
Editorial

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Biographical notes: Okan Duru is an Assistant Professor of Maritime Logistics and Finance at the Nanyang Technological University, Singapore with a research focus on computational intelligence for predictive analytics in financial and economic phenomenon. He received his PhD degree from the Kobe University, Japan on the long-term modelling of shipping freight rates. His research interests include maritime economics, shipping asset management, fuzzy time series, learning algorithms for economic analysis with a special focus on transport economics and finance. He is particularly interested in intersecting topics between pure economics and computer science including economic forecasting and business analytics.

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This special issue is gathered from selected papers of the 2016 Conference of the International Association of Maritime Economists, Hamburg, and independent papers submitted to the special issue. The theme of this special issue is Liner Shipping and Terminal Operations consists of topics in liner shipping competition, service optimisation, terminal operations, port choice, among others. Papers in this special issue employ various methodologies including operations research, econometrics and factor analysis. We would like to thank all authors for contributing to this special issue. Each

paper in this special issue focuses on a major component of liner shipping industry, and each paper proposes a significant solution to a common problem.

Liner shipping competition is always a fresh topic in scholarly research. There are various merger and acquisitions in the liner shipping market as well as development of new major players. Enna Hirata investigates the competition for 2009–2014 period by utilising Panzar-Rosse H statistics ‘A non-structural approach to assess competitive conditions in container liner shipping market: 2009–2014’. According to empirical results, container liner shipping market is more of a monopolistic market with increasing degree of competition. At the time of publication of this special issue, the strategic alliance formations have still been changing, and that supports that liner shipping competition will stay as an active research topic in the near future.

Container terminals invest in cargo cranes and equipment while trying to utilise their facilities properly. Based on the level of utilisation, the port choice of liner shipping firms may have differences, and the port services may not be provided at the same speed and quality as in lower utilisation of facilities. Ana Martínez-Pardo, Lorena Garcia-Alonso and Alfonso Orro test the causality between the saturation of capacity (utilisation) and port choice of liner shipping firms in Spanish ports ‘The role of the degree of use of the facilities in the port choice process: the Spanish dockside cranes case’. It is usually expected that increasing volume of cargo would improve economy of scale and network which in turn satisfy carriers. On the other hand, this paper emphasises that this traditional perception is not valid for higher levels of utilisation. In contrast, the attractiveness of ports declines with a saturation point since waiting times and operation speed deteriorate after a certain level of utilisation.

It is a great puzzle for liner shipping firms to manage their operations in such a difficult economic climate as well as neck-and-neck competition. Reformation of strategic alliances is an inevitable result of severe competition. In such a business environment, route and service optimisations play an integral role on sustainability of liner shipping firms. Ahlam AlMarar and Ali Cheaitou propose an optimisation approach combining various aspects of liner shipping operations including cargo flow, freight rates and sailing speed ‘Cargo flow, freight rate and speed optimisation of container liner services’. The objective of this study is to develop an optimisation algorithm to maximise daily profit, and empirical results also shed light on various forms of relationships among variables.

One of direct results of a liner shipping competition is the choice of carrier. The competition is only based on freight rates, but it is also led by other qualities of a liner shipping service. Peter Dzakah Fanam, Hong-Oanh Nguyen and Stephen Cahoon investigate the impact of various features of liner shipping services and search for the most important qualities that a traditional freight forwarder would significantly consider in its choice of carrier ‘An empirical analysis of the critical selection criteria of liner operators: the perspective of freight forwarders’. Among many influential factors, this paper emphasises six major features as schedule reliability, document accuracy, service quality, freight rate, door-to-door service and environment. Price of a liner shipping service seems not superior as the reliability of pre-defined schedule or accuracy of documentation process. Considering the current interest on ‘blockchain’ technology and its initial applications, documentation and its process security are some major factors in the choice of liner shipping firm.

Certainly, a liner shipping operation is not only matter of operating ships, but it is also about efficiently handling of container ships and their cargo at terminals. Seyed Farzad Hoseini, Mohammad Mohammadpour Omran, Adolfo Crespo Marquez and Ahmad Makui deal with the seaside operations and propose an optimisation algorithm integrating the berth allocation problem, the quay crane assignment problem and the quay crane scheduling problem at a single process ‘Simultaneous optimisation of seaside operations in container terminals: a case study of the Iranian Rajae port’. In this research stream, computation time plays a significant role, and sophisticated solvers are needed to find the best solution in a reasonable period. In this study, authors utilise a hybrid imperialist competitive and genetic algorithm (HICGA) approach, and an empirical work is performed for Rajae Port.

Xavier Fageda and Marta Gonzalez-Aregall investigated factors defining cargo traffic in European ports and tested various potential indicators ‘What drives European port traffic? The role of competition’. In contrast to common argument, gross domestic product (GDP) is not found a strong driver in the European sample. Geographic position is not found a significant reason in general (North-West has a slight advantage) while inland ports have a significant disadvantage. On other hand, hinterland and port connectivity are very strong positive drivers of growth in cargo traffic. An implicit outcome of the study is that transit cargo traffic plays a key role in port development.