

Dr. Rahul Sindhwani

Post-Doctoral Fellow

Indian Institute of Management, Amritsar (Punjab)

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Research Profile:

Google Scholar: <https://scholar.google.com/citations?user=avavrFwAAAAJ&hl=en>

Researchgate: https://www.researchgate.net/profile/Rahul_Sindhwani

Scopus: <https://www.scopus.com/authid/detail.uri?authorId=57189027827>

ORCID ID: <https://orcid.org/0000-0001-9361-309X>

Web of Science Researcher ID: <https://publons.com/researcher/3860624/dr-rahul-sindhwani/>

Fellowship and Membership of Learned and Professional Societies:

- Life-Time Member of **Indian Society for Technical Education (ISTE) (LM-106994)**
- Member of **Institute of Engineering and Technology (IET)**

Research Area:

- Industrial Engineering & Management, Operations Research, Decision Science, Lean, Green and Agile Manufacturing, Multi-Criteria Decision Making

Educational Qualification Summary:

Professional Qualification:

- **Ph.D. (Industrial Engineering & Management)** from **YMCA University of Science and Technology, Faridabad, Haryana (State Government University)** on the topic “**An Integrated Framework to Analyze the Implementation Strategies for Agile Manufacturing System**” in the year 2012- 2017.
- **M. Tech. (Industrial Engineering & Management- Mechanical Engineering)** from **Kurukshetra University** with **88% marks (Gold Medalist)** in the year 2008-2010.
- **B. Tech. – Mechanical Engineering** from **Kurukshetra University** with **69.47% marks** in the year 2004-2008.

Full-time Work Experience:

- Total experience of **11 Years**.
- 45 Days experience at **Amity University, 24 Bedford Square, Bloomsbury, London WC1B 3HN, United Kingdom**.

Editor in International Books:

- **Sindhwani, R., Singh, P.L., Kumar, B., Mittal, V.K., Davim, J.P., (August 2021)** “**Multi-Criteria Decision Modelling: Applicational Techniques and Case Studies**” CRC Press- Taylor & Francis, ISBN: 978-036-76-4558-8
<https://www.routledge.com/Multi-Criteria-Decision-Modelling-Applicational-Techniques-and-Case-Studies/Sindhwani-Singh-Kumar-Mittal-Davim/p/book/9780367645588>

- Kumar, N., Tibor, S., **Sindhwani, R.**, Lee, J., Srivastava, P., (May 2021) “Advances in Interdisciplinary Engineering” *Select Proceedings of FLAME 2020 Book Series by Springer- Nature*, ISBN: 978-981-15-9955-2 (Scopus Indexed) <https://www.springer.com/gp/book/9789811599552>
- Dvivedi, A., Sachdeva, A., **Sindhwani, R.**, Sahu, R., (November 2021) “Recent Trends in Industrial and Production Engineering” *Select Proceedings of ICCEMME 2021 Book Series by Springer- Nature* ISBN:978-981-16-3330-0 (Scopus Indexed) <https://www.springer.com/gp/book/9789811633294>
- Shanker, K. Shankar R., **Sindhwani R.**,(2019) “Advances in Industrial and Production Engineering” *Select Proceedings of FLAME 2018 Book Series by Springer- Nature*, DOI: 10.1007/978-981-13-6412-9 (Scopus Indexed) ISBN: 978-981-13-6412-9 <https://www.springer.com/gp/book/9789811364112>

Patents:

- **Rahul Sindhwani**, Punj Lata Singh, Ankur Dixit; Patent on “**Modified Fluid Storage Tank**” Patent No: 3124/DEL-2014 on December-2014. https://ipindia.gov.in/writereaddata/Portal/IPOJournal/1_360_1/part10.pdf
- Bhupendra Prakash Sharma, Ashwani Kumar Dubey, **Rahul Sindhwani**, Punj L. Singh, Sanjeev Kumar Sharma, Mahendra Kumar Verma, Umesh Kumar Vates, Patent on “**Wind Power Turbine Blade**” Application No. 202011057479 on December-2020.
- Bhupendra Prakash Sharma, **Rahul Sindhwani**, Priyank Srivastava, Punj L. Singh, Sanjeev Kumar Sharma, Mahendra Kumar Verma Patent on “**Device for Separating Glass from Solid Waste**” Application No. 202111001434 on January-2021.

Publication:

International Journals (ABDC/SCI / ESCI/ Scopus Indexed):

1. Kumar, R., **Sindhwani, R.** and Singh P.L. (2021). ‘**IIoT implementation challenges: Analysis and mitigation by Blockchain.**’ *Journal of Global Operations and Strategic Sourcing.* (Emerald Publisher) (In Press)
2. Dutta, G., Kumar, R., **Sindhwani, R.** & Singh, R.K. (2021). ‘**Digitalization priorities of quality control processes for SMEs: a conceptual study in perspective of Industry 4.0 adoption.**’ *Journal of Intelligent Manufacturing.* (Springer Publisher) Vol. 32, pp. 1679-1698, <https://doi.org/10.1007/s10845-021-01783-2.w>
3. **Sindhwani, R.**, Kumar, R., Behl, A., Singh, P.L., Kumar, A., Gupta, T., (May 2021) “**Modelling enablers of efficiency and sustainability of health care: A m-TISM approach**” *Benchmarking: An International Journal* (Emerald Publisher), (In Press), <https://doi.org/10.1108/BIJ-03-2021-0132>
4. **Sindhwani, R.**, Singh, P.L., Kaushik, V., Sharma, S., Kumar, R., (2021). ‘**An optimised framework for implementation of hybrid lean and agile manufacturing systems in rolling industry for India.**’ *International Journal of*

Six Sigma and Competitive Advantage (Inderscience publisher) Vol. 13, No. 1/2/3, pp. 289-310, DOI: 10.1504/IJSSCA.2020.10035062.

5. Kumar, R., **Sindhwani, R.**, Arora, R., Singh, P.L., (2021) '**Developing the structural model for barriers associated with the CSR using ISM to help in creating the brand image of the manufacturing industry**' *International Journal of Advanced Operations Management (Inderscience publisher)* (In Press)
6. Dutta, G., Kumar, R., **Sindhwani, R.**, & Singh, R. K. (2020). '**Digital transformation priorities of India's discrete manufacturing SMEs—a conceptual study in perspective of Industry 4.0**'. *Competitiveness Review: An International Business Journal (Emerald publisher)* Vol. 30, No. 3, pp. 289-314.
7. **Sindhwani, R.**, Mittal, V.K., Singh, P.L., Aggarwal, A., Gautam, A., (2019), '**Modelling and Analysis of Barriers Affecting The Implementation of Lean Green Agile Manufacturing System (LGAMS)**,' *Benchmarking: An International Journal (Emerald Publisher)* Vol. 26, No. 2, pp. 498-529.
8. Phanden, R.K., **Sindhwani, R.**, Kalsariya V., Salroo, F., (2019) '**Selection of material for electric arc spraying by using hierarchical Entropy- TOPSIS approach**,' *International Journal of Productivity and Quality Management*, Vol. 26, No. 3, pp. 276-289
9. Mittal, V.K., **Sindhwani, R.**, Shekhar, H. and Singh P.L. (2019) '**Fuzzy AHP model for challenges to thermal power plant establishment in India**', *Int. J. Operational Research*, Vol. 34, No. 4, pp.562–581.
10. **Sindhwani, R.**, & Malhotra, V. (2018) '**An Integrated Approach for implementation of Agile Manufacturing System in an Indian Manufacturing Industry**,' *Benchmarking: An International Journal (Emerald Publisher)*, Vol. 25, No. 4, pp. 1106-1120.
11. **Sindhwani, R.**, Mittal, V.K., Singh P.L., Kalsariya, V., Salroo, F. (2018) '**Modelling and analysis of energy efficiency drivers by Fuzzy ISM and Fuzzy MICMAC approach**' *International Journal of Productivity and Quality Management*, Vol. 25, No. 2, pp. 225-244.
12. **Sindhwani, R.**, & Malhotra, V. (2017). '**A Framework to Enhance Agile Manufacturing System: A Total Interpretive Structural Modelling (TISM) Approach**', *Benchmarking: An International Journal (Emerald Publisher)*, Vol. 24, No. 2, pp. 467-487.
13. **Sindhwani, R.**, & Malhotra, V. (2017). '**Modelling and analysis of agile manufacturing system by ISM and MICMAC analysis**', *International Journal of System Assurance Engineering and Management*, Vol. 8, No. 2, pp. 253-263.
14. **Sindhwani R.**, Mittal V.K., Singh P.L., Kalsariya V., Tewari A. (2017). '**A Hybrid Approach for Selection of Most Sustainable Cooking Fuel (MSCF) in Indian Context**'. *International Journal of Knowledge Management in Tourism and Hospitality*, Vol. 1, No. 2, pp. 226-240.

15. Mittal, V.K., **Sindhwani, R.** & Kapur, P.K. (2016) '**Two-way assessment of barriers to Lean-Green Manufacturing System: insights from India**', *International Journal of System Assurance Engineering and Management*, Vol. 7, No. 4, pp. 400-407.
16. **Sindhwani, R.**, & Malhotra, V. (2016). '**Barriers Evaluation for Agile Manufacturing System with Fuzzy Performance Importance Index Approach**', *International Journal of Agile Systems and Management*, Vol. 9, No. 5, pp.292–301.
17. **Sindhwani, R.**, & Malhotra, V. (2016). '**Modelling the attributes affecting design and implementation of the agile manufacturing system**', *International Journal of Process Management and Benchmarking*, Vol. 6, No. 2, pp. 216-234.

Publication in International Conference:

1. Sharma, B. P., **Sindhwani, R.**, Srivastava, P., Malhotra, P., Singh, H., Gupta, S., & Singh, P. (2022). **Recyclability of Tractor's Engine Component: A Case Analysis of Failure**. In *Computational and Experimental Methods in Mechanical Engineering* (pp. 299-312). Springer, Singapore.
2. Awatramani, J., Verma, G., Hasteer, N., & **Sindhwani, R.** (2022). **Investigating Strategies and Parameters to Predict Maintenance of an Elevator System**. *Computational and Experimental Methods in Mechanical Engineering*, 323-332.
3. **Sindhwani, R.**, Bhatnagar, A., Soni, A., Sisodia, A., Singh, P. L., Kaushik, V., Sharma, S., Phanden, R. K. (2021). **Design and optimization of suspension for formula Society of Automotive Engineers (FSAE) vehicle**. *Materials Today: Proceedings*, Vol. 38, No. 1, pp. 229-23.
4. Nagar, D., Raghav, S., Bhardwaj, A., Kumar, R., Singh, P. L., & **Sindhwani, R.** (2021). **Machine learning: The best way to sustain the supply chain in the era of industry 4.0**. *Materials Today: Proceedings* Vol. X, No. X, pp. XXX-XXX (In Press) (**Scopus Indexed**).
5. Singh, P. L., **Sindhwani, R.**, Vashist, S., Kumar, R., Kumar, R. & Modi, P.A. (2021). **Modelling the interrelationship among the influential factors affecting COVID-19 for stopping the chain transmission**. . *6th International Conference on Advanced Production & Industrial Engineering (ICAPIE-2021)*, Delhi Technical University, Delhi, 18-19 June, 2021. (Paper is in process of publishing in Lecture Notes in Mechanical Engineering, Springer, Singapore)
6. Singh, P. L., **Sindhwani, R.**, Vashist, S., Kumar, R., Sharma, B.P. & Gupta, T. (2021). **Modelling and Analysis of Barriers to implement Online Education in India**. *6th International Conference on Advanced Production & Industrial Engineering (ICAPIE-2021)*, Delhi Technical University, Delhi, 18-19 June, 2021. (Paper is in process of publishing in Lecture Notes in Mechanical Engineering, Springer, Singapore.)

7. **Sindhwani, R.**, Singh, P. L., Sharma, B.P., Srivastava, P., Rajpoot, P., Rajpoot, L., Rajpoot, R. & Kumar, R. (2021). **Analysis the Critical Success Factor of Green Manufacturing for achieving Sustainability in Automotive Sector.** *3rd International Conference on Computational and Experimental Methods in Mechanical Engineering, GL Bajaj Institute of Technology & Management, Noida, 11-13 February, 2021.* (Paper is in process of publishing in Lecture Notes in Mechanical Engineering, Springer, Singapore).
8. **Sindhwani, R.**, Gupta, R.D., Singh, P.L., Kaushik, V., Sharma, S., Phanden, R.K., Kumar, R. (2021). **Identification of Factors for Lean and Agile Manufacturing Systems in Rolling Industry.** In In: Phanden, R.K., Mathiyazhagan, K., Kumar, R., Paulo Davim, J. (eds) *Advances in Industrial and Production Engineering, Lecture Notes in Mechanical Engineering* (pp. 367-378). Springer, Singapore (**Scopus Indexed**) https://doi.org/10.1007/978-981-33-4320-7_33
9. Dutta, G., Kumar, R., **Sindhwani, R.**, Singh, R.K. (2021). **Adopting Shop Floor Digitalization in Indian Manufacturing SMEs—A Transformational Study.** In *Advances in Industrial and Production Engineering, Lecture Notes in Mechanical Engineering* (pp. 599-611). Springer, Singapore (**Scopus Indexed**) https://doi.org/10.1007/978-981-33-4320-7_53
10. Phanden R.K., **Sindhwani R.**, Sharma L. (2021) **Optimization of Energy-Aware Flexible Job Shop Scheduling Problem Using VNS-Based GA Approach.** In: Pandey V.C., Pandey P.M., Garg S.K. (eds) *Advances in Electromechanical Technologies. Lecture Notes in Mechanical Engineering.* pp. 1-12 Springer, Singapore (**Scopus Indexed**). https://doi.org/10.1007/978-981-15-5463-6_1
11. Kumar, R., Ritu, **Sindhwani, R.**, Singh, P. L. (2021). **Identifying the Factors Related to CSR Activities Contributed Toward Brand Management Through Extensive Literature Review** In. *Advances in Interdisciplinary Engineering: Select Proceedings of FLAME 2020, Lecture Notes in Mechanical Engineering.* 155 Springer, Singapore (**Scopus Indexed**)
12. Bhural, H., Bhatnagar, S., Nautiyal, S., Kaushik, V., Sharma, S., **Sindhwani, R.**, Singh, P.L. (2021) **Design, Analysis and Fabrication of Wheel Assembly for Formula Type Automotive** In *Advances in Engineering Design Lecture Notes in Mechanical Engineering.* Springer, Singapore (**Scopus Indexed**).
13. Sharma, Y., Singh, S.S., Nawaz, M.A., Kaushik, V., Sharma, S., **Sindhwani, R.**, Singh, P.L. (2021) **Design, Analysis and Fabrication of Automatic Braking System** In *Advances in Engineering Design Lecture Notes in Mechanical Engineering.* Springer, Singapore (**Scopus Indexed**).
14. Shakkarwal, P., Kumar, R., **Sindhwani, R.** (2021). **Progressive die design and development using AutoCAD.** In: *Joshi P., Gupta S.S., Shukla A.K., Gautam SS (eds) Advances in Engineering Design, Lecture Notes in Mechanical Engineering, Springer, Singapore, 531-539.* https://doi.org/10.1007/978-981-33-4684-0_54
15. **Sindhwani R.**, Singh P.L., Kaushik V., Sharma S., Phanden R.K. (2020) **Analysis of Barriers to Lean–Green Manufacturing System (LGMS): A Multi-criteria Decision-Making Approach.** In: Krolczyk G., Prakash C., Singh S., Davim J. (eds)

- Advances in Intelligent Manufacturing. Lecture Notes in Mechanical Engineering.* pp. 181-188 Springer, Singapore (**Scopus Indexed**). https://doi.org/10.1007/978-981-15-4565-8_16
16. **Sindhwani R.**, Lata Singh P., Kaushik V., Sharma S., Kumar Phanden R., Kumar Prajapati D. (2020) **Ranking of Factors for Integrated Lean, Green and Agile Manufacturing for Indian Manufacturing SMEs.** In: Krolczyk G., Prakash C., Singh S., Davim J. (eds) *Advances in Intelligent Manufacturing. Lecture Notes in Mechanical Engineering.* pp. 203-219 Springer, Singapore (**Scopus Indexed**). https://doi.org/10.1007/978-981-15-4565-8_18
 17. Mittal V.K., **Sindhwani R.**, Singh P.L., Kalsariya V., Salroo F. (2018) **‘Evaluating Significance of Green Manufacturing Enablers Using MOORA Method for Indian Manufacturing Sector’** In: Singh S., Raj P., Tambe S. (eds) *Proceedings of the International Conference on Modern Research in Aerospace Engineering. Lecture Notes in Mechanical Engineering.* Springer, Singapore. pp. 303-314 (**Scopus Indexed**) https://doi.org/10.1007/978-981-10-5849-3_30.
 18. Mittal V.K., **Sindhwani R.**, Kalasariya V., Salroo F., Sangwan K.S., Singh P.L. (2017). **‘Adoption of Integrated Lean-Green-Agile Strategies for Modern Manufacturing Systems’.** *Procedia CIRP (Elsevier Publisher)* (KAMAKURA, JAPAN), Vol. 61, No. 1, pp. 463-468 (**Scopus Indexed**).

Publication in International Book Chapter:

1. Singh, P. L., **Sindhwani, R.**, Dua, N. K., Jamwal, A., Aggarwal, A., Iqbal, A., & Gautam, N. (2019) **Evaluation of Common Barriers to the Combined Lean-Green-Agile Manufacturing System by Two-Way Assessment Method.** In: Shanker K., Shankar R., Sindhwani R. (eds) *Advances in Industrial and Production Engineering. Lecture Notes in Mechanical Engineering.* pp. 203-219 Springer, Singapore. (**Scopus Indexed**) https://doi.org/10.1007/978-981-13-6412-9_62
2. **Sindhwani, R.**, Singh, P. L., Chopra, R., Sharma, K., Basu, A., Prajapati, D. K., & Malhotra, V. (2019) **Agility Evaluation in the Rolling Industry: A Case Study.** In: Shanker K., Shankar R., Sindhwani R. (eds) *Advances in Industrial and Production Engineering. Lecture Notes in Mechanical Engineering.* (pp. 753-770). Springer, Singapore. (**Scopus Indexed**). https://doi.org/10.1007/978-981-13-6412-9_70
3. **Sindhwani R.**, Singh P.L., Prajapati D.K., Iqbal A., Phanden R.K., Malhotra V. (2019) **Agile System in Health Care: Literature Review.** In: Shanker K., Shankar R., Sindhwani R. (eds) *Advances in Industrial and Production Engineering. Lecture Notes in Mechanical Engineering.* (pp. 643-652) Springer, Singapore. (**Scopus Indexed**). https://doi.org/10.1007/978-981-13-6412-9_61
4. **Sindhwani R.**, Singh P.L., Iqbal A., Prajapati D.K., Mittal V.K. (2019) **Modeling and Analysis of Factors Influencing Agility in Healthcare Organizations: An ISM Approach.** In: Shanker K., Shankar R., Sindhwani R. (eds) *Advances in Industrial and Production Engineering. Lecture Notes in*

Mechanical Engineering. (pp. 683-696) Springer, Singapore (Scopus Indexed).
https://doi.org/10.1007/978-981-13-6412-9_64

5. Phanden R.K., Palková Z., **Sindhvani R.** (2019) **A Framework for Flexible Job Shop Scheduling Problem Using Simulation-Based Cuckoo Search Optimization**. In: Shanker K., Shankar R., Sindhvani R. (eds) *Advances in Industrial and Production Engineering. Lecture Notes in Mechanical Engineering*. (pp. 247-262). Springer, Singapore (**Scopus Indexed**).
https://doi.org/10.1007/978-981-13-6412-9_23
6. Kumar K., Dhillon V.S., Singh P.L., **Sindhvani R.** (2019) **Modeling and Analysis for Barriers in Healthcare Services by ISM and MICMAC Analysis**. In: Kumar M., Pandey R., Kumar V. (eds) *Advances in Interdisciplinary Engineering. Lecture Notes in Mechanical Engineering*. (pp. 501-510) Springer, Singapore (**Scopus Indexed**). https://doi.org/10.1007/978-981-13-6577-5_47

Courses Taught

- Operations Research, Manufacturing Technology, Quality Control and Quality Assurance, Industrial Engineering, Lean and Agile Manufacturing, Supply Chain Management.

Administrative Experience

- **Departmental Coordinator** of numerous bodies like **Area Advisory Board, Board of Study, Outcome Assessment Plan**.
- Organised the various events such as **seminar, workshop, guest lectures at National and International level as ASME Amity Section Advisor**.
- Worked as “**Organizing Secretary**” for “1st International Conference: Future Learning Aspects of Mechanical Engineering (FLAME- 2018)”.
- Coordinated in the capacity of **Programme Coordinator** for Mechanical Engineering Department
- Worked as **Programme Leader** for Department.
- Worked as **Departmental Coordinator** of NAAC, NBA, NIRF, IET, and WASC accreditation team.

Country Visited for Teaching and Conference:

- Japan, United Kingdom

Declaration:

Certify that the preceding information is correct & complete to the best of my knowledge & belief.

Yours Sincerely



(Dr. Rahul Sindhvani)