The *Journal of Air Transport Studies* (JATS – ISSN: 1791-6771) is a peer reviewed journal aiming at publishing high quality research related to air transport. JATS is interested in publishing papers primarily focusing on economics, geography, policymaking, management, marketing, operations, technology, logistics/supply chain management and modelling.

The Journal is published electronically twice a year, i.e. in January and July by the Hellenic Aviation Society ([www.aviationsociety.gr](http://www.aviationsociety.gr)). The Winter issue usually contains papers (subject to changes) originally presented at the Air Transport Research Society ([www.atrsworld.org](http://www.atrsworld.org)) Conference of the previous year(s) whereas the Summer issue may be occasionally dedicated to a special theme. The Journal is accessible online free-of-charge.

Journal of Air Transport Studies (JATS)
© Hellenic Aviation Society
12, Agiou Charalambous Street, Athens 114 74, Greece.
Telephone: +30 210 64 24 401
Facsimile: +30 210 64 24 401
Website: [http://www.aviationsociety.gr](http://www.aviationsociety.gr)

Volume 7, Number 1, Winter 2016, ISSN: 1791-6771.
Editorial and Advisory Board

- Editor-in-Chief: Professor Andreas Papatheodorou, Hellenic Aviation Society and University of West London, United Kingdom

  - Associate Editors:
    - Dr Kostas Iatrou, Hellenic Aviation Society, Greece
    - Dr Antigoni Lykotrafiti, University of West London, United Kingdom

  - Assistant Editors:
    - Dr Dimitrios Stergiou, Hellenic Open University, Greece
    - Dr Zheng Lei, University of Surrey, United Kingdom

- Chief Editorial Officer: Ms Marina Efthymiou, University of West London, United Kingdom.
- Book Reviews Officer: Dr Pavlos Arvanitis, Southampton Solent University, UK
- Conference Reports Officer: Ms Ioulia Poulaki, University of the Aegean, Greece
- Honorary Advisor: Dr Taieb Cherif, Former ICAO Secretary General

Scientific and Advisory Board

  - Professor Evangelos Christou, Technological Institute of Thessaloniki, Greece
  - Professor Larry Dwyer, University of New South Wales, Australia
  - Professor Peter Forsyth, Monash University, Australia
  - Professor Sveinn Gudmundsson, Toulouse Business School, France
  - Professor Hans-Martin Neimeier, University of Applied Sciences Bremen, Germany
  - Professor Tae Oum, President of ATRS, University of British Columbia, Canada
  - Professor Paris Tsartas, University of the Aegean, Greece
  - Professor Respicio Espírito Santo, Rio de Janeiro Federal University, Brazil
  - Professor Pauline Sheldon, University of Hawaii, USA
  - Professor Kerstin Wegener, Frankfurt University of Applied Sciences
  - Professor Anming Zhang, University of British Columbia, Canada
  - Professor Yvonne Ziegler, Frankfurt University of Applied Sciences, Germany
  - Dr Leonardo Corbo, LUISS Guido Carli University, Italy
  - Dr Anderson Correia, Instituto Tecnológico de Aeronáutica, Brazil
  - Dr Dimitrios Dimitriou, Dimocritus University, Greece
  - Dr Rafael Echevarne, ACI, Canada
  - Dr Triant Flouris, Hellenic American University, Greece
  - Dr Anne Graham, University of Westminster, United Kingdom
  - Dr Paul Hooper, Department of Transport, Abu Dhabi, UAE
  - Dr Panagiotis Karamanos, Athens International Airport, Greece
  - Dr Eleftherios Kataroulos, Hellenic Civil Aviation Authority, Greece
  - Dr Tay Ryang Koo, University of New South Wales, Australia
  - Dr Konstantinos Kostopoulos, Hellenic Competition Commission, Greece
  - Dr Christos Markou, IATA, Canada
  - Dr Keith Mason, Cranfield University, United Kingdom
  - Dr Antonio Menezes, University of the Azores, Portugal
  - Dr John F. O’Connell, Cranfield University, United Kingdom
  - Dr Marianna Sigala, University of the Aegean, Greece
  - Dr Theodoros Stavrinoudis, University of the Aegean, Greece
  - Dr Bijan Vasigh, Embry-Riddle Aeronautical University, USA
  - Captain Spyros Jancovich, Hellenic Aviation Society, Greece
  - Mr Takis Adamidis, Hellenic Aviation Society, Greece
  - Mr Mario Diaz, Atlanta International Airport, USA
  - Mr Emmanuel Gyzis, Emm. A. Gyzis & Partners Law Offices, Greece
  - Mr Ray Kaduck, Canadian Transportation Agency, Canada
  - Mr Emmanuel Keramianakis, Hellenic Aviation Society
  - Mr Antonios Simigdalas, Elix Aviation Capital, Ireland
  - Ms Narjess Teyssier, ICAO, Montreal
  - Mr Stamatis Varsamos, Athens International Airport, Greece
  - Mr David Young, Eurocontrol, France
Notes for Contributors

JATS publishes the following categories of papers written in scholarly English: a) Full Research Papers, b) Conference Reports, c) Book Reviews, d) Industry Perspectives. Papers should be submitted electronically to andreas.papatheodorou@uwl.ac.uk in MS-Word format ONLY using British spelling, single-column, 1.5 line spacing, Tahoma letters, font size 11. Section headings (and sub-headings) should be numbered and written in capital letters. Upon acceptance of a paper and before its publication, the corresponding author will be asked to sign the Transfer of Copyright form on behalf of all identified authors.

Full Research Papers should contain original research not previously published elsewhere. They should normally be between 4,000 and 7,000 words although shorter or lengthier articles could be considered for publication if they are of merit. The first page of the papers should contain the title and the authors’ affiliations, contact details and brief vitae (of about 50 words). Regarding the following pages, papers should generally have the following structure: a) title, abstract (of about 150 words) and six keywords, b) introduction, c) literature review, d) theoretical and/or empirical contribution, e) summary and conclusions, f) acknowledgements, g) references and h) appendices. Tables, figures and illustrations should be included within the text (not at the end), bear a title and be numbered consecutively. Regarding the referencing style, standard academic format should be consistently followed. Examples are given below:


Conference Reports should be between 1,000 and 1,500 words. They should provide factual information (e.g. conference venue, details of the conference organizers), present the various programme sessions and summarize the key research findings. Book Reviews should be between 1,000 and 1,500 words. They should provide factual information (e.g. book publisher, number of pages and ISBN, price on the publisher’s website) and critically discuss the contents of a book mainly in terms of its strengths and weaknesses.

Industry Perspectives should be up to 1,000 words and provide a practitioner’s point of view on contemporary developments in the air transport industry. Contributors should explicitly specify whether their views are espoused by their organization or not.
EDITORIAL..................................................................................................................................................viii

Chunyan Yu, Seock-Jin Hong

Full Research Papers

1. Trends in airport surface access in the London multi-airport system.................................1-28
Richard Moxon
The London multi-airport system is described and changes in ownership from state organisations to competing private enterprises are assessed. A taxonomy of United Kingdom government action related to airport planning policy is presented with critical analysis in relation to airport surface access strategy. Changes in public transport use by passengers and employees at London airports are quantified to illustrate the success or otherwise of government policy. Passenger groups (defined by nationality and trip purpose) driving the increase in public transport are identified. Current London airport surface access strategic targets for passengers and employees are compared with the early versions suggested by the government to highlight the changed airport approach. Emerging surface airport access issues at London’s airports are discussed.

2. An Assessment of Disincentive Policy on Slot Allocation System in Indonesian Airports ................................................................................................................. 29-48
Danang Parikesit, Safrilah, Yusa C. Permana
Indonesian airports have been experiencing significant air traffic growth and are unable to cope with the increasing air passenger demand. There is an urgent need for an effective slot allocation strategy to manage the demand for airport capacity. This paper conducts a case study to examine the possibility of managing slot time allocation to maximize runways capacity by analysing disincentive strategy in balancing the usage of runways with Capacity Restraint and Demand Balanced approach. The research found that airlines willing to use slot time at the most demanded time interval should pay an additional 6.57% (CR approach) from total revenue gained by the government from slot sector and 6.55% (DB approach). The additional cost for less demanded slot time interval is only 0.09% (in both CR and DB approaches). Findings from this study should be considered as an initial step toward educating policy makers and airport authorities with the aims to creating better mechanism in Indonesia’s airspace market.

3. Demand estimation for a new air route.............................................................49-70
Jong Hae Choi, Yong Wha Park, Sang-Yong Lee, Kwang Soo Lee
Network connectivity is core competitiveness of the aviation industry and opening a new route is one of critical ways to enhance network competitiveness. As many airport operators are becoming more interested in attracting airlines, there are vast needs to discuss the methods for estimating (predicting) potential demands for a new flight route or by increasing flight frequencies in existing routes. This study explores demand estimation models for a new air route. Similar to previous studies, this study classified potential demand for a new air route into four types (Local, Beyond, Behind and Bridge). Explanatory variables are identified and constructed for each type of demand, including distance, relative capacity compared with adjacent airports and detour ratio as main independent variables. One of the strengths of the suggested demand models can distinguish the generated demand from the converted or re-distributed demand. Based on this, the model is meaningful for an airport operator to develop an airport policy such as airport-usage charges and incentives to attract airlines. On the other hand, because of the strong recognition that demand estimation for a new air route is the area of airlines that decide on
whether or not to introduce a new route, simply developing demand estimation models from the perspective of an airport operator is not sufficient. Therefore this study is considered as the initial step for an airport operator in its efforts to attract airlines and market new air routes to enhance network connectivity of its airport.

4. Impact of timetable synchronization on hub connectivity of European carriers........71-94

Adam Seredyński Tobias Grosche, Franz Rothlauf

This paper evaluates the net impact of timetable synchronization on the connectivity of the key European carriers at their main hubs. We measure hub connectivity using a weighted connectivity score (WCS) that takes into account the number and the trip time related quality of flight connections. Based on WCS, we compare hub performance resulting from the existing schedule against a random expectation calculated from multiple randomized schedule simulations. In each simulated schedule scenario we randomly vary the flight departure and arrival times within the operation hours at a hub and at outbound stations keeping all other flight parameters from the real schedule unchanged. We observe that the timetable synchronization leverages hub connectivity of most analyzed airlines by 40% to 60%. The highest increase of connectivity is achieved by medium-sized carriers that operate peaky wave systems with flights concentrated in many short and non-overlapping banks, as well as by carriers that organize their flights in directional waves. The lowest increase is achieved by airlines that operate at highly congested airports. At most hubs, connections to long-haul flights operated with wide-body aircraft are better synchronized than connections between short-haul flights.

5. Airline Fares: A Comparison Between Spanish and French Travel Agencies.........95-110

José-Luis Alfaro Navarro, María-Encarnación Andrés Martínez, Jean-François Trinquecoste

The existence of different types of intermediaries - e-tailers, traditional or offline retailers and multichannel retailers - engaged in the sale of airline tickets has enabled consumers to find different prices if they spend time searching for information. This has prompted internet marketing research to increasingly focus on the issue of pricing, analyzing the differences between these retailers with respects to price levels, price dispersion, pricing strategies, etc. Moreover, there are also studies examining the effects of culture on prices. However, there is no literature on the effects of the culture from the supplier point of view. This paper attempts to fill in the gap by studying whether the geographical locations of the travel agencies affect airline ticket prices. In particular, the study compares the price behavior of French and Spanish intermediaries operating exclusively online and those operating simultaneously in travel agencies and on the internet (offline and online). To this end, we consider three routes that connect Madrid, Paris and New York, with data starting four months prior to the departure date (December 16, 2013). The results show several differences in the price levels and price dispersion between intermediaries in relation to the type of retailer and their geographical locations.

6. The Paradox of Competition for Airline Passengers with Reduced Mobility (PRM)...111-129

Debbie Ancell

Airline competition with customer service as product differentiator has forced down costs, air fares and investor returns. Two passenger markets operate in aviation: (a) able-bodied passengers for whom airlines compete and (b) passengers with reduced mobility (PRMs) – disabled by age, obesity or medical problems – for whom airlines do not compete. Government interference in the market intended to protect a minority of narrowly-defined PRMs has had unintended consequences of enabling increasing numbers of more widely-defined PRMs to access complimentary airline provisions. With growing ageing and overweight populations and long-haul travelling medical tourists such regulation could lead to even lower investors’ returns. The International Air Transport Association (IATA) (2013)
examined the air transport value chain for competitiveness using Porter’s (2008) five forces but did not distinguish between able-bodied passengers and PRMs. Findings during an investigation of these two markets concurred with IATA-Porter that the markets for the bargaining powers of PRM buyers and PRM suppliers were highly competitive. However, in contrast to the IATA conclusions, intensity of competition, and threats from new entrants and substitute products for PRM travel were low. The conclusion is that airlines are strategically PRM defensive by omission. Paradoxically, the airline which delivers the best PRM customer service could become the least profitable.
Selected papers from the 18th Air Transport Research Society World Conference, Bordeaux (France), 2014

Chunyan Yu
College of Business
Embry-Riddle Aeronautical University, United States
E-mail: Chunyan.yu@erau.edu

Seock-Jin Hong
University of North Texas, USA, and Kedge Business School, France
E-mail: Seock.Hong@unt.edu
seockjin.hong@kedgebs.com

The 18th Air Transport Research Society World Conference (ATRS) was held in Bordeaux, France, from July 17 to July 20, 2014. The conference attracted some 347 participants, and 321 papers were presented. The guest editors have selected six papers to be included in this special issue. These papers cover a wide range of topics presented and discussed at the conference and offer important contribution to the literature on air transport.

Surface access strategy is essential for the success of an airport. In the first paper, Richard Moxon investigates trends in airport surface access at the London area airports. The paper examines changes in public transport use passengers and employees at London airports in relation to government policy actions. The paper also identifies and discusses emerging surface airport access issues at the London airports.

Continuing with airport management strategies, Parikesit, Safrilah, and Permana present a case study of Sukarno-Hatta International Airport (Indonesia) in an attempt to explore effective airport slot allocation strategies to cope with the increasing pressure on airport capacity in the fast growing Indonesian aviation market. The paper argues that the existing slot allocation system does not consider market demand, and suggests that airport slots should be allocated through an auction system. Based on results from a simulation of slot market values, the study suggests that slot auction system can generate substantial revenues to maintain and operate the slot time management system, and encourages efficient distribution of aircraft departure time.

Moving from managing airport demand to air service development and network competitiveness, Choi, Park, Lee and Lee develop the models for estimating the demand for a potential new route from an airport. The proposed methodology is applied to Incheon International Airport, and the results indicate that distance, relative capacity and detour...
ratio among other factors have significant effects on the demand for a potential new route. The demand model may also help an airport operator develop airport charge policy as well as incentive schemes to attract airlines.

**Seredyński, Grosche, and Rothlauf** examine the connectivity of airlines at their hub airports in terms of flight schedules. In particular, the paper evaluates the net impact of timetable synchronization on the connectivity of the key European carriers at their main hubs. The authors measure hub connectivity using a weighted connectivity score (WCS) that takes into account the number and the trip time related quality of flight connections. Their results indicate that the timetable synchronization leverages hub connectivity of most of the analyzed airlines by 40% to 60%. At most hubs, connections to long-haul flights operated with wide-body aircraft are better synchronized than connections between short-haul flights.

In the fifth paper, **Navarro, Martínez, and Trinquescoste** investigate whether the geographical locations of the travel agencies affect airline ticket prices. The study compares the price behavior of French and Spanish intermediaries operating exclusively online and those operating simultaneously in travel agencies and on the internet (offline and online). In particular, the study examines air fares on three routes that connect Madrid, Paris and New York, and their results indicate that there are indeed differences in the price levels and price dispersion between intermediaries with respect to the type of retailer and their geographical locations.

The last paper addresses a topic that has not received much attention in academic literature. **Ancell** examines government policies and regulations that are intended to protect passengers with reduce mobility (PRMs). However, these policies and regulations have led to the unintended consequences of enabling increasing numbers of more widely-defined PRMs to access complimentary service provisions, which could result in lower profitability for the airlines and their investors. The paper further reviews Porter’s five forces of competitiveness as applied to the airline industry and test their validity for the PRM market.

We would like to extend our thanks to the authors and the reviewers for their contribution to this ATRS special issue of Journal of Air Transport Studies. We believe that these papers provide valuable contribution to our understanding of the airlines and airports and will encourage further research on the respective topics.