

School/Department:	Rotterdam School of Management, Department of Technology and Operations Management
Project Title:	Managing Counterfeiting in Global Supply Chains
Abstract:	<p>Globalization has increased the vulnerability of supply chains to major risks, including trade-mark infringement and counterfeiting. This is because globalization enables many firms to produce in low-wage countries where Intellectual Property rights are not well protected. Nowadays, counterfeiting is not only limited to luxury and fashion products, but for almost every product, a counterfeit production supply chain is running in parallel. Counterfeit products account for 5-7% of global trade, making it worth \$600bn/year with a significant economic and societal impact. There is practical evidence suggesting that recent incidents such as trade war or recent Covid 19 pandemics led to an increase in counterfeiting activities.</p> <p>Over the last few years, we have been able to gather a unique dataset of counterfeit-related seizures by US Customs and Border Protection (CBP). This dataset includes the date and location of the seizure together with the type of product and the brand name affected. This provides a great opportunity to conduct some empirical research on counterfeiting activities, an untapped research territory, that are highly relevant for both practical and academic communities. The outputs are expected to be publishable in top operations management, supply chains, and strategy journals.</p> <p>Some of the sample research projects that we aim to work on are as follows:</p> <p>Project 1: <i>The impact of pandemics on the trade in counterfeiting activities.</i></p> <p>The data covers one and a half year before the start of the pandemics. This allows us to quantify the impact. With the restrictions on moving materials and people, caused by pandemics, sales through e-commerce channels drastically increased. This provides additional opportunities for counterfeiters to disguise and sell. This could be very interesting to understand how these situations changed the dynamics of counterfeiting activities.</p>

	<p>Project 2. Understanding counterfeiters' strategies Counterfeiters are smartly changing strategies to avoid detection by authorities. In this project, we aim to figure out how these strategies may look like in terms of choosing a specific mode of transport (sea, air, express, road), a specific location or quantity of shipments. It is argued that counterfeiters have been shipping in smaller quantities to avoid customs confiscation.</p> <p>Project 3. Effectiveness of litigation processes Additionally, the project will also focus on analyzing the effectiveness of litigation processes to fight counterfeiting activities. One of the main strategies, of firms and brand owners, is to take legal action against counterfeiters to deter them from entering the market. However, this is a costly process that may not necessarily lead to a satisfactory outcome. Using another dataset, part of this project aims at evaluating the effectiveness of litigation processes, and legal tools to protect brand image as an anti-counterfeiting strategy.</p> <p>Methodologies: The main methodologies will be data analysis and game theory.</p>
Requirements of candidate:	<p>Background: MSc degree in economics, industrial engineering, operations research, business analytics and supply chain management with a high level of affinity with data analysis and econometric modelling.</p> <p>Master's degree: Yes</p> <p>EUR requirement: See Table Information about English requirements</p> <p>(If the faculty does not have special English requirements, general requirement from Admission Office is applied)</p>
Supervisor information:	<p><i>Promotor: Prof. dr. Rob Zuidwijk</i> <i>Email: RZuidwijk@rsm.nl</i> <i>Personal website: https://www.rsm.nl/people/rob-zuidwijk/</i></p> <p><i>Co-Promotor: Dr. Morteza Pourakbar</i> <i>Email: MPourakbar@rsm.nl</i> <i>Personal website: https://www.rsm.nl/people/morteza-pourakbar/</i></p> <p><i>Recent publications by Rob Zuidwijk</i> <i>A.M. Arslan, N.A.H. Agatz, L.G. Kroon & R.A. Zuidwijk</i></p>

	<p>(2019). <i>Crowdsourced Delivery -- A Dynamic Pickup and Delivery Problem with Ad-Hoc Drivers</i>. <i>Transportation Science</i>, 53 (1), 222-235. doi: 10.1287/trsc.2017.0803</p> <p>Y. Fan, B. Behdani, J.M. Bloemhof-Ruwaard & R.A. Zuidwijk (2019). <i>Flow consolidation in hinterland container transport: an analysis for perishable and dry cargo</i>. <i>Transportation Research. Part E, The Logistics and Transportation Review</i>, 130, 128-160. doi: 10.1016/j.tre.2019.08.011 [go to publisher's site]</p> <p>H. Saeedi, B. Behdani, B. Wiegman & R.A. Zuidwijk (2019). <i>Assessing the Technical Efficiency of Intermodal Freight Transport Chains Using a Modified Network DEA Approach</i>. <i>Transportation Research. Part E, The Logistics and Transportation Review</i>, 126, 66-86. doi: 10.1016/j.tre.2019.04.003 [go to publisher's site]</p> <p>P. Ypsilantis & R.A. Zuidwijk (2019). <i>Collaborative Fleet Deployment and Routing for Sustainable Transport</i>. <i>Sustainability</i>, 11 (20):5666. doi: 10.3390/su11205666 [go to publisher's site]</p> <p>A. Kishore Bhoopalam, N.A.H. Agatz & R.A. Zuidwijk (2018). <i>Planning of truck platoons: A literature review and directions for future research</i>. <i>Transportation Research. Part B, Methodological</i>, 107 (January), 212-228. doi: 10.1016/j.trb.2017.10.016</p> <p>M. Pourakbar & R.A. Zuidwijk (2018). <i>The Role of Customs in Securing Containerized Global Supply Chains</i>. <i>European Journal of Operational Research</i>, 271 (1), 331-340. doi: 10.1016/j.ejor.2018.05.012</p> <p>T. Hjortnaes, B. Wiegman, R.R. Negenborn, R.A. Zuidwijk & R. Klijnhout (2017). <i>Minimizing cost of empty container repositioning in port hinterlands, while taking repair operations into account</i>. <i>Journal of Transport Geography</i>, 58 (1), 209-219. doi: 10.1016/j.jtrangeo.2016.12.015</p> <p>H. Saeedi, B. Wiegman, B. Behdani & R.A. Zuidwijk (2017). <i>Analyzing competition in intermodal freight transport networks: The market implication of business consolidation strategies</i>. <i>Research in Transportation Business and Management</i>, 23(June), 12-20.</p>
--	---

	<p>doi: 10.1016/j.rtbm.2017.02.009</p> <p>H. Saeedi, B. Wiegman, B. Behdani & R.A. Zuidwijk (2017). <i>European intermodal freight transport network: Market structure analysis</i>. <i>Journal of Transport Geography</i>, 60 (4), 141-152. doi: 10.1016/j.jtrangeo.2017.03.002</p> <p>B. Behdani, Y. Fan, B. Wiegman & R.A. Zuidwijk (2016). <i>Multimodal schedule design for synchomodal freight transport systems</i>. <i>European Journal of Transport and Infrastructure Research</i>, 16 (3), 424-444.</p> <p>R.A. Zuidwijk & A.W. Veenstra (2015). <i>The Value of Information in Container Transport</i>. <i>Transportation Science</i>, 49 (3), 675-685. doi: 10.1287/trsc.2014.0518</p> <p>L.G. Kroon, L.W.P. Peeters, J.C. Wagenaar & R.A. Zuidwijk (2014). <i>Flexible Connections in PESP models for Cyclic Passenger Railway Timetabling</i>. <i>Transportation Science</i>, 48(1), 136-154. doi: 10.1287/trsc.1120.0453</p> <p>R.A. Zuidwijk, F. Caro, T. Tan & C.J. Corbett (2013). <i>Double-Counting in Supply Chain Carbon Footprinting</i>. <i>Manufacturing and Service Operations Management</i>, 15 (4), 545-558. doi: 10.1287/msom.2013.0443</p> <p>Recent Publications by Morteza Pourakbar</p> <p>J.B.G. Frenk, S. Javadi, M. Pourakbar & S.O. Sezer (2019). <i>An exact static solution approach for the service parts end of life inventory problem</i>. <i>European Journal of Operational Research</i>, 272 (2), 496-504. doi: 10.1016/j.ejor.2018.06.041</p> <p>M. Pourakbar & R.A. Zuidwijk (2018). <i>The Role of Customs in Securing Containerized Global Supply Chains</i>. <i>European Journal of Operational Research</i>, 271 (1), 331-340. doi: 10.1016/j.ejor.2018.05.012</p> <p>P. Letizia, M. Pourakbar & T. Harrison (2018). <i>The Impact of Consumer Returns on the Multichannel Sales Strategies of Manufacturers</i>. <i>Production and Operations Management</i>, 27 (2), 323-349. doi: 10.1111/poms.12799</p> <p>S. Rezapour, R. Zanjirani Farahani & M. Pourakbar (2017). <i>Resilient supply chain network design under competition: A case study</i>. <i>European Journal of Operational Research</i>, 259 (3), 1017-1035. doi: 10.1016/j.ejor.2016.11.041</p>
--	--

	<p><i>M. Pourakbar, E.A. van der Laan & R. Dekker (2014). End-of-Life Inventory Problem with Phase-out Returns. Production and Operations Management, 23 (9), 1561-1576. doi: 10.1111/poms.12176</i></p> <p><i>M. Pourakbar, J.B.G. Frenk & R. Dekker (2012). End-of-life inventory decisions for consumer electronics service parts. Production and Operations Management, 21 (5), 889-906. doi: 10.1111/j.1937-5956.2012.01340.x</i></p> <p><i>M. Pourakbar & R. Dekker (2012). Customer Differentiated End-of-Life Inventory Problem. European Journal of Operational Research, 222 (1), 44-53. doi: 10.1016/j.ejor.2012.03.034</i></p>
--	--

Table Information about English requirements

Admission office	IELTS: 7.0 (min. 6.0 for all subs.)	TOEFL: 100 (min. 20 for all subs.)	-
Admission office English-speaking countries and NL	Not required for Master student	Not required for Master student	-
Rotterdam School of Management	IELTS: 7.5 (min. 6.0 for all subs.)	TOEFL: 100 (internet) or 600 (paper)	GMAT-test or GRE-test: 85%

2022 CSC-PhD programme information will be shared and updated online: www.eur.nl/eucc