

Rohit Kumar

Ph.D. Scholar – Operations & Supply Chain Management

Indian Institute of Management (IIM) Mumbai



Academic Profile



Ph.D. scholar at IIM Mumbai specializing in data-driven procurement strategy, pricing optimization, and decision analytics for large-scale infrastructure projects. Expertise in applying machine learning and real options theory to supply chain management under uncertainty.

Research bridges operations research, economics, and advanced analytics to solve complex procurement challenges in renewable energy and infrastructure sectors.

Educational Background

Ph.D. (2021–Present)

Operations s Supply Chain Management

Indian Institute of Management (IIM) Mumbai

Dissertation: Procurement strategy for photovoltaic modules in large-scale solar power projects

B.Tech (2013–2017)

Civil Engineering

DIT University, Dehradun

Foundation in infrastructure planning and construction management

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M.Tech (201Y–2021)

Technology Management

IIT (ISM) Dhanbad

Specialization in operations research and project management

Research Expertise



Procurement Strategy

Optimization frameworks for complex supply chains under market uncertainty and demand volatility



Pricing & Contracts

Strategic pricing models and contract design for long-term infrastructure projects



Machine Learning

Prediction-optimization frameworks integrating ML algorithms with operations research



Real Options Theory

Decision tree modeling for flexible procurement strategies in uncertain environments



Supply Chain Management

End-to-end supply chain optimization for renewable energy and infrastructure sectors



Project Management

Large-scale project planning, risk assessment, and execution in complex environments

Ph.D. Dissertation Research

Procurement Strategy for Photovoltaic Modules in Large-Scale Solar Power Projects

Developing data-driven frameworks to optimize procurement decisions for solar photovoltaic modules under price volatility and supply uncertainty. The research integrates real options analysis with machine learning to create flexible procurement strategies.

Key Contributions

- Hybrid prediction-optimization framework combining ML forecasting with stochastic programming
- Real options-based valuation model for flexible procurement contracts
- Case study analysis of large-scale solar projects in India
- Policy recommendations for renewable energy procurement



Publications & Conference Presentations

Working Papers

Manuscript in Preparation:

"Prediction-Optimization
Frameworks for Procurement under
Market Uncertainty"

Develops integrated ML-stochastic
programming approach for dynamic
procurement decisions

Conference Presentation

POMS India International Conference (2023)

"Real Options Analysis for Flexible
Procurement Contracts in
Renewable Energy Projects"

Presented decision tree modeling
framework for uncertain
environments

Academic Reviewing

Peer reviewer for international
conferences and academic journals
in operations management and
supply chain

Contributor to data-driven supply
chain research community

Certifications & Advanced Training



PwC–UiPath Academic Alliance

Agentic Automation & Intelligent Process Automation

Advanced training in enterprise automation and AI-driven workflows



Mit Supply Chain

Supply Chain Management & Analytics

Executive education programs in advanced SCM concepts



USC & Berlin School

AI & Analytics for Business Decision-Making

Specialized training in machine learning applications





Industry Projects & Professional Experience

Net Zero Energy Residential Building

Led procurement strategy and supply chain optimization for sustainable residential construction project. Applied lean principles and value engineering to reduce costs while maintaining sustainability targets.

- Supplier selection and contract negotiation
- Material flow optimization
- Cost-benefit analysis of renewable integration

Delhi Metro Rail Corporation (DMRC)

Internship in procurement and supply chain management for India's largest metro rail system. Analyzed procurement processes and vendor performance metrics.

- Process mapping and bottleneck identification
- Vendor evaluation framework development
- Supply chain risk assessment

Technical & Analytical Skills



Programming & Analytics

Python, R, SQL for data analysis and machine learning implementation



Quantitative Tools

Advanced Excel, MATLAB, @RISK for simulation and optimization



Modeling Frameworks

Stochastic programming, real options analysis, decision tree modeling



ML Techniques

Regression, time series forecasting, ensemble methods for prediction



Project Tools

MS Project, Primavera for project planning and execution



Visualization

Tableau, Power BI for data storytelling and executive reporting

Collaboration & Research Interests

Seeking Research Collaborations

Open to collaborative research opportunities in:

- Data-driven procurement and supply chain optimization
- Renewable energy project economics and procurement strategy
- Application of machine learning to operations management
- Real options analysis for infrastructure investments
- Supply chain resilience and risk management

Contact Information

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