

Assessing Health and Safety Risks in Regional Airport Enterprises

Maria Sartzetaki¹, Vivi Asprouli², Dimitrios Dimitriou³, Theodoros Konstantinidis⁴

^{1, 2, 3, 4}Democritus University of Thrace

Abstract: Air transport systems and airports ensure the safety and security of employees, subcontractors and passengers by eliminating potential hazards. Especially employee health and safety are on top of the agenda of airport enterprises management. This paper deals with occupational health and safety comprehensiveness for managers and staff acting in regional airports. Based on review analysis and ranking of the importance, essential messages towards airport's management in tourist regions, as well as messages for targets should be set to improve their contribution to airport enterprises development are set. The aim of this paper is to review occupational health and safety comprehensiveness in Greek airports and inform messages to improve efficiency of occupational health and safety in air transport and tourism industry. The research results highlight the need for further research to promote health and safety issues in the operational efficiency of regional airports. The paper outputs could be a useful and easy handle tool to support stakeholders, decision makers, planners and managers around regulation and service quality and productivity systems in air transport infrastructures and monitor the airport enterprises performance with desirable targets as well as social outcomes.

Keywords: occupational health and safety comprehensiveness in airports, regional airport enterprises management

1. Introduction

Occupational health and safety deals with all aspects of health and safety in workplace representing a set of technical, medical, legal, psychological, and other measures with the aim to detect, prevent and eliminate hazards that could threaten personnel's health and safety. As well as the immediate negative impacts involved, accidents can also have a long-term negative impact on the business of the organization involved and Civil Aviation Authority is aware that avoiding accidents, and all the negative impacts lies at the heart of her operation. There is a culture of health, safety and security within all aspects of aviation and all employees soon learn that they must treat these issues seriously.

Airports' personnel need to be acquainted with legal, regulative and corporate framework concerning Occupational Health and Safety (OHS) and comprehend why systems, procedures, legislation and regulations exist and be aware of all hazards associating with their occupation. To reinforce this culture, personnel must get acquainted with all aspects of health and safety within an airport such as airport's emergency plans, trainings and drills, health and safety evaluation and auditing and the like. It is to be asked and asking challenging and stimulating questions in order to ensure a safe, healthy and constantly improving working environment through effective supervision, appropriate regulation and information.

Maintaining a good health and safety record is of vital importance to both Aviation Industry and Civil Aviation Authority. Key objective of this research is to review regional airports occupational health and safety compliance according to their legal, regulative and corporate framework as well as airports personnel comprehensiveness of Health and Safety. Case study deals with Greek Civil Aviation Authority that coordinates cooperation with international counterpart organizations under the auspices of Greek Ministry of Transport which have to ensure compliance with occupational health and safety legislation which applies in

respect of all occupations in Greece and therefore in all regional airports across the nation.

2. Background

Promotion of health and safety in all workplaces is a key factor in the social and economic progress of a country and therefore one of the basic concerns of every developed society and every organization is the improvement of working conditions as well as prevention of occupational diseases (including stress impacts) and accidents at workplace.

Nowadays it is profound that public and private services providers are committed to develop their operations competitiveness through implementation of Quality Management Systems (QMS) to improve quality of service and to prevent occupational accidents and stress of their personnel. Occupational stress can no longer be considered an occasional, personal problem. It is an increasingly tendency affecting all categories of workers, all workplaces and all countries. This trend (coupled with its rising cost to the individual, to industry and to society as a whole) has greatly heightened awareness of the need for effective and innovative ways of tackling stress.

Airports serving tourist destinations are essential counterpart of the tourist demand supply chain and their productivity impact essential the region's attractiveness, and regional development. Also, through their transport services, airports bring the internationalisation of economic activity by attracting investments, while creating a wealth of new jobs, improving the living standard of a country. In fact, it is estimated that the movement of one million passengers at an airport is capable of creating a need for a thousand jobs. Airport effects on the development of tourism are particularly relevant to remote areas, which can be accessed mainly from the air. It is easily seen that many destinations would not be easily accessible without air services, a good example being the many small islands in Greece. Therefore,

occupational health and safety could only be a key pillar of airport operation.

Aviation Industry recognize the need to integrate the concept of health and safety into the core of its operation, by being a crucial and non-negotiable requirement from any interested party. In particular, international organizations have been set up to promote safety such as the European Union for Safety and Health, ICAO, IATA, etc., which, alongside national organizations, like Civil Aviation Authority, supervise between other matters airport services in the light of occupational health and safety. The improvement of airport infrastructure and occupational health and safety regulatory framework concerning air transport have had a positive impact on the air transport industry by removing protectionism, liberalizing European skies and adopting a single policy for the States of the European Union creating a fertile ground for the benefit of both passengers and employees.

3. Methodology

The assessment of the OHS at airport's deals with the identification of the managers perception on level of OHS and the personnel comprehensiveness on significance of OHS at work. The proposed analysis framework deals with small airports, where operators consist small enterprises (less than 50 employees) delivering services in a noisy environment, with demand peaks at specific time and the nature of works addressing to be accurate and focused.

The specific objectives of the research at small airport enterprises include 4 main steps as follows:

- Review of the current situation with regard to occupational health and safety. This step review relevant internal or external reports, incidences and the level of compliance with the existing legislation.
- Survey on health and safety matters to airport managers covering all matters of health and safety conditions in their operational working environment. The results outputs should address the comprehensive of managers and employees on OHS issues and their impression on safety.
- Evaluation of the existing OHS management system or procedures, including the content and the outputs of occupational health and safety auditing authority and the possible conflict of interest between operation and supervision.
- Assessment of the organization's general comprehensiveness and commitment on health and safety matters and to provide fertile ground for the transition to the next step by implementing an extensive health and safety management system at all regional airports in Greece.

4. Case Study

Study area features

Greece attracts a high number of tourists because of the warm weather, the excellent climate, the 16.000-km of coast along the Mediterranean, the spatial allocation of Greek islands in Mediterranean (Aegean Sea) and the high number

of archaeological sites and cultural places. Compared to the rest of the world, Greek tourism has achieved a satisfactory performance. Since tourism destinations are a long distance from the tourist home residences, (highest share Germany, France, Holland, UK) air transportation becomes very important and aviation industry fulfils the task for over 70% of the ITA in Greece (Dimitriou et al., 2017; Dimitriou, 2018).

Table 1: Greek airport network and features

Greek airports	Description	Volume	Passenger Traffic
Athens International Airport	Capital city, Hub airport	1	24,135,431
Regional International	Connected to Athens and other international destination	14	32,198,798
Small regional airports	Schedule flights only to Athens	24	32,198,789
Total		39	62,229,191

(source: Hellenic Civil Aviation Authority statistics, HCAA 2018)

In terms of passengers, 62 million passengers arrive or depart from Greek airports in 2018. The five largest airports in Greece are Athens, Heraklion, Thessaloniki, Rhodes and Chania, which handle almost 28 million passengers. It is noteworthy that for Heraklion, Rhodes and Chania, almost 90% of the passengers are leisure travelers during the summer, and almost 65% of the traffic in Athens and Thessaloniki accommodated during the summer season, (HCAA, 2018).

Assessment objectives and content

This research examines Greece's regional airports in the light of occupational health and safety. This is the first research in matters of health and safety aspects at work at regional airports across Greece and the first one also to examine health and safety perception of regional airports' workers, highlighting the existing health and safety issues.

The actions of the Civil Aviation Authority regarding OHS is also taken into consideration in this research. In particular, the international environment, the legal and regulatory regime, the organisational structure, the operating framework, the services provided and the human resources relating to the health and safety of work are some of the basic sectors examined.

The main pillar of Greece's air transport system is regional airports that play an important role in the region's tourism development, as almost all tourism flows choose to travel by plane. Airports in the Greek islands are a tourist entrance portal and their proper organization and operation help boost tourism flows.

For the purpose of this survey a questionnaire has been distributed to all regional airports managers, thirty-eight (38) small and international airports (see table 1), while the data collection period started in October 2018 and ended in May 2019 consisting of thirty-five (35) mandatory questions and closed-ended questions and four (4) optional open-ended

questions, divided into five (5) different sections presented below:

- General information
- Operational framework of the Agency
- Education
- Health and safety within the Agency and
- Health and safety issues

The airport sample size examined here is twenty-two (22) airports out of the total thirty-eight (38) regional airports in Greece. The statistical processing of incoming data, which took place at the time of the completion of all incoming information, was carried out through the online platform of 'Google' which was used to send the questionnaires. In a second stage, all data was entered into the 'Excel 2010' accounting editor where all the variables' associations and statistical significance were examined and detailed through statistical checks of qualitative and quantitative variables.

Preliminary Results

The research conclusions that can be drawn from the above statistical examination of the questionnaires, where the survey results could be summarized:

- All regionals 'airport managers have many years of service in the Civil Aviation Authority, with most of them being men.
- Half of the respondents have been in the position of airport manager for more than five years, therefore being well aware of the needs and requirements of their job.
- Most of the sample consists of very small airports, with a maximum number of staff per month of peak being up to fifty employers.
- The Overwhelming majority of the sample (95,5%) states that the number of officials dealing with health and safety at each airport does not exceed five persons, which confirms the above majority statement of small airports in the sample.
- While the vast majority of respondents (81.8%) respond that the most critical/important element in relation to health and safety of the airport is education, 86.4% of them respond they have not received any health and safety education in the last 3 (three) years.
- In addition to the above conclusion, an overwhelming majority (86.4%) of them has not received any information-training on the CAA's Legal, Regulatory and Corporate Framework in Health and Safety from the Agency in the last 3 (three) years.
- The majority of Airport managers (72.7%) also state that has not been present at any internal or external inspection - audit by CAA or other counterpart body on health and safety issues over the past year. It is therefore very clear that there is a need for an independent control mechanism composition , the role of which is to be covered by the establishment of the new Civil Aviation Authority.
- The Airport managers majority (81.8%) have annual safety and health objectives at each airport, as well as Emergency Scenarios for earthquakes, fire, flood, explosion, etc., but the majority (63.6%) does not know if there is an insurance policy for the unit in case of emergency.

- A significant proportion of respondents (45.5%) said they had not taken part in any exercise in any of the above scenarios over the past year
- A significant percentage of the sample (45.5%) indicates that it does not feel safe in its working environment, which seems to be closely related to issues of competence and compliance with the organization's health and safety framework as long as the adequacy of infrastructure.
- A significant proportion of the sample (72,%) states that it is not encouraged to take part in safety and health decision-making, while respectively low (54.5%) is the lack of encouragement for the personnel of each unit.
- About half Airport managers masses their Health and Safety unit's personnel from an inadequate to moderate degree, which seems to be related to lack of personnel education.
- More than half of the respondents (59.1%) assess the level of their Work Safety and Health unit from inadequate to moderate, which again seems to be related to issues of infrastructure, control mechanisms and education.

In relation to the above results it is worth noting that:

- Lack of physical presence at regional airports most likely reduced the sample volume and clarified relevant questions but ensured anonymity and impartiality of the respondents.
- Lack of e-mail addresses linked to the central 'server' of the Civil Aviation Authority has prevented electronic questionnaires from being sent to "Kythera" and "Scyros" airports.
- During the investigation period due to changes in the management of the CAA and related Ministry there were no active contracts with safety engineers and doctors, which probably further increased the problems in the area of health and safety at regional airports.
- Investigation period coincides with the existence of a new privatization regime for fourteen regional airports
- The investigation period also coincides with the establishment of an audit body, an independent administrative and financial body, following the immediate need to implement European Union regulations and European Agency decisions on EASA.

5. Concluding Remarks

This paper deals with occupational health and safety comprehensiveness for managers and staff acting in regional airports. Based on a multi-criterion unweighted analysis, and ranking of the importance, essential messages towards airport's management in tourist regions, as well as messages for targets should be set to improve their contribution to airport enterprises development.

The paper novelty is that topic is not very much reviewed and the paper outputs could be a useful and easy handle tool to support stakeholders, decision makers, planners and managers around regulation and service quality and productivity systems in air transport infrastructures, and monitor the airport enterprises performance with desirable targets as well as social outcomes. The practical and managerial implications provided to industry based on the above methodology framework is to monitor and improve

efficiency of occupational health and safety in air transport and tourism industry.

The research results highlight the need for further research to promote health and safety issues in the operational framework of regional airports. Such a dynamic could be provided by the possible development and implementation of a Health and Safety Management System at all regional airports, which through the objective of continuous improvement, administration's commitment, documentation and procedures existence, directives for safe work and the like could lead to a better working environment at all regional airports, while also setting comparable indicators for monitoring health and safety at work.

References

- [1] Konstantinidis Th., 2004, Descriptive epidemiology of industrial accidents in the Greek population during the period 1956-1994, ELINYAE, Athens, Greece.
- [2] Dimitriou D., Sartzetaki M., (2018). Assessing air transport socioeconomic footprint, International Journal of Transportation Science and Technology, Vol. 7 (4), pp. 283-290.
- [3] Dimitriou D., (2018). Evaluation of tourist airports productivity towards tourism development, International Journal of Cogent Business and Management, Vol. 5 (1464378), pp. 1-15.
- [4] Dimitriou D., Sartzetaki M., (2018). Social Dimension of Air Transport Sustainable Development, International Journal of Industrial and Systems Engineering, Vol:12, No:4, 2018, pp.568-571.
- [5] Dimitriou D., (2018). Evaluation of tourist airports productivity towards tourism development, Journal of Cogent Business and Management, Taylor and Francis, available: <https://doi.org/10.1080/23311975.2018.1464378>
- [6] Dimitriou D., Mourmouris J., Sartzetaki M., (2018). Quantification of the air transport industry socio-economic impact on regions heavily depended on tourism, Transportation Research Procedia, Volume 25, 2017, pp. 5242-5254.
- [7] Dimitriou D., (2018). Air Transport Economic Footprint in Remote Tourist Destinations, Book : Mobilities, Tourism and Travel Behavior, InTech, Vol 5: 1464378, DOI:10.5772/intechopen.71597, ISBN 978-953-51-5608-6, pp. 143-159.
- [8] Fragoudaki, & Giokas, 2016, Airport performance in a tourism receiving country: Evidence from Greece
- [9] Fragoudaki, Giokas and Glyptou, 2016, Efficiency and productivity changes in Greek airports during the crisis years 2010-2014.
- [10] HCAA, (2018). "Air Traffic Statistics", available at: <http://www.hcaa.gr> (accessed May 2018)
- [11] European Network for Workplace Health Promotion, 2019, healthy Employees in Illus Organisations, <www.enwhp.org>