CURRICULUM VITAE

DEVENDRA KUMAR PATHAK

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Education

Ph.D.	Department of Management Studies, Indian Institute of Technology Delhi, India Major: Operations and Supply Chain Management (July 2015 – January 2020) (CGPA: 9.75/10) Thesis: Performance Management of Sustainable Freight Transportation: A Study of Select Issues
M. Tech.	Indian Institute of Technology Delhi, India Major: Construction Technology and Management, 2009 - 2011 (CGPA: 8.92/10)
B. Tech.	Shri Ram Murti Smarak College of Engineering and Technology, Bareilly, India Major: Mechanical Engineering, 2005 - 2009 (Percentage: 78.3)

Research Interests

Sustainable supply chain management, Performance management, Sustainable logistics performance, Logistics 4.0, Sustainable freight transportation, Fuzzy group decision making, MCDM techniques, Goal programming, Structural equation modeling

Professional Experience

August 2017-September 2017	Visiting Research Scholar, School of Business and Economics, Loughborough University, Loughborough, UK
January 2013-July 2015	Assistant Professor, Department of Mechanical Engineering, The NorthCap University, Gurugram (erstwhile ITM University, Gurgaon), Haryana, India
July 2011-November 2012	Assistant Professor, School of Mechanical Engineering, Lovely Professional University (LPU) Jalandhar, Punjab, India

Journal Publications

2019	Pathak, D.K., Thakur, L.S., & Rahman, S. (2019). Performance evaluation framework for sustainable freight transportation systems. *International Journal of Production Research, 57 (19),* 6202-6222. (ABDC Ranking: 'A'; ABS Ranking: '3')

Shankar, R., Pathak, D. K., & Choudhary, D. (2019). Decarbonizing freight transportation: An integrated EFA-TISM approach to model enablers of dedicated freight corridors. *Technological Forecasting and Social Change*, *143*, 85-100. (ABDC Ranking: 'A'; ABS Ranking: '3')

2018 Shankar, R., Gupta, R., & Pathak, D. K. (2018). Modeling critical success factors of traceability for food logistics system. *Transportation Research Part E: Logistics and Transportation Review*, *119*, 205-222. (ABDC Ranking: 'A*'; ABS Ranking: '3')

Vrat, P., Gupta, R., Bhatnagar, A., Pathak, D. K., & Fulzele, V. (2018). Literature review analytics (LRA) on sustainable cold-chain for perishable food products: research trends and future directions. *OPSEARCH*, *55*(3-4), 601-627. (ABDC Ranking: 'C')

2017 Jena, J., Sidharth, S., Thakur, L. S., Pathak, D. K., & Pandey, V. C. (2017). Total interpretive structural modeling (TISM): approach and application. *Journal of Advances in Management Research*, *14*(2), 162-181.

2015 Pathak, D. K., & Jha, K.N. (2015). Safety Performance Assessment of a Construction Site Using Construction Safety Index: Evidence from Indian Construction Industry. *Journal of Safety, Health and Environment Research*, American Society of Safety Engineers, *11(1)*, 222-231.

Research in Progress

1. An Integrated Performance Assessment Framework on the basis of Competitive Priorities for SFT systems. *Omega: The International Journal of Management Science* (to be communicated). (ABDC Ranking: 'A')
2. Development and validation of a scale for measuring sustainable logistics performance. *International Journal of Production Economics* (to be communicated). (ABDC Ranking: 'A')
3. Green Innovation and Sustainable Logistics Performance: The mediating effect of sustainable training. *International Journal of Operations and Production Management* (to be communicated). (ABDC Ranking: 'A')
4. Literature review on performance management of sustainable freight transportation: research trends and future directions. *International Journal of Production Research* (to be communicated). (ABDC Ranking: 'A')

Conference Papers

2019 Pathak, D. K., Shankar, R., & Choudhary, D. (2019). An Integrated Performance Assessment Model based on Competitive Priorities for Sustainable Freight Transportation Systems. POMS 30th Annual Conference, Washington D.C., USA, May 2 - 6, 2019.

2018 Pathak, D. K., Shankar, R., & Choudhary, A. (2018). An Integrated Performance Evaluation Model for Sustainable Freight Transportation. 4th International Conference on Decision Support System Technology (ICDSST 2018 &

	PROMETHEE DAYS 2018), Hellenic Centre for Marine Research, Heraklion, Crete, Greece, May 22 – 25, 2018.
2017	Pathak, D. K., Shankar, R., & Choudhary, A. (2017). A Hybrid Fuzzy Evidential Reasoning Algorithm based Performance Assessment Model for Sustainable Freight Transportation. 1st International Conference of Aston India Centre for Applied Research (AICAR), Aston Business School, UK, September 15-16, 2017.
	Pathak, D. K. & Shankar, R. (2017). Modeling Enablers of Dedicated Freight Corridor for Sustainable Freight Transportation. INFORMS 2017 Annual Conference, Houston, USA, October 22-25, 2017.
2016	Ahmed, K. H. H., Pathak, D. K., Shankar, R., & Choudhary, A. (2016). A hybrid multi-criteria decision model for performance evaluation of sustainable supply chain. 5th World Conference on Production and Operations Management, Havana, Cuba, September 6-10, 2016.
	Pathak, D. K., Shankar, R., & Choudhary, A. (2016). Performance Assessment Model for Next-Generation Sustainable Freight Transportation Systems. 3rd International Conference on Green Supply Chain (GSC'16), Loughborough University, London Campus, UK, July 10-13, 2016.

Administrative Experience

2013- 2015	Worked as a Time Table Coordinator for the Department of Mechanical Engineering, ITM University, Gurugram.
2011- 2012	Worked as a Coordinator for Professionality Enhancement Program (PEP) to improve the placement scenario at LPU, Jalandhar.
	Worked as a member of the Curriculum & Pedagogy Development Section under the Division of Academics Affairs (DAA) to review Schemes and Syllabi of Graduation and Post-Graduation courses for School of Mechanical Engineering, LPU, Jalandhar.
	Worked as an Industrial Training and Development officer for the School of Mechanical Engineering, LPU, Jalandhar.

Honours and Awards

2015-2018	The Ministry of Urban Development (MoUD) award by TRIPP, IIT Delhi.
2018	Award for a highly commended paper published in the Journal of Advances in Management Research.
2018	Best special session paper award in ICDSST 2018.
2017	Award for an outstanding reviewer for Journal of Advances in Management Research.
2017	Best paper award in AICAR International Conference.
2016	Secured 'AA' grade in a GIAN course on 'Multi-objective Optimization' held at IIT Patna.

2016	Best paper award in the International Conference on Green Supply Chain (GSC'16).
2010	Gold Medal for securing highest marks in B. Tech. by SRMSCET Bareilly.
2007-2009	Honour Certificate as well as merit scholarship by S.R.M.S. Trust Bareilly.

Other Activities

2018	Attended a GIAN course on 'Stochastic Programming and Applications' at IIT Kanpur (March 20-27, 2018).
2017	Organized an industry event for the UK Forum for Supply Chain Sustainability (UKFSC) at Loughborough University, London Campus, UK (20 September 2017). Attended a faculty development program on 'Structural Equation Modeling' at BIT Mesra Noida Campus (April 13-17, 2017).
2016	Attended a GIAN course on 'Multi-objective Optimization' at IIT Patna (December 15-22, 2016). Attended a short-term course on 'Applied Machine Learning' at IIT Kharagpur (September 12-16, 2016). Attended a short-term course on 'Web Data Analytics using R and Python' at IIT Kharagpur (September 06-10, 2016). Attended an FDP on 'Advanced Data Analysis through AMOS and SPSS' at Jaipuria Institute of Management Noida (June 20-21, 2016). Presented a paper entitled 'Modeling for the Enablers of Dedicated Freight Corridors' in an International workshop on EU-India Research & Innovation Partnership for Efficient and Sustainable Freight Transportation on Jan 8, 2016, at IIT Bombay. Presented a paper entitled "Status of Freight Transportation in India" in an International workshop on EU-India Research & Innovation Partnership for Efficient and Sustainable Freight Transportation on Jan 7, 2016, at IIT Delhi.

Software Skills

Lingo, SPSS, AMOS, IDS, Expert Choice, NVivo, Primavera Projects

Professional References

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Performance evaluation framework for sustainable freight transportation systems

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Decarbonizing freight transportation: An integrated EFA-TISM approach to model enablers of dedicated freight corridors

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ARTICLE INFO

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Sustainable freight transportation
Dedicated freight corridor
Transition management theory
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Total interpretive structural modeling (TISM)

ABSTRACT

The growing concern for the environment and imperative need for technology-enabled energy efficient freight transportation have led to the development of dedicated freight corridors (DFCs) in many countries like Germany, Netherlands, Austria, and India. The rapid expansion of DFCs is needed to improve supply chain efficiency. DFCs have potential to decongest existing rail networks, reduce the modal share of road freight transportation, and decarbonize freight transport sector. This study attempts to use transition management theory for identifying enablers of DFC for the transition from road to rail freight transportation. Exploratory factor analysis (EFA) is employed to confirm the three-level transition management framework for these enablers. This paper also proposes an eight-level hierarchical total interpretive structural modeling (TISM) based model for explicating the inter-relationships among the enablers of DFC to decarbonize freight transportation and achieve sustainability in the freight transport sector. Eventually, this paper provides empirical evidence to identify and validate the enablers of DFC through the lens of transition management theory. This paper also highlights the role of 'adoption of advanced technologies' to achieve sustainability in freight transportation. The outcomes of this study also facilitate policy-makers in understanding and managing the key enablers of DFCs to decarbonize freight transport sector.

1. Introduction

Role of the efficient and sustainable transport sector in the economic and social development of a nation is unquestionable (Zuylen and Weber, 2002). Transport sector accounts for 3.8% share in gross domestic product (GDP) of United Kingdom (the year 2016), 2.9% share in GDP of the United States (the year 2014), and 6.7% share in GDP of India (the year 2013) (Ministry of Railways India, 2015; UK Trading Economics, 2017; US Department of Transportation, 2017). This sector also accounts for around one-fifth of the global energy consumption (Ratanavaraha and Jomnonkwao, 2015). Swenseth and Godfrey (2002) signify that freight transportation is responsible for around one-fourth to one-half of overall logistics costs. Ramanathan and Parikh (1999) indicate that freight transportation is expanding at a faster pace than passenger transportation. As mentioned in the Novonous Report (2015), Indian freight transportation market is anticipated to be worth USD 307.70 billion by 2020. On the one hand, expansion of the freight transportation sector is essential for ensuring the growth of a nation's economy (Clausen et al., 2012; Radice and Palazzi, 2014). On the other hand, there is a need to restrain the adverse effects of freight transportation on climate change for sustainable development (Parikh, 2012).

As the transport sector is one of the largest consumers of energy resources and highest producers of CO_2 emissions, this sector acts as a major threat to the sustainability of the planet earth. These growing concerns solicit the attention of policy-makers and require a structural transformation or transition in the transport infrastructure to achieve sustainability in the freight transport sector. This study aims to highlight the role of transition management for achieving sustainability in the freight transportation sector. Rotmans et al. (2001) highlight the significance of the concepts of transition management in the area of sustainability and governance to handle persistent and complex societal issues. An example of a possible transition in the transport infrastructure is the utilization of dedicated freight corridors (DFCs) that will shift freight traffic from road-dominated to the rail-dominated mode of transportation. The project of DFC will provide completely reserved railway tracks laid only for freight transportation, where freight trains can run at high speed. Schuckmann et al. (2012) highlight how sustainability requirements will affect the growth of transport infrastructure for 2030 and reveal that transport infrastructure will not only

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Modeling critical success factors of traceability for food logistics system☆,☆☆

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Traceability

ABSTRACT

Economic growth of a nation depends upon its capability to ensure the security of safe and quality food to its citizens. Despite having the vital role of food security in the growth, emerging economies are facing a number of challenges in their food logistics system. One of the most attention-seeking challenges is the management of security and safety of food commodities in food logistics. The prime concern is to monitor food quality throughout its supply chain and track the physical movement till it reaches end-consumers. This requires implementation of an effective and efficient traceability system. The successful implementation of traceability system requires consideration of multiple stakeholders' perspectives. On the basis of critical success factor (CSF) theory and multiple stakeholders' view on ensuring the security of quality food, this study proposes a comprehensive framework for implementation of traceability-based food logistics system. It attempts to identify and classify various CSFs necessary for the implementation of traceability system using a questionnaire-based survey followed by exploratory factor analysis. Further, an analysis of inter-relationships among the statistically significant CSFs is performed using total interpretive structural modeling, which considers multiple stakeholders' views. The study helps in developing a comprehensive understanding of directional inter-relationships among CSFs and provides significant insights related to ways to improve consumer satisfaction through safe and quality food in food logistics.

1. Introduction

Food security and management of its supply chain are the key priority areas all across the globe. Food supply chain (FSC) encompasses activities involved in agriculture, harvesting, warehousing, food processing, transportation, and distribution. Despite the vital role of agricultural sector throughout the world, most of the emerging economies face a lot of challenges during food logistics (FL). The most attention-seeking challenge in this regard is ensuring "food security and safety" (Sastry et al., 2011). Post-harvest losses are the major threats to food security, which end-up with the supply of poor quality food produce, not acceptable for human consumption (Gustavsson et al., 2011). These losses not only affect a nation's economy but also social dimensions like loss of required nutrients to the population that is already undernourished. Inadequate logistics infrastructure, poor demand management, ineffective storage and distribution system, low purchasing power are just a few reasons behind nutritional deficiency (Kaipia et al.,

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THEORETICAL ARTICLE

Literature review analytics (LRA) on sustainable cold-chain for perishable food products: research trends and future directions

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Abstract Sustainable freight transportation (SFT) and cold-chain for perishable food products are the two most prominent areas where research is tremendously growing with increasing number of publications in various reputed journals. The area of SFT for perishable products is still in the nascent stage and not much explored. There are a number of published articles in the cold chain, but only a few have addressed the issue of sustainability. Perishable products require careful handling throughout their supply chain, which often requires reefer vehicles and cold storage facilities. They need to move fast in the supply chain as their longer stay would cause more energy consumption and higher perishability losses leading to increased cost and carbon footprints. The paper analyzes existing literature on this vital problem area and attempts to derive valuable insights using a structured approach termed as literature review analytics, which involves bibliometric and network analytics. This review analyzes the articles published during 1985–2017 using a set of keywords. Some of the key findings of this study unveil (1) research on SFT of perishable items is growing rapidly; (2) among all, Italy followed by the United States is the most contributing country in this research area. Further, network analytics is used to analyze the co-occurrence network for authors and keywords.

Keywords Literature review analytics · Cold-chain · Sustainability · Perishable food products

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