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© 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

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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:

- Airbus (2003), Global Market Forecasts 2003-2022, Toulouse: Airbus.
- Fragoudaki, A., Keramianakis, M. and Jancovich, S. (2005) The Greek PSO Experience. *4<sup>th</sup> International Forum on Air Transport in Remoter Regions*. Stockholm, May 24-26.
- Forsyth P. (2002a), 'Privatization and Regulation of Australian and New Zealand Airports', Journal of Air Transport Management, 8, 19-28.
- Papatheodorou, A. (2008) The Impact of Civil Aviation Regimes on Leisure Market. In Graham, A., Papatheodorou, A. and Forsyth, P. (ed) *Aviation and Tourism: Implications for Leisure Travel*, Aldershot: Ashqate, 49-57.
- Skycontrol (2007) easyJet welcomes European Commission's decision to limit PSO abuse in Italy. 23<sup>rd</sup> April. Available from: http://www.skycontrol.net/airlines/easyjet-welcomes-european-commissions-decision-to-limit-pso-abuse-in-italy/ (accessed on 22/08/2008).

*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.

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Forecasting has been a key factor in the planning and development of civil aviation. This paper surveys current techniques in air traffic forecasting. The advantages and disadvantages of the techniques, as well as the criteria for selecting of a particular technique are discussed. Then, the forecasting work of the International Civil Aviation Organization (ICAO) is comprehensively introduced, i.e. the traffic data, the methodological framework, and the major models. It involves ICAO's practices under this subject in the last two decades. ICAO's forecasting has long been a reliable reference for its 191 member states. In this paper, main results of ICAO's up-to-date forecasts of 2011-2030 global air traffic, both passengers and cargos, are conveyed.

2. MODELING THE RISK OF ABNORMAL CABIN INCIDENTS IN TAIWANESE AIRLINES: AN APPLICATION OF THE BROWN-GIBSON MODEL AND FAA SAFETY RISK MATRIX.......23

Jin-Ru Yen, Yao-Feng Wang, Kung-Don Ye, Isaac I. C. Chen, Kai-Kuo Chang, Shih-Hsiang Yu, Chi-Hung Evelyn Wu, Yu-Chun Chang, Hero Ho and Yun-Ling Lee

While most of the research related to aircraft cabin safety has focused on fire, evacuation, and survival factors, it has been recognized that there are some other incidents that might affect flight safety and merit special attention. In Taiwan, a broad array of cabin incidents that have the potential to affect flight safety have been investigated and labeled as "abnormal cabin incidents," which include abnormal passenger behavior on board and medical problems. In the present study, the Brown-Gibson Model and Safety Risk Matrix were applied to investigate various ACIs. According to the results, sickness, injury, cell phone usage, the use of mobile electronics, unruly behavior, smoking, and carrying dangerous goods were categorized in the category of "acceptable with mitigation" proposed by the FAA. Excessive drinking, oral abuse, sexual harassment, physical assault, and other types of incidents were categorized in the "acceptable" group. These research results can be used to identify significant incidents related to flight safety and to allow appropriate resources allocation.

This study proposes a mechanism for measuring pilot-controller communication errors and develops a model to evaluate their communication performance. Empirical data based on 73 transcripts of communication from the Taipei Flight Information Region (FIR) are analyzed to validate the developed model and investigate communication issues. The results show that about 87% of all communication errors found in the transcripts had a relatively low level of influence on flight safety, while 13% had a severe influence. Additionally, the results of performance measurement indicate that the overall level of communication performance is relatively low. These findings are expected to be applicable to other countries whose native languages are not English. The performance model developed in this study can help management in the industry to evaluate radio communication performance of their aviation personnel.

Total Airport Management is a relatively new concept for a comprehensive optimization of airport processes. It is based on enhanced information sharing and communication among all stakeholders as well as on extended and improved forecasts of airport processes. The following paper describes a general concept for integrating landside passenger processes into Total Airport Management. It explains how landside stakeholders can be included in real collaborative decision making, in particular functionalities and Human Machine Interfaces of a prototypical TAM-compatible Passenger Management implementation called "PaxMan". As a result of the improved linking of airside and landside processes, it is shown how airport stakeholders and passengers can benefit from this integration and from proactive airport operations.

Technology impact evaluations in air transport require the specification of environment conditions, such as the traffic structure. Since a multitude of worldwide traffic situations exists, this paper presents a systematic approach based on cluster analysis that can handle the worldwide diversity, while ensuring to determine most relevant traffic situations. This is crucial for the universality and global relevance of evaluation results. The approach is presented for the application example of runway capacity evaluation, as part of which features of daily movement distributions of airports and the traffic mix as well as peak situations are quantified. The resulting representative airport and peak categories comprise a limited set of typical traffic situations worldwide that can serve as standard input for capacity-related evaluation, ensuring comparability and clarity.

While some research has been done on passenger airlines strategy, the strategies of air cargo carriers have hardly been researched. This paper analyses and compares the strategies of air cargo carriers. Therefore, a typology of management strategies for both combination and full cargo airlines has been developed, in which the various strategy choices within the strategic framework of the respective air cargo carriers are further elaborated. The typology has been developed through a K-means cluster analysis on a data set of 47 air cargo carriers. The use of a cluster analysis to group the strategy models of a number of air cargo carriers is a novel feature of this research. The results of this research generate a typology of seven representative clusters of air cargo carriers' strategy models, each with their own characterizing features. Striking differences and similarities are highlighted. Our findings suggest the clear existence of different strategy models and the differing degree of focus on air cargo strategy development and deployment among the air cargo carriers' population.

This study researched whether pertaining to a global strategic alliance brought significant benefits to the 'bottom line' of allied airlines. The study compared the net return of airlines which had joined global alliances against a control group of airlines

which had not joined any alliance before and after joining an alliance (or equivalent measure), as well as in their relative net performance both in the short-term and in a longer term. Results showed a sensible deterioration in net profitability for the alliance group and a perceptible improvement in net profitability for the non-alliance group. The latter also differed from the former in having a positive relative net performance in the short-term.

#### Editorial

#### Selected Papers from the 2012 ATRS World Conference

For this special issue of the *Journal of Air Transport Studies* we have selected seven papers out of 193 papers that were presented at the 16<sup>th</sup> Air Transport Research Society (ATRS) World Conference. The conference was held in Tainan, Taiwan, in June 2012 and attracted some 248 participants.

In order to give the reader an overview of several decisive issues in air transport, the first paper in this ATRS special issue gives insights to ICAO's forecasting process, the following two papers contribute to air transport safety, cabin incidents and ATC communication errors, while the next two papers lead the reader into the concept of total airport management and typologies for technology impact comparability in airports. In the subsequent paper we learn about the strategic development of cargo carriers and the last paper answers the question if alliances improve the bottom line of airlines. These papers, covered in more detail below, provide a valuable insight into current airport and airline issues.

As the industry is increasingly under pressure from various stakeholders that affect its ability to grow along the same trajectory as in the past, *forecasting* has taken on a new dimension where past methods of focusing on projecting past trends into the future are increasingly inadequate to understand the challenges that the industry may face in the coming decades. In the lead paper of this issue Yao, Yu, and Anwar discuss the benefits of current techniques in air traffic forecasting. They present the forecasting work of the International Civil Aviation Organization (ICAO) in detail and convey the main results of ICAO's 2011 to 2030 global air traffic forecast.

Safety is the one area of great importance for the industry necessitating research of any aspect of operations and human condition that can help prevent or manage dangerous incidents. Yen, Wang, Ye, Chen, K. K. Chang, Yu, Wu, Y. C. Chang, Ho and Lee research into cabin incidents that have the potential to affect flight safety such as abnormal passenger behavior and medical problems. The results suggest a two category allocation of incidents into "acceptable with mitigation" and "acceptable". The categorization of incidents suggested by this research can be used to identify incidents for proper evaluation and response.

Communication is the exchange of information between various posts of the air transport system. In view of the international character of the industry the meaning of exchanged words is codified to prevent as much as possible misunderstandings between operators in different countries. Yen, Wang, Tsai and Ho in their study propose a mechanism to evaluate communication performance of air traffic control. Their results show that the majority of communication errors had low influence on flight safety, while about 13% had a severe influence and the overall level of communication performance is relatively low. The authors assert that their performance model can help management to evaluate communication performance among aviation personnel.

Increasingly businesses and institutions understand the importance of the interlinkages of various internal units with the external. How total activity systems can be fine-tuned to augment performance has become a major focus area in many subject areas. Helm, Classen, Rudolph, Werner and Urban present the concept of *Total Airport Management* for a comprehensive optimization of airport processes. The concept revolves around enhanced information sharing and communication among all stakeholders as well as on extended and improved forecasts of airport processes. The paper concludes that improved linking of airside and landside processes can benefit users and operators and lead to more proactive airport operations.

All airports are not created the same and understanding how different types of airports cluster around the world helps in analyzing and compare them. Öttl, Reeb, and Hornung present airport categories for technology impact evaluation. The paper uses cluster analysis to identify diverse airport categories worldwide. The results represent a set of typical traffic situations to use as input for capacity-related evaluation.

Surprisingly little academic research has focused on strategy among *air cargo companies*, a crucial business providing fast corridors for goods worldwide. Dewulf, Meersman and Van de Voorde research into and compare strategies of air cargo carriers using cluster analysis. Their findings suggest the existence of different strategies and degree of development and deployment among the air cargo carriers.

In the last, but not least paper of this special issue we learn about if airline

alliances are really aiding the financial bottom line of the member airlines. Perezgonzalez and Lin in their study compare airlines that are members of a global alliance against airlines which are not. The results show deterioration in net profitability for the alliance group and a perceptible improvement in net profitability for the non-alliance group.

We take this opportunity to extend our thanks to the authors and referees for their contribution to this ATRS Special Issue of the *Journal of Air Transport Studies* and hope that the papers become a source for further inquiries into the respective topics.

Joel Zhengyi Shon Tainan University of Technology Tainan, Taiwan joelshon@ms4.hinet.net

Sveinn Vidar Gudmundsson Toulouse Business School Toulouse, France s.gudmundsson@tbs-education.fr