



R K Amit

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Areas of Interest

Game Theory, Decision Theory, Operations Management

Education

2009 Ph.D., Management Studies, Indian Institute of Science, Bangalore
Thesis Title: Topics in Demand Management
2000 M.Tech., Civil Engineering, Indian Institute of Technology Kanpur
1998 B.Tech., Civil Engineering, Indian Institute of Technology Kanpur

Appointments

Jul 2021 Onwards Professor, Department of Management Studies, IIT Madras
Jul 2016-July 2021 Associate Professor, Department of Management Studies, IIT Madras
Dec 2010-Jul 2016 Assistant Professor, Department of Management Studies, IIT Madras
Jul 2010-Dec 2010 Assistant Professor, IME Department, IIT Kanpur
Dec 2009-Jul 2010 Visiting Faculty, IME Department, IIT Kanpur

Journal Publications

- [1] B. Vipin and R K Amit, "Wholesale Price versus Buyback: A Comparison of Contracts in a Supply Chain with a Behavioral Retailer", *Computers & Industrial Engineering*, 162, 2021.
- [2] Brahmesh Vinayak Joshi, B Vipin, Janakarajan Ramkumar, and R K Amit, "Impact of Policy Instruments on Lead-acid Battery Recycling: A System Dynamics Approach", *Resources, Conservation, & Recycling*, 169, 2021.
- [3] T. V. Krishna Mohan and R K Amit, "Modeling Oligopsony Market for End-of-Life Vehicle Recycling", *Sustainable Production and Consumption*, 25, 325-346, 2021.
- [4] Abhishek Shinde, Peeyush Mehta, R K Amit, "An experimental investigation of newsvendor decisions under ambiguity", *International Journal of Production Research*, in press, 2020.
- [5] T. V. Krishna Mohan and R K Amit, "Dismantlers' dilemma in End-of-Life Vehicle Recycling Markets: A System Dynamics Model", *Annals of Operations Research*, 290 (1), 591-619, 2020.
- [6] K Balaiyan, R K Amit, A K Malik, X Luo, A Agarwal, "Joint Forecasting for Airline pricing and Revenue Management", *Journal of Revenue and Pricing Management*, 18,465-482, 2019.



- [7] K. R. Ramkishore and R K Amit, "Optimal Bargaining Mechanisms with Refusal Cost", *International Journal of Operational Research*, 35 (1), 54-66, 2019.
- [8] B. Vipin and R K Amit, "Describing Decision Bias in the Newsvendor Problem: A Prospect Theory Model", *Omega*, Volume 82, 132-141, 2019.
- [9] R K Amit and S Subash, "Measuring Affordability of Access to Clean Water: A Coping Cost Approach", *Resources, Conservation, & Recycling*, 141, 410-417, 2019.
- [10] R. Bhattacharya, A. Kaur, and R K Amit, "Price Optimization of Multi-stage Remanufacturing in a Closed Loop Supply Chain", *Journal of Cleaner Production*, 186:943-962, June 2018.
- [11] B. Vipin and R K Amit, "Loss Aversion and Rationality in the Newsvendor Problem under Recourse Option", *European Journal of Operational Research*, 256(1):563-571, 2017.
- [12] Rajeev R. Tripathi and R K Amit, "Equivalence Nucleolus for Coalitional Games with Externalities", *Operations Research Letters*, 44(2): 219-224, 2016.
- [13] Arya Kumar Srustidhar Chand and R K Amit, "Capital Rationing under Perfect Information", *Economics Bulletin*, 35(2):878-884, 2015.
- [14] R K Amit, P. Mehta, and R. R. Tripathi, "Optimal Shelf-Space Stocking Policy using Stochastic Dominance under Supply-driven Demand Uncertainty", *European Journal of Operational Research*, 246(1):339-342, 2015.
- [15] R K Amit and P. Ramachandran, "Aspects of Exchangeability in the Shapley value", *International Game Theory Review*, 15(4), 2013.
- [16] L. Devangan, R K Amit, P. Mehta, S. Swami, and Kripa Shankar, "Individually Rational Buyback Contracts with Inventory Level Dependent Demand", *International Journal of Production Economics*, 142(2):381-387, 2013.
- [17] R K Amit and P. Ramachandran, "A Relational Contract for Water Demand Management under Market Failure", *Urban Water Journal*, 10(3):209-215, 2012.
- [18] R K Amit and P. Mehta, "Repeated Contracts for Supply Chain Coordination under Asymmetric Information: A Review and Future Directions", *Technology, Operations and Management*, 1(2): 31-36, 2010.
- [19] R K Amit and P. Ramachandran, "A Fair Contract for Managing Water Scarcity", *Water Resources Management*, 24(6):1195-1209, 2010.

Sponsored Research

Completed Projects

- [1] "Analysis and Modeling of Repeated Contracts for Supply Chain Coordination". IIT Madras New Faculty Seed Grant (Funding: ₹5,00,000).
- [2] "Improving Supply Chain Efficiency for Food Security". IIT Madras Socially Relevant Project (Funding: ₹. 2,50,000; Role: PI).
- [3] "Buyer's time-preferences in electronic procurement interactions: Effect of situational involvement, and elicitation models". ICSSR (Funding: ₹5,00,000; Role: co-PI).
- [4] "Coping strategies and coping costs for accessing safe water in Chennai, India". SANDEE (Funding: ₹11,25,084; Role: PI).
- [5] "A decision support system for pilot landing in adverse conditions taking advantage understanding uncertainties in image registration system reliability and consequence based decision in pilot manned aircraft



- and UAVs.”. Aerospace Research and Development Board (DRDO)(Funding: ₹. 47,04,500; Role: co-PI).
- [6] “Studying cooperation for recycling at auto-clusters in India”. Nissan Research Support Program (Funding: ₹9,02,000; Role: PI).
- [7] “Valuation of Privacy in Cloud Contracts”. ICSSR (Funding: ₹4,50,000; Role: PI).
- [8] “Ambulance Repositioning for Improving Operational Efficiency of Emergency Medical Services”. IIT Madras Exploratory Research Funding (Funding: ₹6,90,000; Role: PI).
- [9] “Shapley Value Based Ambulance Repositioning using Spatial-temporal Data”. Department of Science and Technology (Funding: ₹16,85,735; Role: PI).
- [10] “Mean-Field Games for Social Distancing during Epidemics”. IIT Madras (Funding ₹7,10,000; Role: PI).

Ongoing Projects

- [1] “Readiness Assessment of Cloud-based Manufacturing Systems”. SPARC, MHRD (Funding: ₹58,46,065 +£12,000; Role: PI).
- [2] “Solution Concepts for Inventory Games under Asymmetric Information”. MATRICS, SERB (Funding ₹6,60,000; Role: PI).
- [3] “Decision Fusion Technique for a Multisensorial Context for Ensuring Applications in Fault Diagnostics and Decision Support System”, Aeronautics Research & Development Board, Feb 2022-Feb 2025 (Funding: ₹34,80,000; Role: PI).

Selected Honours and Awards

- Received the Academic Senate citation for teaching excellence as an instructor for the course “Introduction to Game Theory” (IME 636) taught during Jan-Apr 2010 at IIT Kanpur.
- One co-authored paper “Foresighted nucleolus for partition function games with stochastic payoffs” received the Best Doctoral Research Paper award at the PAN IIM World Management Conference 2016, IIM Ahmedabad.
- One co-authored paper “Simulation based Estimation for Joint Forecasting Models in Airline Revenue Management.” received the Best Doctoral Research paper at the XXII Annual International Conference of the Society of Operations Management (SOM 2018), IIM Kozhikode.

Professional Activities

- *Editor*, International Journal of Revenue Management.
- *Guest Editor*, Special Issue: Sustainable Operations in Manufacturing Enterprise, Annals of Operations Research.
- *Adhoc Reviewer*: Agricultural Economics; Economics Bulletin; IEEE Transactions on Automation Science and Engineering; Journal of Operational Research Society; OPSEARCH; International Journal of Production Economics; International Game Theory Review; Information Technology and Management; International Journal of Production Research; European Journal of Operational Research; Urban Water Journal; Omega; IIMB Management Review.
- *Treasurer*, Society of Operations Management, India, 2014–Present.