

## ARNAB BISI

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### PROFESSIONAL EXPERIENCE

- August 2019 – Present Associate Professor of Operations Management & Business Analytics
- August 2014 – July 2019 Assistant Professor of Operations Management & Business Analytics  
The Johns Hopkins Carey Business School  
Baltimore, Maryland
- July 2012 – July 2014 Associate Professor of Operations Management  
Indian Institute of Management Calcutta  
Kolkata, India
- Aug 2002 – May 2012 Assistant Professor of Management  
Krannert School of Management  
Purdue University, West Lafayette, Indiana
- July 2001 – July 2002 Assistant Professor of Management Science (Visiting)  
The A. Gary Anderson Graduate School of Management  
University of California, Riverside, California

### EDUCATION

- Aug 1999 – Jun 2001 Postdoctoral Fellow and Lecturer, Operations and Logistics Division,  
Sauder School of Business, University of British Columbia, Canada
- Jan 1998 – July 1999 Postdoctoral Fellow and Lecturer, Operations Management Area,  
School of Management, University of Texas at Dallas, Texas
- 1998 PhD, Hong Kong University of Science & Technology, Hong Kong
- 1992 MStat, Indian Statistical Institute, India
- 1990 BSc (Hons.), Statistics, University of Calcutta, India

### TEACHING INTERESTS

Supply Chain Management, Operations Management, Data Analytics, Continuous Time Finance, Business Analytics, Business Statistics, Optimization Models, Six Sigma Quality Management, Management Science, Applied Stochastic Processes.

### RESEARCH INTERESTS

Supply Chain Management, Inventory Management, Dynamic Pricing, Contracts and Incentives, Stochastic Modeling and Optimization, Jump Diffusion Processes.

## JOURNAL PUBLICATIONS

1. An Innovative Super-efficiency Data Envelopment Analysis, Semi-Variance, and Shannon-entropy-based Methodology for Player Selection: Evidence from Cricket, *Annals of Operations Research*, **284** (2020), 1-32 (with Arnab Adhikari, Adrija Majumdar and Gaurav Gupta).
2. Coordination Mechanism, Risk Sharing, and Risk Aversion in a Five-level Textile Supply Chain under Demand and Supply Uncertainty, *European Journal of Operational Research*, **282**(1) (2019), 93-107 (with Arnab Adhikari and Balram Avittathur).
3. Do Cap-and-Trade Policies Drive Environmental and Social Goals in Supply Chains: Strategic Decisions, Collaboration, and Contract Choices, in press, accepted for publication in *International Journal of Production Economics*, (2019) (with Mithu Kuity, Debabrata Ghosh, and Preetam Basu).
4. Structural Properties of the Lost Sales Problem with Fractional Lead Times, *Operations Research Letters*, **47**(5) (2019), 410-416 (with Yanyi Xu, Sang Phil Kim, Suresh Chand, and Maqbool Dada).
5. A Finite-Horizon Inventory System with Partial Backorders and Inventory Holdback, *Operations Research Letters*, **45**(4) (2017), 315-322 (with Yanyi Xu and Maqbool Dada).
6. New Structural Properties of Inventory Models with Polya Frequency Distributed Demand and Fixed Setup Cost, *Journal of Industrial and Management Optimization*, **13**(2) (2017), 931-945 (with Yanyi Xu and Maqbool Dada).
7. Integrated Contract and Spot Market Procurement by a Risk-Averse Buying Firm, *IEEE Transactions on Engineering Management*, **63** (2016), 151-164 (with Santosh Mahapatra, Narasimhan Ram and Shlomo Levental).
8. Case Article - ABCtronics: Manufacturing, Quality Control and Client Interfaces, *INFORMS Transactions on Education*, **17** (2016), 20-25 (with Arnab Adhikari and Indranil Biswas).
9. Case - ABCtronics: Manufacturing, Quality Control and Client Interfaces, *INFORMS Transactions on Education*, **17** (2016), 26-33 (with Arnab Adhikari and Indranil Biswas).
10. A Non-Parametric Adaptive Algorithm for the Censored Newsvendor Problem, *IIE Transactions*, **47** (2015), 15-34 (with Karanjit Kalsi and Golnaz Abdollahian). **This paper received the 2016 IIE Transactions Best Paper Award in Operations Engineering and Analytics.**
11. Design of Efficient Textile Supply Chain in Emerging Economies, *Udyog Pragati: The Journal for Practising Managers*, **39** (2015), 26-35 (with Arnab Adhikari).
12. Wholesale-Price Contracts with Postponed and Fixed Retail Prices, *Operations Research Letters*, **40** (2012), 250-257 (with Yanyi Xu).
13. Yield Management of Workforce for IT Service Providers, *Decision Support Systems*, **53** (2012), 23-33 (with Joung Yeon Kim and Kemal Altinkemer).

14. A Periodic Review Base Stock Inventory System with Sales Rejection, *Operations Research*, **59** (2011), 742-753 (with Yanyi Xu and Maqbool Dada).
15. A Censored-Data Multiperiod Inventory Problem with Newsvendor Demand Distributions, *Manufacturing & Service Operations Management*, **13** (2011), 525-533 (with Maqbool Dada and Surya Tokdar).
16. Optimal Operating Policies in a Commodity Trading Market with the Manufacturer's Presence, *Naval Research Logistics*, **57** (2010), 127-148 (with Hui Zhao).
17. A Centralized Ordering and Allocation System with Backorders and Strategic Lost Sales, *IIE Transactions*, **42** (2010), 812-824 (with Yanyi Xu and Maqbool Dada).
18. New Structural Properties of  $(s, S)$  Policies for Inventory Models with Lost Sales, *Operations Research Letters*, **38** (2010), 441-449 (with Yanyi Xu and Maqbool Dada).
19. Dynamic Learning, Pricing, and Ordering by a Censored Newsvendor, *Naval Research Logistics*, **54** (2007), 448-461 (with Maqbool Dada).
20. The Censored Newsvendor and the Optimal Acquisition of Information, *Operations Research*, **50** (2002), 517-527 (a response on this paper appears in *Operations Research*, **53** (2005), p.1027) (with Martin L. Puterman and Xiaomei Ding).
21. Average Cost Optimal Policy for a Stochastic Two-Machine Flowshop with Limited Work-In-Process, *Nonlinear Analysis: Theory, Methods and Applications*, **47** (2001), 5671-5678 (with Ernst Presman, Suresh P. Sethi and Hanqin Zhang).
22. Average Cost Optimality for an Unreliable Two-Machine Flowshop with Limited Internal Buffer, *Annals of Operations Research*, **98** (2000), 333-351 (with Ernst Presman, Suresh P. Sethi and Hanqin Zhang).
23. Stability and Functional Limit Theorems for Random Degenerate Diffusions, *Sankhya*, **61**, Series A, Pt. 1 (1999), 12-35 (with Gopal K. Basak and Mrinal K. Ghosh).
24. Stability of Degenerate Diffusions with State-Dependent Switching, *Journal of Mathematical Analysis and Applications*, **240** (1999), 219-248 (with Gopal K. Basak and Mrinal K. Ghosh).
25. Controlled Random Degenerate Diffusions under Long-Run Average Cost, *Stochastics and Stochastics Reports*, **61** (1997), 121-140 (with Gopal K. Basak and Mrinal K. Ghosh).
26. Limit Theorems for Random Degenerate Diffusions, *Nonlinear Analysis: Theory, Methods and Applications*, **30**, No. 1 (1997), 211-222 (with Gopal K. Basak and Mrinal K. Ghosh).
27. Stability of a Random Diffusion with Linear Drift, *Journal of Mathematical Analysis and Applications*, **202** (1996), 604-622 (with Gopal K. Basak and Mrinal K. Ghosh).

## CONFERENCE PROCEEDINGS

1. Developing Coordination Mechanism for the Indian Textile Supply Chain, *Proceedings of the Fourth Biennial Supply Chain Management Conference, Indian Institute of Management Bangalore* (Dec. 2014) (with Arnab Adhikari and Badri Narayanan).
2. A Distribution System with Strategic Backorders and Lost Sales, *Proceedings of the 16<sup>th</sup> MSOM Conference* (2011) (with Yanyi Xu and Maqbool Dada).
3. Optimal Policy in an Inventory Model with Partial Backorders and Lost Sales, *Proceedings of the 11<sup>th</sup> MSOM Conference* (2006) (with Yanyi Xu and Maqbool Dada).
4. Optimal Ordering and Pricing by a Newsvendor with Unobservable Lost Sales, *Proceedings of the 10<sup>th</sup> MSOM Conference* (2005) (with Maqbool Dada).
5. Simultaneous Inventory and Pricing Decisions with Demand Learning, *Proceedings of the International Conference on Operations Research Applications in Infrastructure Development in Conjunction with the 38<sup>th</sup> Annual Convention of the Operational Research Society of India (ICORAID-2005-ORSI)* (2005) (with Maqbool Dada).
6. Ergodic Control of Random Singular Diffusions, *Proceedings of the 35<sup>th</sup> IEEE Conference on Decision and Control* (1996), 2545-2550 (with Gopal K Basak and Mrinal K. Ghosh).

## MANUSCRIPTS UNDER REVISION/REVIEW

1. Coping with Demand Uncertainty: The Interplay Between Dual-sourcing and Endogenous Partial Backordering, under revision (with Yanyi Xu and Maqbool Dada).
2. Collaboration, Bargaining, and Fairness Concern for a Green Apparel Supply Chain: An Emerging Economy Perspective, under revision (with Arnab Adhikari).

## WORKING PAPERS

1. Using Lost Sales to Manage Backorder-time Guarantees in a Base-stock Inventory System, under preparation (with Yanyi Xu and Maqbool Dada).
2. Computing the Stocking Quantities for a Dynamic Inventory Problem with Censored Demand: A Semi-parametric Approach, under preparation (with Surya Tokdar and Maqbool Dada).
3. Coordinating a Contemporary Three-level Textile Supply Chain: An Emerging Economy Perspective, under preparation (with Arnab Adhikari and Badri Narayanan).
4. Product Portfolio Management under Cap-and-Trade with Stochastic Demand: A Game Theoretic Analysis, under preparation (with Mithu Kuity and Preetam Basu).

## TEACHING EXPERIENCE

### Johns Hopkins Carey Business School (2014 – Present)

BU.232.650 Continuous Time Finance (MSF & MBA elective): Spring 2020, 2019, 2018, 2017  
BU.610.750 Global Supply Chain Management (MBA, GMBA & MS elective): Spring 2019, 2018,  
Spring 2017, 2016, 2015  
BU.680.620 Operations Management (MBA & MS core): Fall 2019, 2018, 2017, 2016,  
Spring 2016, 2015, Fall 2015, 2014  
BU.520.620 Optimization Models (MBA, GMBA & MS core & elective): Spring 2016  
BU.510.650 Data Analytics (MBA, GMBA & MS elective): Spring 2017, 2016  
BU.510.650 Data Analytics Online (MBA elective): Fall 2019, 2018, 2017,  
Spring 2019, 2018, 2017

### Indian Institute of Management Calcutta (2012 – 2014)

OM 238 Logistics & Supply Chain Management (MBA elective): Fall 2013, Fall 2012  
OM 301 Risk Management (MBA core): Fall 2013, Fall 2012  
OM 101 Statistics for Management (MBA core): Fall 2013  
F-OM 554 Stochastic Processes (PhD course): Spring 2013

### Krannert School of Management, Purdue University (2002 – 2012)

MGMT 670 Business Analytics (MBA core): Fall 2011, Fall 2010, Fall 2009  
MGMT 405 Six Sigma Quality/Total Quality Management (undergraduate elective): Spring 2011, 2010  
Spring 2009, 2008, 2005, 2004  
MGMT 305 Business Statistics (undergraduate core): Fall 2011, Fall 2010, Spring & Fall 2009  
Fall 2008, Spring & Fall 2007 Spring & Fall 2006, Fall 2005  
Fall 2004, Spring & Fall 2003, Fall 2002  
MGMT 690S Stochastic Optimization (PhD course): Spring 2008

### Gary Anderson Graduate School of Management, University of California, Riverside (2001-2002)

BSAD 126 Production and Operations Management (undergraduate core): Winter 2002, Fall 2001  
BSAD 128 Project Planning and Control (undergraduate elective): Summer 2002, Fall 2001  
BSAD 121 Introduction to Management Science (undergraduate core): Spring 2002, Winter 2002

### Faculty of Commerce and Business Administration, University of British Columbia (1999 – 2001)

COMM 682 Topics in Production and Operations Management (PhD course): Spring 2000  
COMM 583 Forecasting and Time Series Analysis in Business (MS & PhD course): Spring 2001  
COMM 585 Applied Stochastic Processes (MS & PhD course): Fall 1999  
COMM 291 Applications of Statistics in Business (undergraduate core): Spring 2001

### School of Management, University of Texas at Dallas (1998 – 1999)

BA 3352 Production Management (undergraduate core): Fall 1998, Summer 1999

## PROFESSIONAL ACTIVITIES

- Ad-hoc Referee
  - *Operations Research, Management Science, Mathematics of Operations Research, Manufacturing and Service Operations Management, IIE Transactions, Production and Operations Management, IEEE Transactions on Automation Science and Engineering, IEEE Transactions on Automatic Control, European Journal of Operational Research, Automatica, Journal of Mathematical Analysis*

*and Applications, Interfaces, Electronic Commerce Research and Applications, International Journal on Production Economics, Decision Sciences*

- Member of INFORMS, MSOM

## **HONORS AND AWARDS**

2016	IIE Transactions Best Paper Award in Operations Engineering and Analytics
2012	Ten Year Service Completion Award, Purdue University
2011	CIBER Summer Faculty Research Award
2010	CIBER Summer Faculty Research Award
2008	Global Supply Chain Management Initiative (GSCMI) Award
2005	CIBER Faculty International Travel Award
1999	COE-MITACS Postdoctoral Fellowship, University of British Columbia
1998	Postdoctoral Fellowship, University of Texas at Dallas
1994	Postgraduate Teaching Assistantship, Hong Kong U. of Science & Technology
1993	NBHM Research Fellowship, India
1992	Indian Institute of Science and CSIR-UGC Research Fellowships, India
1990	Certificate for academic excellence (2nd place), BSc (Hons.) in Statistics, University of Calcutta, India

## **CONFERENCE PRESENTATIONS**

- INFORMS, Phoenix, Nov. 2018: *An Inventory System with Reserved Stock.*
- XXII Annual International Conference of the Society of Operations Management (SOM), December 2018, Kozhikode, India: *A Partial Backorder Inventory Policy with Reservation for Future Demand.*
- INFORMS, Houston, Oct. 2017 (invited, session chair): *An Inventory System with Partial Backorders and Inventory Holdback.*
- INFORMS, Nashville, Nov. 2016: *Coordinating A Textile Supply Chain In Post Multi Fibre Agreement Era: A Developing Economy Perspective.*
- DSI, Austin, Nov. 2016: *Designing a Four-Level Coordinated Textile Supply Chain under Demand Uncertainty and Random Yield.*
- International Conference of Society of Operations Management, Kolkata, Dec. 2015 (invited, session chair): *Coordination Mechanism for a Four Level Textile Supply Chain under Demand and Supply Uncertainty.*
- NITIE-POMS International Conference, Mumbai, Dec. 2014 (session chair): *Design of Efficient Textile Supply Chain in Emerging Economies.*
- POMS, Denver, May 2013 (invited, session chair): *Concurrent Dual Sourcing Procurement by a Risk Sensitive Firm.*
- POMS, Denver, May 2013 (invited, session chair): *An Adaptive Method for a Storable Inventory Problem.*
- INFORMS, Phoenix, Oct. 2012 (session chair): *Wholesale-price Contracts with Postponed and Fixed Retail Prices.*
- POMS, Chicago, April 2012 (invited): *Wholesale Price-Only Contracts with Responsive Retail Pricing.*
- INFORMS, Charlotte, Nov. 2011 (session chair): *A Non-parametric Adaptive Algorithm for the Censored-Data Inventory Problem.*
- MSOM, Ann Arbor, June 2011: *A Distribution System with Strategic Backorders and Lost Sales.*

- INFORMS, San Diego, Oct. 2009 (invited): *The Censored Newsvendor Problem: Scalability, its Implications and Limitations.*
- INFORMS, Washington DC, Oct. 2008 (invited): *Operational Decisions in Inventory Models with Unknown Demand and Unobserved Lost Sales.*
- INFORMS, Washington DC, Oct. 2008 (invited): *Global Supply Chain Management with Unknown Demand Distribution.*
- DCMME/GSCMI Fall Operations Conference, Krannert School of Management, Oct. 2008: *Global Supply Chain Management with Unknown Demand Distribution.*
- INFORMS, Seattle, Nov. 2007 (invited): *Computation of Optimal Order Quantities in an Inventory System with Censored Demand Data.*
- POMS, Dallas, May 2007: *Average Cost Inventory Problems with Backorders and Lost Sales.*
- INFORMS, Pittsburgh, Nov. 2006: *Optimal Inventory Policies of a Censored Newsvendor.*
- MSOM, Atlanta, June 2006: *Optimal Policy in an Inventory Model with Partial Backorders and Lost Sales.*
- POMS, Boston, April-May 2006: *Computing the Optimal Policies for the Censored Newsvendor Problem.*
- ICORAID-2005-ORSI, Bangalore, December 2005: *Simultaneous Inventory and Pricing Decisions with Demand Learning.*
- MSOM, Chicago, June 2005: *Optimal Ordering and Pricing by a Newsvendor with Unobservable Lost Sales.*
- POMS, Chicago, April-May 2005: *Pooling Demand Information in a Supply Chain with Unobservable Lost Sales.*
- INFORMS, Denver, Oct. 2004: *Ordering and Pricing with Demand Learning.*
- INFORMS, San Jose, Nov. 2002: *Optimal Pricing and Inventory Control by a Censored Newsvendor.*
- INFORMS, Miami, Nov. 2001: *Information Acquisition in Supply Chains with Uncertain and Censored Demand.*
- INFORMS, San Antonio, Nov. 2000: *Role of Information in Inventory and Supply Chain Models.*
- INFORMS, Philadelphia, Nov. 1999: *Average Cost Optimality for a Stochastic Two-Machine Flowshop with Limited Internal Buffer.*
- Joint Statistical Meetings, Dallas, Aug. 1998: *Stability of Degenerate Diffusions with State-Dependent Switching.*
- 35th IEEE Conference on Decision and Control, Kobe, Japan, Dec. 1996: *Ergodic Control of Random Singular Diffusions.*

## INVITED PRESENTATIONS

2018	IIM Ahmedabad
2014	Johns Hopkins Carey Business School
2011	IIM Calcutta, IIM Ahmedabad
2003	Purdue University
2002	Naval Postgraduate School, University of California at Irvine
2001	Ohio State University, McGill University, Southern Methodist University University of California at Riverside
1999	University of British Columbia

## INVOLVEMENT IN THE GRADUATE RESEARCH PROGRAM

Serving/Served as a co-advisor or committee member for the following doctoral dissertations:

1. Vishal Bansal (in Production and Quantitative Methods area): Stochastic Models for Retail Order Fulfillment. Currently serving as a committee member. (At the Indian Institute of Management Ahmedabad)
2. Mithu Rani Kuity (in Operations Management area): Essays on the Impact of Different Types of Carbon Emission Policies on Supply Chain Strategies. Served as a committee member. (completed, at the Indian Institute of Management Calcutta)
3. Arnab Adhikari (in Operations Management area): Essays on Textile Supply Chain. **Served as a co-advisor.** (completed, at the Indian Institute of Management Calcutta)
4. Jen-Yi Chen (in Operations Management area): Procurement Contract Design. Served as a committee member. (completed, at Purdue University)
5. Sang-Phil Kim (in Industrial Engineering): Stochastic Inventory Control in Hybrid System with Remanufacturing. Served as a committee member. (completed, at Purdue University)
6. Karanjit Kalsi (in Electrical and Computer Engineering department): Decentralized Observer-Based Control of Uncertain Dynamic Systems. Served as a committee member. (completed, at Purdue University)
7. Joung Yeon (JY) Kim (in Management Information Systems area): Essays on the Effects of IT on Economic Activity and Business Process Coordination. Served as a committee member. (completed, at Purdue University)
8. Binling Lu (in Quantitative Methods area): Coordination Strategies for Products with a Short Life Cycle in a Capacitated Channel. Served as a committee member. (completed, at Purdue University)
9. Yanyi Xu (in Operations Management area): Base Stock Policies for Periodic Review Inventory Systems. **Served as a co-advisor.** (completed, at Purdue University)