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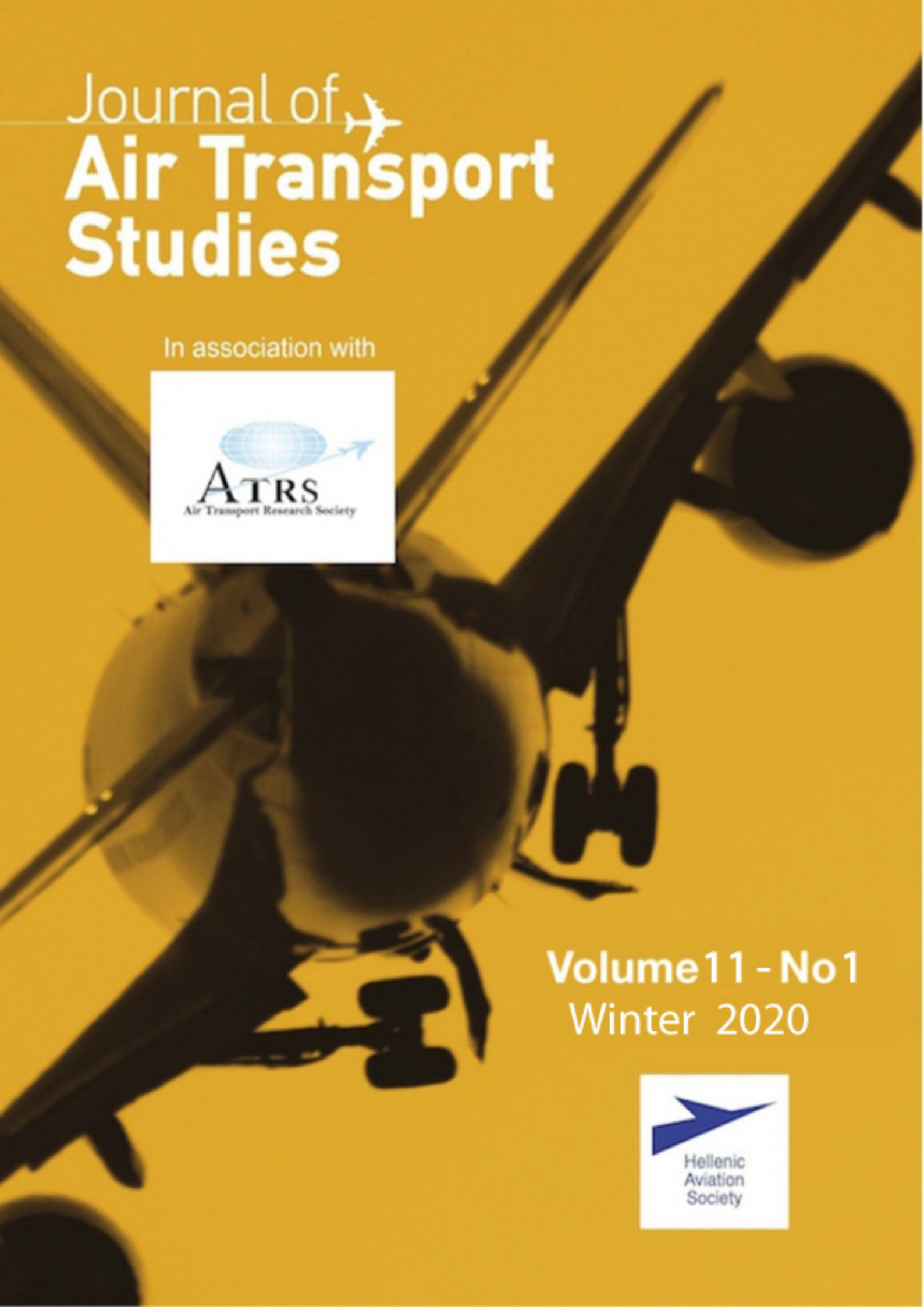

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The *Journal of Air Transport Studies* (JATS – ISSN:1791-6771) is a peer reviewed journal aiming at publishing high quality research related to air transport. JATS is interested in publishing papers primarily focusing on economics, geography, policymaking,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

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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 via journal's website https://jats.aviationsociety.gr 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 *Publishing Agreement* 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:

- Airbus (2003), *Global Market Forecasts 2003-2022*, Toulouse: Airbus.
- Fragoudaki, A., Keramianakis, M. and Jancovich, S. (2005) The Greek PSO Experience. *4th 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: Ashgate, 49-57.
- Skycontrol (2007) *easyJet welcomes European Commission's decision to limit PSO abuse in Italy*. 23rd April. Available from: http://www.skycontrol.net/airlines/easyjet-welcomes-european-commissions-decision-to-limit-pso-abuse-in-italy/ (accessed on 22/08/2008).

Industry Perspectives are usually shorter than full research papers and should 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.

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.

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This issue of the *Journal Air Transport Studies* innovates in an interesting way by bringing together papers from different sources. In particular, the first four papers were originally presented during the 2019 International Conference on Strategic Innovative Marketing and Tourism (ICSIMAT) held in Chios. The fifth paper complements the selection of the conference papers to build a solid issue, which explores and highlights how strategic innovative marketing in tourism affect the air transport industry.

Scholars and industry practitioners have highlighted the need to integrate strategic planning, innovative marketing, and tourism activities to enhance the role and functions of air transport. Current trends and future planning are essential in bringing together expertise that highlights the crucial and interdisciplinary nature of these fields. Tourist infrastructure is not sustainable without the inclusion of aspects of destination marketing, the importance of sociocultural factors, strategic planning, innovation, and the support of a strong transportation base (that includes ground, air, and sea transportation options). This issue of JATS highlights the need of adopting and extending the holistic approach to air transport growth by enhancing marketing approaches to include innovation, strategic planning, and tourism activities.

A review of literature in the interrelationship between air transport and tourism has revealed a growing area of academic attention to include air route development, passenger experiences, affordable air travel through low-cost carriers, and environmental concerns such as carbon emissions (Spasojevic et al. 2018). These themes are interrelated; low-cost carriers are related to growing mass tourism development and environmental impact as well as varying levels of customer experiences.

The four conference papers provide a cutting-edge insight into current trends and outlook in the air transport industry. **Havlovic** examines the European Works Councils in the airline industry from an organisational management perspective, identifying links between low-cost carriers, labour union tensions, and environmental protection policies (or lack of). **Salamoura and Voxaki** investigate the sources of poor passenger service experience during times of flight disruption in the context of leisure- and low-cost carrier-traffic-based Chios airport in Greece. Moreover, while numerous studies have examined sustainable tourism indicators (for example, see European Tourism Indicator Systems), few have directly incorporated the dynamics and volatility of air transport in the thinking. **Tsiotas, Niavis, Polyzos and Papageorgiou** attempt to develop a composite index incorporating some of these features in Greek airports. Finally, **Konstantoulaki, Yigitbas, Giovanis and Rizomyliotis** examine the links between consumers of airline services and the demonstrated corporate social responsibility (CSR) of the airlines with a particular focus on the ethical behaviour of the airlines.

More specifically, the study titled "**Transnational Representation by European Works Councils in the Passenger Airline Industry**" by Stephen Havlovic aims to provide an overview of the EWC legislation, review prior EWC studies relevant to the airline industry, and to analyse active EWC agreements in the passenger airline sector. The study reviews the existing arrangements and discusses the variations within them, finding that all EWCs are primarily concerned with corporate strategies, economic and financial situations of the company, including mergers, takeovers, and acquisitions. Except for one, environmental protection and equal opportunities are not made explicit, while there are no formal statements relating to new technology policy and corporate social responsibility. In that context, the study identifies that significant conflict between airline unions and employers remains, in areas such as, but not limited to, pay inequities, especially where low-cost carriers or low-cost carrier subsidiaries are concerned. From an organisational management perspective, the study concludes that is unlikely that EWCs in the passenger airline sector will have a meaningful contribution to EU transnational corporate decisions until labour-management tensions in the sector subside.

The paper by Maria Salamoura and Viktoria Voxaki entitled "**Improving air passengers' experience during flight disruption: the case of enforcing the Denied Boarding Regulations (DBRs) at Chios airport Omiros**" investigates the importance of understanding and improving aviation consumers' experiences of disruption at Chios Airport by exploring the implementation of the regulation known as the Denied Boarding Regulations (DBRs). According to the results, passengers are unaware of their legal rights and dissatisfied with the outcome of their complaints concerning the main sources of

disruption, namely flight delay/cancellation, denied boarding, and baggage delay, loss, or damage. In other words, passengers' overall experience does not meet their expectations about excellent customer service. These findings have managerial implications, as there is a need for a consistent approach across the airline industry to inform passengers about their rights and make airport customers' experience as pleasant as possible, which in turn will affect their recommendations to others through word-of-mouth. In conclusion, this study could be beneficial for policymakers in designing new transport marketing strategies in a more holistic approach to customer loyalty and airport branding, considering that air transport affects hospitality and tourism.

The paper by Dimitrios Tsiotas et al. entitled "**Developing indicators for capturing the airport's dynamics in regional and tourism development: evidence from Greece**", examines the factors determining the attractiveness of the Greek regional airports and develops two indicators for capturing airport dynamics, based on data referring to air traffic and on available spatial and tourism information. The first composite index captures airport dynamics in a regional development context, by computing passenger-traffic change between time periods by considering airport classification. The second measure captures airport dynamics in a tourism development context by computing tourism load in terms of international arrivals and overnights per region. Due to the major role of air transport in support of distant communication, the proposed measures may suggest valuable tools for the strategic planning and innovative marketing in tourism, especially for tourism policies addressed to international markets, in the context where a highly developed air transportation network is facilitating the conduct of inbound tourism flows. Thus, it improves the effectiveness of national strategic tourism planning and tourism policies to attract international tourism. On the other hand, a destination not supported by air transport is restricted in receiving international inbound tourism flows. Thus, the policies aiming to develop this destination in the international tourism market cannot be that effective. Towards this demand, the paper offers new decision-making tools for strategic planning and innovative marketing in tourism. It provides useful insights contributing to a profound knowledge of the airport dynamics and regional and tourism development.

The fourth paper by Kleopatra Konstantoulaki et al. entitled "**Consumer Attitudes and Behavioural Intentions towards Corporate Social Responsibility: Evidence from the Airline Industry**", seeks to explore consumers' attitudes and behavioural intentions towards corporate social responsibility (CSR) practices in the airline industry by exploring the role of consumers' perceived values and expectations towards CSR initiatives in the airline industry. Data about customers in the airline industry is used to determine the role of consumer values and expectations in relation to the attitudes and behavioural

intentions towards CSR initiatives. According to results, consumer perceptions of value dimensions and CSR expectations significantly affect customer attitudes when purchasing services in the airline industry. Results also indicate that customer attitudes have a significant positive relationship with consumers' purchase intentions in the airline industry. The paper discusses implications for managers and adds to the understanding of CSR initiatives and how the latter can lead to increasing companies' value proposition.

Although the fifth and last manuscript into this issue is not part of the selection of conference papers it complements the previous papers in an interesting manner stepping beyond traditional marketing issues to explore the role of leadership in aviation safety. After all, marketing in aviation is of almost no importance unless airlines operate in a safe environment. In particular, the paper entitled **"The Relationship Between Leadership Styles And Aviation Safety: A Study Of Aviation Industry"** by Dipak Prasad Bastola explores the impact of three different leadership styles (transformational, transactional, and laissez-fair) on aviation safety climates in Nepal as one of the most unsafe according to IATA. The author employed a survey among managers and employees of local airlines in Nepal. For the aim of his research, the author defined twelve factors to describe the independent variable - leadership style and five factors to clarify the dependent variable – safety climates. His results showed there is a correlation between leadership and safety climates in aviation. Specifically, research results indicate that the relationship between transformational leadership and safety climate in the aviation sector is much stronger compared with the relationship between other leadership styles and safety climate. Moreover, research results indicate a significant difference in leadership impacts on climate safety in governmental, semi-governmental, and private organizations in the aviation sector. To put it differently, the author's analysis shows that transformational leadership is more effective in private aviation organizations than in public ones. The paper represents one of the first of this kind, and the research on the topic might be further explored and expanded in other countries' contexts.

We want to thank all the authors and reviewers for their contribution to this issue of the *Journal of Air Transport Studies*. We believe that these papers represent a significant contribution to aviation research and practice.

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TRANSNATIONAL REPRESENTATION BY EUROPEAN WORKS COUNCILS IN THE PASSENGER AIRLINE INDUSTRY

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ABSTRACT

Mergers and acquisitions have reduced the number of European Works Councils (EWCs) in the airline industry over the past two decades. In addition, start-up low-cost airlines have been reluctant to form EWCs. Only 5 of the 11 eligible transnational passenger airlines have established EWCs. This limited number of airline EWCs reduces airline employees' opportunity to be involved in strategic decision making in areas such as tourism. All of the available EWC agreements provide the opportunity for management and employee member consultation, the offering of opinions, and providing information related to European transnational operations. The Lufthansa Group and the International Airlines Group EWC agreements contain more subject areas for discussion than the Air France-KLM agreement. Only the Lufthansa Group EWC agreement includes the topic of environmental protection.

KEYWORDS: European, Works Councils, Airlines, Transnational, Corporate Decisions.

1. INTRODUCTION

It is timely to examine European works councils (EWCs) in transnational airlines on the 25th anniversary of the European Union (EU) Directive 94/45/EC legislating EWCs. The purpose of the EWC legislation was to improve operations and relations in large firms with European transnational operations through consultation and information sharing between management and employee representatives. "European Works Councils provide for a common platform for exchange on transnational issues between employees and employers' representatives across EU Member States and EEA [European Economic Area] countries. Through them, workers are informed and consulted by management on the business's progress and on any significant decision at the European level that could affect their employment and working conditions." (European Commission, 2018a: 3)

This study aims to provide an overview of the EWC legislation, review prior EWC studies relevant to the airline industry, and analyse active EWC agreements in the passenger airline sector. The European Trade Union Institute (ETUI) database was used to identify and provide EWC agreements for a qualitative analysis of agreement characteristics and scope. (ETUI, 2019a)

The timeframe for the development of EWCs can be seen in Table 1. Prior to Directive 94/45/EC being enacted in 1994 there were some voluntary EWCs, but none existed in the passenger airline industry. "The EWC legislation covers MNCs [multinational corporations] which employ at least 1,000 workers in the EU/EEA and, at the same time, at least 150 staff in two or more Member States." (ETUI, 2019b) The EWC agreements established under the Directive before October 1996 are known as Article 13 agreements, allowing firms to establish EWCs voluntarily. These Article 13 voluntary EWC agreements were exempt from specific requirements of the Directive. "…under Article 13 of the Directive agreements … which cover the entire workforce with a system of information and consultation, are recognized as valid without having to fulfill the Directive's stipulations." (O'Hagan, 2005, pg. 398)

EWC agreements negotiated after September 1996 under Directive 94/45/EC are known as Article 6 agreements. The specific terms of Directive 94/45/EC are applied to EWC Article 6 agreements. Select Committees (SCs) within the EWC are encouraged by the Directive to help coordinate EWC meetings, improve communication, and to function as an executive committee. "Sixty-two percent of all agreements establish a select committee or bureau." (Marginson et al., 1998: 43)

Table 1. Establishment of Voluntary & Regulated European Works Councils

Actual EWC Volunteerism	1983 – 1994	Before Directive 94/45/EC
Incentive EWC Volunteerism	1994 – 1996	Article 13 of Directive 94/45/EC
Regulated EWCs	1997 – 2008	Article 6 of Directive 94/45/EC
Re-Regulated EWCs	2009+	Directive 2009/38/EC

source: Köhler & González Begega, 2010, pg. 593

An EWC Recast Directive (2009/38/EC) took effect on June 5, 2009. This new Directive was intended to overcome shortcomings of the original legislation by increasing the number of EWCs, requiring training for EWC representatives, and improving the sharing of information between management and the EWC. (European Commission, 2018b) This EWC Recast Directive continues to apply only to firms with 1,000 or more employees plus 150 or more employees in two or more EU & EEA countries. (European Commission, 2018a) However, the establishment of new EWCs under the Recast Directive has remained essentially voluntary as either the employer or at least 100 employees in two or more EU & EEA countries has to initiate the EWC establishment process. (European Commission, 2018a) It should be noted that "… the Recast Directive ('Adaption clause') lays down a requirement to renegotiate the EWC agreement if significant changes are made to the structure of the undertaking. The renegotiation is launched at the initiative of the employer or at the request of 100 employees in at least two Member States." (European Commission, 2018b: 13).

Unfortunately, research has shown that many EWCs have not had a meaningful impact on management decision-making (e.g., Skorupinska, 2011; Weber et al., 2015). According to Skorupinska, the EWCs generally share information, and their consultation has not influenced upper management (2011, pg. 78). The transport sector study in 2015 by Weber et al. found that EWC employee representatives only gave a rating of 2 on a 5 point scale for consultation with management (pg. 65), and almost half of the EWC agreements in this sector had been renegotiated or revised (pg. 48).

2. EUROPEAN WORKS COUNCIL PASSENGER AIRLINE AGREEMENTS

As shown in Table 2, over half of the original passenger airline EWC agreements have been nullified. Four of these eleven EWC agreements were cancelled by mergers (Aer Lingus, Air France, British Airways, KLM). The Alitalia EWC agreement was nullified by an equity share purchase by Etihad Airways, and the Thomas Cook EWC agreement was eliminated by bankruptcy. This finding is consistent with the European Commission (2018b, pg. 22) report

that found that mergers and acquisitions have reduced the number of EWCs that would have otherwise existed in the transport sector.

Table 2. Status of Passenger Airline European Works Council Agreements.

Airline EWC	**Agreement Dates**	**Agreement Type**	**Agreement Status**	**MNC Base**
1. Aer Lingus plc	Sep. 11, 1996	Article 13	Nullified by Merger	Ireland
2. Air France KLM	Nov. 25, 1996 Aug. 5, 2002 rev.	Article 6	Nullified by Mergers	France
3. Air France KLM	April 28, 2010 June 12, 2014 rev.	Recast Directive	**Active** Renegotiated	France
4. Alitalia	Nov. 30, 2000	Article 6	Nullified by Sale	Italy
5. British Airways	Sep. 18, 1996 Nov. 14, 2012 rev.	Article 13 & Recast Directive	Nullified by Merger	United Kingdom
6. Deutsche Lufthansa	Aug. 29, 1996	Article 13	**Active** Merger Adoption	Germany
7. easyJet Airline Company Ltd	2011	Recast Directive	**Active**	United Kingdom
8. International Airlines Group	April 27, 2017	Recast Directive	**Active**	Spain
9. KLM	Sep. 12, 1996	Article 13	Nullified by Merger	Holland
10. Ryanair	Unknown but recent	Recast Directive	**Active**	Ireland
11. Thomas Cook	June 3, 2003 March 1, 2009 rev.	Article 6	Nullified by Bankruptcy	United Kingdom

source: ETUI, 2019a

As of November 2019, only 5 or 45% of the 11 passenger airlines eligible to establish an EWC have done so. The SAS Group, LOT Polish Airlines, Aeroflot, TAP Portugal, Air Berlin, and Aer Rianta may qualify for an EWC, but have not established one. (Weber et al., 2015, pg. 105-106)

The only original Article 13 voluntary EWC agreement still active among the passenger airlines is Deutsche Lufthansa where the merged airlines (Austiran, Brussels, Dolomiti, Eurowings, Edelweiss, Swiss Air & Sun Express) adopted the existing Article 13 agreement. Air France KLM which includes Martinai and Transava airlines renegotiated their Article 6 EWC agreement under the Recast Directive in June of 2014. The International Airlines Group (IAG) was formed by the merger of British Airways, Iberian, and Vueling in 2014. IAG negotiated an initial EWC agreement under the Recast Directive after they purchased Aer Lingus in 2017.

Unfortunately, neither the EasyJet nor Ryanair EWC agreements were available through the ETUI EWC database nor via the internet. In 2011, U.K. based EasyJet negotiated an initial EWC agreement under the Recast Directive. "In the case of Ryanair, trade unions alleged that the company declared that staff are only employed in Ireland thus the company is not a 'transnational' company to qualify under the EWC Directive." (Weber et al., 2015, pg. 30) It is surprising that Ryanair, which was known for being anti-union and anti-EWC, recently negotiated an EWC agreement under the Recast Directive. The fact that Ryanair negotiated an EWC agreement provides some hope for better management and employee relations in these low-cost airlines.

3. ANALYSIS OF THE AIRLINES EWC AGREEMENTS

The Deutsche Lufthansa group has a workforce of over 80,000 employees operating in 22 EU & EEA countries. Under the Lufthansa Article 13 EWC agreement, which is only 4 pages long, there is no set number of EWC meetings per year nor details in terms of EWC membership. (ETUI, 2019a) The Lufthansa EWC agreement says that "The information and consultation must occur early enough that the opinion of the responsible employees' representation bodies can still be included in DLH's decisions." (Lufthansa, 1996). According to Weber et al. (2015, pg. 10) the Lufthansa Group EWC is not active, but this could not be verified (ETUI, 2019b or elsewhere).

Air France KLM operates with over 80,000 employees in 16 EU & EEA countries and has an EWC with 33 representatives from 25 countries, with the majority from France and Holland. (ETUI, 2019a) Their EWC agreement says "…management and employee's representatives will seek to ensure the effectiveness of the Groups' enterprises while also taking their employees into account." (Air France KLM, 2014). Yet, their EWC agreement does not identify whether they have an "employee only" or "joint management & employee" EWC structure.

The International Airlines Group (IAG) headquarters is in Spain even though the majority of its over 50,000 employees are in the UK. IAG has operations in 24 EU & EEA countries. Their EWC has 37 members, three members from Ireland, five members from Spain, eight members from the UK, and one member from each of the other 21 European countries with IAG operations. Their EWC meets twice per year. "IAG and employee representatives recognise the value of information and consultation of its employees and the importance of working together in the spirit of co-operation to ensure the future success of the Group. To this end, both parties recognise the need to share information and have a constructive dialogue about the activities of the Group." (International Airlines Group, 2017)

The available active EWC agreements for Deutsche Lufthansa, Air France KLM, and the International Airlines group (see Table 3) were downloaded from the ETUI EWC database for qualitative analysis. (ETUI, 2019a) The EWCs for these three airline groups cover 17 European passenger airlines. The composition of the Lufthansa Group EWC is "employee only," whereas the International Airlines group EWC is a "joint management & employee" structure. The EWC composition type for Air France KLM is unknown.

All three of these passenger airline EWCs have Select Committees (SCs): Air France KLM (7 members); Deutsche Lufthansa Group (2 members); and International Airlines Group (7 members). Both the Air France KLM and International Airlines Group SCs serve as an executive committee for their EWC. These SCs meet separately with management ahead of their respective EWC meetings and between the regular EWC meetings. However, the Lufthansa Group SC has only two members, and its responsibility is limited to EWC meeting facilitation and communication.

As can be seen in Table 3, all three airline EWCs have transnational roles involving information sharing, consultation, providing opinions, and offering comments. The Lufthansa Group EWC, however, is not entitled to make recommendations. In terms of competencies, all three of the EWCs are involved with their airline groups' transnational activities related to financial matters, corporate strategy, work methods, employment situation, mergers, takeovers, acquisitions, company structure, transfers, and relocations. Air France KLM's EWC agreement scope is more limited than the Lufthansa and the International Airlines Group agreements whose EWCs also consult on business development, redundancies, closures, cutbacks, health & safety, and reorganizations related to productivity. However, while not included in the main body of their EWC agreement, the preamble of the Air France KLM EWC agreement states, "Particular attention will be paid to issues relating to employment, working conditions, health, safety, training, mobility, diversity, and equal opportunities" (Air France KLM, 2014).

This preamble statement by Air France KLM on the scope of their EWC is encouraging, but, surprisingly, these terms are not included in the main body of their EWC agreement. The Lufthansa Group was the only EWC agreement to include environmental protection in their mandate, and the International Airlines Group EWC agreement was the only one to include consultation on equal opportunities. Surprisingly, none of these passenger airline group EWCs are consulted on new technology policy, social responsibility, human resource management practices, or vocational training.

Table 3. Characteristics and Scope of Active Airline EWC Agreements*.

(AF-KLM=Air France KLM; LG=Deutsche Lufthansa Group AG; IAG=International Airlines Group)

Role of the EWC:	**Airlines**
Giving opinion/comments	AF-KLM, LG, IAG
Information and consultation	AF-KLM, LG, IAG
Making recommendations	AF-KLM, IAG
Competences of the EWC:	
Economic and financial situation of the company	AF-KLM, LG, IAG
Corporate strategy and investment	AF-KLM, LG, IAG
Changes to working methods / organisation	AF-KLM, LG, IAG
Company structure	AF-KLM, LG, IAG
Employment situation and forecasts	AF-KLM, LG, IAG
Mergers, take-overs or acquisitions	AF-KLM, LG, IAG
Transfers / relocation	AF-KLM, LG, IAG
Probable development of the business, production & sales	LG, IAG
Collective redundancies	LG, IAG
Closures or cutbacks	LG, IAG
Health and safety	LG, IAG
Reorganisation of production	LG, IAG
Environmental protection	LG
Equal opportunities	IAG
New technology policy	- - -
Corporate social responsibility	- - -
Human resource management practices	- - -
Vocational training	- - -

(ETUI, 2019a; Havlovic, 2019)

*EWC agreements analysed by ETUI except IAG which was analysed by the author.

4. CONFLICTS IN THE AIRLINE INDUSTRY

Despite EWC consultations within the major European airline groups, there has been considerable conflict between airline unions and management. "The airline industry has experienced arguably more than its fair share of industrial conflict … due largely to the high volume of restructuring undertaken and continuing waves of change." (Eurofound, 2005, pg. 23) Factors contributing to airline union-management conflicts include privatization of the European national airlines, mergers and acquisitions of European airlines, increased competition from start-up discount airlines, and the entry of non-European airlines. Some "…low-fare airlines have developed anti-union strategies making any negotiation and worker participation … at EU level in the form of an EWC impossible." (Weber et al., 2015: 28)

Discount airfares from low-cost airlines and pay inequities have contributed to labour strikes at traditional European airlines. For example, British Airways' cabin crews planned a strike over a two-tiered pay scale (Sumers, 2017), Aer Lingus Regional crew threatened to strike

over pay and working conditions (Percival, 2019), and strikes by Lufthansa employees over pay equity and employee representation (Seith, 2008). Pressure also comes from subsidiary low-cost airlines such as "…Eurowings 'the Lufthansa cheap fare airline, where the salaries are about 40 percent lower'." (Arens, 2016) Arens reported that Lufthansa pilots went on strike 14 times during 2015-16 for pay increases and better working conditions. There have also been conflicts between merged partners such as KLM and Air France. (Stothard, 2016)

5. CONCLUSIONS

Some voluntary European works councils (EWCs) existed before October 1996 in the passenger airline industry (e.g., Aer Lingus, British Airways, Deutsche Lufthansa, KLM) under Article 13 of Directive 94/45/EC. After this date, EWC Directive regulations applied to larger transnational airlines operating in two or more European Union (EU) or European Economic Area (EEA) countries when initiated by either the employees or management. The privatisation of passenger airlines in the EU & EEA led to many mergers and acquisitions plus the emergence of low-cost airlines (e.g., Ryanair, easyJet). Airline consolidations and increased competition have contributed to EU airline employees' labour unrest, resulting in frequent strikes. Less than half of the airlines (currently 5 of 11) covered by the EWC Directive have established a council, and these EWCs have shown limited ability to improve organizational outcomes.

The fact that over 50 percent of the airlines covered by the Directive do not have an EWC has eliminated the opportunity in these non-EWC airlines for pilots, flight attendants, customer service representatives, and ground personnel to have a mechanism for strategic consultation with management on topics such as tourism and the quality of the tourist air travel experience. Where EWCs exist, they should be encouraged by management to make suggestions for improving tourism. Unfortunately, it is unlikely that airline EWCs will be able to enhance tourism in Europe or non-EU destinations.

Until there is a reduction in the conflict between management and employees in the European passenger airline industry, it is unlikely that the EWCs in this sector will effectively influence management decisions. This lack of EWC influence is not unique to the passenger airline sector. "All too often, workers' involvement is a mere formality and has limited impact as EWCs continue to be presented with a 'fait accompli', especially in the event of transnational company restructuring." (ETUC Executive Committee, 2017, pg. 1) While the framework has been built for consultation within the airline EWCs, it is difficult to see the EWCs making meaningful contributions to transnational airline decisions anytime soon.

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IMPROVING AIR PASSENGERS' EXPERIENCE DURING FLIGHT DISRUPTION: THE CASE OF ENFORCING THE DENIED BOARDING REGULATIONS (DBRs) AT CHIOS AIRPORT "OMIROS"

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ABSTRACT

Over the past few decades, air travel is no longer considered a luxury, but a commodity, as passengers are faced with the choice of traveling to various destinations at a lower cost and higher safety than ever before. Nevertheless, passengers' overall experience does not meet their expectations about excellent customer service, as flying results in various problems. This article focuses on the importance of understanding and improving aviation consumers' experiences of disruption at Chios Airport by investigating the implementation of the regulation known as the Denied Boarding Regulations (DBRs). The results show that passengers are unaware of their legal rights and dissatisfied with the outcome of their complaints concerning the main sources of disruption: flight delay/cancellation denied boarding, and baggage delay, loss, or damage. Furthermore, "refund of flight cost", "rescheduling/rebooking (free)", "financial compensation", "information on legal rights" and "flight status information" are critical factors for delayed or cancelled flights.

KEYWORDS: Transport Marketing, Aviation Passenger Rights, Air Transport, Airline Passenger Satisfaction, Air Passenger Expectations, Hellenic Civil Aviation Authority.

1. INTRODUCTION

Aviation plays a vital role in global business and the tourism industry through a fast-growing transportation network. Nowadays, flying has changed from being a luxury for a few to a mode of transport for all, whether travelling for business purposes, official duties or for holidays. Alexandre de Juniac, IATA's Director General and CEO, said that "In 2000, the average citizen flew just once every 43 months. In 2017, the figure was once every 22 months. Flying has never been more accessible. And this is liberating people to explore more of our planet for work, leisure and education". At the same time, ATAG's Executive Director, Michael Gill, stated that "Advances in air transport have changed the way people and businesses connect with each other. More people in more parts of the world than ever before are taking advantage of safe, fast, and efficient travel". Angela Gittens, the Director General of Airports Council International, concludes: "Airports are crucial links in the air transport value chain that drive economic and social benefits for the local, regional, and national communities they serve. Airports act as catalysts for employment, innovation, and improved global connectivity and trade"[1] (ATAG, 2018). Indeed, over 4.1 billion passengers were carried by the world's airlines in 2017, showing an increase on demand (Revenue Passenger Kilometers - RPKs) of 7.6% as compared to 2016, representing an additional 280 million trips by air (IATA, 2018; 2018a).

Due to this increase to the number of people traveling each year, the protection of air passengers' rights has been of great importance internationally, as 22% of air passengers, according to the Eurobarometer have faced problems in the last 12 months when traveling (ECC-Net, 2016). In other words, increased air transport also increases air traffic resulting in airport congestion, air traffic constraints and additional airport security measures.

Although disruption is relatively rare, it can cause major problems for aviation consumers, with delayed, cancelled, diverted or overbooked flights cause significant financial and non-financial harm to passengers. In other words, as congestion and delays result in a large cost on society, efforts to reduce these costs should be planed worldwide (Ball, et.al. 2010). In other words, aviation passenger rights are one of the most important consumer rights, making thus superior quality of service and understanding of customer expectations a key to the success and survival of airlines in a very competitive environment (EEC-Net, 2016). The European Commission introduced a series of passenger rights through Regulation (EC) 261/2004, establishing common rules for passengers in the event of denied boarding, flight cancellation or long delays (ICAO, 2013). These rights are intended to ensure that if passengers have the misfortune to be affected by a flight disruption, they should be given the

[1] https://www.atag.org/component/news/?view=pressrelease&id=110

assistance they need. Understanding passengers' experiences during their flight stops is particularly useful in improving the value of air transport consumers. Also, ensuring that passengers gain information on the implementation of the Regulation (EC) 261/2004 and are properly cared when their flight is interrupted, will help us to gain knowledge about airlines' compliance with the regulation (CAA, 2014).

Consequently, effective strategic marketing planning will enable airline managers to satisfy customers in a more effective way, as the knowledge of their rights and a better service quality will affect their willingness to travel, which in turn will affect their recommendations to others through word-of-mouth. In other words, this study could be beneficial for policymakers in designing new transport marketing strategies, considering that air transport affects hospitality and tourism.

This research aims to understand the actual passenger's flight experience during flight disruption and inform them about the implementation and enforcement of the DBRs**.** More specifically, the main purposes of the study are to investigate the most frequent reasons for flight disruption in the case of 224 respondents flying from Chios Airport "Omiros", to explore their aspects during flight delay or cancellation, denied boarding and baggage loss or delay, as well as to summarize the most important factors for passengers in an event of flight delay or cancellation.

This research is organized as follows. Following the introduction, a general overview of customer satisfaction and expectations in airline services along with an analysis of air passenger's protection and rights are presented in the literature review section. The research methodology used in this study is then discussed using quantitative data research. Data analysis is outlined in section 4, using univariate and multivariate data analysis. Finally, contributions, limitations and extensions are considered in Section 5.

2. LITERATURE REVIEW

2.1 CUSTOMER SATISFACTION AND EXPECTATIONS IN THE AVIATION INDUSTRY

In the past decades, the aviation sector has become even more challenging, making many airlines increase airline passengers' satisfaction through service quality to differentiate themselves from competitors. As mentioned in the introduction section passengers' safety is a basic requirement in the aviation industry. This could be achieved through standardization

of ground equipment and procedures. As an airport is a complex system of facilities, the process of airport planning will lead to greater customer satisfaction (Kazda and Caves, 2007).

Yee et al. (2008, p. 662) argued that "There is fundamental relationship among employee satisfaction, service quality, customer satisfaction, and firm profitability", while Halil et al. (2008, p. 266) claimed that "Customer satisfaction increases profitability, market share, and return on investment". The pioneers in the SERVQUAL model's conceptualization were Gronroos (1982) and Parasuraman, Zeithaml and Berry (1988), who introduced the concept of service quality as a result of customers' evaluation, as compared with their prior expectations. Additionally, Gronroos concluded that airline passengers' satisfaction is influenced by the contacts with employees and physical and technical resources, i.e. in-checking desks, seats, meals, etc. "The passengers' interactions with such human and non-human resources during the pre-flight, in-flight and post-flight production processes will certainly affect his evaluations of the service, and on the service, he perceives he has received" (Gronroos, 1993, p.38).

Airline managers must not only understand customers' needs but also exceed them. Service quality and customer satisfaction are key determinants to make airline companies' services stand out amongst their competitors. Suppose the airline company keeps service quality at high level. In that case, it will positively affect customer satisfaction and repurchase intention, which will lead to a bigger share in its market. Several related studies illustrate this emphasis on service quality and customer satisfaction in the Airline industry. Halil et al. (2008), by using a multiple-item industry-specific scale measuring perceived service quality (AIRQUAL) concluded that service quality perceptions are associated with airline passengers' satisfaction and repurchase intentions. In the context of studies on aircraft transport, Archana and Subha (2012) investigated excellent passenger satisfaction as one of the greatest assets for air business, with the delivery of high passenger service quality key factor for airlines survival and competitiveness. In this frame, they examined which airline service quality dimensions – i.e. in-flight services, in-flight digital services, and airline back-office operations – are positively related to airline image and passengers' satisfaction intentions. Similarly, Abdullah et al. (2007), argued that it is important for airlines to understand customers' expectations by developing passenger-focused services and implementing strategies to sustain customer loyalty. More specifically, they found a positive relationship between satisfaction with airline services and both future use of the airline and the likelihood of recommending it to others, with empathy, tangibles and assurance the most significant factors of airline customers' perception of service quality. Furthermore, airline passengers' perceptions about quality are

enhanced through the effect of online communities, which "serve as a networking platform that brings together positive and negative comments" (Kavoura and Kefallonitis, 2018).

According to American Customer Satisfaction Index (ACSI, 2018) among airline customer experience benchmarks, on-time arrival and baggage handling were listed as critical elements of the customer experience, which in turn determines airline customer satisfaction. According to a research done by J.D. Power and Associates (2010; 2012), the key operational metrics used to measure airline satisfaction according to the US Department of Transportation, are on-time arrival, mishandled bags, denied boarding, and customer complaints. As air passengers perceive their travel as an experience, an excellent airport experience should include safety and security measures, efficiency, on-time, and hassle-free performance and pleasure. In other words, it is crucial to understand the key drivers of customer satisfaction, which can be achieved by managing customer expectations about service quality. «Excellent customer service is defined as the synergy created when an airport's ability to exceed its customers' needs and expectations consistently matches the customers' perception that their needs and expectations are well met» (Paternoster, 2007, p. 219). Finally, Aksoy et al. (2003, p. 343) suggest that passengers' expectations of domestic and foreign carriers, which are based on differences from the customers' viewpoint, are key influencing parameters of the airline industry's service decisions. "The customer, rather than marketing, is at the center of modern business philosophy, and customer service satisfaction is the primary aim".

2.2 AIR PASSENGER˙S PROTECTION AND RIGHTS

As previously mentioned, although air travel is considered a commodity, passengers' expectations about delivering high-quality service are often neglected. "The deterioration in quality is tied to several factors, including operational delays due to airspace or airport congestion and insufficient contingency planning in cases of severe weather. Also, of significance is the increased travel time associated with the passenger compliance of security measures" (ICAO, 2013, p.1-2). Indeed, time natural disasters (i.e. the closure of European airspace triggered by the Icelandic volcano eruption in April 2010), or cases of severe weather cause air travel disruptions, resulting thus in increasing attention to the issue of consumer protection (ICAO, 2013). Sherry, Wang and Donohue (2007), investigated a new metric for passenger trip time, "expected value of passenger trip delay", which accounts for flight delays or cancellations as well as passenger trip delay, that is correlated with airline passengers' satisfaction and loyalty.

From 1991 until today, with the liberalization of air transport, problems with passengers' protection, which stem mainly from the multiplication of air carriers, have increased. The number of passengers who, despite their will, are not allowed to board an aircraft on which they have confirmed detention remains high (Hatzinikolaou - Angelidou, 2005). According to ICAO (2010), the world's airlines transported approximately 2.3 billion passengers and 38 million tons of freight on scheduled services while concurrently forecasting passenger traffic to grow at a rate of 4.8% per year through 2036. A recent study estimated the total cost of all US flight delays in 2007, which was $32.9 billion, with $16.7 billion costs to passengers, based on their time lost due to schedule buffer, flight delays and cancellations, and missed connections (Ball et al., 2010). Concerning European baggage handling as compared with USA, 15-20 bags and 6 per 1000 passengers were mishandled respectively, with main contributory factors worldwide transfer bag mishandled (61%) (Kazda and Caves, 2007).

For this reason, in past years, the issue of airline passengers' protection has been of great importance. In 2004, the European Community adopted Regulation 261/2004/EC amending the shortcomings of the original Regulation 295/1991 to strengthen passenger rights. Regulation 261/2004/EC, known as the Denied Boarding Regulations (DBRs), included the rules for the protection of passengers, in particular in the event of denied boarding due to overbooking, giving information to them for their rights, care and assistance, reimbursement and financial compensation (CAA, 2014). The European Union also adopted Regulation 889/2002/EC, defining air carriers' liability for passengers and their luggage. As passenger protection has attracted increasing attention, other regions have been taken respective measures, such as the United States Department of Transportation in 2011, applying a rule to U.S. and foreign air carriers increasing compensations for passengers involuntarily denied boarding, the Latin American Civil Aviation Commission in 2004, adopting Recommendation A16-8 *(Rights of the Users),* protecting passengers holding confirmed reservations who have been denied boarding involuntarily, or the Civil Aviation Authority in Singapore, which under a different approach educated passengers on basic aspects of air travel, i.e. what to consider when purchasing airline tickets etc. (ICAO, 2013). Table 1 summarizes the passengers' rights according to the regulation 261/2004/EC and the Regulation 889/2002/EC (Official Journal of the European Union L 46, 17 February 2004; Official Journal of the European Communities L 140, 30 May 2002).

Table 1. A Summary of passenger's rights according the Regulations 261/2004/EC and 889/2002/EC

Flight cancellation	**Flight delay**
·In the event of a flight cancellation, the operating air carrier must provide passengers with the following options: (a) your alternative transport, under comparable conditions, to your final destination; or (b) transferring you under comparable transport conditions to your final destination another day serving you if there are seats available or (c) refund of your ticket and, if applicable, return flight to the original point of departure. ·In addition, they are entitled to free meals and refreshments depending on waiting time, and hotel, accommodation (if the flight is in the next few days), transfer between airport and place of accommodation, communication facilities. ·Finally, they are entitled a compensation between € 125 and € 600, depending on the kilometer distance	· In the event of a flight being delayed, the carrier must offer free soft drinks, communication, meals and overnight accommodation as well as transfer between airport and accommodation (depending on the delay time). · When the delay is at least five (5) hours, you can choose the passenger to receive the ticket and not to fly. · If the passenger reaches his final destination more than three (3) hours late, you can receive the same compensation as the passengers of a cancelled flight unless the delay was caused by extraordinary circumstances, which could not have been avoided, even if all reasonable measures have been taken by the air carrier. · Compensation is between € 125 and € 600, depending on the kilometer distance
Denied bording	**Loss /delay /damage of luggage**
·The carrier is looking for volunteers, in exchange for benefits under conditions. ·Passengers who resign from their reservations are also provided with assistance in accordance with Article 8, i.e. the right to a refund or transfer by another flight or other means of transport. ·Also, if there are not enough volunteers to allow the remaining passengers with reservations to board the aircraft, the air carrier may then deny passengers their boarding despite their will. In this case, the carrier shall promptly compensate them in accordance with the provisions of Article 7 (right to compensation) and provide them with assistance in accordance with the provisions of Articles 8 (Right to reimbursement or re-routing) and 9 (right of care) ·Compensation is between € 125 and € 600, depending on the kilometer distance.	· A maximum carrier's liability is limited to 1000 Special Drawing Rights per passenger. · After 21 days of delay in receiving the baggage, it is considered as lost. · In order to determine the amount of compensation, the airline requests the passenger a list of items of luggage. · In the event of damage to the luggage, the passenger must write and complain within seven days. · In case of delay, the passenger must write and complain within twenty-one days

Source: Adapted from the Regulation 261/2004/EC (https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=OJ%3AL%3A2004%3A046%3ATOC) and the Regulation 889/2002/EC (https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32002R0889&from=en)

3. METHODOLOGY

Extended bibliographical research on airline customer's expectation and satisfaction with services provided, as well as air passenger's protection and rights as presented in the previous sections, led to the questionnaire design. A total of 224 copies of the questionnaire were distributed to the respondents using convenience sampling. Customers who had experienced disruption in their travel over the last 12 months were interviewed at the departing room of Chios Airport "Omiros" (IATA: JKH) for the period from July to September 2017. All selected respondents were passengers who have used different air carriers of scheduled flights (i.e. Astra Airlines, Aegean Airlines-Olympic Air and Sky Express), travelling at different times or days, at random, to minimize bias in a representative sample, indicating thus the different traffic levels of the airport.

The questionnaire included forty questions, divided in four parts, and apart from the general information and the demographic profile of the respondents (gender, age, educational level, professional status, personal monthly income, marital status, country of origin, travel frequency, airline company, purpose of trip) respondents were asked to categorize the main sources of their disruption: flight delay or cancellation, denied boarding, and baggage delay, loss, or damage. In addition, questions investigated the importance of the main parameters influencing the above sources of disruption were included (e.g. "What do you think would be most important to you on a flight that was delayed - i.e. over 3 hours" - or cancelled?"). A five-point Likert scale was used, ranging from 1 - "not important" to 5 - "very important" (Voxaki, 2017; Salamoura, Iakovaki and Voxaki, 2018; Salamoura and Voxaki, 2019).

4. DATA ANALYSIS

4.1 DEMOGRAPHIC PROFILE OF THE RESPONDENTS

To proceed with respondents' answers, SPSS version 23.0.0 was used for statistical analysis of the survey data. First, to depict the respondents' profile and problems faced by passengers on their flight, univariate analysis with descriptive statistics of frequencies and percentages was used. According to the findings, most of the respondents were male, from 37 to 42 years old, with a secondary level of education, private employees, with a monthly income from 501-1000 €, married with children, travelling from Greece with Olympic Air / Aegean from 2 to 4 times in the last 12 months, mainly for holidays, having encountered problems with delays or cancellations in their flights and lost/damaged or delayed luggage. Table 2 reports the demographic profile of the respondents analytically.

Table 2. Passengers' profile (n=224)

Demographics	% of total respondents	Demographics	% of total respondents
Gender		**Marital status**	
Male	53,13%	Single	24,55%
Female	46,88%	Married with children	43,30%
Age (years)		Married-without children	26,34%
-24	8,48%	Divorced	3,13%
25-30	9,82%	Widowed	2,68%
31-36	14,28%	**Country of origin**	
37-42	20,54%	Greece	78,57%
43-49	17,86%	USA	19,64%
50-56	15,18%	Canada	1,79%
57+	13,84%	**How many times have you flown in the last 12 months?**	
Education Level		Once	25,45%
Primary education	12,50%	2-4 times	54,02%
Secondary education	49,55%	> 5 times	13,84%
Bachelor's degree	33,04%	Many times each month	6,70%
Master's degree	4,45%	**Which airline do you travel with?**	
Doctorate degree	0,45%	Olympic Air / Aegean	51,79%
Professional Status		Astra Airlines	32,59%
Civil servant	20,09%	Sky Express	15,63%
Private employee	45,98%	**What was the purpose of your trip?**	
Freelancer	11,61%	Holidays	42,41%
Senior executive	4,91%	Professional reasons	29,91%
Student	4,46%	Health	13,84%
Retired	7,14%	Studies	7,59%
Unemployed	5,80%	Army reasons	2,68%
Personal Income, Monthly		Other (specify)	3,57%
until 500€	24,45%	**What problem did you encounter during your trip?**	
501€ - 1000€	41,07%	Flight delay	41,70%
1001€ -1500€	20,09%	Flight cancellation	10,03%
1501€ -2000€	7,14%	Denied boarding	9,40%
2001€ -2500€	4,02%	Baggage delay	35,30%
2501€ -3000€	1,34%	Baggage lost	0,60%
> 3000€	0,89%	Baggage damage	2,80%

4.2 UNIVARIATE DATA ANALYSIS

4.2.1 FLIGHT DELAY OR CANCELLATION

According to the findings, the three main reasons for flight delay – which was approximately one hour long in a percentage of 32% - or cancellation were: delay associated with another airport/airline, weather, and problem with the aircraft. Passengers who canceled their flight had to wait for a day to fly to their destination (32,43%). Most passengers did not complain about the delay / cancellation of their flight and of those who did so, were mainly addressed to the airline and less to other operators. They were also dissatisfied with the outcome of their complaint and did not know their legal rights, while at the same time, they expected the airline to solve their problem as quickly as possible, at the minimum cost, time, effort, and personal expenses. Clear and accurate information about their flight status - especially when there is a possibility of resolving any disruption - can provide passengers with safety and reassurance, making thus honesty in communication an important factor for building trust between passengers and the airline (CAA, 2014). That's why Passengers were unhappy with the care they received.

4.2.2 DENIED BOARDING

Concerning Denied Boarding, there were not many cases where airlines refused to board a passenger, and in cases where they denied boarding, they were looking for volunteers who were willing not to board the aircraft.

Table 3. Denied Boarding

Denial of boarding (n=224; n # of respondent)	**% of total respondents**				
When traveling, was any case where passengers were refused boarding?	**YES**	**NO**			
	15,18%	84,82%			
If so, was the carrier looking for volunteers not to board the aircraft?	**YES**	**NO**			
	97,06%	2,94%			
What was offered to passengers refused to board the aircraft?	**Rescheduling/ Free Rebooking**	**Compensation**	**Refund of Flight Costs**	**Food and drink**	**Nothing**
	46,30%	29,90%	17,9%	4,50%	1,5%
How satisfied are you with the way the airline faced denied boarding?	**Dissatisfied**	**Slightly Satisfied**	**Satisfied**	**Quite Satisfied**	**Very Satisfied**
	5,88%	8,82%	17,65%	47,06%	20,59%

To these passengers, free booking was provided, followed by financial compensation, reimbursement, and some kind of assistance, such as food and beverages. [2] Finally, passengers were quite satisfied with the way the airline faced denial of boarding. Table 3 summarizes the above results.

4.2.3 BAGGAGE DELAY, LOSS OR DAMAGE

As far as Loss, Delay or Damage of Baggage, passengers' main problems were baggage delay and overweight. The passengers did not claim compensation when their luggage was damaged. This low "rate of claims" can be explained by the low level of their awareness about their legal rights, as well as the perceived failure of airlines to inform them about it fully. At the same time, they were slightly dissatisfied with the information given from airlines, as they believe that information on travelers should be more readily available. They also believed that the maximum compensation should be increased, that air carriers do not provide sufficient information on their baggage size and weight policy, and that the rules on the size and weight of luggage and cabin baggage should be harmonized among air carriers (BEUC, 2010). Finally, passengers have a common understanding that their luggage rights vary according to the airline with which they travel. Only half of the airline passengers (56.25%) know that they have the same rights as all airlines. Table 4 summarizes the above results.

4.3 MULTIVARIATE DATA ANALYSIS

Then, multivariate data analysis - factor analysis - was conducted to summarize the most important factors for passengers in the event of flight delay or cancellation. First, our data's suitability was checked by Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity. KMO for flight delay was 0,731 and sphericity sig: .000 <0.05, while KMO for flight cancellation was 0,750 and sphericity sig: .000 <0.05, both acceptable values.

In the second step the number of factors was determined by considering those factors that have eigenvalues above 1 (Guttman - Kaiser), using the Scree test (Cattell), where factors interpreting the 70-80% of total variance were included. Factor analysis for flight delay resulted in nine factors, but only for the first two factors - which account for almost 57.95% of the original items' variance - the eigenvalues were above 1.0. Respectively, factor analysis concerning flight cancellation resulted in nine factors, but only for the first two factors, which

[2] https://ec.europa.eu/transport/sites/transport/files/themes/passengers/air/doc/complain_form/eu_complaint_form_en.pdf

explain almost 62,158% of the original items' variance, the eigenvalues were above 1.0. In the third step, the Varimax Rotation Method was used to make factors more meaningful and easier to interpret, resulting in two factors for both flight delay and cancellation.

Table 4. Loss, delay or damage of luggage (n=224)

Loss / delay / damage of luggage	% of total respondents				
Did you have trouble with your luggage in one or more flights?	**YES**	**NO**			
	79,02%	20,98%			
If yes, please specify what exactly happened	**Delay**	**Damage**	**Loss**	**Mishandled**	**Overweight**
	55%	7,40%	0,90%	4,30%	32,50%
Do you know your rights in case your luggage is lost, delayed or damaged?	**YES**	**NO**			
	25%	75%			
In case of damage, did you request compensation for your luggage?	**YES**	**NO**			
	15,82%	84,18%			
How satisfied are you with the information given to you about the loss, damage or delay of your luggage?	**Dissatisfied**	**Slightly Satisfied**	**Satisfied**	**Quite Satisfied**	**Very Satisfied**
	1,13%	52,54%	36,72%	6,21%	3,39%
What do you think will be the best way to deal with losing, damaging, or delaying luggage?	**Increase the current maximum compensation**	**Automatic compensation**	**Increase the days of making a complaint**		
	44,20%	39,73%	16,07%		
Do you believe that air carriers provide sufficient information about their policy on the size and weight of luggage or cabin baggage?	**YES**	**NO**			
	15,63%	84,38%			
Do you think that rules on the size and weight of luggage or cabin baggage should be harmonized among air carriers?	**YES**	**NO**			
	89,73%	10,27%			
Do you think that passenger rights within all airlines are the same?	**YES**	**NO**			
	56,25%	43,75%			

The first factor included five variables: "refund of flight cost", "rescheduling/rebooking (free)", "financial compensation", "information on legal rights" and "flight status information" during a delay, all of them critical high value "hard" factors for delayed or cancelled flights. The second factor included four variables: "comfortable waiting area", "transfer to home or hotel", "overnight accommodation" and "food and drink", also play an important role - lower value "soft" factors - for the passenger when there is a delay or cancellation in his flight" (Table 5). Indeed, considering all the misfortune engaged in the case of flight disruption, passengers must foremost take care of basic problems like refund of flight costs, or free rebooking and flight status information and secondarily deal with themes like comfortable waiting area or transfer to home or hotel, which also play an important role for their journey.

Table 5. Rotated Component Matrix

Q:"What do you think would be most important to you on a flight that was delayed (i.e. over 3 hours) or cancelled?"					
DELAY			**CANCELLED**		
Rotated Component Matrix[a]			**Rotated Component Matrix[a]**		
	Component			Component	
	1	2		1	2
Refund of flight costs	0,871		Refund of flight costs	0,891	
Rescheduling/rebooking (free)	0,846		Financial Compensation	0,83	
Financial Compensation	0,819		Rescheduling/rebooking (free)	0,825	
Information on legal rights	0,782		Information on legal rights	0,804	
Flight staus information	0,662		Flight status information	0,684	
Comfortable waiting area		0,829	Transfer to the home or hotel		0,849
Transfer to the home or hotel		0,799	Comfortable waiting area		0,816
Overnight accommodation		0,568	Overnight accommodation		0,764
Food and drink		0,561	Food and drink		0,556
Extraction Method: Principal Component Analysis.			Extraction Method: Principal Component Analysis.		
Rotation Method: Varimax with Kaiser Normalization.			Rotation Method: Varimax with Kaiser Normalization.		
a. Rotation converged in 3 iterations.			a. Rotation converged in 3 iterations.		

Finally, Cronbach's α (Alpha) was used to test the internal consistency of the intended measure. As shown in Table 6 below, the Cronbach's Alpha coefficient for the five items of "high-value factors" for delayed flights was 0.856, for the four items of "lower value factors" for delayed flights was 0.650, for the five items of "hard" factors for cancelled flights was 0.886, and finally for the four items of "soft" factors for delayed flights was 0.745. Consequently, considering that values > 0,70 are acceptable in social sciences and that 0.6 is the minimum acceptable level of Cronbach's Alpha (Hair et al., 2010), one may conclude that

the reliability is adequate for the entire construct. Indeed, flight status information or the ability to rebook flights were identified as the most important variables. In contrast, comfortable waiting area or transfer to the home or hotel were identified as the least important variables in a similar survey (CAA, 2014).

Table 6. Cronbach's α (Alpha) Reliability test

DELAY				CANCELED			
Component				Component			
1		2		1		2	
Reliability Statistics		Reliability Statistics		Reliability Statistics		Reliability Statistics	
Cronbach's Alpha	N of Items	Cronbach's Alpha	N of Items	Cronbach's Alpha	N of Items	Cronbach's Alpha	N of Items
0,856	5	0,65	4	0,863	5	0,745	4

5. CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

Air travel remains the largest and fastest growing industry which facilitates economic growth, world trade, international investment and tourism. According to the CEO of the International Air Transport Association[3], "Airlines empower people's lives and turbo-charge the global economy through a worldwide network that safely carries more than 4 billion passengers and 62 million tones of freight each year. In challenging political, economic and environmental times, the ability of aviation – the business of freedom – to sustainably connect cultures and spread prosperity beyond borders has never been more important" (ATAG, 2018). Since airline transportation is a fast, safe and comfortable way of travelling, which has become more accessible in recent years, air traffic is getting busier year by year, which has increased the risk of problems such as flight delays and cancellations, and baggage loss or delay. In 2004, the European Community adopted Regulation 261/2004/EC, amending the shortcomings of the original Regulation 295/1991, to protect and strengthen airline passenger rights.

The aim of the current research was to better understand and improve consumers' experiences of disruption to their journeys and to explore the implementation of the regulation associated with air passenger rights according to the European Commission, as compared with actual data reported by respondents from the Chios Airport "Omiros". Based on the research results, it is clear that there is a lack of awareness of the rights among passengers, and they did not receive either much information about their legal rights or the necessary compensation as foreseen by the Air Passenger Rights Regulation, regarding delayed or cancelled flights. Furthermore, our analysis supported that those passengers who complained were mainly addressed to the airline and less to other operators. At the same time, they were not satisfied

[3] https://www.atag.org/component/news/?view=pressrelease&id=110

with the outcome of their complaint, as they expected the airline to solve their problem as quickly as possible, at the minimum cost, time, effort, and personal expenses. Concerning Denied Boarding, in cases where airlines refused boarding, they were looking for volunteers, willing not to board the aircraft. Simultaneously, passengers did not claim compensation for luggage damage, which can be explained by the low level of awareness about their legal rights, as combined with the perceived failure of airlines to inform them about it. Moreover, factor analysis investigated the parameters that were important for passengers who experience flight delay or cancellation, with "refund of flight cost", "rescheduling/rebooking (free)", "financial compensation", "information on legal rights" and "flight status information", play a major role in determining delayed or cancelled flights - critical high value "hard" factors - and "transfer to home or hotel", "comfortable waiting area", "overnight accommodation" and "food and drink", also play an important role - lower value "soft" factors - in the case of flight delay or cancellation.

While this paper is a preliminary study, an indication for further research would be to extend it to a larger sample from the same or other Greek airports, maybe with frequent flyers with a higher level of involvement with the airline, based on the available air traffic statistics. This could provide a better understanding of the differences between passengers' attitudes towards flight stop issues and the implementation of Regulation 261/2004/EC at these airports. At the same time, looking at the cost of flight interruptions to airlines operating in Greece and improving passenger satisfaction through investment in technological equipment for baggage handling could be very promising.

The findings have both managerial and research implications. There is a need for a consistent approach across the airline industry to inform passengers of their rights and make airport customers' experience as pleasant as possible. When flights are delayed or cancelled, or passengers are denied boarding, airlines should actively inform them about their rights and provide them with the assistance and compensation they are legally entitled to. Also, annual surveys should be planned concerning the necessary information and the assistance provided, as well as the total experiences and perceptions of passengers. Through these surveys, problem areas should be identified and improved, ensuring consistency between airlines' policies and compliance with European policy and air passenger rights regulations. Therefore, it is understood for airline managers that dealing with flight delays or cancellations should include all market players so that all can jointly improve their performance. Planning - between airports, airlines, air carriers and governments - is the best way to serve passengers, which in turn will eliminate the obstacles that still discourage some people from traveling. Concluding, "If airport management takes a strategic and holistic approach to customer

service and airport branding, customer satisfaction with the airport experience can be significantly improved and airport net revenues can be tracked" (Paternoster, 2007, p. 218). In other words, since "airline companies are very concerned about customer loyalty, they need to review and reexamine their strategies not only to sustain customer loyalty but also to remain competitive" (Abdulah et al., 2007, p.5), because "Only a coherent system based on all involved parties will guarantee strong air passenger rights and strengthen the trust in EU legislation" (ECC-Net 2016:77).

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DEVELOPING INDICATORS FOR CAPTURING THE AIRPORTS DYNAMICS IN REGIONAL AND TOURISM DEVELOPMENT: EVIDENCE FROM GREECE

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ABSTRACT

Air transport is an aspect of the transportation and communication sector, it is a capital and technology intensive component of the national economies, and it plays an important role in communication and trade, in tourism development, and generally in the economic and regional development. The major role of air transport in the support of distant communication makes it a valuable tool for the strategic planning and innovative marketing in tourism, especially for tourism policies addressed to international markets. Within this context, this paper studies air transport in Greece and particularly the regional dimension of the Greek air transport, by excluding the metropolitan airports of Athens and Thessaloniki. The paper examines the factors that determine the attractiveness of the Greek regional airports on data referring to air traffic statistics and on available spatial and tourism information. For measuring the regional developmental dynamics of the regional airports in Greece, the paper introduces a composite index, which computes passenger-traffic change, between time periods, by considering an airports' classification. Next, for measuring the airport dynamics in tourism development, an indicator is introduced in terms of the international arrivals and overnights per region. The results of applying the proposed indicators comply with the observations of the common practice and they seem sufficient to be used in other areas of application. The overall approach provides a novel measure for air transport studies and it illustrates the contribution of the small and regional airports to tourism and regional development in Greece.

KEYWORDS: peripheral airports, small airports, regional airports, spatial dynamics.

1. INTRODUCTION

The globalisation of the economy is based on the communication and connection amongst various parts in the planet (Polyzos, 2019; Tsiotas and Polyzos, 2018), which is conducted through telecommunications and transportation. Through this way, the distribution of goods, productivity factors, and services and human communication is conducted, promoting trade and economic relations of all kinds. Geographical space is the natural receptor of all such activities that affect their evolution over time due to the cost of overcoming distance and, generally, the spatial constraints (Tsiotas and Polyzos, 2015a).

Different conditions of proximity and accessibility, between regions, induce either positive or negative effects to transportation and the induced economic development and growth, causing consequent regional inequalities. Within this framework, air transport contributes to the smoothing of the regional inequalities' phenomenon. It reduces distances between places, facilitates fast transportation, and contributes to the reduction of transportation costs between distant places (Harrigan, 2010; Tsiotas and Polyzos, 2018).

Airports worldwide vary both structurally and functionally (Harrigan, 2010; Polyzos, 2019; Tsiotas and Polyzos, 2015a,b), a fact which led to the emergence of many of studies dealing with aviation connectivity and airport classification, both in academic (by researchers) and institutional (by entities such as the European Union - EU) level. For instance, in 2005, the EU proposed an airport categorization based on the annual passenger-traffic (European Commission, 2005), which was debated mainly because it didn't include the airports' surrounding information (Heymann, 2005). Other approaches consider criteria related to the airports' operational purpose (e.g. leisure, business trips, etc.) (Graham, 1998; Jarach, 2001). Despite that the relationship between airport functionality and regional development was studied in many papers (Goetz, 1992; Robertson, 1995; Green, 2007; Button et al., 2010), the question "Does economic growth promotes airport development or vice versa?" is still open (Janic, 2017). The existence of an airport induces economic and social benefits (Janic, 2017; Kavoura and Kefallonitis, 2018) to local communities, by providing accessibility to other regions (Brueckneraccessco, 2010; Janic, 2017; Kavoura and Kefallonitis, 2018), which favors the development of economic activities, including those related to tourism (Sellner and Nagl, 2010; Lakshmanan, 2011). The attractiveness of an airport's region is a major development factor, but it may also induce negative economic and environmental externalities due to market failures and to inefficient use of resources (Amoroso and Caruso,

2010; Allrogen and Malina, 2014; Zak and Getzner, 2014). Moreover, investments in air transport may be unfair transport investments opportunity capital costs and rather low airports' connectivity (Allrogen and Malina, 2014).

Based on the interactions developed between an airport and the region where it is located, it has been shown that various forces determine the airports' functionality in the peripheral regions in comparison with the central areas. On the one hand, the airport operations activate a broad set of economic activities at the region where the airport is located, which promote the economic growth of the region, whereas, on the other hand, in order an airport to operate a significant amount of economic, environmental and policy resources is necessary to be spend (Amoroso and Caruso, 2010; Allroggen and Malina, 2014; Zak and Getzner, 2014). According to the Airports Council International (2004), airports' contribution to the national and regional economy has four aspects:

1. The direct economic effects, which concern the airport activities' benefits (e.g. employment and income increase);
2. The indirect effects, which regard the increase (in the broader regional market) of the airports' supporting activities (e.g. incoming and outgoing transportation, from and to the airport, airport's supply with goods serving operational needs, etc.);
3. The induced effects, which concern the reinforcement of the economy induced by the spend of income generated by the (previously mentioned) direct and indirect effects;
4. The catalytic effects, referring to the economic growth that is generated to the region due to the airport's existence.

Tourism is strongly related to air transport (Bieger and Wittmer, 2006; Khadaroo and Seetanah, 2008). According to Bieger and Wittmer (2006), there is a bidirectional relationship between these two concepts, where attractive regions enhance local air transport while well-interconnected airports promote tourism development. This becomes obvious by examining the effects of the Low-Cost Carriers (LCCs), which result (in many cases) to the emergence of new destinations (Donzelli, 2010). In Greece, regional airports have many peculiarities, comparatively with other European countries, which are related to the rich Greek island geomorphology (it consists of 227 inhabited islands covering 1/5 of the total area), the airports size, seasonality, high interdependence with tourism activity (75% of international tourist arrivals are conducted by air), and to the fierce competition with other transport modes (Tsiotas and Polyzos, 2015b). It is noteworthy that about 70% of the

Greek airports are located in the insular country. This ratio seems to follow the insular-mainland tourist accommodation ratio, the odd of which is estimated at about 60-40% (Polyzos, 2019; Tsiotas and Polyzos, 2015a,b). On the other hand, the lack of efficiency in Greek airports restricts their contribution to regional development (Tsekeris, 2011), due to seasonality (which led to underutilized capacity) and to the lack of advanced management practices (Papatheodorou and Arvanitis, 2009; Psaraki-Kalouptsidi and Kalakou, 2011). Underutilized capacity was hindered by the late emergence of the LCCs in the Greek market (Papatheodorou and Arvanitis, 2009) and by the lack of Public-Private Partnerships (PPPs) (Arvanitis and Papatheodorou, 2015). Recently, a major shift towards private management was the concession agreement for managing 14 regional airports between the Greek government and the Fraport Company (Bellos, 2017).

The major role of air transport in distant communication (Rodrigue, 2013; Tsiotas and Polyzos, 2018; Polyzos, 2019) makes it a valuable tool for the strategic planning and innovative marketing in tourism for tourism policies addressed to international markets. For instance, for a country, a highly developed air transportation network facilitates inbound tourism flows (Tsiotas et al., 2018). Thus, it improves the effectiveness of national strategic tourism planning and tourism policies to attract international tourism. On the other hand, a destination not supported by air transport is restricted in receiving international inbound tourism flows (Rodrigue, 2013; Polyzos, 2019). Thus, the policies aim to develop this destination, in the context of international tourism market, cannot be that effective. Therefore, the profound knowledge of the airport dynamics is an issue of critical importance for strategic planning and innovative marketing in tourism, at the national level.

Within this context, this paper studies the characteristics of 37 Greek regional airports (i.e. excluding the metropolitan of Athens and Thessaloniki), aiming to assess the dynamics of the small and regional airports in Greece and to illustrate their contribution to tourism and regional development. The remainder of the article is organized as follows: Section 2 presents the materials and methods used in the analysis. Section 3 presents the results and their interpretation through the regional and tourism development perspective. Finally, in Section 4, conclusions and some policy proposals are given.

2. MATERIALS AND METHODS

Figure 1 shows the classification of Greek airports, at the national scale. According to this diagram, the Greek airports are first classified into metropolitan and peripheral. This distinction is conducted under a mixed population and geographical criterion because, at the national scale, only the regions of Athens (population: almost 4,000,000) and Thessaloniki (population: over 1,000,000) have the critical size to be considered as metropolitan regions and therefore their capital cities to be considered as megacities (Polyzos and Tsiotas, 2012). According to this criterion, the airports of Athens (ATH) and Thessaloniki (SKG) are considered as metropolitan, whereas all the other cases are considered as regional. Due to their outlier performance, in comparison with the size of the regional airports (Tsiotas and Polyzos, 2013), the metropolitan airports of ATH and SKF are excluded from the analysis.

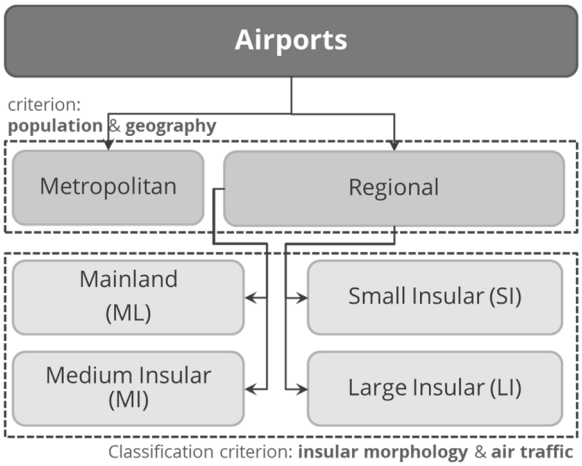


Figure 1. Classification of airports in the national scale of Greece.

For information and data managing purposes, the 37 Greek regional airports are grouped into four categories under a double criterion concerning insularity and annual passenger-traffic (data are extracted from the period 1994-2013), according to the information shown in Table 1.

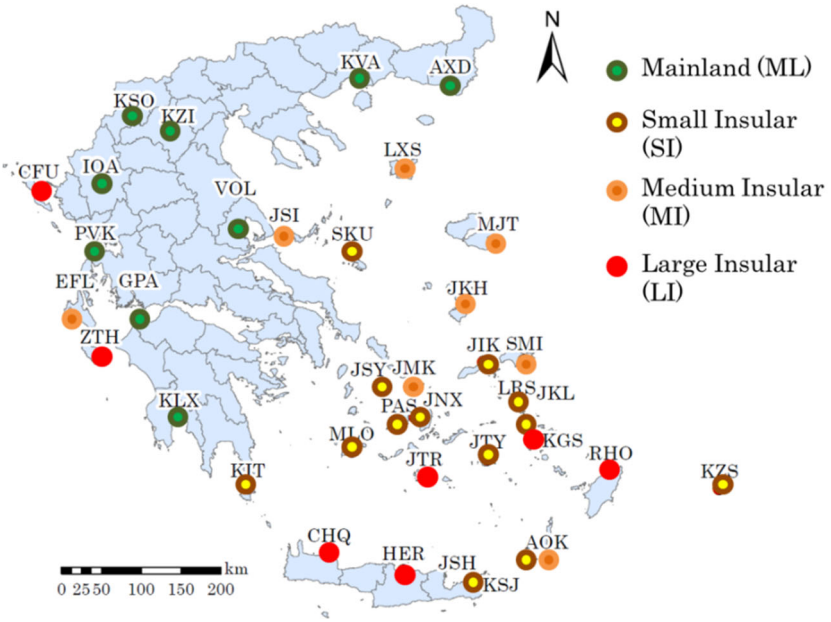
Table 1. Classification of the Greek regional airports

Large Insular (LI)		**Medium Insular (MI)**		**Small Insular (SI)**		**Mainland (ML)**	
Name	ICAO Code	Name	ICAO Code	Name	ICAO Code	Name	ICAO Code
Zakinthos	ZTH	Karpathos	AOK	Astypalaia	JTY	N.Aghialos	VOL
Heraklion	HER	Kefallonia	EFL	Ikaria	JIK	Aktio	PVK
Corfu	CFU	Limnos	LXS	Kalymnos	JKL	Alexandroupolis	AXD

Large Insular (LI)		Medium Insular (MI)		Small Insular (SI)		Mainland (ML)	
Kos	KGS	Mykonos	JMK	Kasos	KSJ	Araxos	GPA
Rhodes	RHO	Mytilini	MJT	Kastelorizo	KZS	Ioannina	IOA
Santorini	JTR	Samos	SMI	Kithira	KIT	Kavala	KVA
Chania	CHQ	Skiathos	JSI	Leros	LRS	Kalamata	KLX
		Chios	JKH	Milos	MLO	Kastoria	KSO
				Naxos	JNX	Kozani	KZI
				Paros	PAS		
				Stitia	JSH		
				Skiros	SKU		
				Syros	JSY		

The classification of Table 1 is portrayed at the map of Figure 2, which shows the spatial distribution of the regional airports in Greece, according to the category (large insular - LI, medium insular - MI, small insular - SI, and mainland - ML) they belong to.

Figure 2. Spatial distribution of the regional airports in Greece, according to their category.



The analysis of this paper is conducted in two stages. At the first stage, the airports' dynamics are modeled according to the passenger-traffic undertaken by each airport. This uni-variable criterion was taken into consideration because passenger-traffic is a major variable determining the size of an airport (Polyzos, 2019; Tsekeris, 2011; Tsiotas and Polyzos 2015b) and also data is most easily available. To measure such dynamics, we introduce a composite multiplier indicator (named Airports Dynamics Composite Index - ADCI), which is defined as follows:

$$ADCI_i = \frac{\Delta x_i^*}{E\left(\Delta x^* \middle| x \in G_i\right)} \cdot \left(100 \cdot \left(\Delta x_i / x_{i,1994}\right)\right) \cdot \frac{1}{CV(i)} \qquad (1)$$

where

- index i=1,2,..,37, is the indicator of a regional airport,
- $\Delta x_i = x_{i,2013} - x_{i,1994}$ is the change in annual passenger-traffic for the years 1994 and 2013, for airport i,
- Δx^* expresses the adjusted changes computed on the transposed differences $\Delta x_i^* = \Delta x_i + \left|\min\left\{\Delta x \middle| x \in G_i\right\}\right|$ so that all differences to be positive ($\Delta x^* \geq 0$),
- G_i is the category where airport i belongs to (see Table 1),
- $|\cdot|$ is the absolute-value operator,
- $E\left(\Delta x^* \middle| x \in G_i\right)$ is the average of Δx^* (adjusted changes in annual passenger-traffic for the years 1994 and 2013), for all airports included in the same category G_i,
- $100 \cdot \left(\Delta x_i / x_{i,1994}\right) = 100 \cdot \left(\left(x_{i,2013} - x_{i,1994}\right) \middle/ x_{i,1994}\right)$ is the relative passenger-traffic change of airport i, and
- $CV(i)$ is the coefficient of variation (see Walpole et al., 2012) computed for all intermediate years included in the period [1994, 2013], for airport i, which expresses the homogeneity of air traffic through time in this airport.

The ADCI is developed under a composite rationale, which implements three different measurements. The first is applied within a group of airports, it has a spatial configuration, and is computed by the formula $\frac{\Delta x_i^*}{E\left(\Delta x^* \middle| x \in G_i\right)}$, which measures the relative size of the traffic-change escalated in accordance with the mean value of the category. For computing this component, differences Δx_i should be adjusted to the positive set of integers, according to the formula $\Delta x_i^* = \Delta x_i + \left|\min\left\{\Delta x \middle| x \in G_i\right\}\right|$ (i.e. by adding to all elements the absolute of the minimum value included in the set $\left\{\Delta x \middle| x \in G_i\right\}$). This allows cases above average ($\Delta x_i^* \geq E\left(\Delta x^* \middle| x \in G_i\right)$) to contribute with a scaling factor greater than one (≥1) to the ADCI formula, whereas cases lower than average to cause reduction effects (<1). The second measurement is a relativity component computed by the formula ($\left(100 \cdot \left(\Delta x_i / x_{i,1994}\right)\right)$), which computes the relative change of passenger traffic for the starting (1994) and ending (2013) reference years. This component contributes with positive values (≥0) when airports increased their traffic comparatively to the starting year and with negative values (<0) otherwise. Zero cases imply a constant performance and they lead to zero scores the overall

ADCI. Finally, the third measurement has a temporal interpretation and it is computed by using the inverse coefficient of variation $\frac{1}{CV(i)}$, for the total of years included in the period [1994, 2013]. Provided that cases with CV < 0.1 capture homogeneity (Walpole et al., 2012), the inverse coefficient affects multiplicative the ADCI at a scale more than 10 times. Overall, based on the proposed ADCI, an airport is highly dynamic when it has great positive changes (absolute and relative) of annual traffic and a quite low variability in its performance over time. The ADCI has been composed in a context that high values express high dynamics.

At the second stage, airports are examined in terms of the tourism development existing in their regions. Despite that the effect of an airport (especially for the largest ones) is not limited to its region (Allrogen and Malina, 2014), the use of the administrative division into regions suggests a good proxy for identifying the connectivity strength between airports and local development (Brueckner, 2003). Within this context, the administrative unit of prefecture is chosen as spatial reference in this study for the case of Greece. Two methods are used to capture the relationship between air traffic and tourism development. The first is based on correlation between annual passenger arrivals at airports and tourists' arrivals at the respective prefectures (for the period 2003-2015). Due to limited data availability, the Spearman's correlation coefficient is used (Norusis, 2005). At the second step, the tourism developmental importance of airports is measured by the ratio of the annual foreign tourists' arrivals to the total annual foreign tourists' overnights at the hotels, for a prefecture, as shown in Eq.2.

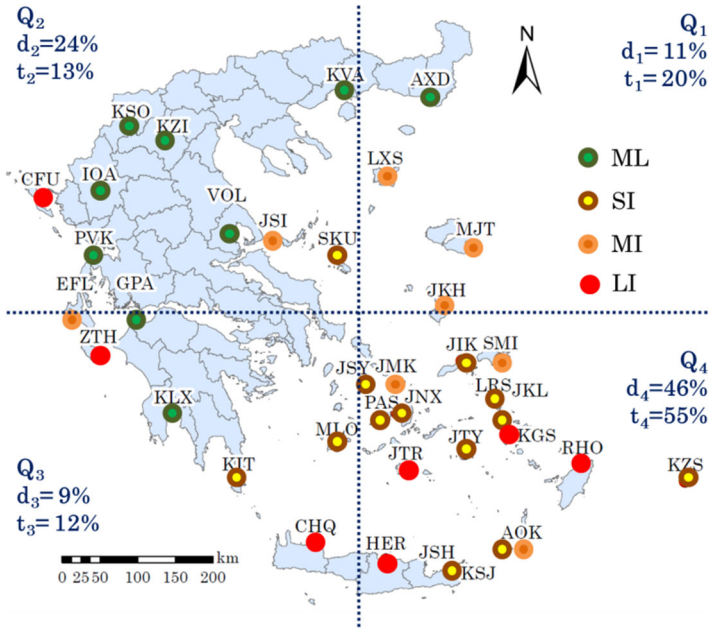
$$THI_i(\text{Tourism Hub Index}) = \frac{\text{international arrivals at airports of prefecture } i}{\text{international overnights at hotels of prefecture } i} \quad (2)$$

The THI captures whether airports are significant in terms of filling the supply of the hotels in their regions. Scores close to one express that an airport acts as a hub for a wider area since the airport arrivals exceed overnights at the hotels. Thus, a part of the foreign tourist flows is being forwarded to adjacent regions (destinations). Data in this part refers to the period 1994-2013 and is extracted (for arrivals) from the Civil Aviation Authority (2018) and (for overnights) from the Hellenic Statistical Authority (2018). Spatial data is extracted from Google Maps (2013).

3. RESULTS AND DISCUSSION

Of the 45 airports constructed in Greece, 39 were active in the reference period (1994-2013), while the remaining six were out of service. Fig.3 depicts the geographical location of the operational regional airports, and shows their division into geographical quadrants (Q_1-Q_4), where some basic figures, such as density (d_i), share of passenger-traffic (t_i), and some other traffic information is shown. Initially, it is observed that the SI group's spatial distribution extends mainly into the region of the southern Aegean (Q_4), while the MI group extends into the central and northern Aegean region, except for EFL and AOK. Besides, the LI group is located in the southern Aegean and the Ionian seas. Finally, the LI group accommodates half of the total passenger traffic, followed by the MI group airports with 25%.

Figure 3. Spatial distribution and basic traffic figures of the Greek airports



Category	Passengers	Airports	International Passengers	Domestic Passengers	1994-2013 change	CV
LI	62%	50%	86%	60%	87%	0.18
MI	21%	25%	9%	24%	7%	0.16
SI	5%	14%	0%	5%	2%	0.41
ML	13%	11%	5%	12%	4%	0.27

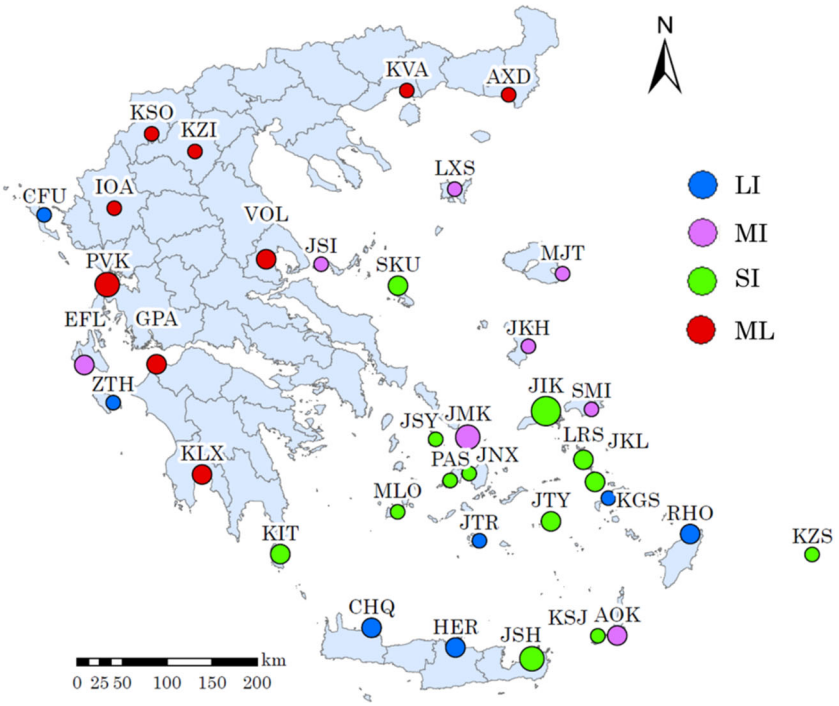
Table 2 shows the results of the ADCI calculations, and Fig.4 shows a map with the spatial distribution of the ADCI. Initially, the ML cluster included in (Q_1,Q_2) shows limited dynamics (negative ADCI values), except the AXD that is positive probably because it serves high domestic traffic and a large number of armed forces operating in the camps. The east and south east Aegean cluster MJT, JKH, JIK, SMI, LRS, JKL, KGS, RHO, and KZS generally shows a positive trend along the route, except SMI (negative ADCI value). Dominant cases here are the RHO and KGS. In addition, the western regional arc of airports CFU, PVK, EFL, GPA, ZTH, KLX, and KIT presents positive prospects, except Corfu (CFU) which shows a lag

comparatively with the other airports of the LI category. This lag is partially reflected in the CFU's low domestic traffic, which corresponds to 9.66% of the total and to 67.62% of the LI's average. In contrast, its international traffic reaches 14.30% of the total, hovering around the LI's average.

Table 2. Results of the ADCI calculations

	LI		MI		SI		ML	
	Rank	ADCI	Rank	ADCI	Rank	ADCI	Rank	ADCI
1	CHQ	7.377	JMK	28.737	JIK	86.335	PVK	22.630
2	RHO	7.176	EFL	10.113	JKH	38.719	VOL	11.596
3	HER	6.098	MJT	0.902	SKU	12.111	KLX	7.657
4	JTR	2.996	AOK	5.024	JKL	10.181	GPA	6.792
5	KGS	2.957	JKH	0.007	JTY	8.864	AXD	0.615
6	ZTH	2.550	JSI	0.005	LRS	8.740	KSO	-0.050
7	CFU	0.505	LXS	-1.009	KIT	6.608	KZI	-0.146
8			SMI	-2.049	MLO	2.456	KVA	-0.290
9					KZS	1.675	IOA	-0.383
10					JNX	1.449		
11					KSJ	-0.037		
12					JSY	-0.292		
13					PAS	-0.778		

Figure 4. Spatial distribution of the ADCI index in the map of Greece.



Amongst the other airports, the PVK shows the highest dynamics. The central Aegean airports JMK, JSY, JNX, PAS, MLO, JTR, and JTY show marginally positive trends, since the

cluster JMK, MLO, JTR, and JTY record a positive performance, the JNX is static, whereas JSY and PAS are negative. Mykonos (JMK) is one with the highest ADCI in the MI category. The group CHQ, HER, JSH, KSJ, and AOK show positive trends, except KSJ that is marginally static. The major CHQ and HER airports tap on Crete's high tourism attractiveness, showing high ADCI values within their category. Finally, the airports VOL, JSI, SKU, and LXS show positive dynamics with an explicit geographic configuration. Airports VOL and SKU belong to the highest of their categories, JSI is static, whereas only LXS is negative.

Table 3 shows the Spearman's correlation coefficient calculations, where a significant positive correlation between tourists' arrivals at airports and hotels is captured for 6 out of 21 prefectures. For the other 15 cases, no linear relationship between airport and hotel arrivals is significant. This illustrates that airports have a structural role mainly in serving the islands, especially for the most tourism-developed countries.

Table 3. Spearman's correlation coefficients (ρ) between airport arrivals and hotel overnights, for the Greek prefectures (2003-2015).

Prefecture	**Airport**	ρ	**Sig.**
Kyklades	Kyklades Airports*	0.925	0.000
Dodekanisos	Dodekanisos Airports**	0.899	0.000
Evros	Alexandroupolis	0.820	0.000
Chania	Chania	0.820	0.000
Heraklion	Heraklion	0.754	0.002
Kefalonia	Kefalonia	0.503	0.067
*MLO, JMK, JNX, PAS, JTR, JSY **JKL, JTY, AOK, KSJ, KZS, KGS, LRS, RHO			

Moreover, the highest correlations are detected for airports that accommodate rather high passenger-traffic, presenting various alternative flight options to passengers. Therefore, tourism in the regions of Kyklades and Dodekanisos and in the prefectures of Chania and Heraklion appears more sensitive to their airports' performance, comparatively to other continental areas and with several insular destinations (such as Corfu and Zakynthos). This denotes that, in many cases, regional airports are not the major entrance gates for tourists due to competition with other transport modes since many ports operate as gates in insular areas. Finally, the significant result for Evros prefecture is remarkable, implying that hotel arrivals are sensitive to this airport that acts as a gate for tourists' entrance.

Table 4 shows the THI calculation results, and Fig.5 shows a map with the THI's spatial distribution. For 15 cases, the indicator exceeds the critical value of 100%, denoting that

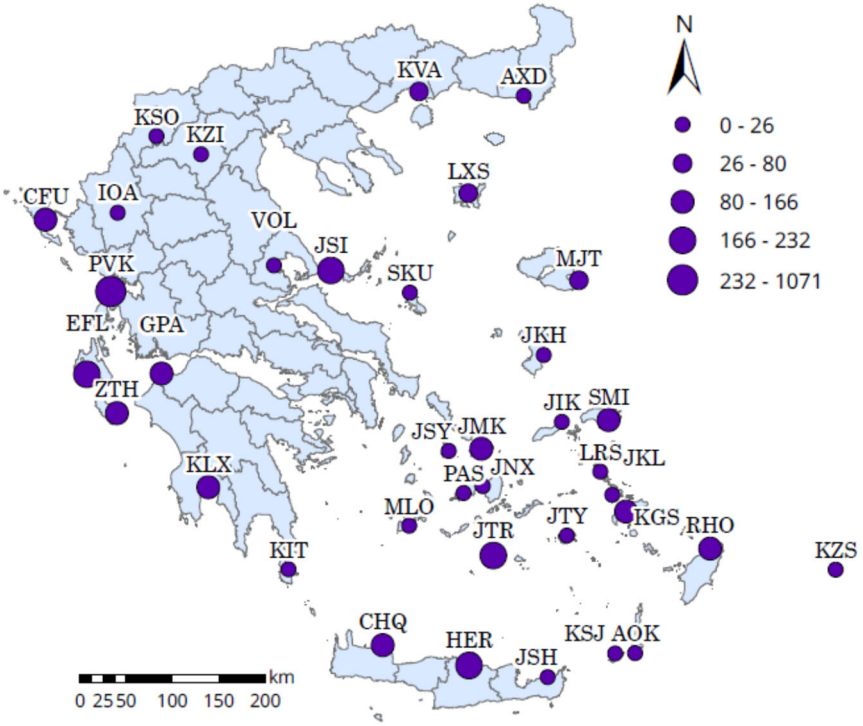
international arrivals at airports exceed those of hotel overnights at the airports' prefectures. Airports with highest score are in their majority insular (except PVK) and large (in terms of passenger flows). High scores are also observed for the prefectures of LXS, MJT, KVA, VOL, whereas all other cases are far below 10%.

Table 4. Results of the THI calculations

Airport	THI (%)	Airport	THI (%)	Airport	THI (%)	Airport	THI (%)
PVK	1071	KGS	153	KVA	50	MLO	0.00
EFL	232	GPA	135	VOL	26	JNX	0.00
JTR	229	CHQ	134	JKH	7.47	PAS	0.00
JSI	227	RHO	121	SKU	1.58	JSY	0.00
HER	196	SMI	109	AXD	1.03	JKL, JTY, and LRS	0.00
KLX	166	JMK	105	KSO	1.03	AOK and KSJ	0.00
CFU	164	LXS	80	JSH	0.11	KZI	0.00
ZTH	163	MJT	59	IOA	0.01	JIK	0.00

In general, the tourism-oriented airports are mainly insular and they are acting as gates. Islands with THI > 100%, appear to operate as hubs forwarding traffic to nearby prefectures' destinations. In contrast, regional airports with relatively low THIs are found on destinations where other transport modes mainly direct tourism flows. Thus, they fail to acquire a leading role in their area traffic. For those prefectures, the metropolitan airports ATH and SKG operate as gates for international tourists' arrivals, whereas tourists use other modes to reach their destinations.

Figure 5. Spatial distribution of the THI index in the map of Greece



4. CONCLUSIONS

This paper examined the dynamics of 37 regional (without ATH and SKG) airports in Greece on traffic and spatial-economic information for the period 1994-2013, aiming to highlight the regional dimension of air transportation and its relationship with tourism. The analysis was based on further grouping into four categories, and it showed a rather concentrated aviation market since >50% of the traffic was concentrated in the south-east Aegean region. In contrast, mainland traffic was < 25%. Despite that this empirical research was applied to Greece, a coastal country with significant peripheral island morphology, this paper's methodological framework appears independent to the case study. Thus, it can enjoy further applications either at national, regional, or international levels because the proposed indicators were developed on relative quantities, which are considered scale-free.

In terms of tourism, airports appeared diverse developmental dynamics at different regions. Correlation analysis between airport arrivals and hotel overnights showed that an airport's existence is mostly critical for the most developed tourism regions and lesser critical for other regions, where different transport modes prevail. Moreover, the size of the airports matters, as in most cases, the traffic of the largest airports was more related to the adjacent hotel sector. Additionally, the tourism hub index (THI) calculation showed that larger airports acquired a more strategic role in forwarding international tourism flows. These airports exceeded a critical point of traffic, making them more attractive for passengers due to better connectivity, and thus to operate as hubs for the adjacent prefectures.

Overall, this paper configures a helpful basis for the local authorities to become fully aware of their airports' dynamics and adjust their policies in strengthening their role for the local societies. Moreover, the tourism actors can understand whether the airport plays a dominant role in filling their supply and drive funding and marketing sources for its further enhancement.

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CONSUMER ATTITUDES AND BEHAVIOURAL INTENTIONS TOWARDS CORPORATE SOCIAL RESPONSIBILITY: EVIDENCE FROM THE AIRLINE INDUSTRY

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ABSTRACT

This paper explores consumers' attitudes and behavioural intentions towards corporate social responsibility (CSR) practices in the airline industry by examining the role of consumers' perceived values and expectations towards CSR initiatives in the airline industry. Data pertaining to customers in the airline industry is used to determine the role of consumer values and expectations in relation to the attitudes and behavioural intentions towards CSR initiatives. According to results, consumer perceptions of value dimensions and CSR expectations have a significant positive effect on customer attitudes when purchasing services in the airline industry. Results also indicate that customer attitudes have a significant positive relationship with consumers' purchase intentions in the airline industry. The paper discusses implications for managers and adds to the understanding of CSR initiatives and how they can increase companies' value proposition.

KEYWORDS: Airline Industry, Consumer Attitudes, Behavioural intentions, Customer expectations, Perceived value, CSR initiatives

1. INTRODUCTION

The context of Corporate Social Responsibility (CSR) has been argued over 50 years, and it has never been this vital for companies even before this time (Smith et al., 2001). Also, consumer support for CSR is well established and companies are now expected to engage in some form of CSR (Rundle-Thiele et al., 2008). Over the last 25 years, consumers have become much more aware of the environmental issues caused by human activity (Cowper-Smith and Grosbois, 2011). There is a growing interest towards companies that in relation to their social responsibility whilst doing business (Rundle-Thiele et al., 2008). The tourism sector has received significant attention at this point that while providing economic and social benefits to the society, it also has negative impacts socially, economically, and environmentally (Cowper-Smith and Grosbois, 2011). As the industry is expected to grow significantly, pressure on the companies within the sector for socially responsible tactics is also increasing (Tsai and Hsu, 2008). Within the tourism sector, airline industry has attracted consumers' attention in relation to socially responsible tactics within its businesses (Cowper-Smith and Grosbois, 2011).

For this reason, there is a growing interest among the society towards the Corporate Social Responsibility (CSR) initiatives within the airline industry (Lynes and Andrachuk, 2008), and companies are now expected to engage in some form of CSR. CSR literature suggests that expectations and values are important factors for understanding consumers' behaviours towards socially responsible companies and their CSR initiatives. Consumers' evaluation of CSR initiatives can be related to consumers' expectations; consumer's expectations on CSR initiatives is one of the variables that affect society's opinion about companies (Creyer, 1997; Podnar and Golob, 2007). In addition, literature suggests that consumers' behaviours may be dependent on the value they receive from a specific service/ product (Menon and Kahn, 2003; Peloza, 2009; Green and Peloza, 2011).

However, none of the studies has explicitly measured consumers' perceived values and expectations from CSR within the airline industry (Green and Peloza, 2011). For this reason, the current study focuses on the consumers' attitudes and behavioural intentions in order to underpin the reasoning behind the consumer behaviour towards CSR initiatives in the airline industry. The roles of values and expectations have been examined in order to explore both attitudes and behavioural intentions of the airline industry consumers.

2. LITERATURE REVIEW

2.1 Approaching CSR

Although CSR's importance is increasing, there is still no clear identification for CSR in the literature (Carrigan and Attalla, 2001; Melo and Galan, 2011; Servaes and Tamayo, 2012; WBCSD, 2013). The reason can be the unclear boundaries and debatable legitimacy (Lantos, 2001; Lantos, 2002), or different definitions and unidentified corporate benefit of it (Vaaland et al., 2008). A broad range of views has emerged in an attempt to clarify the nature and scope of CSR (Schwartz and Saiia, 2012). On the other hand, there are several researchers that find it impossible to define CSR in a standardised way due to different cultures and social, economical and political differences (Nippa and Klossek, 2008; Argandona and von Weltzien Hoivik, 2010). World Business Council For Sustainable Development (WBCSD) offers a definition in terms of empirical studies towards CSR: '*Corporate Social Responsibility is the continuing commitment by business to contribute to economic development while improving the quality of life of the workforce and their families as well as of the community and society at large'* (WBCSD, 2013, p.3)

In addition to the discussion over its definition, the controversy over CSR becomes much more substantial when it comes to deciding the level of social responsibility that companies should adopt (Lantos, 2001). Although there are different views and perspectives towards the definition of CSR, it seems to be divided into two different approaches (Schwartz and Carroll, 2003; Schwartz and Saiia, 2012). On one hand there is a stream of researchers who are in favour of the view that the companies can only be accounted socially responsible within the limits of legal and ethical compliance (Levitt, 1958; Freidman, 1970) and on the other hand there are supporters of the idea that the companies have broader responsibilities (McGuire, 1963; Andrews 1973; Davis and Blomstrom, 1975; Carroll 1979; Epstein, 1987).

Considering this dispute about the CSR and its borders, Carroll's (1979) four-part model of CSR (The Pyramid of CSR) has been used by many researchers (Wartick and Cochran, 1985; Wood, 1991; Swanson, 1995, 1999) and empirical studies (Aupperle et al., 1985; Spencer and Butler, 1987; O'Neill et al., 1989; Strong and Meyer, 1992 Ibrahim and Angelidis, 1995; Burton and Hegarty, 1999; Smith et al., 2001; Phillips, 2006; Golob et al., 2008).

As an example, in the broad CSR perspective Carroll (2009) suggested that companies have 'four faces' to apply to be good corporate citizens: 1. Economic: Business' responsibility to make profit for owners, 2. Legal: Businesses expected to play by the rules of the game, 3. Ethical: Businesses expected to do what is right and fair, 4. Discretionary/philanthropic: Companies are expected to 'give back'. Although many researchers have used Carroll's four

categories of CSR in the past, it still carries some weaknesses identified by Schwartz and Carroll (2003). Three problems have been identified with Carroll's (1991) Pyramid of CSR; (a) the use of a pyramid to explain the relationship between the four categories of CSR; (b) the role of philanthropy as a detached part from the model; and (c) the unfinished theoretical development of the economic, legal and ethical domains (Schwartz and Carroll, 2003).

Because of its incomplete structure and the increasing need to provide better and much more clear definition for the four-domain approach, Schwartz and Carroll (2003) provided an upgraded version of the pyramid of CSR by Carroll (1991): The Three-Domain Model of Corporate Social Responsibility. This consists of 3 domains (Economic, Legal, Ethical) which, in total, include 7 sub-categories: (i) purely economic, (ii) purely legal, (iii) purely ethical, (iv) economic/ethical, (v) economic/legal, (vi) legal/ethical, (vii) economic/legal/ethical (Schwartz and Carroll, 2003).

1. Economic Domain: The economic domain includes activities that aimed direct or indirect positive impact towards the company. The positive impact is based on two points: (a) maximization of profits and/or (b) the maximization of the share value (Poitras, 1994).
2. Legal Domain: The legal domain belongs to the company's responsiveness towards legislation expected or forced by society in the form of federal, state, jurisdiction or through legal dynamics as developed in case law.
3. Ethical Domain: The ethical domain captures the ethical responsibilities of companies expected by the public and relevant stakeholders. It includes being responsive towards both domestic and global ethical essentials. Carroll's ethical domain also includes three general ethical standards: (a) conventional, (b) consequentialist and (c) deontological.

Schwartz and Carroll (2003) suggested that the domains in the three-domain model can be used to investigate research questions related to the particular role of 3 domains in CSR, their relationships with other variables, or collectively as an overall measurement of CSR.

2.2 Corporate Social Responsibility Initiatives in the Airline Industry

There is a growing interest towards CSR initiatives in the airline industry in order to decrease the negative effects of the industry and contribute to sustainable development (Cowper-Smith and de Grosbois, 2011). This explains why it is hard to find any aviation-related business that does not implement some kind of CSR program (Phillips, 2006). Still, there isn't enough number of research studies towards CSR practice in the airline industry, and the industry's adaptation of CSR has been relatively slower if compared to other industries (Lynes and Andrachuk, 2008) and it is regarded as very limited (Tsai and Hsu, 2008). The studies towards CSR initiatives in airline industry, which have focused on case studies (Tsai and Hsu, 2008), environmental management (Mak and Chan, 2007) or aspect of CSR (Philips, 2006), have

limited and insufficient depth to provide an overview of the CSR initiatives in the airline industry (Cowper-Smith and de Grosbois, 2011). Phillips (2006) used Carroll's Pyramid of Corporate Social Responsibility (Carroll, 1991) while analysing the airline industry CSR initiatives. Philips (2006) categorized the CSR initiatives in the airline industry into 3 groups: (a) Category A, the social outreach and recognition. (b) Category B, ethics. (c) Category C, the environmental protection, health and safety, training and diversity (Phillips, 2006).

However, this study carries the weaknesses of using Carroll's The Pyramid of CSR to explain the relationship between the four categories of CSR and does not take into account the role of philanthropy as a separate part. In an effort to deal with this issues, Schwartz and Carroll (2003) introduced a new model: The Three-Domain Model of Corporate Social Responsibility. Moreover, Cowper-Smith and de Grosbois (2011) offered some evidence that the categorization can be made towards the CSR initiatives of the airline industry. In their research, Cowper-Smith and de Grosbois (2011) identified the most common CSR initiatives among the airline industry. Both environmental initiatives and socio-economic initiatives were examined, and the study provided an adaptation level of the CSR initiatives among the airlines.

Still, there are some limitations as, Cowper-Smith and de Grosbois (2011) used only one source of data in their study; the CSR reports published by airline companies. Therefore, the study may be incomplete since the CSR reports may not include all of the applicable CSR initiatives.

2.3 Consumer Attitudes & Behavioural Intentions

Similar to the definition of Corporate Social Responsibility and CSR initiatives in airline industry, consumer attitudes and behavioural intentions need to be further explained, so further justification is provided on the relationship between attitudes and behaviour intentions. The best-known formulation of attitude model in the literature is probably the theory of reasoned action (Fishbein and Ajzen, 1975; Engel et al., 1995; Chang and Yeh, 2002; Kim et al., 2009). The Theory of Reasoned Action (TRA) (Ajzen and Fishbein, 1980) is useful for examining consumer attitudes and behaviour intentions. The TRA receives wide support in recent literature (Coleman et al., 2011) and it has been used in both social psychology and marketing literature to explain the reasoning behind some behaviours like smoking, drinking and sexual transmissible diseases-related behaviour (Schlegel et al., 1977; Chassin et al., 1981; Ajzen, 1991). The model was also used within the studies in the airline industry in terms of exploring service quality (Chang and Yeh, 2002) and the consumer acceptance of e-commerce websites (Kim et al., 2009). The parts of TRA are divided into three: behavioural intention (*BI*), attitude (*A*), and subjective norms (*SN*). TRA suggests that a person's behavioural intention relies on

the person's attitude towards the behaviour and subjective norms ($BI = A + SN$). In other words, if a person intends to engage in a certain behaviour it is most likely that he or she will do it (Thompson et al., 1994).

An important factor of theory of reasoned action is individual's intention to perform a given behaviour and intentions are assumed to capture the motivational factors that influence behaviour; they are indicators of how hard people are willing to try, how much an effort they like to show to perform the behaviour (Ajzen, 1991). Also, Ajzen, (1991) concluded that the theory of reasoned action explains two different independent determinants of intention: (a) attitude towards behaviour, which refers to the degree which a person has favourable or unfavourable evaluation of the behaviour in question, (b) social factor or else a subjective norm, which refers to the perceived social pressure to perform or not to perform the behaviour.

TRA provides a defined model to test empirically the relationships between antecedents, attitudes and the behaviour of consumers (Coleman et al., 2011; Yeoh and Paladino, 2013). Yeoh and Paladino (2013) used TRA as a framework to form their casual model, which includes the research of the relationship between altruism and behaviour. In addition, TPA has been used in several research studies to explain the relationship between CSR and exercise behaviour (Maddux, 1993), in the prediction of consumer purchase intentions (Alwitt and Pitts, 1996), in green purchasing decisions (Schlegelmilch et al., 1996) and corporate social responsibility initiatives (Werder, 2008).

Although the TRA has been used to examine the relationship between CSR and behaviour, the theory has some limitations. (a) it assumes that behaviour is both voluntary and consciously pre-analysed. (b) it doesn't have the ability to explain or predict impulsive or irrational behaviours (Coleman et al., 2011). To overcome these limitations, the model was upgraded by Ajzen (1991) and renamed as Theory of Planned Behaviour (TPB).

The TBP was developed by adding perceived behavioural control to the TRA. In this way, the new theory gained the ability to account for behaviours that occur without voluntary control of the person (Coleman et al., 2011). Sheu (2006) investigated whether TRA or TPB better predicts students' behavioural intentions towards CSR and the results showed that TBP is a better model than TRA in predicting favourable behavioural intentions and TRA and TBP has equal performance in predicting unfavourable behavioural intentions. The literature provides reasonable information that the TBP can also be used, just like the TRA, to investigate the

relationship between attitude and behaviour intentions towards CSR initiatives (Madden et al, 1992; Sheu 2006; Coleman et al., 2011).

2.4 The Relationship between CSR and Consumer Attitudes

There have been many studies in the literature in support of a positive relationship between CSR and consumer attitudes along with positive affective, cognitive and behavioural responses (Murray and Vogel, 1997; Folkes and Kamins, 1999; Ellen et al., 2000; Sen and Bhattacharya, 2001). Also, some consumers seek to make purchases based on a company's social responsibility level (Moisander and Personen, 2002; Auger et al., 2003; Marin et al., 2009; McEachern et al., 2010). Bhattacharya and Sen (2004) concluded that consumers have a supportive attitude towards companies that employ CSR. On the other hand, in many other studies, CSR applications are thought to be indefinitely accepted by the consumers, and the consequences of CSR initiatives are unknown (Brown and Dacin, 1997; Creyer and Ross 1997; Bhattacharya and Sen 2004; Becker-Olsen et al., 2006). Some researchers suggest that consumers punish the firms that they regard as dishonest (Sen and Bhattacharya, 2001; Simmons and Becker-Olsen, 2004).

This can be attributed to the difference in consumers' attitudes towards companies and their different attitudes towards different CSR initiatives. There is a significant difference in consumer reactions towards CSR initiatives (Bhattacharya and Sen, 2004; Green and Peloza, 2011) and as Bhattacharya and Sen (2004) suggest, what works for one customer doesn't work for another. Consumers are individuals with distinct personalities and form different attitudes and intentions towards the same events or situations (Bhattacharya and Sen, 2004). Because of the different ways of creating attitudes, it also makes sense that consumers have different attitudes towards various CSR initiatives, and that's why the consequences of CSR actions are unknown in terms of reward or punishment towards the company (Bhattacharya and Sen, 2004).

Even though consumers' reactions are unknown towards CSR initiatives, companies can predict consumers' attitudes and purchase behaviour. As Green and Peloza, (2011) concluded, one way to do this is by focusing on consumers' evaluation of the CSR initiatives. When asked, consumers evaluate how companies' CSR behaviour matches with their own values, morals, standards, expectations and priorities and how each CSR initiative can add additional value to their purchase (Green and Peloza, 2011). Following the Green and Peloza, (2011)'s suggestion a review on the current literature towards values and expectations is reasonable to achieve the research objectives.

2.5 The Role of Value and Expectations

In the marketing literature, perceived value has been identified as one of the most important ways of gaining a competitive edge (Parasuraman, 1997) and it has been argued to be the most vital indicator of purchase intentions (Parasuraman and Grewal, 2000). However, in the leisure and tourism services, the airline industry included attitudes, purchase intentions and consumer loyalty are usually forecasted by measuring consumer satisfaction and/or service quality (Petrick, 1999). Woodruff (1997) concluded that, perceived value that underlines customer evaluation has to be taken into consideration to forecast consumer attitudes and purchase intentions. Since consumer perceived value is an important pointer of purchase intentions and attitudes (Chang and Wildt, 1994; Jayanti and Ghosh, 1996; Petrick, 1999; Petrick et al., 1999; Woodruff, 1997), consumers' perceived values need to be examined in order to understand consumer attitudes and behaviour intentions towards CSR initiatives in airline industry.

Zeithaml, (1988) identified perceived value as the consumer's overall assessment of the utility of a product based on perceptions of what is received and what is given. Depending on this definition, Zeithaml (1988) identified four different meanings of value: (a) value is low price, (b) value is whatever individual wants in the product, (c) value is the quality that the consumer receives for the price that paid, (d) value is what the consumer gets for what they give. Most of the studies in the literature on perceived value have focused on the last definition (d) (Zeithaml, 1988; Bojanic, 1996; Petrick, 2002). Similarly, Seth et al. (1991a, 1991b) developed an extensive theoretical framework for perceived value. At their framework, Seth et al. (1991a, 1991b) named consumer choice as a function of multiple consumption dimensions, making different contributions in different choice situations. Seth et al. (1991a, 1991b) suggested five different dimensions: (a) social, (b) emotional, (c) functional, (d) epistemic, and (e) conditional value, pertaining to the purchase decision at the product level or at the brand level. Seth et al. (1991a, 1991b) establish the most useful foundation for using the existing value constructs in many fields, including economics, social, and clinical psychology (Sweeney and Soutar, 2001). Green and Peloza (2011) argued that consumer categorisation of CSR and their subsequent perception of value corresponds to the three value drivers from Seth et al. (1991a, 1991b)'s framework. At the same time, some studies suggest that the value consumers receive from CSR is variable (Green and Peloza, 2011) and consumer behaviour may be dependent on the value they receive (Creyer and Ross, 1996; Menon and Kahn, 2003; Peloza, 2009; Green and Peloza, 2011). Prior studies in the literature also agree that consumer perceived value is an important variable in the investigation of the purchase intentions and attitudes (Chang and Wildt, 1994; Jayanti and Ghosh, 1996; Woodruff, 1997; Petrick, 1999; Petrick et al., 1999), but it needs to be further investigated in terms of CSR.

Based on Seth et al.'s (1991b) framework for values, Green and Peloza (2011) argued that CSR could provide 3 types of values for the customers; emotional value, social value and functional value. (a) The emotional value is received when a consumer makes a purchase with social or environmental attribute: (b) Social value occurs from the purchases from companies which are applying CSR initiatives since people are making judgments about each other by their purchases and lastly, (c) Functional value, which is the benefit that a consumer receives from actual product or service. Besides, Sheth et al. (1991a, p.12) argued that value dimensions are independent as the dimensions 'relate additively and contribute incrementally to choice'. However, prior research indicates that hedonic and utilitarian components of attitude may be interrelated (Osgood et al., 1957). Moreover, many other studies that used multidimensional constructs, which include organizational commitment (Mowday et al., 1979), well-being at work (Warr, 1990), retail service quality (Dabholkar et al., 1996), communication-evoked mental imagery (Babin and Burns, 1998), consumer perceived value (Sweeney and Soutar, 2001) and corporate social responsibility (Green and Peloza, 2011), have been found to be interrelated. To sum up, even though Sheth et al. (1991a) argued that the dimensions are interdependent, Green and Peloza (2011)'s consumption value model for CSR effectiveness, which interrelates value dimensions (emotional, social and functional) has an acceptable theoretical validity in the literature. The three value drivers provide the ability to forecast consumer behaviour in terms of attitudes and behaviour intentions towards CSR initiatives.

Creyer and Ross, (1997) concluded that expectations are the beliefs of what is to be expected. Expectations are playing an essential role in many types of consumer decisions (Creyer, 1997). At the same time, they are linked with both marketing concepts and CSR (Podnar and Golob, 2007). Parasuraman et al., (1988) concluded that consumer expectations are based on what they believe a company needs to do instead of what a company would do. In the last decade, CSR issues have become a major driver for society's opinion (Dawkins and Lewis, 2003). Additionally, Creyer and Ross (1997) found that consumers form expectations about corporate behaviour's ethicality. Expectations towards CSR initiatives are increasing and consumers are intolerant towards companies which are failing to do their obligations (Dawkins and Lewis, 2003) As Creyer (1997) also explained, it is important to understand how consumers interpret, and react to the outcome of the corporate decision and ethicality of corporate behaviour. The evaluation of the CSR initiatives by consumers can be defined with the use of consumer expectations (Dawkins and Lewis, 2003) since the latter is one of the variables that affects the individuals' opinions about companies (Creyer and Ross, 1997; Podnar and Golob, 2007).

According to Monsen (1972), CSR's consumer expectations represent the minimum level of CSR or the least level of CSR that companies are expected to apply. On the other hand, recent studies (Creyer and Ross, 1997; Sen and Bhattacharya, 2001; Podnar and Golob, 2007) found that CSR's beliefs and expectations actually form their responses towards corporate behaviour. If a company, perceived by consumers as highly active and efficient in CSR, this would create high expectations. So, if this firm performed a CSR initiative not as efficiently as before, this would make the consumer feel even more dissatisfied (Creyer and Ross, 1997). In addition, consumers tend to project their expectations and concerns into their behaviour towards companies (Klein et al., 2002; Maignan et al., 2005) and consumer expectations towards CSR initiatives significantly impact the consumer behaviour towards the companies (Creyer and Ross, 1997; Nebenzahl et al., 2001). Thus, expectations are at the core of the consumers' decision-making while determining the level of satisfaction or dissatisfaction towards the corporate behaviour (Creyer, 1997). For this reason, some studies used Prospect Theory (Kahneman and Tversky, 1979) in order to forecast how the consumers react against both ethical and unethical behaviour (Creyer, 1997).

The prospect theory (Kahneman and Tversky, 1979) is a model of risky choice process, and is used in marketing in order to forecast consumers' behaviour towards both ethical and unethical behaviour of the company; this theory has been used to predict behaviour in a number of marketing situations (Creyer, 1997; Puto, 1987; Ross, 1991; Creyer and Ross, 1996). From the theory of Kahneman and Tversky (1979), Creyer (1997) argued that if consumers expect firms to behave ethically, then the firm's ethical behaviour is taken as a reference point while consumers are evaluating the behaviour of the company. If the company is only meeting with the expectations of the consumer in terms of ethicality, which is the reference point, there is no gain or loss for the company for its CSR activities (Creyer, 1997). In addition, from the Creyer's (1997) perspective, if the companies are not meeting with the ethical reference point, which is developed by the consumers knowledge and attitudes towards company, then the activities below the reference point should provide a loss for the company. However, Kahneman and Tversky's (1979) Prospect Theory highlights that the evaluation of outcomes is highly dependent on a reference point. Regarding the latter, Klein and Oglethorpe (1987), based on Della Bitta and Monroe (1973), showed 3 levels for the reference points; (a) aspiration based (what consumer would like to see happens in the company), (b) market based (what is the current standing of the market) and (c) the experience-based (what consumer experienced in the past) (Klein and Oglethorpe, 1987).

As Klein and Oglethorpe (1987) concluded, the depth of processing and level of involvement can vary regarding to the class that has been selected. In addition, there is a high potential

to use an aspiration-based reference point (Klein and Oglethorpe, 1987). Under these circumstances, Klein and Oglethorpe (1987) conclude that consumers' evaluation of CSR initiatives is expected to be: a. Involving, since the consumers believe that ethicality of the firm is important; b. Abstract, since most of the aspects of the firm's motivations and behaviors must be considered at the point of judgment of behavior's ethicality. Because of these reasons, while evaluating CSR initiatives, consumers are expected to use aspiration-based reference point (what consumer would like to see happens in the company) (Klein and Oglethorpe, 1987).

The Kahneman and Tversky's (1979) Prospect Theory and Klein and Oglethorpe (1987)'s reference points provides this study an important information towards understanding consumer expectations towards companies CSR initiatives. With their study, it has been clarified that to investigate consumer expectations towards CSR initiatives, the main focus should be consumers' aspiration-based expectations. In other words, what consumer would like to see happens in the company in terms of CSR initiatives, projects the consumer expectations towards companies CSR initiatives. In sum, following the extant literature regarding CSR practices and the consumers' expectations and perceived value of CSR related services, this study aims to offer new knowledge and data in an overlooked market, the airline industry. As such, the following hypotheses are proposed:

H1: In the airline industry it is expected that consumers' perception of value dimensions of services involving CSR initiatives will positively effect consumers' attitudes towards CSR initiatives.

H2: In the airline industry it is expected that consumers' expectations of CSR initiatives will positively effect consumers' attitudes towards CSR initiatives.

H3: In the airline industry it is expected that consumers' attitudes towards CSR will positively effect consumers' purchase intentions towards services involving CSR initiatives.

3.METHODOLOGY AND RESULTS

A conclusive research design was selected in order to examine the relationships described in the conceptual framework. Convenience sampling was used, and an online questionnaire was developed and distributed via the social networks. The sample consisted of 201 respondents who agreed to participate, 41.3% of which were male and 58.7% female, similar to the gender structure of the airline industry customers (Golob et al., 2008). The questionnaire was pretested in order to increase the validity and reliability and a pilot survey was conducted.

In order to measure attitudes towards CSR, we examined several studies within the literature that were deemed as useful. As an example, attitudes towards helping others scale (AHO)

and attitudes towards charitable organisations scale (ACO) were useful for this study (Webb et al., 2000). Webb et al. (2000) also suggested that the measures could be used to understand the relationship between values and charitable behaviour. However, the scale was not efficient to measure the attitudes towards CSR initiatives in the airline industry since AHO and ACO scales were effective for measuring attitudes towards charitable organisations and consumer's donation behaviour. Their scale could have been useful if this study aimed to explore consumers' willingness to pay a premium price. For this reason, AHO and ACO scales was rejected. For the attitude questions, a scale was taken from Kolodinsky et al. (2010) that measured the consumer attitudes towards CSR initiatives with the use of this scale. The reliability of Kolodinsky et al. scale was high (0.73 Cronbach's alpha). Respondents evaluated all items on a 7-point scale, ranging from strongly disagree (1) to strongly agree (7). The questions were as follows: 'The most important concern for an airline company is making a profit, even if it means bending or breaking the rules', 'The overall effectiveness of an airline company can be determined to a great extend by the degree to which it is ethical and socially responsible', 'Social responsibility and profitability can be compatible', 'Business ethics and social responsibility are critical to the survival of an airline company', 'Airline companies have a social responsibility beyond making profits', 'Good ethics is often good business'.

3.1. SCALE FOR MEASURING VALUES

For measuring consumer perceived value towards CSR initiatives in airline industry, the 12-item PERVAL scale was taken from Walsh et al. (2013)'s study. Walsh et al. replicated, validated and reduced the length of the PERVAL scale (The original 19-item PERVAL scale was developed by Sweeney and Soutar (2001) to measure consumer perceived value). Although Walsh et al. have also developed an 8-item PERVAL scale, for this study, the 12- item scale was preferred since it contains psychometric properties (Walsh et al., 2013). The PERVAL scale was originally designed to measure the consumers' perceived value in services and goods context (Walsh et al., 2013). Walsh et al. (2013) PERVAL scale consists of three consumer perceived value elements. First, the functional value, second, the emotional value, and third, the social value (Respondents evaluated all items on a 7-point scale ranging from 'Strongly Disagree' (1) to 'Strongly Agree' (7).

Two scales were initially found useful in order to measure consumer expectations towards CSR initiatives in the airline industry. One of them was 14-item scale from Poolthong and Mandhachitara (2009) study, where the researchers examined consumer expectations in Thai retail banking. Although their scale was found eligible for this study, it was rejected since the questions in the scale did not capture the possible CSR initiatives in the airline industry. Their scale focused more on the CSR initiatives towards retail banking. The scale for measuring

expectations towards CSR initiatives in the airline industry was taken from Creyer (1997), which measured consumer expectations towards firms' ethical behaviour. Respondents evaluated all items on a 7-point scale ranging from strongly disagree (1) to strongly agree (7). The questions were as follows: 'Airlines really should be ethical in all of their dealings in the marketplace', 'I expect the Airlines that I deal with to act ethically at all times', 'All of the airline companies will be unethical sometimes; it is normal', 'It is no big deal if airline companies are sometimes unethical', 'Airline companies have a responsibility not to ever act unethically', 'All of the airline companies will not uphold the highest ethical standards sometimes; nobody is perfect', 'Airline companies have a responsibility to always act with the highest of ethical standards'.

To measure the purchase intentions of consumers towards CSR initiatives in the airline industry, the scale was taken from David et al. (2005), where consumer purchase intentions towards companies that have CSR initiatives were measured. Respondents evaluated the item on a 7-point scale ranging from not at all likely (1) to extremely likely (7). The question was: 'How likely is it that you would buy products from the airline company X?' (Company X was the same company that respondents asked to imagine in the previous parts).
All scales were proved to be reliable and internally consistent and the summated multi-item scales were constructed based on the mean scores (Spector, 1992). Moreover, all measures were found to be unidimensional and valid in terms of both discriminant and convergent validity. To check the validity of our research hypotheses and the significance of the model's causal relationships, we followed the SEM analysis. According to the results (Table 1) there is a good fit of the hypothesized model to our data, and all hypotheses are accepted.

Table 1. Fit Indices and Path Coefficients

PATH MODEL CFI =0.90, RMSEA=0.07	STZD BETA	T	SIG.
CONSUMER PERCEPTIONS OF VALUE → CONSUMER ATTITUDES	0.13	4.33	< 0.05
CONSUMER EXPECTATIONS → CONSUMER ATTITUDES	0.09	2.25	< 0.05
CONSUMER ATTITUDES → PURCHASE INTENTIONS	0.52	3.14	< 0.05

4. DISCUSSION AND CONCLUSIONS

Despite the growing interest in researching CSR practises in the airline industry, there aren't enough studies (Lynes and Andrachuk, 2008; Tsai and Hsu, 2008). The existing studies regarding CSR initiatives in the airline industry are limited in-depth and are insufficient to provide an overview of the airline industry's CSR initiatives (Cowper-Smith and de Grosbois, 2011). This study contributes to the relevant literature by providing insights on the consumers' attitudes and purchase intentions towards CSR practises in the airline industry by examining

consumer perceived values and expectations. Firstly, this study revealed that the CSR practises in the airline industry increase the airline companies' perceived quality, and it supports the idea that CSR initiatives are a useful tool for marketing tactics that aim to increase the perceived value of the airline companies. Moreover, data analysis revealed that there is a positive between consumers' attitudes towards CSR initiatives in the airline industry and consumers' purchase intentions in relation to services involving CSR initiatives in the airline industry. The results were consistent with the existing literature (Ajzen, 1991; Alwitt and Pitts, 1996; Schlegelmilch et al., 1996; Coleman et al., 2011), and stressed out the role of attitudes as a significant predictor of purchase intentions within the airline industry. Expectations were also found to be a significant predictor of attitudes towards the companies with CSR initiatives in the airline industry. Airline companies can benefit from market research to thoroughly investigate consumers' profile and, thus, determine the level of investment required to meet consumers' expectations. This can lead to the creation of favourable attitudes towards the company and, in turn, to increased purchase intentions. Advertising and promotion campaigns can also increase the perceived value of the consumers by focusing on the CSR initiatives of the company within the airline industry. Future research could be directed towards the CSR expectations research in the airline industry. Specifically, the development of a new scale to measure consumer expectations for CSR initiatives could increase the efficiency of measuring the airline industry expectations. Future research can also investigate the role of values within a different value definition. A new research design to investigate the consumers' perceived values towards the airline industry may increase the validity of the perceived value from CSR initiatives and find more results to interpret the relationship between consumers' perceived values and attitudes and the relationship between consumer perceived values and expectations.Moreover, an investigation towards perceived value dimensions towards CSR initiatives can propose new additional dimensions, with respect to the Green and Peloza's (2011). Finally, future research could focus on the role of consumer satisfaction for consumer attitudes and behavioural intentions towards CSR initiatives of airline industry.

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THE RELATIONSHIP BETWEEN LEADERSHIP STYLES AND AVIATION SAFETY: A STUDY OF AVIATION INDUSTRY

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ABSTRACT

The role of leadership in aviation safety is the subject of great interest. Aviation safety is related foremost to passenger safety, and ultimately to the economy. A single aviation accident can lead to organizational failures due to financial burden and loss of life. Therefore, the role of aviation leader in safety issues needs to be examined. In this article, 300 aviators, both managers and employees, have participated in the survey which utilized the Multifactor Leadership Questionnaire (MLQ), and the Nordic Network of Occupational Safety Questionnaire (NOSACQ-50). Three separate organizations were chosen for the study. A quantitative research methodology was used to analyse the research findings. The research results show that the safety level of most of the airlines under the investigation was below the desired level. Likewise, transformational leadership has a higher safety score than any other leadership styles; however, only a few aviation leaders are practising this style. It implies that aviation leaders can adopt a transformational style to reduce air accidents. This research also identified a few core competencies of the aviation leader within the transformational style of leadership. Intellectual stimulation and individualized consideration can contribute to higher aviation safety than any other factors of transformational leadership.

KEYWORDS: Aviation safety, Leadership, Leadership style, Transformational leadership, Transactional leadership and Non-Transactional leadership (Laissez-faire leadership) style.

1. INTRODUCTION

A high-risk industry like aviation is exposed to risk every day, and thus its workers too are exposed to aviation risks right from starting their job. Moreover, safety is costly, and it is hard to achieve it without all employees and leadership's contribution. Flin (1998) suggested that safety can be monitored before failure. He emphasized the feedback of employees to achieve safety.

Nepal is one of the unsafe skies as per the recent International Civil Aviation Organization (ICAO) result. European Aviation Safety Agency (EASA) has already blacklisted Nepal for its poor safety record. No Nepali aircraft is allowed to enter the European airspace due to its weak safety measures and the fact of having been blacklisted. Nepali aviation history shows that, so far, more than 60 air mishaps have occurred within 60 years of its history of aviation operation in Nepal (Civil Aviation Authority of Nepal [CAAN], 2020). Due to having been blacklisted by EASA, the Nepali airline industry is facing severe financial and other problems.

The Nepali aviation industry is always in a shadow in terms of its research and development. The government has never prioritized research-based policy. However, a few safety-related studies were found in the literature. A large-scale cross-sectional study of Danish companies by Andersen and his fellow researchers (Bass, 1985) was one of them. They suggested that planning and management strategies are required to increase the safety level. Therefore, I have carried out empirical research in the aviation field, which could be useful to all the aviation industries worldwide. An aviation accident or incident has severe impacts on the aviation industry. For instance, the case of Boeing Max accident had severe adverse effects on the aviation industry (ICAO, 2020).

To culminate this type of air accident, the ICAO has recently formulated the safety management system. As per this, training, technology, and regulations are the three primary safety defense layers (ICAO, 2020). Air accidents' main problems are organizational politics, unfortunate management, less safety culture, lack of training, and political instability in the country (ACSNI, 1993). Moreover, safety climate and attitude are the evaluation measures of organizational safety (Diaz & Cabrera, 1996). In 2015, Alam conducted a study and highlighted that aviation accident happens due to not focusing on safety culture and safety climate at the workplace of the aviation industry (Alam, 2015). Most air accidents occur due to the airlines' poor leadership and safety culture (Barrick & Mount, 1991).

So far, in Nepal, more workplace incidents have happened in the aviation industry (CAAN, 2020). In the year 2019, the Nepali civil aviation minister died, and the author had participated as one of the experts in the aircraft crash investigation commission. The final investigation report highlighted a severe flaw in operational management, and they have a low safety climate at their organization. The commission recommended improving the entire Nepali aviation industry's safety climate, which can minimize such types of air accidents (CAAN, 2020).

Recent Studies and research findings have concluded that corrupt management practices and leadership styles are potentially dangerous for aviation safety (ICAO, 2020)**.** All the research in the field of leadership and safety were related to general organizations. So far, no such study has been carried out in the area of the aviation industry. Moreover, not many studies were explicitly related to leadership and aviation safety (Cox & Cox, 1991). The recent aviation accident report has also pointed out the management failure to prevent air accidents in most aviation accidents (Reason et al., 1998).

The research article is separated into several sections. The introductory section defines the research problem, offers the author's motivation to the research issue, and introduces the case company. The relevant literature review is carried out in the literature review section. The analysis provides the conditions that guide the investigation of the relationship between leadership styles and the workplace's safety climate. The methods section talks about the research approach, i.e., quantitative research approach, sampling and data collection, and data analysis procedure. In the conclusion section, based on the study's significant findings, implications and conclusions are drawn.

Moreover, the scientific contribution of this study is highlighted under a separate sub-heading. Limitations of the research are also identified, and further research on the relationship between leadership styles and safety climate in the aviation industry other than Nepal has been recommended. This type of research finding can be used around the globe to enhance aviation safety, which can save many lives. This research could be the first such kind of research in the field of leadership style and aviation safety. It can increase the safety level of the aviation organization, which, in turn, minimizes air accidents in the future.

2. LITERATURE REVIEW

All different researchers have defined leadership as per their perspective and knowledge. Leadership should be trustworthy, needs to motivate followers, and always lead the followers to achieve the organizational goal (Yukl, 2010). Due to a lack of motivation, employees slowly deviate from their safety culture, and there will be a low safety climate. Some of the crucial factors for several major accidents that happened in the 20th century were low safety culture, failure of leadership, and managerial failure at the organizational level (Hofmann & Stetzer, 1996).

One of the accidents that illustrate this fact was the crash of DC. 10 KZ-NZP. Flight 901 in Mount Erebus, Antarctica from Auckland Airport New Zealand on 28 November 1979. In this accident, 237 passengers and 20 crew onboard had died. The cause was that they had changed the flight path of the aircraft 45 KM to the East early in the morning, but the management did not inform them about the change (ICAO, 2020).

As per the recent accident investigation report of one of the helicopters crashed in the eastern part of Nepal, it was pointed out that lack of safety climate at that airline's workplace was the contributory factor of air accident that occurred (CAAN, 2020). Leaders are responsible for creating a suitable safety climate in their aviation organization (Patankar & Sabin, 2010). All different kinds of employees have different attitudes and behaviours, resulting in an aviation safety climate (Kelly et al., 2015). Safety climate, and safety culture, could be bettered by executing programs that focus on co-worker trust, supervisor trust, and job satisfaction (Simard & Marchand, 1994). Safety beliefs depend on and lead to safety culture, and, in Nepal, we also have a distinctive culture, that is, luck culture (Bastola, 2017). When there is an accident or incident, we blame it mostly on bad luck.

According to Kelly (2012), there are many differences and commonalities in leadership styles and safety culture, especially safety climate**.** He found that there was a positive relationship between transformational leadership with safety climate. Another researcher, Brin (2010), pointed out that transformational leadership is considered one of the best leadership styles to achieve higher organizational performance. Likewise, Bass (1985) also agree that better performing leaders have a transformational leadership style. A transformational leader always helps their employees to reach their career goals and incur better output. However, transactional leadership always prioritizes the specific transaction among the followers and leaders (Bass, 1985).

As per Chena (2013), both leadership style and safety climate can be measured by one item and one scale as aviation safety starts from the hanger or where the maintenance people work. As per Wameedh et al. (2011), occupational accidents are rising due to a lack of attention given to safety act, safety actions, and improvement of methods to prevent accidents and injuries. Andoh (2013) further describes transactional leadership and indicates that it is based on social learning and social exchange theories. He concluded that the transactional leadership style has less performance than the transformational leadership style.

Safety climate directly influences employees' safety motivation and knowledge, which directly affects safety performance activities, which is also directly related to safety outcomes (Smith et al., 1978). The fact is that many small airlines think first about profit than safety. Aviation leaders are not like general leadership; they need to decide on time due to the higher mobility of aviation industries (Williamson et al., 1997). Aviation safety tell-tale indicators are lagging or leading indicators, which depend on the safety climate. Safety climate should be like affair climate (O'Connor, 2011)**.** Likewise, leadership styles are mainly affected by organizational culture, national culture, followers, situations, organizational structural (Fuller, 1999).

There are some studies in the field of safety culture and safety climate of an organization, mainly in general organizations like nuclear processing plant (Lee, 1998). He concluded that leadership role in the safety culture of the plant is vital and cannot be neglected. Another research in the field has been carried out in road transportation administration and found that leaders can build the workplace's safety culture than any other employees (Niskanen, 1994). Aviation organizations have different employees, where crew, other employees and their various backgrounds and safety culture indirectly affect safety. Furthermore, leadership style can help to manage safety. As such, the safety level is the result of an organizational safety climate and leadership style. How the leadership style contributes to safety and which leadership is the best for achieving a higher level of safety climate has been studied in this research.

From the above literature, we assume that leadership styles directly influence safety culture and safety climate. The performance of the organization also depends on a positive safety climate. However, so far, no single research is available in the field of leadership and aviation organizational safety climate as per the author's knowledge. In this context, many questions remained unanswered: Why is air accident increasing trend? Which leadership style could be the best for a better safety climate in the aviation industry? Out of these queries, the author

personally has chosen the topic "The relationship between leadership styles and aviation safety climate- a study of Nepali airlines" as empirical research to fulfil the research gaps and to contribute knowledge in the field of leadership and aviation safety.

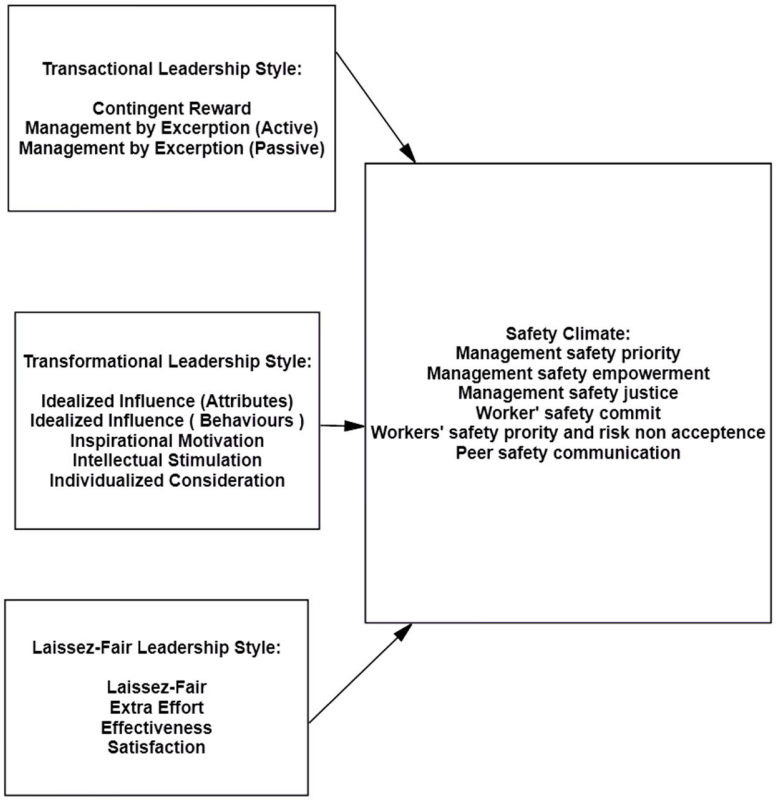
Based on the above literature, we could not identify any clear-cut relationship between the leadership style of a leader of an aviation organization and the safety climate. Therefore, the link can be organized according to concepts derived from the purpose and research problem and from aviation-related safety studies published in journal articles, dissertations, and meta-analyses, as presented in the research study's theoretical framework. Leadership styles can affect various safety factors, as shown in Figure 1 below. In this research, the author is interested in the effect of leadership styles on aviation safety climate.

The theoretical framework is based on two variables, leadership styles and safety climate. Leadership styles are independent variables, and safety climate is the dependent variable. As mentioned above, to what extent leadership styles and safety climate are related, there is no clear-cut evidence from the literature. Therefore, this research aims to study the relationship between leadership style and the safety climate at Nepali airline industries to recommend the best leadership practices for aviation leadership. More specifically, this research study has the following research questions:

- To what extent does an organization's leadership styles (transactional, transformational, or non-transactional) correlate with aviation safety climates in aviation industries?
- Which leadership style correlates with a higher safety climate?
- Which individual factors of leadership styles are highly correlated with aviation safety climate?

This study is based on empirical research, which was carried out by using a survey questionnaire to the top managers and working-class employees. Based on the above research questions, this research tried to find out the relationship between leadership style and aviation safety climate in three different types of aviation organizations, government, semi-government and private aviation organizations, mainly airlines industries.

Figure 1. Theoretical framework of leadership styles and aviation safety climate



3. METHODS

The author himself carried out a pilot survey for this research in 2016. Only 51 people participated, and the result shows the significance of this research, but there were some data collection errors due to language problems. Therefore, the questionnaire had to be translated into the Nepali language. The author was keen to do such research in a larger scale to generalize the result; this was the reason the author has surveyed converting all MLQ and NOSACQ-50 questionnaires into the Nepali language, some items were slightly modified without changing the original themes. Then the author administered the survey in 10 different aviation organizations from 17 December 2019 to 8 January 2020 in Nepal.

The participants for this study had comprised about 300 respondents from various employees of Nepali airlines which are operating in domestic and international track and who agree to respond to a written questionnaire. Sample of employees had been chosen as per convenience for the study at the workplace and few designated leaders as per their appointments. The survey

participants had comprised a sample of convenience from the staff of airlines, mainly crew pilots, aeronautical engineers, aircraft mechanics, and ground support staff.

The benchmarks for presence in the study had comprised a sample of different age, sex, caste/society, educational background, rank, profession, position, and length of service, etc. Ten various aviation organizations were chosen randomly, one from a government aviation organization, another was a semi-government aviation organization, and seven were private aviation organizations. The rationale for selecting these varied types of organizations is that leadership styles and the safety climate within their organizations could be different in these three types of industries.

This is a quantitative study, and the author has used the primary data collected via a survey. Different models have been used to explore the answers to the research questions. The result is to develop a practical model that will sum up the whole idea of this research. Two survey questionnaires were used for gathering evidence during the study. The first questionnaire, which was used to classify the leadership styles, was the Multifactor Leadership Questionnaire (MLQ) developed by Bass and Avolio (1997). The second questionnaire used to measure the safety climate resulted from a questionnaire developed by the Nordic Network of Occupational Safety Researchers (NOSACQ-50). It was developed based on organizational and safety climate theory, psychological theory, headed by the National Research Centre for the Working Environment, Denmark (Kines et al., 2011).

The NOSACQ-50 questionnaire was given to both the supervisors and the subordinates to fill up. The MLQ measures the attributes of transformational, transactional, and laissez-faire leadership styles with a magnitude scale of 0,1,2,3, and 4. The scales are represented by 0 for not at all, 1 for once in a while, 2 for sometimes, 3 for fairly often, and 4 for frequently. For transformational leadership, the scales of 20 questions on idealized attributes, idealized behaviours, inspirational motivation, intellectual stimulation, and individual consideration were used. The scales for transactional leadership comprised contingent reward and management by exception active and are captured by 12 questions. Laissez-faire leadership is characterized by laissez-faire, extra effort, effectiveness, and satisfaction, identified by 13 items. Refer to the Annex for the full survey questioners. After the collection of data, in the first stage, the data had been decoded. There are 12 independent variables (construct) for leadership styles listed with their codes (Leader 1 to Leader 12) for data analysis.

Leadership Style Transformational:

- Idealized Influence (Attributes) (Leader1)
- Idealized Influence (Behaviors) (Leader2)
- Inspirational Motivation (Leader3)
- Intellectual Stimulation (Leader4)
- Individualized Consideration (Leader5)

Transactional Leadership styles:

- Contingent Reward (Leader6)
- Management by Exception (Active) (Leader7)
- Management by Exception (Passive) (Leader8)

Non-Transactional Leadership Styles:

- Laissez-Faire (Leader9)

Extra Effort (Leader10)

Effectiveness (Leader11)

Satisfaction (Leader12)

Likewise, the NOSACQ-50 is made up of 50 questions requiring answers that are ratings 1, 2, 3, and 4, but the rating is dependent on the formulation of the questions. It covers seven safety dimensions, namely: Management safety priority and ability, Management safety empowerment, Management safety justice, Worker's safety commitment, Workers safety priority, and risk non-acceptance, Safety communication, learning, and trust in safety ability, and Workers' trust in the efficacy of safety systems. Both leadership and safety climate survey questioners are tabulated in the Annex.

The MLQ was used to determine and measure leadership styles, whereas the NOSACQ-50 were used to measure workers' perception of the value management places on safety. The NOSACQ-50 covers seven dimensions of safety climate (Safety) with its codes (Safety1 to Safety7) for data analysis purpose, namely are as below:

- Management safety priority and ability (Safety1)
- Management safety empowerment (Safety2)
- Management safety justice (Safety3)
- Worker's safety commitment (Safety4)
- Workers safety priority and risk non-acceptance (Safety5)
- Safety communication, learning, and trust in safety ability (Safety6)
- Workers' trust in the efficacy of safety systems. (Safety7)

To determine the results from the NOSACQ-50, a true mean score has been determined for each dimension for each respondent. After that, the mean for all the respondents was determined from the true means from each respondent. To determine if the leadership style is associated with the safety climate score, the scoring is grouped into three ranges with the following categories: 15 to 19 – low safety, 20 to 24 – medium safety, 25 to 28 – high safety.

The NOSACQ-50 used in this study has been pilot tested in various industries in all the Nordic countries, and the results confirmed the reliability and validity of the questionnaire (Kines et al., 2011). Bass and Avolio (1997) tested the MLQ and found that its reliability is proven many times through test-retest, internal consistency methods, and alternative methods. However, the author is using it in the aviation field for the first time. Therefore, a separate reliability test of each has been carried out and tabulated in the annex table 3 and table 4, respectively. Using SPSS, correlation analysis has determined the relationship between leadership style and the aviation safety climate. The dependent variable is the safety climate, and others are independent or explanatory variables.

Recent research has stressed the potential problem of common method bias, which describes the measurement error compounded by respondents' sociability who want to provide positive answers (Yang et al., 2010). As per Chang et al., it may occur if the same questionnaire is used for two different research constructs. But in this article, the author has used two different independent sets of questionnaires for safety and leadership issues, and data analysis shows the high reliability of the questionnaires. The Variance Inflation Factor (VIF) is less than two (see Table 1), and thus, it is reliable. Latent modelling of variables has been done in the questionnaire itself so that respondents will not understand the survey's full scope, which can reduce the bias. Besides, the author also knew the real data only after the decoding of the questionnaires.

Table 1. Variance Inflation Factor

Variable	VIF	1/VIF
Extra Effort	3.05	0.32
Effectiveness	2.83	0.35
Contingent Reward	2.11	0.47
Satisfaction	2.05	0.48
Laissez-Faire	2.00	0.49
Management by Exception (Passive)	1.93	0.51
Management by Exception (Active)	1.85	0.54
Idealized Influence (Attributes)	1.54	0.64
Inspirational Motivation	1.41	0.70
Idealized Influence (Behaviours)	1.37	0.72
Intellectual Stimulation	1.37	0.72
Individualized Consideration	1.28	0.77
Mean VIF	1.9	

Table 2. Cronbach's alpha of Leadership each Construct Variables

	Leadership Factors	Cronbach's alpha
1	Idealized Influence (Attributes) (Leader1)	0.71
2	Idealized Influence (Behaviours) (Leader2)	0.59
3	Inspirational Motivation (Leader3)	0.64
4	Intellectual Stimulation (Leader4)	0.65
5	Individualized Consideration (Leader5)	0.58
6	Contingent Reward (Leader6)	0.76
7	Management by Exception (Active) (Leader7)	0.82
8	Management by Exception (Passive) (Leader8)	0.86
9	Laissez-Faire (Leader9)	0.86
10	Extra Effort (Leader10)	0.90
11	Effectiveness (Leader11)	0.85
12	Satisfaction (Leader12)	0.85

Note: Total Cronbach's alpha of all 45 questions is 0.76.

The author tried to minimize the common method bias during the survey, but there may be a common method bias (VIF = 1.9), which is the limitation of this article. However, this 1.9 value of VIF is acceptable in the research study since it is less than 2.

Table 3. Cronbach's alpha of Safety Climate Dimensions each Construct Variables

	Leadership Factors	Cronbach's alpha
1	Management safety priority and ability (Safety1)	0.81
2	Management safety empowerment (Safety2)	0.51
3	Management safety justice (Safety3)	0.82
4	Worker's safety commitment (Safety4)	0.64
5	Workers safety priority and risk non-acceptance (Safety5)	0.81
6	Safety communication, learning, and trust in safety ability (Safety6)	0.70
7	Workers' trust in the efficacy of safety systems. (Safety7)	0.55

Note: Total Cronbach's alpha of all 50 questions is 0.935. *Cronbach's alpha (Internal consistency) interpretation:* $\alpha \geq 0.9$ (Excellent), $0.9 > \alpha \geq 0.8$ (Good), $0.8 > \alpha \geq 0.7$ (Acceptable), $0.7 > \alpha \geq 0.6$ (Questionable), $0.6 > \alpha \geq 0.5$(Poor), $0.5 < \alpha$ (Unacceptable)

Although all safety and leadership styles, construct variables are very difficult to measure, these above values of Cronbach alpha can be taken as satisfactory for such a complex study with seven dependent construct variables of safety and twelve independent construct variables.

The author did not replicate the survey, which was already done in another place. This is the concept developed by the author to use these above mentioned two questionnaires in the aviation industry in Nepal, and its findings can be generalized around the globe. Both statistical tools SPSS and STATA were used to analyze the data. Since there are seven safety dependent construct variables and 12 independent leadership construct variables, there are high possibilities of the interdependence of such latent variables. Therefore, the author did additional structural equation modelling to show the dependence of dependent and independent variables.

4. RESULTS

From the analysis of the data collected at Tribhuvan international airport, it was found that 300 respondents with a 92% response rate have returned the questionnaire. Altogether 325 people were selected from various airlines and aviation organizations. Due to the limited number of aviators, 325 sample were included in the study, and they were mainly the

Manager/supervisor/subordinates who were conveniently selected for the study. Twenty-five respondents could not submit the form due to their hectic schedules in their respective organizations. The remaining 300 respondents fruitfully completed and submitted the forms. The socio-demographic profile of the respondents has listed in Table 4.

The results were determined by averaging the scores for each item in each leadership style scale. A leadership style, which has a higher score, indicates a strong tendency toward that leadership style. The various results of this research are tabulated in Table 5. The aviation staffs' numbers were high in the survey respondents. Female respondents were very few; this may be due to very few female aviators working in the Nepali aviation industry. In terms of the Questionnaires' responses, 205 (68%) of the subordinates were male and 95 (32%) female. The respondents were selected based on their work experience, especially those working under a supervisor for more than ten years. Table 5 has shown the result of the regression analysis between leadership styles and safety climate by using STATA.

Table 4. Socio-demographic characteristics of the respondents

Variables	Level	Frequency	Rate (%)
Gender	Male	205	68.3
	Female	95	31.7
Age	19 to 35	152	50.7
	36 to 57	148	49.3
Level of Education	Bachelor or Above	127	42.3
	Intermediate or Plus 2	173	57.7
Institute	Government	81	27
	Semi- government	128	43
	Private	91	30
Position or Status	Manager or Supervisor	127	42.3
	Worker Class or Technician	173	57.7

Table 5. Correlation matrix between various factors of leadership styles

	leader1	leader2	leader3	leader4	leader5	leader6	leader7	leader8	leader9	leader10	leader11	leader12
leader1	1											
leader2	0.22	1										
leader3	0.27	0.26	1									
leader4	0.26	0.21	0.14	1								
leader5	0.33	0.23	0.19	0.27	1							
leader6	0.36	0.42	0.33	0.31	0.29	1						
leader7	0.33	0.29	0.24	0.34	0.25	0.49	1					
leader8	-0.33	-0.23	-0.32	-0.35	-0.31	-0.52	-0.18	1				
leader9	-0.45	0.03	-0.34	-0.31	-0.29	-0.15	-0.18	0.44	1			
leader10	0.39	0.16	0.39	0.28	0.29	0.32	0.48	-0.23	-0.44	1		
leader11	0.42	0.27	0.36	0.40	0.34	0.47	0.57	-0.37	-0.3	0.71	1	
leader12	0.35	0.15	0.23	0.34	0.24	0.37	0.45	-0.34	-0.45	0.63	0.49	1

Note: Some leadership factors are correlated negatively, and Correlation Matrix between various factors of leadership styles and safety climate has shown in the above table 2. Management by Exception (Passive) and Laissez-Faire behaviours of leadership have a negative correlation to most of the leadership styles factors. In contrast, Contingent Reward and Management by Exception (Active) have a positive correlation to all leadership style's factors.

Statistical data analysis of this research results is shown in Table 6 below.

Table 6. Mean, standard deviation, minimum and maximum values of leadership style's factors

Variable	Obs	Mean	Std. Dev.	Min	Max
safety	300	2.82	0.38	2.26	3.92
safety1	300	2.83	0.56	2.00	4.00
safety2	300	2.79	0.30	2.14	3.57
safety3	300	2.74	0.77	1.83	3.33
safety4	300	2.96	0.36	2.33	3.66
safety5	300	2.83	0.50	2.00	4.00
safety6	300	2.82	0.46	2.00	3.62
safety7	300	2.77	0.30	2.14	3.57
leader1	300	2.57	0.66	0.50	4.00
leader2	300	2.76	0.48	0.75	4.00
leader3	300	2.69	0.51	0.75	4.00
leader4	300	2.46	0.59	0.75	4.00
leader5	300	2.37	0.62	0.50	3.75
leader6	300	2.03	0.59	0.25	3.50
leader7	300	1.64	0.80	0.25	4.00
leader8	300	1.45	0.89	0.00	3.75
leader9	300	1.33	0.59	0.25	3.50
leader10	300	1.33	0.88	0.00	3.00
leader11	300	1.24	0.78	0.00	3.00
leader12	300	1.21	0.94	0.00	4.00

Safety climate scores and leadership styles scores in 10 different airlines are tabulated in Table 6. The scores are out of 4, and a higher number shows a better result. All aviation organizations have the highest score in workers' trust in the safety system, semi-government aviation organizations have the lowest score in management safety justice, and private aviation organizations have the highest score in management safety priority. Overall, safety was better in private aviation organizations in Nepal. Similarly, all aviation organizations have an average safety mean of 2.82 out of 4, which means no aviation organization in Nepal has a satisfactory safety

level as per the research findings. Likewise, the mean score of the transformation leadership style is 2.57, and it is 1.70 for the transactional leadership style, whereas it is only 1.27 for the Laissez-Faire leadership style. This indicates that the transformational leadership style has a better safety record than the other two leadership styles. In Table 7 below, four regression analysis results are presented:

Table 7. Regression analysis between safety climate and leadership styles by using STATA

Source	SS	df	MS	Number of obs	300
				F(12, 287)	81.45
Model	34.48	12	2.870	Prob > F	0
Residual	10.1264	287	0.035	R-squared	0.77
				Adj R-squared	0.76
Total	44.61	299	0.140	Root MSE	0.18

safety	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
leader1	0.03	.020	1.50	0.13	-0.009	0.07
leader2	0.01	.026	0.52	0.60	-0.03	0.06
leader3	0.02	.025	0.87	0.38	-0.02	0.07
leader4	0.01	.021	0.87	0.38	-0.02	0.06
leader5	0.03	.019	1.62	0.10	-0.006	0.07
leader6	0.06	.026	2.45	0.01	0.01	0.11
leader7	0.04	.018	2.25	0.02	0.005	0.07
leader8	-0.12	.016	-7.41	0.00	-0.15	-0.09
leader9	-0.17	.025	-6.83	0.00	-0.22	-0.12
leader10	-0.004	.021	-0.21	0.83	-0.04	0.037
leader11	0.13	.023	5.83	0.00	0.08	0.18
leader12	0.03	.016	2.23	0.02	0.004	0.06
_cons	2.53	.12	20.94	0.00	2.29	2.77

This above analysis of the total safety and 12 transformational, transactional and lassiez-faire leadership styles (Non-transactional) factors are correlated utilizing the SPSS software. The Leadership constructs show that the R square value is 0.77. A T-test of independence resulted in the t-value of almost zero with a corresponding P-value. Since the T-value is higher than the tabulated value and p-value is less than 0.05, my assumption of no relationship between leadership styles cannot be accepted. The relationship between leadership styles and safety

climate cannot be rejected. It is therefore concluded that there was substantial evidence of the relationship between leadership styles with safety climate. Transformational leaders scored higher in safety climate scores compared to transactional leaders. Moreover, since the R-squared value was = 0.77, this empirical research can be considered a reliable test and could be viewed as a valid survey in the Nepali airlines industry. As per the author's knowledge, leadership constructs are complicated to measure because these are latent variables.

5. DISCUSSION

This research aimed to examine the relationship between leadership style and safety climate in Nepali domestic airlines. To determine the MLQ scores, the scores from the respondents were averaged for each leadership style scale. There is a strong relationship between leadership styles and safety climate in the Nepali aviation organizations. Leadership styles factors are: for Transformational- Idealized Influence (Attributes), Idealized Influence (Behaviors), Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration. For Transactional: Contingent Reward, Management by Exception (Active), and Management by Exception (Passive). For Non-Transactional: Laissez-Faire, Extra Effort, Effectiveness, and Satisfaction. These different 12 factors are correlated with each other, as shown in Table 5. These are mostly positively correlated with each other for safety improvement.

Likewise, Table 8 shows how different dimensions of safety climate correlate. Safety dimensions are management safety priority and ability, management safety empowerment, management safety justice, workers' safety commitment, workers safety priority, and risk non-acceptance, safety communication, learning, and trust in safety ability and workers' trust in the efficacy of safety systems scores are better in private aviation organizations.

All safety dimensions have positive correlations. Research findings also indicate that the leadership style used in these three types of aviation organizations in Nepal has three different safety climate scores. It was found that transformational leadership has a higher safety climate score of 2.8 in private aviation organizations, which in turn scored 24.38 points in safety climate. Similarly, the government organization scored 18.72, and the semi-government aviation organization scored only 17.49, which was less compared to the other two leadership styles. No Nepali airlines organization achieved a high safety score level, as per the requirements. To

determine if the leadership styles are associated with the safety climate score, the scoring was grouped into three ranges: 15 to 19 – Low Safety, 20 to 24 – Medium Safety, 25 to 28 – High Safety. It was found that the government organization has a slightly better safety climate than the semi-government aviation organization. Likewise, the transformational leadership style is better for achieving the highest safety climate score than transactional leadership. However, the laissez-faire leadership style is not perceptible in all three aviation organizations in Nepal. Table 9 indicates the safety climate scores of these three types of aviation organizations in Nepal.

Table 8. Correlation Matrix between Safety Climates Dimensions

Variables	Total safety	safety1	safety2	safety3	safety4	safety5	safety6	safety7
Total safety	1							
safety1	0.91	1						
safety2	0.84	0.73	1					
safety3	0.70	0.56	0.47	1				
safety4	0.88	0.79	0.79	0.47	1			
safety5	0.94	0.85	0.80	0.54	0.83	1		
safety6	0.69	0.63	0.58	0.10	0.67	0.73	1	
safety7	0.85	0.74	0.73	0.51	0.77	0.79	0.57	1

Table 9. Safety Climate Score Results

S. No.	Type of Aviation Organization	Safety Climate Score	Results	Remarks
1	Government-owned Airlines	18.72	15 to 19 Low Safety	Low safety climate
2.	Semi-Government owned Airlines	17.49	15 to 19 Low Safety	Low safety climate, less than both government as well as private airlines of Nepal
3.	Private Airlines	24.38	20 to 24 Medium Safety, 25 to 28 High Safety	Higher safety climate than both government as well as semi-government airlines

From the table above, the scores indicate that a high score for management safety justice followed by workers safety commitment, peer safety communication learning and trust in safety ability, workers safety priority and risk non-acceptance, management safety empowerment, and workers trust in safety systems. The scores show that the semi-government organization has the lowest scores in all safety climate dimensions compared to the government and private organizations. The private organizations were among the best in safety scores, but they have not reached high safety scores, which is usually desirable for aviation safety. Therefore, the author would like to emphasize safety-related management practices in the aviation industries. Some interpretations of the empirical result findings of research on leadership styles and aviation safety climate are summarized as follows:

- The lower the correlation between the independent variables, the better the model. Mostly the correlations of all independent variables are low value.
- Out of twelve, eight-construct variables are significant at 5 % level. Therefore, it is one of the reliable empirical research findings.
- Increase in Leader 8, 9, and 10 construct variables, which means Management by Exception (Passive) Non-Transactional Leadership Styles, Laissez-Faire, Extra Effort factors of leadership styles decreases the safety level.
- Transformational leadership style constructs have more responses than others do.
- Managers are better than staff concerning aviation safety; Managers are more serious in safety-related issues.
- Compared to managers, the response of safety decreases 0.06 in the case of staff.
- The females are safer than the male by 0.01 (refer to Table 10).
- Institutions type as such do not affect safety, but the private organizations in Nepal look better than the other two types of organization.
- A few construct variables are negatively correlated. They are Management by Exception (Passive) and Laissez-Faire. Hence, it is better not to practise such behaviours or adopt such leadership styles in aviation organizations.

The above research findings indicate that leadership style is highly correlated with aviation safety and transformational styles have better safety levels. All safety dimensions have some effects on the total aviation safety. Some have positive effects, and some have negative effects. Transformational leadership constructs have positive eigenvectors whereas transactional leadership style constructs (Leader 8), i.e., Management by Exception (Passive) and non-transactional leadership style construct (Leader 9) Laissez-Faire, Extra Effort factors of leadership styles have negative effects on the overall safety climate of the aviation industry.

Table 10 below correlated all factors along with the institution, sex, and status of the respondents. In particular, Working staff compared to managers have -0.06 less safety level. Likewise, female workers have 0.01 more safety than male workers. All transformational leadership styles constructs have positive and higher value of coefficients compared to other leadership constructs. Eight constructs variables are significant at 5% level, and almost all are significant within the 10 % level, as shown in Table 10. In this status, institute and gender are taken for regression analysis.

Table 10. Regression analysis between safety climate and leadership styles including institute, gender and status.

Source	SS	df	MS		Number of obs	300
					F (16, 283)	63.38
Model	34.87	16	2.17		Prob > F	0
Residual	9.73	283	0.03		R-squared	0.78
					Adj R-squared	0.76
Total	44.61	299	0.14		Root MSE	0.18
safety	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
Working Staff	-0.06	.024	-2.58	0.01	-0.11	-0.01
Manager	0.04	.033	1.27	0.20	-0.02	0.10
Female	0.01	.023	0.47	0.64	-0.03	0.05
Male	-0.02	.029	-0.93	0.35	-0.08	0.03
leader1	0.02	.020	1.23	0.22	-0.01	0.06
leader2	0.00	.026	0.37	0.71	-0.04	0.06
leader3	0.02	.024	1.02	0.31	-0.02	0.07
leader4	0.02	.021	1.32	0.18	-0.01	0.07
leader5	0.03	.019	1.84	0.06	-0.002	0.07
leader6	0.05	.026	2.22	0.02	0.006	0.11
leader7	0.04	.018	2.23	0.02	0.004	0.07
leader8	-0.11	.016	-6.85	0.00	-0.14	-0.08
leader9	-0.17	.027	-6.33	0.00	-0.22	-0.11
leader10	0.00	.021	0.36	0.72	-0.03	0.05
leader11	0.12	.023	5.55	0.00	0.08	0.17
leader12	0.03	.016	2.20	0.02	0.003	0.06
_cons	2.53	.12	20.30	0.00	2.29	2.78

These research findings of aviation organizations have different characteristics than the research findings of general organizations, which the author has discussed in the literature review section. The nuclear processing plant safety climate research findings suggested that leadership behaviours are crucial for safety climate (Lee, 1998). Lee did not highlight which

particular factors of leadership had vital effects on aviation safety. His findings emphasized the requirement of an autocratic leadership style in the nuclear plant since it belongs mostly to military organizations. He also highlighted the need of safety information to improve the safety climate of the organization. Likewise, another research in the field has been carried out in road transportation administration, which found that leaders, rather than any other employees, can build the workplace's safety culture (Niskanen, 1994). It is valid to some extent in the case of the aviation organization as well. However, as per Niskanen's research, the role of subordinates had not been brought forward clearly. The roles of both the leader and the subordinates are included in the single empirical research that the author carried out in Nepal's aviation industry. In this, both top managers and working-class employees have participated in the survey. All factors of individual leadership roles in the overall safety score as well as correlation matrix have been tabulated in the result section, which was not in the case of these two general organizations (namely, nuclear plant and road transport). It can also be concluded that different organizations like aviation, nuclear, transport etc. have their own unique safety climate. Hence, we cannot generalize the research findings of aviation organizations to other such general organizations.

The research finding has given priority for transformational leadership style for better safety performance. Although all safety, as well as leadership styles, construct variables are very difficult to measure, the above result findings, especially, values of Cronbach alpha, can be taken as satisfactory for such complex research which has seven dependent constructs variables of safety and twelve independent construct variables (Refer Table 2 and Table 3).

6. THEORETICAL AND EMPIRICAL CONTRIBUTION

The overall goal of this research is to identify the relationship between leadership styles and safety climate in the Nepali airlines industry. This research has concluded some crucial findings on safety climate scores in all three types of aviation organizations in Nepal. All three types of organizations could not reach the highest score of safety climate. However, private aviation organizations are better than government and semi-government aviation organizations in Nepal. It has clearly indicated that transformational leadership is the best for the aviation industry. Out of five transformational leadership factors, intellectual stimulation and individualized consideration can contribute to higher aviation safety than any other factors of transformational leadership. Therefore, all aviation leaders can prefer these two factors of

transformational leadership to improve the safety level. This is a significant finding of this empirical research, which could be valuable knowledge in leadership, especially in the aviation sector.

This study implies that it is more desirable to have aviation leaders who practice transformational leadership style, which may encourage a safe climate for workers. Workers' trust in the safety system was higher in government and semi-government organizations than in private organizations. Still, the rest of all values were better in private airlines, which indicates that the safety climate is better in private aviation organizations in Nepal. The data show that management's safety priority and commitment were the highest in private airlines and government organization comes in the second position. A semi-Government organization comes at last in terms of the safety score.

This research article is the very first article which studied aviation leadership safety styles and safety climate. It is also the very first of such nature, as per the author's knowledge, and will have a high impact on academic and aviation management to improve aviation safety, which in turn gives the higher financial and economic value of the aviation organization. Therefore, the author hopes this research will add some knowledge in aviation leadership's styles, which can affect aviation safety climate. Besides, the readers will understand which leadership style will be the best for higher safety climate. It can help reduce the air accident rate worldwide, saving several lives and a considerable amount of money. As a research scholar, the author hopes this article will also help further research in aviation safety.

7. LIMITATIONS OF THE RESEARCH

The research findings of this study are subject to several confines. First, this study's samples are limited to the personnel of ten airline organizations based in Kathmandu, Nepal. The sample size was relatively small (n=300). Therefore, a generalization of the findings might be limited. Larger sample size may provide more validated results on the same study. Likewise, the subordinates were not always tied to a single leader, and thus, the interference of other leaders with different leadership styles could affect the responses of the respondents and may not precisely reflect the right safety climate under the targeted leader. Another limitation of the current study relates to the characteristics or demographics of the sample. The sample was gender-biased with a female size of less than 33%. This reflects the trend in typical Nepali aviation organizations in Nepal but may not reflect the trend in other countries. Since different

organizations like aviation, nuclear, transport, etc., have their unique safety climate, we cannot generalize aviation organizations' research findings to other such general organizations.

The author would like to suggest that further research will be needed on whether there will be any relationship between leadership and individual safety constructs. Hence, future research in the same field, considering all these issues, is recommended. Such safety constructs and leadership styles constructs are sometimes difficult to measure by the quantitative method, and the result's interpretation will be difficult. Therefore, a mixed-methods approach can shed more light on aviation safety research.

8. SUMMARY AND CONCLUSIONS

This research concluded that aviation safety is highly correlated with leadership. Out of three leadership styles, the transformational leadership style has a greater safety climate score than the other two (i.e., transactional and laissez-faire) leadership styles. Within these types of leadership styles, their different factors have different influence on that particular style of leadership. Some factors of leadership styles have a negative influence on aviation safety. Increase in Leader 8, 9, and 10 construct variables that means Management by Excerption (Passive) Non-Transactional Leadership Styles, Laissez-Faire, and Extra Effort factors of leadership styles decrease the safety level. Moreover, the transformational leadership style constructs have more responses than others do. Aviation managers are better than staff concerning aviation safety; managers are more serious in safety-related issues. Compared to the managers, the response of safety decreases 0.06 in the case of staff. Furthermore, the female staff is safer than the male by 0.01. Institutions do not affect safety, but the private organizations in Nepal look better than the other two types of organizations. The research findings clearly show that transformational leadership has a higher safety score than any different leadership styles. Therefore, to achieve more aviation safety, the transformational leadership style needs to be fostered. Aviation leaders can adopt this style to reduce air accidents or incidents in the airlines. This research also identified a few core competencies of the aviation leaders within the transformational leadership style, including Intellectual stimulation and individualized consideration, which can contribute to higher aviation safety than any other transformational leadership factors.

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APPENDICES

Survey Questions

Multifactor Leadership Questionnaire Rater Booklet (MLQM) by Bernard M. Bass and Bruce J. Avolio:

DIRECTIONS: This questionnaire is to describe the leadership style of your manager/supervisor. Describe the leadership style, as you perceive it. Please answer all items below by entering in the block a number from the rating scale that best reflects your perception. If an item is irrelevant, or if you are unsure or do not know the answer, leave the answer blank. Please answer this questionnaire anonymously.

Use the following rating scale:

0 = Not at all, 1 = Once in a while, 2 = Sometimes, 3 = Fairly Often,

4 = frequently if not always

THE PERSON I AM RATING……

1. Provides me with assistance in exchange for my efforts ☐

2. Re-examines critical assumptions to question whether they are appropriate ☐

3. Fails to interfere until problems become serious ☐

4. Focuses attention on irregularities, mistakes, exceptions, and deviations from standards ☐

5. Avoids getting involved when important issues arise ☐

6. Talks about their most important values and beliefs ☐

7. Is absent when needed ☐

8. Seeks differing perspectives when solving problems ☐

THE PERSON I AM RATING…

9. Talks optimistically about the future ☐

10. Instils pride in me for being associated with him/her ☐

11. Discusses in specific terms who is responsible for achieving performance targets ☐

12. Waits for things to go wrong before taking action ☐

13. Talks enthusiastically about what needs to be accomplished ☐

14. Specifies the importance of having a strong sense of purpose ☐

15. Spends time teaching and coaching

16. Makes clear what one can expect to receive when performance goals are achieved

17. Shows that he/she is a firm believer in 'if it isn't broke, don't fix it:'

18. Goes beyond self-interest for the good of the group

19. Treats me as an individual rather than just as a member of a group

20. Demonstrates that problems must become chronic before taking action

21. Acts in ways that build my respect

22. concentrates his/her full attention on dealing with mistakes, complaints, and failures

23. Considers the moral and ethical consequences of decisions

24. Keeps track of all mistakes

25. Displays a sense of power and confidence

26. Articulates a compelling vision of the future

27. Directs my attention toward failures to meet standards

28. Avoids making decisions

THE PERSON I AM RATING...

29. Considers me as having different needs, abilities, and aspirations from others

30. Gets me to look at problems from many different angles

31. Helps me to develop my strengths

32. Suggests new ways of looking at how to complete assignments

33. Delays responding to urgent questions

34. Emphasizes the importance of having a collective sense of mission

35. Expresses satisfaction when I meet expectations

36. Expresses confidence that goals will be achieved

37. Is effective in meeting my job-related needs

38. Uses methods of leadership that are satisfying

39. Gets me to do more than I expected to do

40. Is effective in representing me to the higher authority

41. Works with me in a satisfactory way

42. Heightens my desire to succeed

43. Is effective in meeting organizational requirements

44. Increases my willingness to try harder

45. Leads an effective group

Nordic Occupational Safety Climate Questionnaire (NOSACQ-50):

The purpose of this questionnaire is to get your view on safety at this workplace. Your answers will be processed on a computer and will be dealt with confidentially. No individual results will be presented in any way. Although we want you to answer each and every question, you have the right to refrain from answering any one particular question, a group of questions, or the entire questionnaire.

Background Information

A) Age ……..

B) Are you Male or Female

C) Do you have a managerial position, e.g. manager, Yes or NO if Yes which?..... Supervisor?.....

In the following section, please describe how you perceive that the managers and supervisors at this workplace deal with safety. Although some questions may appear very similar, please answer each one of them.

Strongly Disagree	**Disagree**	**Agree**	**Strongly agree**

Put only one X for each question

1. Management encourages employees here to work in accordance with safety rules even when the work schedule is tight.
2. Management ensures that everyone receives the necessary information on safety
3. Management looks the other way when someone is careless with safety

4. Management places safety before Production
5. Management accepts employees here taking risks when the work schedule is tight
6. We who work here have confidence in the management's ability to deal with safety
7. Management ensures that safety problems discovered during safety rounds/evaluations are corrected immediately
8. When a risk is detected, management ignores it without action
9. Management lacks the ability to deal with safety properly
10. Management strives to design safety routines that are meaningful and actually work
11. Management makes sure that everyone can influence safety in their work environment
12. Management encourages employees here to participate in decisions which affect their safety
13. Management never considers employees' suggestions regarding safety
14. Management strives for everybody at the worksite to have high competence concerning safety and risks
15. Management never asks employees for their opinions before making decisions regarding safety
16. Management involves employees in decisions regarding safety
17. Management collects accurate information in accident investigations
18. Fear of sanctions (negative consequences) from management discourages employees here from reporting near-miss accidents
19. Management listens carefully to all who have been involved in an accident
20. Management looks for causes, not guilty persons when an accident occurs
21. Management always blames employees for accidents
22. Management treats employees involved in an accident fairly

In the following section, please describe how you perceive that employees at this workplace deal with safety:

23. We who work here try hard together to achieve a high level of safety
24. We who work here take joint responsibility to ensure that the workplace is always kept tidy
25. We who work here do not care about each other's' safety
26. We who work here avoid tackling risks that are discovered
27. We who work here help each other to work safely
28. We who work here take no responsibility for each other's safe
29. We who work here regard risks as Unavoidable
30. We who work here consider minor accidents to be a normal part of our daily work
31. We who work here accept dangerous behaviour as long as there are no accidents
32. We who work here break safety rules to complete work on time
33. We who work here never accept risk-taking even if the work schedule is tight
34. We who work here consider that our work is unsuitable for cowards
35. We who work here accept risk-taking at Work
36. We who work here try to find a solution if someone points out a safety problem
37. We who work here feel safe when working together
38. We who work here have great trust in each other's ability to ensure safety
39. We who work here learn from our experiences to prevent accidents
40. We who work here take each other's opinions and suggestions concerning safety seriously

41. We who work here seldom talk about Safety
42. We who work here always discuss safety issues when such issues come up
43. We who work here can talk freely and openly about safety
44. We who work here consider that a good safety representative plays an important role in preventing accidents
45. We who work here consider that safety rounds/evaluations have no effect on safety
46. We who work here consider that safety training to be good for preventing accidents
47. We who work here consider early planning for safety as meaningless
48. We who work here consider that safety rounds/evaluations help find serious hazards
49. We who work here consider safety training to be meaningless
50. We who work here consider it important to have clear-cut goals for safety