Joyce M.W. Low

Singapore Management University,

Lee Kong Chian School of Business (Operations Management Group),

50 Stamford Road #05-01, Singapore, 178899, Singapore.

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EDUCATION

2004 - 2009 Doctor of Philosophy

(Thesis: A Longitudinal Study of Port Systems in Asia.

Examiner – Prof Zhang Anming, University of British Columbia; Advisors – Prof Tang

Loon Ching, National University of Singapore and Dr. Yuan Xue-Ming, ASTAR

Singapore Institute of Manufacturing and Technology)

National University of Singapore, Department of Industrial Systems Engineering

and Management

2001 – 2002 Master of Science (Management)

(Thesis: A Simulation Study of Queuing Systems)

National University of Singapore, Department of Decision Sciences

1995 - 1999 Bachelor of Business Administration with Honours

(Thesis: Strategic Postures and Performances - Evidence from the Singapore Retail

Industry) National University of Singapore, NUS Business School

POSITION(S) HELD

Aug 2019 – now Assistant Professor of Operations Management (Education), Singapore

Management University, Lee Kong Chian Business School

Aug 2012 – July 2019 Senior Lecturer of Operations Management (Education), Singapore Management

University, Lee Kong Chian Business School

Sep 2010 – Jul 2012 Assistant Professor, School of Air Transportation and Logistics, Korea Aerospace

University

Sep 2008 – Aug 2010 Research Fellow (NUS Centre for Maritime Studies)

Apr 2001 – Dec 2007 Teaching Assistant (NUS Business School, NUS Faculty of Engineering)

VISITING POSITIONS

Jul 2011 - Sep 2011 Visiting Assistant Professor, Sungkyunkwan University, South Korea

RESEARCH INTERESTS

• Transportation Economics, Port Management, International Logistics, Operations and Supply Chain Management

FELLOWSHIPS AND SCHOLARSHIPS

- Maritime Port Authority (MPA) fellowship, July 2019 June 2021
- Freeman Symposium Fellowship, Salzburg Austria, July 2010 July 2010
- NUS Postgraduate Research Scholarship (PhD), January 2004 December 2008
- NUS Postgraduate Research Scholarship (Master's), January 2001 December 2002
- Study Award for the Concentration in the Area of Logistics Management, sponsored by TNT (Australia) Express Worldwide, January 1997 December 1998

AWARDS, RECOGNITION AND HONORS

On Dean's Teaching Honour List (Singapore Management University) in

- Academic Year 2015/2016 Term 2
- Academic Year 2018/2019 Term 2
- Academic Year 2019/2020 Term 1

TEACHING CASES

"E-BIKES: HOW BEST TO DEPLOY LAST-MILE DELIVERY VEHICLES BY GEOGRAPHICAL ZONING AND TOPOGRAPHY," with LEE, Byung Kwon. (2024). SMU-24-0017TN.

"UIWANG KOREA: OPERATIONAL EFFICIENCY AT AN INLAND CONTAINER DEPOT," WITH LEE, Byung Kwon. (2024). SMU-24-0007TN.

"SURF AIR: THE ALL-YOU-CAN FLY BUSINESS MODEL" with Professor Srinivas K REDDY (Marketing Division) in the School of Business, (2015). SMU-15-0001TN

NEWS and TRADE JOURNAL ARTICLES

- 捷星亚洲停业或推高机票价 樟宜机场须吸引其他廉航填空 Lianhe Zaobao, 11 June 2025. Available at https://www.zaobao.com.sg/news/singapore/story20250611-6679269
- 去年抵达我国港口船只达 30.9 亿总吨创新高, Lianhe Zaobao, 13 Jan 2024. Available at https://www.zaobao.com.sg/finance/singapore/story20240113-1461799
- The impact of mega ships, Port Technology, April 2020. Available at https://wpassets.porttechnology.org/wp-content/uploads/2020/03/25160834/NATIONAL-UNI-OF-SINGAPORE.pdf
- Commentary for CNA? The rebirth of a maritime nation with a mega port set to open, 7 July 2019. Available at https://www.channelnewsasia.com/news/commentary/tuas-mega-port-singapore-maritime-trade-shipping-impact-prospect-11579056
- Maritime Silk Road Ports eye opportunities from Chinese economic integration, Ports and Harbour May/June 2019, Vol 64 No 3, pp. 12-16

RESEARCH JOURNAL ARTICLES

- 1. Lee, B.K, Kim Y. J., <u>Low, J.M.W.*</u> (2025) Performances in Last-Mile Deliveries Involving Cyclic Services of Shuttles and Cargo Bikes, Transportation Research Board, Accepted May 2025
- 2. Lee, B.K., Low, J.M.W.* (2022), A Constraint Programming Approach to Load Capacity Planning in Container Vessels, Maritime Economics and Logistics 24, pages 415–438 https, https://doi.org/10.1057/s41278-021-00208-4

- 3. Park, J.H., Lee, B.K., Low, J.M.W.* (2022) A Two-Stage Parallel Network DEA Model for Analyzing the Operational Capability of Container Terminals, Maritime Policy & Management, https://doi.org/10.1080/03088839.2020.1859148
- 4. Lee, B.K.; <u>Low, J.M.W.</u>* (2021) Resource Capacity Requirement for Multi-Terminal Cooperation in Container Ports. Appl. Sci. 2021, 11, 9156. https://doi.org/10.3390/app11199156
- 5. <u>Low J.M.W.</u>, Lee, B.K. * (2020) A Data-Driven Analysis on the Impact of High-Speed Rails on Land Prices in Taiwan. Appl. Sci. 2020, 10 (10), 3357; https://doi:10.3390/app10103357
- 6. Tang, L.C, <u>Low J.M.W.*</u> (2020) Strategic intent of OBOR: Enhancing Energy Supply Resilience, Journal of Shipping and Trade 5(1),1-25. https://doi.org/10.1186/s41072-020-0058-1
- 7. Low, J.M.W.*, Yang, K.K (2019) Understanding the Operating Landscape of the Global Airline Industry: A DEA Integrated Alternating Conditional Expectation Approach, Journal of Airline and Airport Management 9(2), 27 45. https://doi.org/10.3926/jairm.126
- 8. <u>Low, J.M.W.*</u>, Yang, K.K, (2018) An Exploratory Study on the Effects of Human, Technical and Operating Factors On Aviation Safety. Journal of Transportation Safety and Security 11(6), 595-628. https://doi.org/10.1080/19439962.2018.1458051
- 9. Yang, K.K*, Cayirli, T., Low, J.M.W., (2016). "Predicting the Performance of Queues A Data Analytic Approach", Computers & Operations Research 76, 33–42. http://dx.doi.org/10.1016/j.cor.2016.06.005
- 10. Yang, K.K*, Lam, S.W, Low, J.M.W, Ong, M.E.H (2016). "Managing Emergency Department Crowding Through Improved Triaging and Resource Allocation", Operations Research for Health Care 10, 13–22. http://dx.doi.org/10.1016/j.orhc.2016.05.001
- 11. Yeo, W.M.*, Yuan, X.M, <u>Low, J.M.W</u>. (2016). "On MX/G(M/H)/1 Retrial System with Vacation: Service Helpline Performance Measurement", Annals of Operations Research 248(1). 553-578. http://dx.doi.org/10.1007/s10479-016-2207-3
- 12. Lee, B.K., Low, J.M.W.*, Kim, H.K (2015). "Comparative Evaluation of Resource Cycle Strategies on Operating and Environmental Impact in Container Terminals", Transportation Research Part D: Transport and Environment 41, 118 135. http://dx.doi.org/10.1016/j.trd.2015.09.014.
- 13. Yang, K.K.*; <u>LOW, J.M.W.</u>, Cayirli, T. (2015) "Modeling Queues with Simulation versus M/M/C Models", Journal of Service Science Research 6 (1), 173 192. http://dx.doi.org/10.1007/s12927-014-0007-3.
- 14. Low, J.M.W., Lee, B.K.* (2014) "Effects of Firm Resources on Airline Competitiveness", Journal of Air Transport Management 36(1), 23 32. http://dx.doi.org/10.1016/j.jairtraman.2013.12.001.
- 15. <u>Low, J.M.W.</u>*, Lam, S.W., Tang, L.C., Lan, Z. (2013) "Evaluations of Port Performances from a Seaborne Cargo Supply Chain Perspective", Polish Maritime Research 20, 20 31. http://dx.doi.org/10.2478/pomr-2013-0024.
- 16. Yuan, X.M, <u>Low, J.M.W</u>.*, Yeo, W.M (2012) "A Network Prototype for Integrated Production-Distribution Planning with Non-Multifunctional Plants", International Journal of Production Research 50 (4), 1097 1113. http://dx.doi.org/10.1080/00207543.2010.550640.
- 17. Low, J.M.W., Tang, L.C*. (2012) "Network Effects in the East Asia Container Ports Industry", Maritime Policy and Management 39 (4), 369 386. http://dx.doi.org/10.1080/03088839.2012.689879.

- 18. Yang, X.J., Low, J.M. W., Tang, L.C.* (2011) "Analysis of Intermodal Freight from China to Indian Ocean: A Goal Programming Approach", Journal of Transport Geography 19(4), 515-527. http://dx.doi.org/10.1016/j.jtrangeo.2010.05.007.
- 19. Low, J.M.W.*, Tang, L.C., Lam, S.W. (2011) "Understanding Port Choice Behavior: A Network Perspective", Networks and Spatial Economics 11 (1), 65 82. http://dx.doi.org/10.1007/s11067-008-9081-8.
- 20. Chin, A.T.H.*, <u>Low, J.M.W.</u> (2010) "Port Performance in Asia: Does Economic Efficiency imply Environmental Efficiency", Transportation Research Part D: Transport and Environment 15(8), 483 488. http://dx.doi.org/10.1016/j.trd.2010.06.003
- 21. Yuan, X.M., Low, J.M.W.*, Tang, L.C., (2010) "Roles of the Airport and Logistics Services on the Economic Outcomes of an Air Cargo Supply Chain", International Journal of Production Economics 127 (2), 215 255. http://dx.doi.org/10.1016/j.ijpe.2009.08.005.
- 22. <u>Low, J.M.W.</u>*, Tang, L.C., Yuan, X.M. (2010) "Analysis of Cargo Service Dynamics in East Asian Airports", International Journal of Applied Logistics 1 (2), 1 22. http://dx.doi.org/10.4018/jal.2010040101.
- 23. <u>Low, J. M. W.*</u> (2010) "Capacity Investment and Efficiency Cost Estimations in Major East Asian Ports", Maritime Economics and Logistics 12, 370 391. http://dx.doi.org/10.1057/mel.2010.13.
- 24. Lam, S.W., Low, J.M.W., Tang, L.C.* (2009) "Operational Efficiencies across Asia Pacific Airports", Transportation Review 45(4), 654 665. http://dx.doi.org/10.1016/j.tre.2008.11.003.
- 25. Low, J.M.W., Lam, S.W., Tang, L.C.* (2009) "Assessment of Hub Status among Asian Ports from a Network Perspective", Transportation Research Part A: Policy and Practice 43(6), 593 606. http://dx.doi.org/10.1016/j.tra.2009.04.004.
- 26. <u>Low, J.M.W.</u>, Tang, L.C*, (2006) "Factor Substitution and Complementarity in the Asia Airports Industry", Journal of Air Transport Management 12 (5), 261 266. http://dx.doi.org/10.1016/j.jairtraman.2006.07.003.

CHAPTER IN BOOK

- 1. Low, J.M.W., Tang, L.C.; Yuan, X.-M. "Analysis of Cargo Service Dynamics in East Asian Airports", by, 03/2012, In Luo Zongwei, Innovations in Logistics and Supply Chain Management Technologies for Dynamic Economies, 83 104, IGI Global. http://dx.doi.org/10.4018/978-1-4666-0267-0.ch006.
- 2. <u>Low, J.M. W.</u>, Yang, X. J.; Tang, L.C. "Maritime Trade Evolutions and Port City Developments in Asia", by, 08/2011, In Ek Peng Chew, Loo Hay Lee, and Loon Ching Tang, Advances in Maritime Logistics and Supply Chain Systems, 1 54, Singapore: World Scientific. http://www.worldscientific.com/worldscibooks/10.1142/8013
- 3. <u>Low, J.M.W.</u>, Tang, L.C., Yuan, X.-M. (2010) "Cargo Service Dynamics and Service Oriented Architecture in East Asian Airports," In Service Science and Logistics Informatics: Innovative Perspectives, 230 250, Hershey, PA: IGI Global. http://dx.doi.org/10.4018/978-1-61520-603-2.ch013.

CONFERENCE PROCEEDINGS ARTICLES

1. <u>Low, J. M. W.</u> and Demeester, L.* (2023) The role of maritime transport for transportation of scrap and recyclates in networks of recycling plants, International Association of Maritime Economist, 14th – 16th Sep, Busan Republic of Korea (Published, Peer-Reviewed)

- <u>2. Low, J.M.W.</u> and Yang, K.K (2019) Fleet Planning of a Bulk Carrier for Demand Uncertainty: A Scenario Tree Approach. International Association of Maritime Economist, 25th 28th June, Athens Greece (Published, Peer-Reviewed)
- 3. <u>Low, J.M.W.</u>, and Tang, L.C. (2017) "An Empirical Analysis on the Importance of the Availability of Bunkering Service in the Port Choice", Annual Conference of the International Association of Maritime Economists, 27 30 June 2017, Kyoto, Japan (Published, Peer-Reviewed)
- 4. <u>Low, J. M. W.</u>, Lee, B. K., (2013) "Port Inter-connectedness", E-Trade International Forum, 11th, Seoul, December 2013, Seoul, Korea. (Published)
- 5. <u>Low, J. M. W.</u>; Tang, L.C., Yuan, X.M (2011) "Airport Pricing and Capacity Decisions under Imperfect Competition", Air Transport Research Society Annual Conference, 29 June 2 July 2011, Sydney, Australia. (Published, Peer-Reviewed)
- 6. Kato, K., Tezuka, K., Low, J.M.W. (2010) "Effect of Credit Ratings on Airport Financing and Management", World Conference on Transport Research 14th Annual Conference, Porto, 6-9 July 2010, Lisbon, Portugal. (Published, Peer-Reviewed)
- 7. <u>Low, J. M. W.</u>, Tang, L.C. (2009) "Economics of port development strategy in Asia" International Association of Maritime Economists, 24–27 June 2009, Copenhagen, Denmark.
- 8. Chua, T.J., Cai, T. X., Low, J.M.W., (2008) "Dynamic Operations and Manpower Scheduling for High-Mix, Low-Volume Manufacturing", IEEE International Conference on Emerging Technologies and Factory Automation: ETFA 2008: 15-18 September 2008, Hamburg, Germany, 54 57, Piscataway, NJ: IEEE, 10.1109/ETFA.2008.4638371. (Published, Peer-Reviewed)

WORKING PAPERS

- 1. <u>Low, J. M. W.</u> and Ang, M., (2025) Complex Network Topology of Ports Based on Liner Shipping Carriers Network, draft completed
- 2. Lee, B.K., <u>Low, J.M.W.</u> Capacity Planning on A Multi-Yard Inland-Container Depot Via Optimizing Design Parameters, Dec 2023 present.
- 3. <u>Low, J.M.W.</u>, (2025) Does hybrid airlines business model help to cushion economic disturbance from external shocks?, Dec 2024 present

RESEARCH GRANTS

Maritime sustainability, MPA, Maritime authority of Singapore PI (Project Level): 2022 - 2023, SGD30,000 The Impact of Changing Trade Patterns on the Maritime Industry, MPA fellowship, Maritime Port Authority PI, SGD20,000

COURSES TAUGHT

Undergraduate:

Singapore Management University (Lee Kong Chian Business School), Aug 2012 - now

- Decision Analysis,
- Logistics and Transportation Management,
- Port-focal Logistics and Maritime Operations

Korea Aerospace University (School of Air Transportation and Logistics), Sep 2010 - Jul 2012

- International Logistics,
- Intermodal Transport,
- Theory of Maritime Transportation,

- Operations Management

National University of Singapore (Faculty of Engineering), Jan 2005 - Dec 2006

- Engineering Economics,
- Operations Research

National University of Singapore (Business School), Apr 2001 - Jun 2003

- Operations Management

Postgraduate:

Singapore Management University (Lee Kong Chian Business School), to commence Aug 2025

Successful Project Management

Korea Aerospace University (School of Air Transportation and Logistics), September 2010 - Jul 2012

- Transport Economics

Sungkyunkwan University (School of Business), Jul 2011 - Sep 2011

- Research Methodologies

National University of Singapore (Business School), Apr 2001 - Jun 2003

Operations Management and Data Analysis

OTHER ACTIVITIES

- Member of the International Association for Maritime Economists (IAME), Air Transport Research Society (ATRS)
- Member of the International Scientific Steering Committee, IAME 2017
- Invited Research Seminar, Hong Kong Polytechnic University, Department of Logistics and Maritime Studies

SERVICE COMMITTEES

- Committee Member, Adjunct Coordinator, Jan 2024 Present
- Maritime Business & Operations Track Committee Chair, SMU-School of Business, Oct 2018 present
- Member, student affairs committee, SMU-School of Business, May 2013 Dec 2023
- Committee Member, Academic Counsellor, SMU- School of Business, Jan 2013 Dec 2023
- Member, Operations Management Student Committee, Operations Management Student Committee, SMU LKCBS, January 2013 – Dec 2023
- Group library representative, SMU- School of Business, July 2017 Dec 2023
- Senator (representing the LKCSB term-track faculty), June 2018 May 2020

EDITORIAL DUTIES

• Active Reviewer for: Flexible Services and Manufacturing; Journal of Air Transport Management; Journal of Transport Geography; Maritime Economics and Logistics; Maritime Policy and Management; International Journal of Applied Logistics; International Journal of Production Economics; International Journal of Sustainable Transportation; Transportation Research Parts A, C, D & E

Updated August 2025