The impact of fare pricing cooperation in airline revenue management

S. Asif Raza*

Management and Marketing Department,
College of Business and Economics,
Qatar University,
PO Box 2713,
Doha, Qatar
E-mail: syedar@qu.edu.qa
*Corresponding author

Ali Akgunduz

Department of Mechanical and Industrial Engineering,
Concordia University,
1455 de Maisonneuve Blvd. W. Montréal,
Québec H3G 1M8, Canada
Fax: 514 848 3175
E-mail: akgunduz@encs.concordia.ca

Abstract: This article addresses an airline revenue management strategy to jointly determine both the seat allocation and the fare price for a single leg flight in a duopoly market. Two game theoretic scenarios: non-cooperative and cooperative are considered. In non-cooperative game setting, existence of pure strategy Nash Equilibrium for the perfect competition between two airlines is shown. In cooperative scenario, two bargain games that differ in availability of side payment (SP) option while sharing of the gain of cooperation are studied. Numerical study based on a series of statistical comparisons shows that cooperation with the SP options results superior payoffs to both airlines compared to cooperation with no SP options. A regression analysis is used to analyse the impact of various market factors on payoffs.

Biographical notes: S. Asif Raza is currently working as an Assistant Professor in the Department of Management and Marketing at Qatar University in Doha, Qatar. Prior to joining Qatar University, he worked as a Post Doctoral Research Fellow at Centre for Research on Transportation, University of Montreal, Canada. He is graduated with a PhD from Concordia University, Canada in 2007. He also holds a Masters of Science degree from King Fahd University, Saudi Arabia, and a Bachelor Degree from NED University, Pakistan in 2002, 1999, respectively. His research interests include revenue management, pricing, supply chain management, meta-heuristics, scheduling, product development and applied statistics. He was awarded a certificate of academic merit from NED University, Pakistan in a convocation held in 1999.