Chapter 7
Aviation Safety and Risk Management During COVID-19

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ABSTRACT

Ensuring flight safety has always been the primary task of the air transport sector. Aviation safety management includes formal methods for identifying hazards, risk mitigation, and promotion of a positive safety culture in aviation organizations, and this approach made the air travel the safest mode of transportation. In the context of the ongoing COVID-19 pandemic, additional and radical measures had to be taken to recover airline companies from the impacts of pandemic and protect the successful safety records. This chapter provides a framework for aviation risk management, safety management systems, current effects of the COVID-19 pandemic on aviation safety, and the strategies implemented by International Civil Aviation Organization.

INTRODUCTION AND BACKGROUND

Aviation industry is the key sector for global transportation. It is the most advanced and the fastest human mover technology and has great impact on both national and international economies. As the aviation provides the fastest worldwide transportation network today, it contributes to global economic development, creates new jobs, social benefits, and facilitates trade and tourism internationally. In order to yield these benefits of aviation, all the involving activities must be carried out safely. If community confidence in air transport reduces, it does not matter how much faster or comfortable it is -as a result of safety concerns- airlines will not be prefered method of transportation.

DOI: 10.4018/978-1-6684-2319-6.ch007

While aviation provides great benefits globally, it also faces a variety of risks. Due to this risky nature of the flying, the word "safety" has been formed the basis of all activities related to aviation. During all operations, inherent risks, dangers or human faults may lead big accidents and loss of lives. It is an inevitable fact that, risk existence in aviation have always been and will continue to be. Even though total elimination of the risks is practically an unachievable goal, huge efforts have been spent to minimize the possible accidents and as a result of these efforts aviation safety has improved dramatically since the industry's birth over a century ago. Fatal accident rates have fallen to the level where (along many dimensions) aviation is now the safest mode of commercial transportation (Oster Jr., Strong, & Zorn, 2013: 163). On the other hand, aviation evolves very quickly. Additional effective measures are needed to sustain and improve the currently existing levels of aviation safety when continuing growth of the industry is taken into account. Ensuring aviation safety can only be achieved by building safety managing principles which are proactively address current hazard by using consistent and systematic approaches to make smarter, risk-based decisions.

International Civil Aviation Organization (ICAO) has significant role on those efforts. ICAO is a specialized agency in the United Nations and it's aims and objectives are set out in the Chicago Convention in 1944. ICAO, promotes development of almost all aspects of global civil aviation. In reaching its goals, ICAO is to be involved in the development of airways, airports, and air navigational facilities, in encouraging aircraft design, preventing unreasonable competition, avoiding discrimination between members, safety promotion, and insuring safe and orderly growth of international civil aviation throughout the world (Mackenzie, 2010: 10). Today, ICAO's policies and standarts on aviation safety are implemented and actively used by 193 countries. ICAO, put in place, in addition to the current prescriptive regulatory approaches based on regulatory compliance that use reactive tools, performance based approaches that focus on processes, proactivity, predictivity and safety performance. In other words the ICAO considers that the existing prescriptive approach to safety should be complemented with a performance-based approach (Oster Jr., Strong, & Zorn, 2013). Because of these safety advances, aviation now in an era where incidents are extremely rare. On the other hand as it mentioned before, the landscape continues to change, and this high level of safety must be ensured as the industry and technology continue to evolve.

ICAO manages over 12,000 global Standards and Recommended Practices (SARPs) across the 19 Annexes to the Chicago Convention. National regulation that follows these global standards ensures not only safety and security of the aviation system, but also efficient business operations in a market economy (ICAO, 2019: 14). Annex 19 contains safety managing functions at the State level across multiple aviation domains. ICAO defines Aviation Safety Management as "to proactively mitigate safety risks before they result in aviation accidents and incidents". Safety Management System (SMS) is also part of Annex 19 which is an organization-wide comprehensive and preventive approach to managing safety. An SMS structure comprises of creating a safety policy, application of systematic methods for hazards identification and risk mitigation, and encouraging organization to have a positive safety culture. SMS also provides assurance of the overall safety performance of aviation organizations. Hence, SMS is directly related to managing risks properly.

From the first commercial flight in 1914 to 2019, air transport had expanded each year. Historically, air transport has doubled in size every fifteen years and has grown faster than most other industries (ICAO, 2019: 6). But when calendars showed the end of the 2019, a novel coronavirus was identified in Wuhan, a city in the Hubei province of China. On January 30, 2020, the WHO declared the COVID-19 outbreak a public health emergency of international concern. On March 11, 2020 WHO director-general made the assesment that COVID-19 can be characterize as a pandemic. So, the gravity of the situation