2004, \$5,000.

"Business and Information Technology; Survey of Current Practice", Price Center Research Grant (2004); \$10,000

IBM Faculty Research Award 2004; \$40,000. Nominated by IBM Almaden Research Service Research Group (Director, Jim Spohrer).

VA Greater Los Angeles Healthcare System R&D Center of Excellence; Academic Expert in Implementation Research, IPA \$39,500; 2004-05

VA Greater Los Angeles Healthcare System R&D Center of Excellence; Academic Expert in Implementation Research, IPA \$39,500; 2005-2006

UCLA Business and Information Technology (BIT) project; annual support from CIBER, Price Center, Discovery Grants, CGM, other sources, \$10-40,000 per year (2004-2018)

Research Publications

1. Karmarkar U., N. Patel, "The One-Period N-Location Distribution Problem", *Nav. Res. Log. Qtrly.*, **24**, 4, 559-575 (1977).
2. Karmarkar U., "Subjectively Weighted Utility: A Descriptive Extension of the Expected Utility Model", *Organizational Behavior and Human Performance*, **21**, 61-72 (1978).
3. Karmarkar U., "Future Costs of Service Contracts", *AIIE Transactions*, **10**, 4, 380-387 (1978).
4. Karmarkar U., "Convex/Stochastic Programming and Multilocation Inventory Problems", *Nav. Res. Log. Qtrly.*, **26**, 1-19 (1979).
5. Karmarkar U., "Subjectively Weighted Utility and the Allais Paradox", *Organizational Behavior and Human Performance*, **24**, 67-72 (1979).
6. Abrams R., U. Karmarkar, "Infinite Horizon Investment Consumption Policies", *Management Science*, **25**, 10, 1005-1013 (1979).
7. Abrams R., U. Karmarkar, "Optimal Multiperiod Investment-Consumption Policies", *Econometrica*, **48**, 2, 333-353 (1980).

8. Karmarkar U., "Multiperiod Multilocation Inventory Problems", *Operations Research*, **29**, 2, 215-228 (1981).
9. Karmarkar U., "The Equalization of Runout Times", *Operations Research*, **29**, 4 (1981).
10. Agnihotri S., U.Karmarkar, P. Kubat, "Stochastic Allocation Rules", *Operations Research*, **30**, 3, 545-555 (1982).
11. Karmarkar U., P. Kubat, "The Value of Loaners in Product Support", *IIE Transactions*, **15**, 1, 5-11 (1983).
12. Afentakis, P., B. Gavish, U. Karmarkar, "Exact Solutions to the Lot-Sizing Problem in Multistage Assembly Systems", *Management Science*, **30**, 222-239 (1984).
13. Karmarkar U., L. Schrage, "The Deterministic Product Cycling Problem", *Operations Research*, **33**, 326-345 (1985).
14. Karmarkar U., S. Kekre, S.Kekre, S. Freeman, "Lot-Sizing and Leadtime Performance in a Manufacturing Cell", *Interfaces*, **15**, 1-9 (1985). Reprinted in *Production Planning, Scheduling and Inventory Control*, F. R. Jacobs and V. A. Mabert (eds.), Industrial Engineering and Management Press (1986). Reprinted in *Excellence in Management Science Practice*, Arjang A. Assad, Edward A. Wasil, Gary L. Lilien (eds).
15. Karmarkar U., S.Kekre, S.Kekre, "Lotsizing in Multi-machine Job Shops", *IIE Transactions*, **17**, 290-298 (1985).
16. Karmarkar U., P. Kubat, "Modular Replacement in Product Support", *European Journal of Operations Research*, **29**, 74-82 (1987).
17. Karmarkar U., "The Multilocation Multiperiod Inventory Problem: Bounds and Approximations", *Management Science*, **33**, 104-112 (1987).
18. Karmarkar U., "Lot Sizes, Manufacturing Lead Times and Throughput", *Management Science*, **33**, 409-418 (1987).
19. Karmarkar U., "Lot Sizing and Sequencing Delays", *Management Science*, **33**, 419-423 (1987).
20. Karmarkar U., S. Kekre, S. Kekre "The Dynamic Lot-Sizing Problem with Setup and Reservation Costs", *Operations Research*, **35**, 389-398 (1987).
21. Dobson G., U. Karmarkar, "Competitive Location on a Network", *Operations Research*, **35**, 565-574 (1987).
22. Dobson G., U. Karmarkar, J. Rummel "Batching to Minimize Flow Times on One Machine" (with G), *Management Science*, **33**, 784-789 (1987).
23. Karmarkar U., S. Kekre S. Kekre "Capacity Analysis of a Manufacturing Cell", *Journal of Manufacturing Systems*, **33**, 784-789 (1987).
24. Karmarkar U., S. Kekre "Manufacturing Configuration and Mix Decisions", *Journal of Manufacturing Systems*, **6**, 315-324 (1987).
25. Groenevelt H., U. Karmarkar, "A Dynamic Kanban System Case Study", *Production and Inventory Management Journal*, Second Quarter, 46-51 (1988).
26. Dobson G., U. Karmarkar, J. Rummel "Batching to Minimize Flow Time on Parallel Heterogeneous Machines", *Management Science*, **35**, 607-613 (1989).
27. Dobson G., U. Karmarkar, "Simultaneous Resource Scheduling to Minimize Weighted Flow Times", *Operations Research*, **37**, 592-600 (1989).
28. Karmarkar U., "Capacity and Release Planning with WIP and Leadtimes", *Journal of Manufacturing and Operations Management*, **2**, 105-123 (1989).
29. Karmarkar U., S. Kekre "Batching Policy in Kanban Systems", *Journal of Manufacturing Systems*, **8**, 317-328 (1989).

30. Karmarkar U., J. Rummel "The Operational Basis for Manufacturing Costs", *Journal of Manufacturing and Operations Management*, **3**, 153-176 (1990).
31. Karmarkar, U., "Push, Pull and Hybrid Control Schemes", *Tijdschrift voor Economie en Management*, **26**, 345-363 (1991).
32. Karmarkar U., S. Kekre, S. Kekre "Multi-item Batching Heuristics for Minimization of Queueing Delays", *European Journal of Operational Research*, **58**, 99-111 (1992).
33. Agnihothi S., U. Karmarkar, "Performance Evaluation of Service Territories", *Operations Research*, **40:2**, 355-366 (1992).
34. Dobson G., U. Karmarkar, J. Rummel, "A Closed Loop Automatic Scheduling System (CLASS)", *Production Planning and Control*, **3:2**, 130-140 (1992).
35. Gray A., U. Karmarkar, A. Seidmann, "Design and operation of an order-consolidation warehouse: Models and application", *European Journal of Operational Research*, **58**, 14-36 (1992).
36. Hegde G., U. Karmarkar, "Engineering Costs and Customer Costs in Designing Product Support", *Naval Research Logistics Quarterly*, **40**, 415-423 (1993).
37. Karmarkar U., R. Pitbladdo "Internal Pricing and Cost Allocation in a Model of Multi-product Competition with Finite Capacity Increments", *Management Science*, **39**, 1039-1053 (1993).
38. Karmarkar U., R. Pitbladdo, "Product Line Selection, Production Decisions and Allocation of Common Fixed Costs", *International Journal of Production Economics*, **34**, 17-33 (1994)
39. Karmarkar U., J. Yoo, "Stochastic Dynamic Product Cycling Problem", *European Journal of Operational Research*, **73**, 360-373 (1994)
40. Karmarkar U., R. Pitbladdo, "Service Markets and Competition", *Journal of Operations Management*, **12**, 397-411 (1995)
41. Karmarkar U., "A Robust Forecasting Technique for Inventory and Lead-time Management", *Journal of Operations Management*. (1995)
42. Johansen J., U. Karmarkar, D. Nanda, A. Seidmann "Empirical Implications for Industrial Information Systems", *Journal of Management Information Systems*, **12**, 59-82 (1995)
43. Karmarkar U., "Integrative Research in Marketing and Operations", invited editorial, *Journal of Marketing Research*, Vol. XXXIII, 125-133 (1996).
44. Karmarkar U., R. Nambimadom "Material Allocation in MRP with Tardiness Penalties", *Journal of Global Optimization*, **9**, 411-436 (1996).
45. Karmarkar U., R. Pitbladdo "Quality, Class and Competition", *Management Science*, **43**, 27-39 (1997)
46. Karmarkar U., K. Rajaram, "Grade Selection and Blending to Optimize Quality and Cost", *Operations Research*, **49**, 1-10 (2001)
47. Corbett C., U. Karmarkar, "Competition and Structure in Serial Supply Chains", *Management Science*, **47**, 966-978 (2001)
48. Karmarkar U., K. Rajaram, "Product Cycling with Uncertain Yields: Analysis and Application to the Process Industry", *Operations Research*, **50**, 680-691 (2002)
49. Rhim H., T. Ho, U. Karmarkar, "Competitive location, production, and market selection", *European Journal of Operational Research*, **149**, 211-228 (2003)
50. Karmarkar U., K. Rajaram, "Campaign Planning and Scheduling for Multi-product Batch Operations with Applications to the Food-Processing Industry", *Manufacturing and Service Operations Management*, **6** (3), 253-269 (2004).

51. Carr, S., U. Karmarkar, “Competition in Multi-echelon Assembly Supply Chains”, *Management Science*. **51** (1), 45-59 (2005)
52. van Nieuwenhuysse I., N. v.Daele, K.Rajaram, U. Karmarkar, “Buffer Sizing in Multi-Product Multi-Reactor Batch Processes: Impact of allocation and campaign sizing policies”, *European Journal of Operational Research*, **179** (2), 424-443 (2007)
53. Karmarkar, U., U. Apte “Operations Management in the Information Economy: Products, Processes and Chains”, *Journal of Operations Management*, **25**, 438–453(2007)
54. Apte U., U. Karmarkar, H. Nath, “Information Services in the US Economy: Value, Jobs and Management Implications”, *California Management Review* (2008)
55. Roels G., U. Karmarkar, S. Carr “Contracting for Collaborative Services”, *Management Science*, **56**, 5, 849-863 (2010)
56. Apte U., U.Karmarkar, Y.T.Leung, C. Kieliszewski, “Exploring the representation of complex processes in information-intensive services”, *International Journal of Services Operations and Informatics*, **7**, 52-78(2012)
57. Karmarkar U., K. Rajaram, “Aggregate Production Planning for Process Industries under Oligopolistic Competition”, *European Journal of Operational Research*, **223**, 680–689 (2012)
58. Anaya H., C. Kee, U. Karmarkar, S. Asch, M. Goetz M., “Budget Impact Analysis of HIV Testing in the VA Health Care System”, *Value in Health*, **15**, 1022-1028 (2012)
59. Apte U., U. Karmarkar, H. Nath, “The US Information Economy: Value, Employment, Industry Structure and Trade”, *Foundations and Trends in TIOM*, **6**, 1-87 (2012)
60. Karmarkar U., “The Service and Information Economy: Research Opportunities”. *Manufacturing & Service Operations Management* **17**(2):136-141 (2015)
61. Deo, S., K. Rajaram., S. Rath, U. Karmarkar, M.B. Goetz.. “Planning HIV Screening, Testing and Care at the Veterans Health Administration”. *Operations Research*. **63** (2), 287-304. (2015)
62. Karmarkar U., H. Rhim, K. Kim “Industrialization, Productivity and the Shift to Services and Information”, *Production and Operations Management*, **24** (11), 1675–1695 (2015)
63. Dasgupta A., U. Karmarkar and G. Roels “The Design of Experiential Services with Acclimation and Memory Decay : Optimal Sequence and Duration”, *Management Science*, **62** (5), 1278-1296 (2015)
64. Karmarkar U., G. Roels, "An Analytical Framework for Value Co-Production in Services". *Service Science*, **7**(3), 163-180 (2015)
65. Zhou D., U. Karmarkar, B. Jiang, “Competition in multi-echelon distributive supply chains with linear demand”. *Int. J. Production Research*, **53** (22), 6787-6807 (2015).
66. Rahmani, M., G., Roels, and U.S., Karmarkar. “Collaborative Work Dynamics in Projects with Co-Production”. *Production and Operations Management*, **26**(4), 686-703 (2017).
<http://onlinelibrary.wiley.com/doi/10.1111/poms.12670/epdf>
67. Rahmani M., G. Roels, and U.S. Karmarkar, “Team Leadership and Performance: Combining the Roles of Direction and Contribution”, *Management Science* (2018),
<https://doi.org/10.1287/mnsc.2017.2911>
68. Han Y., H. Rhim, K. Park, M. Choi, U. Karmarkar, “A Strategy for Job Creation through Major Service Sectors in the Fourth Industrial Revolution”, *Asia Pacific Journal of Small Business*, **40** (4), 51-74 (2019).

Working Papers

1. Choi B., U. Karmarkar, "Information Chains with Stochastic Arrivals" (2018)
2. Choi, B., U. Karmarkar, "Deterministic Dynamic Capacity Management in Information Chains" (2018)
3. Karmarkar, U., "Service Industrialization and its Impact on Sectors, Businesses and Processes"; submitted to the *Management and Business Review* (2019)
4. Nath, H., U. Apte, U. Karmarkar, "Service Industrialization, Employment and Wages in the US Information Economy"; submitted to *Current Trends and Foundations in TIOM*, (2019)
5. Khodabakshian, A., G. Roels, U. Karmarkar, "Competitive Bundling in a Symmetric Bertrand Duopoly" (2019)
6. Khodabakshian, A., G. Roels, U. Karmarkar, "Bundling Competition and Entry in a Cournot Oligopoly" (2019)

Books

1. Lederer, P., U. Karmarkar (eds), *The Practice of Quality Management*, Kluwer Academic Publishers (1997).
2. Apte, U., U. Karmarkar (eds), *Managing in the Information Economy: Current Research Issues*, Springer Science (2007).
3. Karmarkar, U., V. Mangal (eds), *The Business and Information Technologies (BIT) Project: A Global Survey of Business Practice*, World Scientific Press (2007).
4. Karmarkar, U., V. Mangal (eds), *The UCLA Anderson Business and Information Technologies (BIT) Project: A Global Survey of Business Practice*, World Scientific Press (2009).
5. Karmarkar, U., V. Mangal (eds), *The UCLA Anderson Business and Information Technologies (BIT) Project: A Global Study of Business Practice*, World Scientific Press (2012).
6. Baglieri, E., U. Karmarkar (eds.), *Managing Consumer Services: Factory or Theater*, Springer (2014)
7. Mangal, V., A. Mandelli, U. Karmarkar and A. LaRocca (eds.), *The UCLA Anderson Business and Information Technologies (BIT) Project: A Global Study of Business Practice*, World Scientific Press (2016).

Book Chapters and Proceedings Papers

1. Candea D., A. Hax, U. Karmarkar, "Economic and Social Evaluation of Capital Investment Decisions--Application", in *Studies in Operations Management*, A. Hax (ed.), North-Holland, Elsevier (1978).
2. Karmarkar, U. "A Hierarchical Approach to Multilocation Inventory Problems", in *Disaggregation Problems in Manufacturing and Service Organizations*, L. Ritzman, et al. (eds.), H. E. Stenfert-Kroese b.v., Leiden (1978).
3. Karmarkar, U., "Policy Structure in Multistate Production-Inventory Problems: An Application of Convex Analysis", *Multilevel Production/Inventory Systems: Theory and Practice*, L. Schwarz (ed.), North-Holland, Amsterdam (1981).
4. Karmarkar U., "A Hierarchical Scheduling System for the CIM Environment", *Proceedings of the IXth International Conference on Production Research*, Cincinnati

- (1987). Reprinted in *Recent Developments in Production Research*, Anil Mital (ed.), Elsevier Science (1987).
5. Karmarkar, U., P. Lederer and J. Zimmerman "Choosing Manufacturing Production Control and Cost Accounting Systems", Ch.12 in *Measures for Manufacturing Excellence*, R. S. Kaplan (ed.), 353-396, Harvard Business School Press (1990).
 6. Karmarkar, U., "Manufacturing Lead Times, Order Release and Capacity Loading", in *Handbook in Operations Research and Management Science: Logistics of Production and Inventory*, Graves S., et al (eds.), North-Holland (1993).
 7. Karmarkar U., "Research in Manufacturing Strategy: A Cross-Functional Perspective", in *Perspectives in Operations Management: Essays in Honor of Elwood S. Buffa*, R. Sarin (ed.), Kluwer Academic Publishers (1993).
 8. Karmarkar, U., "New Directions in Models of Production and Distribution", *Proceedings of the NGOR/DSOR Conference*, Amsterdam (1993)
 9. Karmarkar J. and U. Karmarkar, "Design Support for Concurrent Engineering: A Case Example", in *Management of Design: Engineering and Management Perspectives*, Dasu, S. and C. Eastman (eds.), Kluwer Academic Publishers (1994)
 10. Dobson G., U. Karmarkar, "Large Scale Shop Scheduling: Formulations & Decomposition", in *Optimization Models and Concepts in Production Management*, Villa A. and P.Brandimarte (eds.), Gordon and Breach, Basel (1995)
 11. Johansen, J., U. Karmarkar, D. Nanda and A. Seidmann, "Business Experience with Computer Integrated Manufacturing: A Survey of Current Strategy and Practice", *Proceedings of HICSS 95* , 970-979 (1995)
 12. Apte U., U. Karmarkar and R.Pitbladdo "Quality Management in Services: Analysis and Applications", in *The Practice of Quality Management*, Karmarkar, U.S., and P. Lederer (Eds.), Kluwer (1997)
 13. Karmarkar, U., "Financial Service Networks: Access, Cost Structure and Competition", in *Creating Value in Financial Services*, Melnick, E., P. Nayyar, M. Pinedo, and S. Seshadri (Eds.), Kluwer (2000)
 14. Bashyam, T.C.A, U. Karmarkar, "Aspect Development Inc (A)", in *Managing the Global Corporation: Case Studies in Strategy and Management*, J. De La Torre, Y.Doiz and T. Devinney (editors), McGraw Hill, New York. (2000)
 15. Bashyam, A., U. Karmarkar, "Usage Volume and Value Segmentation in Business Information Services", in *Managing Business Interfaces: Marketing, Engineering, and Manufacturing Perspectives*, Chakravarty A. and J. Eliashberg (Eds.), Kluwer Academic Publishers (2004).
 16. Karmarkar, U., M. Lele, "The Marketing / Manufacturing Interface: Strategic Issues", in *Managing Business Interfaces: Marketing, Engineering, and Manufacturing Perspectives*, Chakravarty A. and J. Eliashberg (Eds.), Kluwer Academic Publishers (2004).
 17. Apte U., U. Karmarkar "Business Process Outsourcing and 'Off-shoring': The Globalization of Information-Intensive Services", Chap. 3 in *Managing in the Information Economy: Current Research Issues*, Uday Apte and Uday Karmarkar (Eds), Springer Science (2007).
 18. Bashyam A., U. Karmarkar, "Service Design, Competition and Market Segmentation in Business Information Services with Data Updates" (with), Chap.13 in *Managing in the Information Economy: Current Research Issues*, Uday Apte and Uday Karmarkar (Eds), Springer Science (2007).

19. Karmarkar U., V. Mangal, "Information Technology Impact on Business Practices: The UCLA BIT Project", Chap. 16 in *Managing in the Information Economy: Current Research Issues*, Uday Apte and Uday Karmarkar (Eds), Springer Science (2007).
20. Karmarkar U., V. Mangal, "The UCLA Business and Information Technologies (BIT) Survey – Year 2", Chapter 1. In *The Business and Information Technologies (BIT) Project: A Global Survey of Business Practice*, Uday Karmarkar and Vandana Mangal (Eds), World Scientific Press (2007)
21. Karmarkar, U., "The Global Information Economy, Service Industrialization and the UCLA BIT Project", in *Service Science Management and Engineering*, Hefley, Bill, Wendy Murphy (Eds.), Springer (2008)
22. Dobson G., U. Karmarkar, "Production Planning Under Uncertainty with Workload and Lead-time Considerations: Lagrangean Bounds and Heuristics", Ch. 12 in *The Production Planning Handbook*, Reha Uzsoy et. al. (eds.), Springer Series in OR/MS (2009)
23. Karmarkar, U., "The Industrialization of Information Services", Maglio Paul, Cheryl Kieliszewski, and James C. Spohrer (eds.), *The Handbook of Services Science*, Springer Science, NY (2010)
24. Karmarkar U., V. Mangal, "Global Trends for Technology Adoption – Results of the BIT Survey across Ten Countries", in Mangal V. and U. Karmarkar (eds.), *The UCLA Anderson Business and Information Technologies (BIT) Project*, World Scientific Publishing (2012)
25. Karmarkar U., D. Choi, H. Rhim, "Service Technology, Pricing and Process Economics in Banking Competition", Ch.16 in Faulin et al.(eds), *Decision Making in Service Industries*, CRC Press (2013)
26. Karmarkar, U., "Service Industrialization". Ch.2 in Baglieri E., U. Karmarkar (eds.). *Managing Consumer Services: Factory or Theater*. Springer, Heidelberg. (2014).
27. Karmarkar U., U. Karmarkar. "Customer Experience and Service Design". Ch.7 in Baglieri E., U. Karmarkar (eds.). *Managing Consumer Services: Factory or Theater* Springer, Heidelberg (2014).
28. Apte, U., U. Karmarkar, H. Nath. "The Growth of Information-Intensive Services in the U.S. Economy". Ch. 10 in Bryson J., P. Daniels, (Eds), *Handbook of Service Business: Management, Marketing, Innovation and Internationalization*. Elgar (2015).
29. Hsiao, A., U. Karmarkar, "Product, Process and Platform Management in Technology Firms", Ch.4 in Mangal V., A. Mandelli, U. Karmarkar and A. LaRocca (eds.), *The UCLA Anderson Business and Information Technologies (BIT) Project*, World Scientific Publishing (2016)

Articles and Professional Publications

1. Lele, M., U. Karmarkar, "Good Product Support is Smart Marketing", *Harvard Business Review*, **61**, 124-132 (1983).
Reprinted in *Marketing Renaissance*, J. Wiley and Sons (1987).
Reprinted in *Keeping Customers*, Sviokla, J. and B. Shapiro (eds.), Harvard Business Press (1993).
2. Karmarkar, U., "Controlling Leadtime and W.I.P. in Jobshops", *Proceedings: APICS National Seminar* (1984).
3. Karmarkar, U., "Improve Leadtimes with Better Lotsizing", *Rochester Management Review* (Winter 1985).

4. Karmarkar, U., "Getting Control of Just-in-Time", *Harvard Business Review*, **89**, 122-131, (1989). Reprinted in *Manufacturing Renaissance*, Pisano, G. and R. Hayes (eds.), Harvard Business Press (1995).
5. Karmarkar, U., "Manufacturing Information Systems in the '90's", *Plus Computer* (1990).
6. de Meyer, A, K. Ferdows and U. Karmarkar, " Manufacturing and Distribution in Europe in 1992: The Problems and the Opportunities", *APICS - The Performance Advantage*, (December, 1991).
7. Karmarkar, U., "Global Manufacturing and the Prospects for India", *Sydenham Management Review* (1993).
8. Karmarkar, U., "Supply Chain Management", *Chief Executive Magazine*, (1996)
9. Karmarkar, U., "Will you Survive the Services Revolution", *Harvard Business Review*, June (2004)

Plenaries, Keynotes and Tutorials

1. "Production Scheduling and Lot-Sizing", National DSI Meeting, Boston (1981).
2. "Materials Requirement Planning", Convention of the Computer Society of India, Ahmedabad (1983).
3. "New Directions in Lotsizing Research", Research Forum, Fall I.E. Conference, Toronto (1983).
4. "Scheduling in Batch Manufacturing", 1986 IEEE Conference on Robotics and Automation, San Francisco (1986).
5. "Large Scale Scheduling for Manufacturing Facilities", Joint ORSA/TIMS Conference, St. Louis (1987).
6. Plenary talk, "Global Manufacturing", CLAIO conference, Mexico City, (1992)
7. Plenary talk, "Modern Manufacturing Practice", CLAIO conference, Mexico City, (1992)
8. Plenary talk, "New Directions in Models of Production and Distribution", NGOR/DSOR Conference, Amsterdam (1993)
9. "Mathematical Programming and Manufacturing Management", XVth International Symposium on Mathematical Programming, Ann Arbor, MI (1994)
10. "Technology and Global Development", the 16th Annual Deepak Merchant lecture, I.I.T. Mumbai (1997)
11. Plenary Session, "Operations Strategy in Service Management", Informs Spring Conference, San Diego (1997)
12. Plenary Session, "Current Research and Practice in Production Planning and Control", IFORS Triennial Conference, Vancouver, Canada (1996)
13. Keynote address, "Supply, Service and Information Chains in the Information Economy", eLab@INSEAD Research Conference, Singapore (2001)
14. Plenary Panel, "The Home Market and the Good Life", The First World Internet Project Congress, Gävle, Sweden (2001)
15. Keynote address, "Operations in the Global Information Economy", VI Annual Conference of the Society of Operations Management, IIM Kozhikode, India (December 2002)
16. Keynote Presentation, "Enterprise Management Software: ERP, SCM and Beyond", SAP Innovation Congress, Miami Florida (Feb, 2003)
17. Keynote address, "Supply Chains: Competition, Structure and Globalization", Annual Conference on Supply Chain Management, SP Jain Institute of Management, Mumbai, India (July 2003)

18. Keynote address, "Operations Strategy in Process Industry Supply Chains", NSF Symposium on Supply Chain Management in Process Industries, Minneapolis, Minnesota (May 2004)
19. Keynote address, "Service Industrialization and the Global Information Economy", 9th APDSI Conference, Seoul, Korea (July 2004)
20. Keynote address, "Service Industrialization in the Global Information Economy", 2nd International Symposium on Service Engineering and Management, Fraunhofer IAO, Stuttgart, Germany (November, 2004)
21. "Service Industrialization in the Global Information Economy", MCom MACE conference, University of Lugano, Switzerland (November 2004)
22. Keynote address, "Competing Globally: Supply, Service and Information Chains", VIIIth Annual International Conference, Society of Operations Management, NITIE, Mumbai India (December, 2004)
23. Keynote address, "Service Industrialization in the Global Information Economy", First Conference of the POMS College of Service Operations, Columbia University, New York, NY (December 2004)
24. Keynote address, "Service Industrialization and Service Productivity", Korea University Centennial, Service and Logistics Research Center Conference, (June 3, 2005)
25. Keynote address, "The US Information Economy and the BIT Project", BIT Conference, IITB Mumbai, India (May, 2005)
26. Keynote address, "The BIT Project: Research on the Global Information Economy", BIT Conference 2006: The Academic Perspective, Università della Svizzera Italiana, Lugano, Switzerland (June 3, 2006)
27. Keynote address, "The Global Information Economy and Service Industrialization", University of Lugano Research Seminar on Markets in a Networked Economy, Lugano (June 9, 2005)
28. Keynote address, "The Global Information Economy: The UCLA BIT Project", LSOM BIT Conference, Korea University Business School, Seoul Korea (June 21, 2007)
29. Keynote address "The Global Information Economy: The UCLA BIT Project", The CIO BIT Conference, ESMT, Berlin (June 28 2007)
30. Keynote Address, "Strategies for Success in the Global Knowledge Economy", Ambrosetti Executive Seminar, Firenze Italy (January 18, 2008).
31. Keynote Address, "Innovation Design and Quality in Services", SDA Bocconi Conference, Innovazione e Performance, Milano Italy (May 20, 2008)
32. Keynote Address, "The UCLA BIT Global Research Network", The 4th BIT Annual Conference: Mastering IT in Business, IESE Barcelona Spain (June 12, 2008)
33. Keynote Address, "Service Productivity: Causes and Effects", Korea Productivity Association and KInforms Conference on New Challenges in Service Productivity and Innovation", Seoul Korea (May 30, 2009)
34. Keynote Address, "Changing the Rules of the Game: Convergence of Media in the Global Information Economy", 6th MCom Excellence in Communications Lecture, Zurich Switzerland (June 10, 2008)
35. Keynote address, "Current Research in Production Planning", conference on Planning Production in the Extended Enterprise, Research Triangle Park (Sept 2008)
36. Keynote address, "ICT and Competitiveness: Global Trends", SDA Bocconi Conference on ICT and Competitiveness (September, 2010, Milano Italy)
37. Keynote address, "Information Chains: Cases and Models", BIT Global Conference, Lugano Switzerland (July 2013)

38. Keynote address, "How Technologies are changing Economies"; 2014 Annual BIT Global Conference, U. Auckland, New Zealand (March 2014)
39. Keynote address, "Productivity: Its Drivers and Its Consequences", International Conference on Smart Productivity, Smart Manufacturing, and Smart Services; KPA 30th Anniversary Conference and KUBS LSOM Conference, Seoul (June 2015)
40. Keynote Address, "Global Competition and Economic Evolution: The Role of Technology and Innovation", POMS College of Innovation and Technology Management, Houston, TX, (Oct, 2017)
41. Keynote address, "Experience, Effort and Work Dynamics in Services", 8th International Conference AHFE 2017, HSEE, Los Angeles (July 2017)

Conference Presentations

1. "The One-Period, N-Location Distribution Problem", ORSA/TIMS Joint National Meeting, Boston (April 1974).
2. "The Multilocation Distribution Problem", ORSA/TIMS Joint National Meeting, Chicago (April 1975).
3. "A Hierarchical Approach to Distribution Management", Conference on Disaggregation Problems in Manufacturing and Service Organization, The Ohio State University (March 1977).
4. Panel discussant, Logistics Modeling Seminar, ORSA/TIMS Joint National Meeting, San Francisco (May 1977).
5. "Fractile Estimation for Inventory Problems", ORSA/TIMS Joint National Meeting, San Francisco (May 1977).
6. "Optimal Policies in Stochastic Programming", ORSA/TIMS Joint National Meeting, San Francisco (May 1977).
7. "Optimal Multiperiod Investment Consumption Policies" (with R. Abrams), ORSA/TIMS Joint National Meeting, New York (May 1978).
8. "Multiperiod Multilocation Inventory Problems", Joint ORSA/TIMS Meeting, Los Angeles (November 1978).
9. "Infinite Horizon Investment-Consumption Policies" (with R. Abrams), Joint ORSA/TIMS Meeting, Los Angeles (1978).
10. "Structure of Optimal Policies in Stochastic Production-Inventory Problems", Multilevel Production/Inventory Control Conference, Purdue University (May 1979).
11. "Infinite Horizon Multilocation Inventory Problems", Joint ORSA/TIMS Meeting, New Orleans (May 1979).
12. "Stochastic Allocation Rules", Conference on Multiechelon Inventory Systems, University of North Carolina at Chapel Hill (June 1980).
13. "Exact Solutions to the Lot-Sizing Problem in Multistage Assembly Systems" (with P. Afentakis and B. Gavish), Joint ORSA/TIMS Meeting, Toronto (May 1981).
14. "Service Territory Performance Models" (with S. Agnihothri), Joint ORSA/TIMS Meeting, Houston (October 1981).
15. "The Deterministic Dynamic Product Cycling Problem" (with Linus Schrage), Joint ORSA/TIMS Meeting, Houston (October 1981).
16. "Deterministic Dynamic Lot Sizing Models", Optimization Days, Montreal (May 1982).
17. "Modular Design for Product Support" (with P. Kubat), Joint ORSA/TIMS Meeting, Orlando (1983).

18. "Multi-item Lot Sizing and Queueing Delays" (with S. Kekre), Joint ORSA/TIMS Meeting, Orlando (1983).
19. "Manufacturing Process Selection: Flexibility" (with S. Kekre), Joint ORSA/TIMS Meeting, Chicago (1983).
20. "Manufacturing Lead Times and Throughput", Joint ORSA/TIMS Meeting, Chicago (1983).
21. "Competitive Location Planning" (with G. Dobson), Joint ORSA/TIMS Meeting, Chicago (1983).
22. "Controlling W.I.P. and Leadtimes in Jobshops", APICS Fall Seminar: Zero Inventory, St. Louis (1984).
23. "Multi-item Lot Sizing and Leadtimes in Job Shops", 26th International Meeting, TIMS, Copenhagen (1984).
24. "The Design of a Functional Jobshop with Queues" (with S. Kekre), Joint ORSA/TIMS Meeting, San Francisco (1984).
25. "Justification of Manufacturing Technology" (with P. Lederer and V. Singhal), Joint ORSA/TIMS Meeting, Atlanta (1985).
26. "Applied Research in Scheduling" (with G. Dobson), Joint ORSA/TIMS Meeting, Atlanta (1985).
27. "Single Machine Sequencing with Lot Sizing" (with G. Dobson and J. Rummel), Joint ORSA/TIMS Meeting, Boston (1985).
28. "Aggregate Planning under Uncertainty" (with S. Lin), Joint ORSA/TIMS Meeting, Boston (1985).
29. "A Theory of Manufacturing Cost" (with J. Rummel), Joint ORSA/TIMS Meeting, Boston (1985).
30. "Performance Evaluation of Field Service Territories" (with S. Agnihothri), Joint ORSA/TIMS Meeting, Los Angeles (1986).
31. "A Dynamic Kanban System" (with Harry Groenevelt), Joint ORSA/TIMS Meeting, Miami (1986).
32. "Concurrent Resource Scheduling to Minimize Flow Times" (with Gregory Dobson), Joint ORSA/TIMS Meeting, Miami (1986).
33. "Hierarchical Scheduling in CIM", IXth International Conference on Production Research, Cincinnati (1987).
34. "A Closed Loop Automatic Scheduling System" (with G. Dobson and J. Rummel), Joint ORSA/TIMS Meeting, St. Louis (1987).
35. "Hierarchical Decomposition of Closed Loop MRP Systems", Joint ORSA/TIMS Meeting, St. Louis (1987).
36. "Manufacturing Control in CIM", Indo U.S. Workshop on Systems and Signal Processing, Bangalore, India (1988).
37. "Push, Pull and Hybrid Control Systems", EURO Summer Institute, Eindhoven (1988).
38. "Large Scale Scheduling Research", Annual Bilkent Conference, Bilkent University, Ankara, Turkey (1988).
39. "Large Scale Manufacturing Scheduling", Production Workshop, EURO Working Group on Production Control, Paris (1988).
40. "Applied Scheduling Research", Symposium on Automated Manufacturing Systems, R.P.I., Troy (1988).
41. "Research Program in Manufacturing at CMOM", Conference on Decisional Structures in Automated Manufacturing, Genova, Italy (1989).

42. "Capacity and Release Planning with WIP & Leadtimes", ORSA/TIMS Conference, New York City (1989).
43. "Scheduling a Flexible Automated Factory with CLASS: A Case Study", Symposium on OR Models for Flexible Manufacturing Systems, Tinbergen Institute, Erasmus University (1990)
44. "Lead Times and Production Management: Fleshing out the JIT Mystique", MIT OM "Summer Camp", Cambridge (1990)
45. "Dynamic Facility Location in Global Manufacturing Systems", (with Ann Gray and Richard Pitbladdo), ORSA/TIMS Philadelphia (1990)
46. "Dynamic Myopic Scheduling Heuristics" (with Greg Dobson, Jeff Rummel), ORSA/TIMS Philadelphia (1990)
47. "Field Research in OM: Stalking the Elusive Research Project", ORSA/TIMS Philadelphia (1990)
48. "Multiproduct Competition with Common Fixed Costs", (presented by Richard Pitbladdo), ORSA/TIMS Philadelphia (1990)
49. "Integrating Kanban with Pull/Kanban Shop Control", (presented by Richard Pitbladdo), ORSA/TIMS Philadelphia (1990)
50. "Research in Manufacturing Strategy: Cross-functional Perspective", invited talk, Conference in honor of Elwood Buffa, UCLA (1991)
51. "Research Support", ORSA Doctoral Colloquium, USC, LA (1991)
52. "A Model of Quality, Class and Price", (with R. Pitbladdo), ORSA/TIMS, Anaheim (1991)
53. "Stochastic Dynamic Product Cycling Problem", (with J.Yoo), ORSA/TIMS, Anaheim (1991)
54. "MRP with Tardiness Penalties", (with R. Nambimadom), ORSA/TIMS, Anaheim (1991)
55. "Large Scale Distribution System Design", (with R.Saxena), ORSA/TIMS, Anaheim (1991)
56. "Lead time management", ORSA/TIMS joint national meeting, Nashville (1991)
57. "MRPX: An Extended MRP System", Joint ORSA/TIMS conference, San Francisco, (1992)
58. "Market Strategy and Distribution Costs", Joint ORSA/TIMS conference, San Francisco, (1992)
59. "MRP Models and Enhancements", CLAIO conference, Mexico City, (1992)
60. "Research Directions in Manufacturing Control", Manufacturing Workshop, Montreal, (1992)
61. "Stochastic Planning with WIP and Leadtimes", Joint ORSA/TIMS conference, Orlando, (1992)
62. "MRP Enhancements: Making MRP Work", Conference on Logistics and Operational Research, University of Amsterdam, Amsterdam, (1992)
63. "Stochastic Planning with Leadtimes and WIP", EURO/TIMS conference, Helsinki, (1992)
64. "MRP Models and Enhancements", IFORS Conference, Lisbon (1993)
65. "Design and Quality", Marketing Science Institute conference, Menlo Park (1996)
66. "Intermediation and Competition in Information-Based Services", (with Charles Corbett), INFORMS, Dallas (1996)
67. "Gateway Competition in Information Based Services", Informs Spring Conference, San Diego (1997)

68. "Current Research in Production Planning and Control", ICOQM conference, Jaipur, India (1997)
69. "Supply Chain Competition: Pure Assembly Networks", Informs Spring Conference, San Antonio (2000)
70. "Quality Management and Competition in the New Information Industries", World Congress on Total Quality, Mumbai, India (2000)
71. "Collaboration and Joint Production in Services" (with Scott Carr), MSOM 2003, USC, Los Angeles (2003)
72. "Product Cycling with Uncertain Yields" (with Kumar Rajaram), MSOM 2003, USC, Los Angeles (2003)
73. "Supply Chain Competition", VIIIth Annual International Conference, Society of Operations Management, NITIE, Mumbai India (December, 2004)
74. "Globalization of Services", eBRC Conference, HP Executive Center Cupertino (March 2005)
75. "The Global Information Economy and Service Industrialization", University of Lugano Research Seminar on Markets in a Networked Economy, Lugano (June 2005)
76. "Capacity Planning for Commodity Products under Competition", (with Kumar Rajaram), IFORS Triennial, Honolulu, Hawaii (July 2005)
77. "Interfaces between Marketing and Service Operations", Panel Discussion, Informs Annual Meeting, San Francisco (Nov. 14, 2005)
78. "Joint Production and Collaboration in Services", Invited Talk, Informs Annual Meeting, San Francisco (Nov. 14, 2005)
79. "Avoiding a Double Life", Future of Research, Sessions in Honor of Art Geoffrion, Informs Annual Meeting, Pittsburgh (Nov. 2006)
80. "A Framework for Business Models", Integrated Ops-Marketing in Emerging Markets, Informs Annual Meeting, Pittsburgh (Nov. 2006)
81. "Service Industrialization, BPO and Employment", Outsourcing and Globalization, Informs Annual Meeting, Pittsburgh (Nov. 2006)
82. "Information Services in the US Economy: Value, Jobs and Management Implications", Berkeley-Tekes Conference on Innovation in Services, Berkeley (April 2007)
83. "Capacity Planning in Process Industries under Competition and Restricted Supply", MSOM 2007 International Conference, Beijing (June 2007)
84. "Service Contract Design and Pricing," INFORMS Annual Meeting, Seattle, WA, November 5, 2007 (with G. Roels and S. Carr)
85. "Service Technology, Pricing and Process Economics in Retail Banking Competition," INFORMS Annual Meeting, Seattle, WA, November 2007 (with H. Rhim and D. Choi)
86. "Productivity and Economic Evolution: The Shift to Services and to Information", Informs Annual Meeting (November, 2010; Austin TX)
87. "The Global Information Economy: The UCLA BIT Project", The 2012 Global BIT Conference, National Sun Yat-sen University, Kaohsiung (June 2012)
88. "The Marketing Operations Interface", ISMS Marketing Science Conference, Boston (July 2012)
89. "Team Size in Collaborative Projects", (with M. Rahmani, G.Roels), Informs Annual Meeting (November 2012)
90. "The Design of Experiential Services" (with A.Dasgupta, G.Roels), Informs Annual Meeting (November 2012)
91. "Industrialization and the Global Information Economy", The Naples Service Forum, Ischia Italy (June 2013)

92. "Information Chains: Cases and Models", BIT Global Conference, Lugano Switzerland (July 2013)
93. "Service Research at UCLA Anderson", Service Science Summit, Rady School UCSD (September 2013)
94. "Research Opportunities", Workshop to Develop a Research Agenda for Service Innovation, California Center for Service Science, and NSF, Washington DC (April 2014)
95. "The Design of Experiential Services with Acclimation and Memory Decay" (w.DasGupta and Roels), Informs Annual Meeting, San Francisco (November 2014)
96. "Service "The Service and Information Economy: Research Opportunities", MSOM Fellows Session, Informs Annual Meeting, San Francisco (November 2014)

Industry Keynote Addresses and Presentations

1. "Critical Issues in Manufacturing", Keynote Speaker, Hewlett-Packard Executive Conference, Rochester (1984).
2. "Alternative Manufacturing Control Systems", Keynote Speaker, Eastman Kodak Co. Production Management Workshop, Rochester (1985).
3. "Job Shops and Batch Manufacturing", Tutorial, ORSA Practitioner Workshop, Joint ORSA/TIMS Meeting, Boston (1985).
4. "Competing in a Global Market", Keynote Speaker, Annual Conference of Milwaukee Planning Forum, Milwaukee (1988).
5. "The Evolution of Production Control", Keynote Address, ASME National Conference, Atlanta (1988).
6. "Manufacturing Information Systems in the '90's", Keynote Speaker, Computer Society of India, Bombay (1989).
7. "Push, Pull and Hybrid Control", Invited Talk, AIA/SAMA (Scientific Apparatus Makers Association) annual conference, Phoenix, Arizona (1989).
8. "Industry and Academia Partnerships", Keynote Speaker, Manufacturing Management Conference, University of Toledo (1989).
9. "Modern Methods in Distribution Management", Keynote Speaker, Hindustan Lever Ltd., Bombay, India (1990).
10. "Push and Pull methods in Manufacturing", Keynote Speaker, AT&T National Workshop on Manufacturing Systems, New Jersey (1990).
11. "International Manufacturing Trends", Keynote Speaker, Teradyne Inc., International Production/Marketing meeting, San Diego (1990).
12. "Push and Pull in Manufacturing", Keynote Address, WATMIMS annual JIT Conference, Waterloo, Canada (1990).
13. "Integrating Manufacturing in the Supply Chain", Invited Talk, Laboratory Products Association, Bermuda (1990).
14. "Current Scheduling Technologies", Invited talk, Steel Industry Consortium; Pittsburgh, (1991)
15. "Manufacturing Philosophies", Invited address, Rochester Industrial Eng Soc., Spring Seminar, R.I.T. (1991)
16. "World Class Manufacturing Systems", Expo-Reunion Impresarial de Competitividad Internacional, Monterrey (1998)
17. "Quality in the Knowledge Economy", Plenary Talk, World Congress on Total Quality, Mumbai, India (2000)

18. "The Business of Design in the Information Age", Plenary Talk, Association of Professional Design Firms, Exchange Conference, Charleston (2001)
19. "E-commerce and Globalization", Plenary Talk, Association of Hardware Manufacturers (AHMA) Executive Conference, Rancho Mirage (2001)
20. "The Global Information Economy and the Business of Design", Executive Symposium on Leadership in Design and Innovation, NSF Project on Design and Innovation, Pomona (2002)
21. "The Globalization of Information Intensive Services", Keynote Address, World Congress on Total Quality, Mumbai, India (2002)
22. "Information Technologies, Business Practices and the Economy", plenary address (video); Convegno E&M 2003, "L'Araba Fenice: Economia Digitale alla Prova dei Fatti", Bocconi, Milano (2003)
23. "ERP, CRM, APS: What comes next?", Invited lecture, PICS Belgium, Ghent (2003)
24. "Design and Quality Management: Narrowing the Gap", Plenary talk and Panel Discussion, CII-NID Design Summit, Mumbai, India (December 2003)
25. "The Global Information Economy and Service Industrialization", CIO Conference, Los Angeles (February 2004)
26. "The Global Information Economy and Service Industrialization", IS Associates, Los Angeles (March 2004)
27. "The Global Information Economy", Chamber of Commerce, Santiago de Chile, Chile (April 2004)
28. "The Global Information Economy", Fundacion de Chile, Santiago de Chile, Chile (April 2004)
29. "Outsourcing and Rethinking the Information Economy", HBR-KPMG Executive Share Forum, Palo Alto (May 2004)
30. "Service Industrialization in the Information Economy", Keynote address, Sevin Rosen Funds Annual Meeting, San Francisco (May 2004)
31. "The Globalization and Industrialization of Services", Ministry of Communication and Information Technology", Bangkok, Thailand (September 2004)
32. "The Global Information Economy", TiE Southern California, Santa Monica (February, 2005)
33. "Service Industrialization", IBM Almaden Research Center, San Jose (March 2005)
34. "The Information Economy: Globalization and Industrialization", The Winmec CIO Forum, UCLA (March 2005)
35. "The Global Information Economy", Locknote address, The Gartner Group Outsourcing Summit, Los Angeles (April 6, 2005)
36. Keynote address, "Service Industrialization and Service Productivity", Korea Productivity Association, (June 4, 2005)
37. Keynote address, "The Global Impact of New Technologies on Business Practice and the Economy", The 7th Internet Global Congress (IGC), Barcelona (June 7, 2005)
38. Keynote address, "The Service Revolution: Industrialization and Productivity", Global WIP-BIT conference, Chamber of Commerce, Santiago, Chile (July 2005)
39. Seminar, "Service Industrialization and the Global Information Economy", Satyam Computer (India) Visiting Executives, Computer Science Dept, UCSD, San Diego (October 2005).
40. Seminar, "Services in the Global Information Economy" Program for the International Center for Leadership in Finance (ICLIF Malaysia), Pasadena CA (November 2005).

41. Seminar, "Service Industrialization: Strategies for Managing People and Organizations", Human Resources Roundtable (HARRT), Los Angeles (Nov 2005)
42. Seminar, "Performance Management in Services"; Program for the International Center for Leadership in Finance (ICLIF Malaysia), Pasadena CA, (December 2005).
43. Plenary talk, "Service Industrialization in the Information Economy", 18th Seminario Internacional: Estrategias Notables, Santiago, Chile (January 2006)
44. Plenary talk, "High Performance Services: Design, Quality and Organization", 18th Seminario Internacional: Estrategias Notables, Santiago, Chile (January 2006)
45. Executive Seminar, "Corporate Renewal in a Changing Global Economy", Ambrosetti AP Lombardia, Milano Italy (April 2006)
46. Keynote addresses, "Global Sourcing", KPMG Executive Briefing Series, San Francisco, (May 2006), Seattle (May 2006)
47. Keynote address, "Emerging Trends in the Global Information Economy", BIT Conference 2006: The Industry Perspective, SDA Bocconi, Milano, Italy (June 2006)
48. Keynote address, "Service Industrialization", Services and Innovation Conference, Finnish Ministry for Trade and Industry, Helsinki (October 2006)
49. Keynote address, "Service Industrialization and the Transformation of Industries", Conference on Employment and Value Creation, German Ministry for Research and Education, Berlin (December, 2006)
50. Keynote talk, "The Global Evolution of Supply Chains", Supply Chain Workshop 2007, Ambrosetti SpA, Milano (April, 2007)
51. Seminar talk, "Supply Chains and B2B Commerce", Supply Chain Workshop 2007, Ambrosetti SpA, Milano (April, 2007)
52. "Strategies for Success in the Global Knowledge Economy", Ambrosetti Executive Seminar, Firenze Italy (January 18, 2008).
53. "Service Industrialization and the Digital Future for Chile", Workshop on the Digital Future of Chile, Ministry of the Economy, Santiago, Chile (April 24, 2008)
54. "Innovation in the ICT Sector", Lead for Group Discussion, Ministry of the Economy, Santiago, Chile (April 25, 2008)
55. Innovation Design and Quality in Services", SDA Bocconi Conference, Innovazione e Performance, Milano Italy (May 20, 2008)
56. "Service Industrialization", Samsung SDS, Seoul Korea (July 2008)
57. "The Global Information Economy and Transitional Economies", ICLIF Malaysia, Pasadena (November, 2008)
58. "Technology and High Performance Organizations", Ambrosetti, Torino Italy (December 2008)
59. "The Global Service/Information Economy", ICLIF Malaysia, Pasadena (Nov. 2009)
60. "Best Practices in Design" and "Product Support Strategy", Hyundai/Kia Service Division, Seoul Korea (April 2010)
61. "The Impact of Digital Communications on Business"; SDA Bocconi Program on The Internet and Social Media for Marketing and Corporate Communications, Milano Italy (Sept. 2010)
62. "Programs and Performance", CMTC Aerospace and Defense Suppliers Summit, Torrance, CA (October 2010)
63. "Product and Systems Support", Wharton Supply Chain Leadership Conference (March 2011, San Francisco CA)
64. "Trends in Health Care Management in the US and Korea", Korea Health and Healthcare Policy Forum, (June 2016, Seoul Korea)

Invited Seminars and Presentations at Companies

Amgen
AT&T Bell Labs
A.V. Birla Group (Mumbai, India)
Bowthorpe plc, U.K.
Cheesecake Factory
Computer Management Group (Holland)
Delco (GM)
Eastman Kodak Co. (KAD, KP)
Edipower (Genoa, Italy)
Entel, Santiago, Chile
Ford Manufacturing Research
GE Transportation Systems Division
GM Research Labs
Hewlett-Packard Research Labs (2)
Hindustan Lever Ltd.(Mumbai, India)
Hindustan Aeronautics, (Bengaluru, India)
Hyundai/Kia Services Group (Seoul Korea)

IBM Metals Industry Group
IBM Almaden Research Center
Los Angeles MTA
Los Angeles CRA
Kirloskar-Cummins (Pune)
Mafatlal Engineering, India
Motorola
Proeza, (Monterrey, Mexico)
Russer Foods
SK Telecom (Seoul, Korea)
Samsung SDS (Seoul, Korea)
Sevin Rosen Funds
Stanford Research Institute
Telefonica Empresas (Chile)
Teradyne, Inc.
Xerox Computer Services
Xerox Corporation

Invited Academic Seminars & Colloquia

Alfred University
Boston University
Carnegie Mellon University (5)
Case Western Reserve University
CEIBS, Shanghai, China
Chinese University, Hong Kong (2)
Columbia University (2)
Cornell University
Duke University (3)
EDHEC/Theseus
Erasmus University, Rotterdam
Florida International University
Harvard Business School (3)
Harvard Division of Applied Science
HKUST, Hong Kong (2)
IESE, Barcelona
IIT-B, Mumbai (3)
INSEAD, Fontainebleau (2)
INSEAD, Singapore (2)
ISB, Hyderabad
KAIST, Seoul Korea
Katholieke Universiteit, Leuven (3)
Kellogg School, Northwestern U.
Korea University Business School (5)
Korea University, IME Dept.
Korea University Medical Center
McGill University
McMaster University
M. I. T., O. R. Center
National Cheng-chi University, Taiwan
National Sun Yat-sen University, Taiwan
National University, Singapore
Naval Postgraduate School, Monterey
NITIE, Mumbai
Northwestern University (IE Dept)
Ohio State University
Politecnico di Milano (3)
Pontificia Universidad Católica, Chile
PUC, Dept of IE and Systems, Chile
Politecnico di Torino
Purdue University, Krannert School
Purdue University, IE Dept (3)
Rensselaer Polytechnic Institute
Scheller School, Georgia Inst. of Technology
SDA Bocconi, Milano (3)
Seoul National University, School of Business
Shailesh J. Mehta SOM, IITB, Mumbai
Sloan School, M. I. T. (3)
SMU, Cox School (2)
Stanford University (2)
SUNY Binghamton
SUNY Buffalo
Technical University, Eindhoven (2)
Twente University, Enschede, Netherlands
UCLA, Anderson School (3)
University of Arizona, Eller School
University of Brescia, Italy
University of California, Berkeley, Haas (2)
University of California, Berkeley, IE/OR (2)
University of California, Davis
University of California, Irvine
University of California, San Diego, Rady (2)
University of Connecticut
University of Groningen
Université Laval, Quebec
University of Michigan, IE Dept. (2)
University of Michigan, Bus. School (2)
University of Pittsburgh (2)
Universidade do Porto, Portugal
University of Rochester (4)
University of Southern California (3)
University of Texas, Austin
University of Toronto
University of Waterloo (2)
University of Wisconsin, Madison
Vanderbilt University
Vrije Universiteit, Amsterdam
Welch College, Sacred Heart University
Wharton School (3)

Industry Projects (Consulting, Research) & Affiliations (Advisor, Director)

AT&T Foundation
Aditya Birla Group
American Cimflex Corp.
Bancroft Whitney
Becton Dickinson
BLC (consultants)
Bowthorpe plc
Bufete Industrial
Calgon
Cambridge City Hospital
Cummins Engine
Deere & Co.
Eastman Kodak Co. (KAD, LRPD)
EduScribe
Ford Motor Company
Gleason Works
GM Advanced Engineering
Hindustan Lever Ltd.
ICI Americas (Zeneca)
IBM Corporation (MIAD, Corporate)
Indiaco
InfoWindo Inc.
iSeva
iRally
LTV Steel
Lawyers Cooperative Publishing
Los Angeles MTA
Los Angeles CRA
MEDS (USA, Thailand)
Milton Roy Company
Miralto
NextLeft
Nippon Becton Dickinson
Peripheral Software
R. E. Dietz and Company
RIA Group
Rochester Gas & Electric Corp.
Rochester Telephone Company
RT-Set (now vi[z]rt)
Schlegel Corporation
Singapore Infocom Authority (IDA)
Signode Corporation
Solon Inc.
SLC Consultants
Systems and Software
Thermalloy, Inc.
Thermometrics, Inc.
Thomson Electronic Publishing
Thomson Professional Publishing (IT)
Tyton Corporation
USG Corporation
Vehicare Corporation
WW Grainger
Xerox Computer Services
Xerox NAMD; Reprographic Services
Xoriant Corporation