

AYUSH GUPTA

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RESEARCH INTERESTS

Dual-channel supply chain, Strategic inventory, Digitization of operations, sustainable operations, Technology adoption, Maintenance management, Humanitarian logistics, Knowledge management, Game theory.

EDUCATION

Indian Institute of Management Ahmedabad, India 2018-Present
Ph.D., Production and Quantitative Methods
Committee: Sachin Jayaswal (chair), Benny Mantin, Ankur Sinha
– **CGPA: 3.48/4.33**

Delhi Technological University, India 2013-2017
B.Tech, Production and Industrial Engineering
– **First rank holder and Gold medalist**
– **GPA: 80.48%**

PUBLICATIONS

Journal Publications

- Singh, R. K., & Gupta, A. (2020). Framework for sustainable maintenance system: ISM–fuzzy MICMAC and TOPSIS approach. *Annals of Operations Research*, 290(1), 643-676.

This project aims to develop a framework for successfully implementing maintenance management. Fourteen critical factors were identified from the literature review, and a framework was developed using the Fuzzy ISM approach. Further, major factors were ranked using the TOPSIS methodology.

- Singh, R. K., Gupta, A., & Gunasekaran, A. (2018). Analysing the interaction of factors for resilient humanitarian supply chain. *International Journal of Production Research*, 56(21), 6809-6827.

This paper aims to analyze the factors for the resilient humanitarian supply chain and rank them for strategy formation. Thirteen critical success factors were analyzed, and a framework was developed using the Fuzzy-ISM approach.

- **Singh, R.K., Gupta, A., Kumar, A. and Khan, T.A. (2016). Ranking of barriers for effective maintenance by using TOPSIS approach. Journal of Quality in Maintenance Engineering, 22 (1), 18-34.**

The purpose of this paper is to rank the significant barriers for effective implementation of maintenance management using a Multi-criteria decision-making tool. Eleven barriers were identified and then ranked in the order of preference using the TOPSIS methodology.

Research in Progress

- **Gupta, A., Jayaswal, S., Mantin, B. "Supplier Encroachment: The Impact of Cost Learning."**

We examine the impact of supplier encroachment on the supplier's and the retailer's profit, in the presence of cost learning. While the previous studies suggest that encroachment always benefits the supplier, we find that in the presence of cost learning, supplier encroachment may be detrimental to the supplier and leads to any of the following four outcomes between the supplier and the retailer: (i) Win-Win, (ii) Win-Lose, (iii) Lose-Win, and (iv) Lose-Lose, depending on the supplier's learning rate and his direct selling cost.

Journal Papers in Review

- **Gupta, A., Singh, R.K., Kamble, S.S., Mishra, R. "Knowledge Management in Industry 4.0 Environment for Sustainable Competitive Advantage: A Strategic Framework."**

This study identifies thirteen critical factors for developing a knowledge management system in Industry 4.0 environment from the literature review and a questionnaire-based survey. Some factors are process-oriented, while others are result-oriented. Interpretive Structural Modeling (ISM) is utilized to develop the structural relationships among these factors. Finally, fuzzy MICMAC is used to categorize the factors based on driving-dependence value. (Under Review (second round) at Knowledge Management Research and Practice.)

Conference Papers

- Supplier Encroachment: The Impact of Cost Learning
 - POMS India International Conference, Mumbai, 2021

- Ranking of the Factors for Resilient Humanitarian Supply Chain: A TOPSIS Approach
 - Proceedings of the International Conference on Industrial Engineering and Operations Management, Pilsen, Czech Republic, June 2019

PROFESSIONAL AFFILIATIONS AND SERVICES

Visiting PhD student at Luxembourg center for logistics and supply chain management (**LCL-- MIT scale Network**), University of Luxembourg.

Session Chair, Annual convention of ORSI and International conference, 2019
Track: Health care management/ Service sector

SELECTED DOCTORAL LEVEL COURSEWORK

- Operations Research
- Game Theory in Operations Management
- Strategy and Innovation
- Structural Equation Modelling
- Queuing Model
- Non-Linear Optimization
- Game Theory in Supply Chains (University of Luxembourg)
- Real Analysis

HONORS AND AWARDS

Vice Chancellor's Gold Medalist	2017
Recipient of Vice chancellor's Gold Medal for securing the First position in B.Tech	
University Merit Scholarship	2013-2017
Received multiple university merit scholarships during under-graduation	
C.B.S.E proficiency certificate	2011
Secured 95.88 percentile.	

TEACHING EXPERIENCE

Teaching assistant, Indian Institute of Management Ahmedabad	Nov. 2021-Dec. 2021
Course: Operations Management-II, Instructor: Prof. Sachin Jayaswal, Programme: Post Graduate Programme in Management (MBA)	

INTERNSHIPS

Atos, Bezons, Île-de-France, France	March 2019 to May 2019
Corporate Strategy Intern	

- Executed Summer internship on evaluating the opportunity of building a critical industry/business knowledge base between France and India in digital practice.
- Submitted final consulting report to Global Head Atos IoT Solutions.
- Recommendations of the report were accepted and highly appreciated.

National Thermal Power Corporation, Badarpur, India

June 2015 to July 2015

Summer Intern

- Analyzed the working of the thermal power plant
- Submitted final report on adopting sustainable practices in the thermal power plant.

OTHER ACTIVITIES

Member of organizing committee "Udyog'15" held at Delhi Technological University

Volunteer at Art of Living Foundation

- The Art of Living Foundation is a volunteer-based, humanitarian, and educational non-governmental organization. It offers stress-elimination tools like the Sudarshan Kriya, yoga, meditation.

SOFTWARE SKILLS

R, Mathematica, Python, LaTeX, C++

REFERENCES

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Professor Benny Mantin

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