
Editorial

Guest Editorial

Journal of Revenue and Pricing Management (2017) **16**, 529–531. doi:10.1057/s41272-017-0114-0

This special issue showcases papers that were presented at AGIFORS Revenue Management 2016 Conference that took place in Frankfurt, Germany on 18–20 May 2016. Special thanks to the organizing committee of the conference for their hard work and efforts to make this meeting a great success. Attendees included academics and practitioners from around the world, and this issue represents a sample of the research that was presented at the conference. Below we briefly discuss these papers.

This special issue begins with a practice paper entitled ‘Constructing Bundled Offers for Airline Customers’ by Manini Madireddy, Ramasubramanian Sundararajan, Goda Doreswamy, Meisam Hejazi Nia, and Amod Mital. The authors consider the problem of product bundling in the context of offering the right products to airline customers at the right price so it can satisfy customer needs and maximize airline revenue. The proposed solution is designed in a modular manner so it will allow incremental and independent improvements to product design, pricing, and shopping session management. In this paper, the authors specifically focus on methodologies for offer construction, which includes creating product bundles and estimating willingness to pay. The utility of these methodologies is demonstrated through illustrative results on real and simulated datasets.

The second paper (research paper) in the issue is entitled ‘Incorporating Ancillary Services in Airline Passenger Choice Models’ by Adam Bockelie and Peter Belobaba. This paper develops a new integrated passenger choice model to explain how consumers select ancil-

lary services in conjunction with an airline itinerary and specific fare class. Two types of customers were considered in this paper. Simultaneous consumers are modeled to choose an itinerary, fare class, and set of ancillary services at the same time; sequential consumers are modeled to choose an itinerary and fare class in one phase and then choose a set of ancillary services later in a second phase. The sensitivity of revenues and bookings to various ancillary fee structures with the integrated choice model are illustrated by simulations in the Passenger Origin–Destination Simulator. The result shows that ancillary bundling can result in buy-up or buy-down by simultaneous passengers, but that the sequential passengers provide more revenue to airlines.

The third paper is entitled ‘Robust Revenue Opportunity Modeling with Quadratic Programming’ by Dong Liang, Richard Ratliff, and Norbert Remenyi. This paper describes a new, network-level revenue opportunity model based on the sales-based quadratic program (SBQP). SBQP optimizes revenue while providing market-level allocations that are more stable and robust over time than traditional solutions based on linear programming. The proposed approach in this paper provides better stability in revenue opportunity model (ROM) controls over time, aiding RM analysts in setting effective default allocations and monitoring outliers while holding RM analysts accountable to market-level ROM performance metrics. The authors claim that methods for reducing ROM control variation have not been addressed in prior literature.

The next research paper is entitled ‘Do Hybrid Forecasting and Forecast Multipliers Still Work in a Perfectly Tuned PODS International Network with Four Competing Airlines?’ by Larry Weatherford. The research question studied in this paper is whether an airline can still use any of the various ‘intelligent aggressiveness’ levers to increase revenue in a competitive environment where all the competing airlines are “perfectly” aggressive. This paper answers the question in the Passenger Origin–Destination Simulator (PODS) Network U10.

The fifth paper entitled “Single-leg Revenue Management with Downsell and Delayed Decision-making” is written by Daniel Hopman, Ger Koole, and Rob van der Mei. In this paper, the authors study the impact of downsell, which happens when a customer purchases a lower fare than he or she was willing to pay, in leg revenue management. The paper first was aiming to minimize the losses in revenue that arise from this situation by reformulating the traditional dynamic programming (DP) formulation to account for this behavior and the result shows significant revenue gains compared to the traditional DP formulation. The authors then turned to improve customer booking simulation by assuming that the customers may postpone their decision to book. Using a surprisingly easy reformulation of the DP strategy, it was ensured that cheaper classes will never open after they get closed which guarantees that a customer booking now is better than doing so in the future. The results of this effort also show that when more than one-eighth of passengers postpone their bookings, revenue gains are obvious. While this paper is specific to airline revenue management, the authors believe that this practice can also be applied for other industries that practice revenue management, such as the hospitality or car rental industries.

The next research paper is entitled ‘Unlocking the Value from Origin and Destination Revenue Management?’ by Sumala Tirumalachetty, Vamsidhar Kodam, Goda Doreswamy, and Mukund Shankar. In this study, the authors

leveraged Airline Planning and Operations Simulator and analyzed how each of the factors impacts the value of O&D RM across different load factor and flow traffic levels. In the RM world, there are a multitude of factors that are at play in ensuring that the proposed benefits from O&D RM are materialized. Some of the key challenges like the complexity of forecast management, maintaining accurate fares for optimization, and using advanced availability processors were discussed in this paper. Other major challenges like the big organizational change required to move from Leg mode to O&D-mode among the managers and RM analysts, and distribution aspects such as seamless availability, married segments, and journey controls also were mentioned by the authors.

The last research paper is entitled ‘Data-driven Models for Itinerary Preferences of Air Travelers and Application for Dynamic Pricing Optimization’ by Thierry Delahaye, Rodrigo Acuna-Agost, Nicolas Bondoux, Anh-Quan Nguyen, and Mourad Boudia. This research article deals with the problem of modeling air passenger choice between flight itineraries. The authors describe a two-stage approach to predict traveler choice behavior by combining machine learning and discrete choice modeling techniques. The applicability of these models is then illustrated by using them for dynamic pricing optimization. The experiments were conducted on a dataset extracted from searches and bookings on several European markets, aimed at assessing both the accuracy of the customer models and the effect of price optimization. The proposed approach seems to be effective on both the improved accuracy when predicting choice and the increased expected revenue from shopping sessions. The experiments show that 42% of the actual choices fall within the three highest estimated probabilities among 50 possible alternatives in each shopping session. Moreover, the results also show more than 20% additional revenue compared to a baseline approach.

These are only a few examples of the great research that was presented at AGIFORS



Revenue Management 2016 Conference. In addition to the papers presented at the conference, this issue also contains a book review titled “The strategy and tactics of pricing: A guide to growing more profitably.”

We hope that you will enjoy this issue and share our excitement about the terrific new research and application of pricing and RM exhibited in these high-quality papers. The editors thank those who contributed to this AGIFORS Special Edition of the Journal of Revenue and Pricing Management, as well as the speakers who participated in the conference itself. Special gratitude is extended to the conference sponsors whose support enabled the non-profit group to meet and foster the exchange of ideas on the industry’s current

issues. For additional information about the AGIFORS Revenue Management conference and future conferences, please contact the co-Editors or visit the conference website at www.agifors.org. You may request the full proceedings from the conference by first becoming a member at <http://www.agifors.org>.

Shau-Shiang Ja
Operations Research & Advanced Analytics,
American Airlines, 4333 Amon Carter Blvd,
Fort Worth, TX 76155, USA.

Larry Weatherford
College of Business, University of Wyoming,
Laramie, WY 82071, USA.
E-mail: LRW@uwyo.edu