JATRS

Editorial

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Abstract: No abstract provided.

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1.   Editorial

Dear readers,

Dear members of the ATRS,

Dear friends and colleagues,

We are pleased to announce the first issue of the Journal of the Air Transport Research Society (JATRS). The major goal of this journal is to provide an alternate venue for the timely dissemination of high-quality content concerning society-related subjects. JATRS aims to publish high-quality content under an Open Access license, making all studies available to a wider readership. The editors would also like to take this opportunity to thank the ATRS Executive Committee members for their support during the process of conception and shaping this project from a mere idea into a real scientific outlet. Particularly, we would like to highlight the support of the current ATRS president, Anming Zhang, whose ideas, vision, and engagement were essential for completing a first issue of the JATRS. Moreover, we would like to thank all ATRS Executive Committee members for unanimously volunteering for the Editorial Board of JATRS, which provides us with a tremendous body of knowledge and experience, we believe is quite unique in the aviation publishing domain. Accordingly, we are excited to deliver this first issue to the community, in time for the ATRS World Conference 2023 taking place at Kobe, Japan. In total, our first issue consists of ten papers covering various aspects at the heart of air transport research. Below, we summarize the motivation and major insights from the ten papers in this issue. We hope that you enjoy reading these studies, obtaining novel insights, and receiving guidance / ideas for your own research.

The first three papers in this issue are literature reviews on timely subjects concerning airport and air transport service and performance. Specifically, Zhang et al. (2023) are concerned with the subject of air transport service quality, which has received significant attention from the research community in recent years. Accordingly, the authors perform a timely, systematic literature review based on over 100 articles published in high-quality transport, tourism, and consumer service journals. It is found that the SERVQUAL model and its variations are increasingly used as research frameworks in the related literature. In addition, a wide range of indicators is reported, including study origins, sector types, and authorship analyses. The authors discuss a wide range of future research directions and implications based on their findings, including the usage of appropriate data collection tools, research frameworks, recommendations concerning privacy and other societal considerations, most importantly taking into account the aging population and inherent reduced mobility.

Yu (2023) collects a systematic literature review of studies on airport performance. Given the gradual transformation of the airport industry from being based on public utilities towards commercially-oriented business entities, this research

subject has received tremendous attention in recent decades. This multifaceted review dissects the extant literature regarding three categories: productivity and efficiency, financial performance, and service quality/customer satisfaction. Overall, the major contributions of this review is to provide a synthesis of existent studies/surveys in the literature on airport productivity and efficiency, while offering interpretative reviews of the literature on airport financial performance and airport service quality and passenger satisfaction. The author raises the need for further studies on improving financial health and stability of airports, the exploitation of user-generated big data, the important interactions between airline and airport strategies, as well as the pivotal role of sustainability for the industry.

Kidokoro & Zhang (2023) emphasize the importance of non-aeronautical revenue services for the analysis of airports, by revisiting the recent extant literature on this subject. More than half of an airport's revenues come from non-aeronautical services worldwide. Accordingly, this subject has become an increasing focus of the air transport research community. The authors comprehensively treat various economic effects of non-aeronautical services, including airport pricing, self-financing and regulation, airport city, and benefit spillover. Various managerial insights are summarized and several avenues for future research provided, including the need for more empirical work, slot policy consideration, and the development of a unified approach towards the effects of consumers' foresight on aeronautical and non-aeronautical services.

The second collection of papers in this issue is concerned with the analysis of the air transportation system through network modeling and big data. Czerny & Lang (2023) review existing approaches for modeling airport network structures with the goal to perform policy analysis. The authors particularly aim to guide the reader on how to cover and analyze specific topics in the most effective way where effectiveness is measured in terms of the minimum complexity needed to theoretically address tasks and problems. Among others, airport ownership structure and privatization are addressed, together with congestion externalities, beggar-thy-neighbor, and competition. Based on the observed results, a set of important future research directions is outlined, including the integration of airline market structures and inter-modal aspects, particularly in presence of high-speed rail interactions.

Zanin & Wandelt (2023) review and discuss the advantages and limitations of complex network metrics in the global airport network. Particularly, the authors provide a data-driven, network science-based analysis of the global aviation system and two of its variants, city networks and multiple-airport region networks, for the period 2011 to 2022, leading to one of the most comprehensive studies in the literature to date. This analysis is focused on identifying node importance and answering the question as to how well complex network-based methods help to reveal the critical nodes in the system. Finally, the authors suggest a set of future research directions for network science in aviation, including the development of more realistic node importance measures, the development of reproducible data / network models for aviation research, and an investigation of wider network instances.

Van Bockstaele et al. (2023) use demand and supply big data analysis over live flight and aircraft data to better understand the contemporary issues in air cargo transportation. Particularly, the authors are concerned with the analyses the air cargo demand and supply imbalances between geographical regions worldwide, reporting an imbalance in demand on most of the 110 studied region pair combinations. The Middle East, Northeast Asia, Russia, Central Asia, and Central America are identified as transfer or in-transit regions, with limited cargo volumes originating or having their final destination in these regions. By making aggregated data available to the community, this study opens an opportunity for follow-up research, e.g., concerning the relationship between air cargo demand, how supply and pricing could be better quantified, or the development of an integrated air cargo forecasting model.

A third set of papers in this issue targets the resilience of the aviation system to disruptions. Standfuss et al. (2023) takes the COVID-19 pandemic and the Russian attack on Ukraine as an example for the analysis of air transport efficiency under external shocks. The authors use productivity metrics and Malmquist Data Envelopment Analysis to examine how the air navigation service performance of the European air transport system has changed since the year 2008. A rapid decline in total factor productivity due to COVID-19 is reported, as well as several local effects caused by the downing of MH17 and the annexation of Crimea by Russia. Moreover, the authors report that total factor productivity in Eastern and Northern Europe increased on average while it decreased in Western Europe. Regarding future studies, the authors suggest performing root cause analysis and extending the study to other regions, e.g., the United States, for a more comprehensive understanding of the global aviation system.

Wu et al. (2023) investigate the disruptive impact of COVID-19 on 54 multi-airport systems worldwide from three perspectives before and during the late stage of the pandemic: traffic and degree centrality distribution, intra-multiple-airport system (MAS) airport competition; and airline competition intensity within MASs. The authors report that multi-airport system structures in Europe and the US have remained relatively stable, presumably due to lighter air travel bans in these markets, compared to, e.g., Asia, where major airlines shifted significant capacities to domestic markets. Specifically, Chinese low-cost carriers were found to increasingly consolidate their operations to selected airports within multi-airport systems, allowing them to achieve economies of scale. The heterogeneous development gives rise to future work, concerning the effects of government interventions and international flight bans.

Sun et al. (2023) analyze the impact of the COVID-19 pandemic and recovery therefrom for more than 8,000 cities with aviation connections worldwide. The authors identify the underlying drivers for changes in the year 2022 compared to the pre-pandemic baseline in the year 2019 through the design of econometric models; reporting heterogeneous spatial recovery patterns and complex changes of global connectivity indicators, e.g., betweenness centrality. The authors suggest exploring the role of individual airlines in future work, the inclusion of more tourism-related data and information about the extent of travel restrictions, and an evaluation of lessons learned throughout the entire pandemic cycle.

In the last paper of this issue, Babetto et al. (2023) discuss the prerequisites for adoption of urban air mobility. A survey across participants in mid-sized European cities showed that 59% of the respondents have a positive attitude towards urban air mobility adoption. In the context of these results, the authors elaborate on the rulemaking activity carried out by the European Union Aviation Safety Agency within the time interval 2017-2022. The study concludes with a set of managerial insights and the derivation of major design drivers, towards a faster and flawless urban air mobility deployment.

Figure 1: Word cloud over all articles in the first issue of JATRS.

Clearly, the articles in our first issue provide a first glimpse of the coverage of JATRS. We have created a Wordcloud from the main text of all papers in this issue, the result is visualized in Figure 1. We can identify a set of keywords central to the papers in this issue, e.g., airport, air transport, service quality, passenger, air cargo, airline, and data. To further show the potential placement of JATRS within the existing realm of journals, we have computed aggregate statistics over all citations to journals provided by papers in this issue. The top four cited journal titles are as follows:

1. **Journal of Air Transport Management**: An international journal that addresses the major economic, management and policy issues facing the air transport industry. It covers all the major sectors of the industry (airlines, airports, air traffic management) as well as related areas such as tourism management and logistics.

2. **Transportation Research Part E: Logistics and Transportation Review**: This journal publishes articles drawn from across the spectrum of logistics and transportation research, with a focus on transportation economics, infrastructure / investment, public policy evaluation, and logistics operation management / models.

3. **Transport Policy**: An international journal that aims at improving the quality of transport policy and strategy analysis, designing and sharing innovative policy and management practices, and bridging the gap between theory and practice in transport.

4. **Transportation Research Part A: Policy and Practice**: This journal publishes papers dealing with policy analysis (design, formulation and evaluation); planning; interaction with the political, socioeconomic and physical environments; and management and evaluation of transport systems.
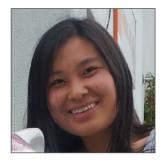
It is noteworthy that the special issues of the Air Transport Research Society World Conference are frequently in three of these four journals. Three out of these four journals are mode-independent, i.e., without a specific focus on air transportation. All four journals have recently undergone transformations towards being partially Open Access-published, at fees surpassing 1500 USD per accepted paper. We envision JATRS, a community-driven effort for scientific dissemination, to find a place among these journals, while trying to address their apparent limitations, e.g., high publishing costs and long turn-around times. To meet this goal, we explicitly seek the help from the entire community:

- First, we hope that the papers published in our first issue encourage you to consider JATRS as a potential outlet for your own research in the future. The submission process is rather simple, with a one-step file upload after successful registration to the journal system. We put a strong emphasis on providing timely feedback to everyone.
- Second, we hope that you would consider providing a timely review for JATRS upon invitation. We are aware of researchers being overloaded with many scientific and administrative tasks; and we are also aware of the number of review invitations researchers receive. As a rule of thumb, one should be willing to review two manuscripts for each submitted paper; in order to further improve the review system.
- Third, we hope that you can spread the word about JATRS to friends and colleagues. While being rooted in the Air Transport Research Society community, we are open to submissions from a wider pool of scientific domains, if these submissions clearly state their novel contributions and insights. Moreover, we hope that the community will also start to cite papers published in JATRS, as we will aim to get indexed by Web of Science in the near future.

To conclude with the words of Tae Oum, we decided to pick up on the challenges of creating the journal and hope for your support on the way to turn JATRS into a lively and successful dissemination venue for air transport research.

Best regards,

Martin Dresner and Xiaoqian Sun (Co-EICs of JATRS),
also in the name of our JATRS editorial board members:

Christian Bontemps, ENAC / Toulouse School of Economics
Achim Czerny, Hong Kong Polytechnic University
Wouter Dewulf, University of Antwerp
Xiaowen Fu, Hong Kong Polytechnic University
Gianmaria Martini, University of Bergamo
Tae H. Oum, University of British Columbia, *Founding president of the ATRS*
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Anming Zhang, University of British Columbia, *President of the ATRS*

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