
Review paper: research topics on shipping and transport logistics

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Since its establishment in 2009, more than 200 papers submitted by academics worldwide have been published in the *International Journal of Shipping and Transport Logistics (IJSTL)*. The aim of the *IJSTL* is to publish research outputs that have managerial and policy relevance on shipping and transport logistics, particularly those that require empirical or mathematical analysis. In terms of the managerial issues in shipping and transport logistics, these include shipping and intermodal transport operations, container transport and terminal management, green shipping, adoption of technologies for shipping management, and regional planning and policies that promote trade and shipping.

As of the end of 2014, 28 issues of the *IJSTL* have been published. Among these, 13 are special issues with the purpose of providing a platform for researchers to address specific topics in the field of shipping and transport logistics. The following is a list of all the special issues published between 2009 and 2014.

- 1 'Competitive benchmarking analysis of seaports at international level' edited by Carlos Pestana Barros, Rui Cunha Marques and Hercules Haralambides (Barros et al., 2009)
- 2 'Managing container operations effectively' edited by Dong-Ping Song and Michael Roe (Song and Roe, 2010)
- 3 'Air-cargo logistics and airport economics' edited by Lawrence C. Leung, Yer van Hui and Michael Ka Yiu Fung (Leung et al., 2010)
- 4 'Future of Eurasian logistics' edited by Olli-Pekka Hilmola, Eugene Korovyakovskiy and Girish Gujar (Hilmola et al., 2011)
- 5 'Shipping and transport logistics in a changing economy' edited by Ana Cristina Paixao Casaca, Luis Filipe Duarte and Y.H. Venus Lun (Casaca et al., 2011)
- 6 'Container security and supply chain visibility' edited by Frank Arendt and Nils Meyer-Larson (Arendt and Meyer-Larson, 2012)
- 7 'Efficient and sustainable transport logistics on supply chain' edited by Chin-Shan Lu and Pei-Chun Lin (Lu and Lin, 2012)
- 8 'Advancing shipping and seaports in a changing global economic landscape' edited by Theo Notteboom, Kevin Cullinane, Ricardo Sanchez and Gordon Wilmsmeier (Notteboom et al., 2013)
- 9 'Towards dynamic capabilities in shipping operation' edited by Paul Tae-Woo Lee, Chun-Hsiung Liao and Chin-Shan Lu (Lee et al., 2013)

- 10 'Forecasting, capacity, pricing and sustainability issues' edited by Thierry Vanelander and Trevor Heaver (Vanelander and Heaver, 2014)
- 11 'Security of transport and intermodal supply chains' edited by Khalid Bichou and Michael G.H. Bell (Bichou and Bell, 2014)
- 12 'Shipping, ports and airports' edited by Xiaowen Fu and Chung-Lun Li (Fu and Li, 2014)
- 13 'Shipping, intermodalism and ports' edited by Athanasios A. Pallis and Ioannis Theotokas (Pallis and Theotokas, 2014)

Among the papers published in the *IJSTL*, many have been frequently cited over the years. We take the opportunity here to list these papers (see Appendix) and provide a summary of the research topics that have received considerable interest. Between 2009 and 2012, the topics that elicited interest were supply chain management and logistics operations (Almotairi and Lumsden, 2009; Wong, 2009; Wong et al., 2012), container shipping (Lun and Browne, 2009; Lun et al., 2010), and port and terminal issues (Lun and Cariou, 2009; Bichou, 2011; Stahlbock and Voss 2010) with focus on their operational performance. In line with the objective of the *IJSTL*, both empirical and modelling methods have been widely used in the publications. Two manuscripts on scheduling are frequently cited papers (see Zhang et al., 2011; Yin et al., 2013). Managerial issues such as service requirements (Hsu and Huang, 2014) and technical changes (Wu and Lin, 2014) have also been examined. More recently, attention has been drawn to the emerging importance of the integration of the maritime logistics chain (Lam, 2013) and intermodal transport (Lam and Gu, 2013; Hsu and Huang, 2014) in the shipping industry. Other topics that have also drawn increasing attention include the corporate social responsibility of the maritime industry (Skovgaard, 2014), and in particular, green shipping (Lai et al., 2013; van den Berg and de Langen, 2014) as well as the security of shipping (Lu and Koufteros, 2014).

These interesting topics that are discussed in the frequently cited papers of the *IJSTL* can form the basis of other papers, such as the following topics, which researchers can explore for future research on shipping.

- Port and terminal issues: address terminal management and port operations from both economic and operational perspectives. Since ports are no longer operating as an individual point in the international shipping network, they have become a crucial node for improving maritime connectivity. In addition, liner shipping companies are also increasingly becoming involved in terminal operations through vertical integration. Therefore, there is the need for further research on the integration of ports as part of international shipping networks, which would be welcomed for publication in the *IJSTL*.
- Green shipping: a phenomenon resultant of the rapid growth in international shipping, which has raised concerns about the environmental impacts. International shipping is recognised as increasingly adding to the carbon footprint in line with increases in world trade. It is assumed that the carbon emissions of shipping will increase by 150%–250% in 2050 if no further action is taken (Buhaug et al., 2009). To facilitate various measures to address this issue, the IMO has put mechanisms in place, such as the Energy Efficiency Design Index (EEDI), Ship Energy Efficiency Management Plan (SEEMP), and Energy Efficiency Operational Indicator

(EEOI). It is therefore important to carry out research on green shipping that addresses green shipping practices and environmental efficiency.

- Shipping safety and security: driven by the external environment and human factors, and worth investigating in further studies. The development of robust and efficient quantitative risk analysis methods in port and terminal operations is also an interesting topic. The related policies with regard to maritime security also need to be addressed.
- Container shipping and intermodal transport: have rapidly developed since the introduction of standard containers in the 1950s. Many logistics service providers have already expanded their services from port-to-port to door-to-door operations. The majority of customers anticipate integrated, efficient and environmentally friendly door-to-door container transport services. Interesting research topics on container shipping can include, but are not limited to, intermodal transport operations, container transport services, and liner shipping operations.

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Appendix

Ten top cited papers published between 2009 and 2012:

- 'Complementarities and alignment of information systems management and supply chain management' (Wong, 2009)
- 'Fleet mix in container shipping operations' (Lun and Browne, 2009)
- 'An empirical model of the bulk shipping market' (Lun and Quaddus, 2009)
- 'A study on the antecedents of supplier commitment in support of logistics operations' (Wong et al., 2012)
- 'Organisational growth and firm performance in the international container shipping industry' (Lun et al., 2010)
- 'An analytical framework for managing container terminals' (Lun and Cariou, 2009)
- 'A two-stage supply chain DEA model for measuring container-terminal efficiency' (Bichou, 2011)
- 'Efficiency considerations for sequencing and scheduling of double-rail-mounted gantry cranes at maritime container terminals' (Stahlbock and Voss, 2010)
- 'Port logistics platform integration in supply chain management' (Almotairi and Lumsden, 2009)
- 'Inverse scheduling: applications in shipping' (Zhang et al., 2011)

Top five cited papers published in 2013:

- 'Two-agent single-machine scheduling with release times and deadlines' (Yin et al., 2013)

- ‘Port hinterland intermodal container flow optimisation with green concerns: a literature review and research agenda’ (Lam and Gu, 2013)
- ‘Measures for evaluating green shipping practices implementation’ (Lai et al., 2013)
- ‘Research on shipping studies’ (Ng et al., 2013)
- ‘Benefits and barriers of supply chain integration: empirical analysis of liner shipping’ (Lam, 2013)

Top five cited papers published in 2014:

- ‘Evaluating the service requirements of Taiwanese international port distribution centres using IPA model based on fuzzy AHP’ (Hsu and Huang, 2014)
- ‘Technical change and bias in the container shipping industry in Taiwan’ (Wu and Lin, 2014)
- ‘European Union’s policy on corporate social responsibility and opportunities for the maritime industry’ (Skovgaard, 2014)
- ‘An exploratory analysis of the effects of modal split obligations in terminal concession contracts’ (van den Berg and de Langen, 2014)
- ‘Adopting security practices for transport logistics: institutional effects and performance drivers’ (Lu and Koufteros, 2014)