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Air carrier's liability for the safety of passengers during COVID-19 pandemic

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ABSTRACT

The paper aims to determine the situations when the air carrier is liable for the transmission of COVID-19 in the course of air transport. It must be emphasized here that the carrier's liability results from bodily injury or death that are caused by an accident on board an aircraft or during the operations of embarking or disembarking. Accordingly, in this paper, we addressed if the transmission of COVID-19 an 'accident' within the Conventions' meaning and the period of air carrier's liability for passengers' contraction of COVID-19, taking into consideration the exoneration of air carrier's liability in COVID-19 cases. In addition, this paper will study the scope of the safety measures as required by ICAO to prevent the spread of COVID-19 and therefore protect the passengers' safety. In our opinion, we found that the estimate is left to the judge because the assessment of this matter is based on an objective criterion based on the reasonable person test and the fact of each case.

1. Introduction

The carriage by air conventions regulated air carrier's liability for passengers in article 17 of both the Warsaw Convention 1929 (*Convention for the Unification of Certain Rules Relating to International Carriage by Air, Signed at Warsaw on October 12, 1929 - Warsaw Convention for the Unification of Certain Rules for International Carriage by Air - Montreal, 1999, 1999*) (*Convention for the Unification of Certain Rules for International Carriage by Air - Montreal, May 28, 1999, 1999*) (WC-29) and the Montreal Convention for the Unification of Certain Rules for International Carriage by Air - Montreal, 1999 (MC-99). In this paper, both conventions collectively will be referred to as (the Conventions). The Conventions used slightly different wording of article 17 which established the elements of the air carrier's liability. Article 17 (1) of the Montreal Convention stipulates that 'The carrier is liable for damage sustained in case of death or bodily injury of a passenger upon condition only that the accident which caused the death or injury took place on board the aircraft or in the course of any of the operations of embarking or disembarking'.

The passenger has to prove the elements of: damage sustained, a

recognized loss (death or bodily injury), the existence of an accident, causation, the place where the accident occurred is on board the aircraft or during the operations of embarking or disembarking. The passenger, regardless of the nature of the air carrier, has to prove the elements of the carrier's liability. This paper will focus on the related elements of air carrier's liability for passengers' safety during the COVID-19 pandemic and it will analyse whether the change in the nature of the liability has an impact on these elements. Due to the possible connection between COVID-19 cases and some of the elements of air carrier's liability, the elements of accident and the location of the accident will be analysed in this paper.

The main issue here for a passenger who got infected by COVID-19 during the flight is whether the infection by COVID-19 constitutes an 'accident' according to the Conventions. The other element which needs to be analysed in relation to COVID-19 cases is the location of this accident in order to establish air carrier's liability. On the other hand, due to the change in the nature of air carrier's liability in the MC-99 the defences available to the carrier to exonerate himself from liability in these Conventions have changed.

This paper will analyse these defences with focusing on the more

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related one to COVID-19 cases which is the contributory negligence of the passenger (Ronald I.C. and Bartsch, 2014). The final chapter of this paper will examine the air carrier's duty for the safety of the passengers and the required measures to prevent the spread of communicable diseases by means of air navigation (Ridanovic, 2017) according to the Chicago Convention 1944 ("Convention on International Civil Aviation - Doc 7300," n.d.). In addition, the paper will investigate the COVID-19 safety measures as required by the ICAO and the restrictions that were adopted by several air carrier in this regard to prevent the spread of this disease (Ratnawati, 2019).

2. Is the transmission of COVID-19 an "accident" within the Conventions' meaning?

Before answering this question, it is important to know the definition and scope of this term under the Conventions. The Conventions' specific use of the term 'accident' in regulating the carrier's liability for passenger's injuries indicates that this term should have a unique and different meaning than other terms used in the same conventions referring to other types of carrier's liability. The court in *Saks* sought to draw a line between the WC-29 term 'occurrence', which was replaced by the term 'event' in the MC-99, and the term 'accident'. Following the rules of interpreting international conventions, the court observed the differences between the term 'accident' in article 17 and the term 'occurrence' in article 18 of the WC-29.

The term 'occurrence' in article 18 in the WC was replaced by the term 'event' in the MC. In our opinion, both terms refer to the same meaning as the term 'event' was initially used in article 18 by the WC. Besides, there is no evidence that the drafters of the MC intended to change the rule in this article. It determined that the term 'accident' refers to the cause of the injury rather than the occurrence or the event of the injury alone ("Air France v. Saks: 470 U.S. 392 (1985): Justia US Supreme Court Center," n.d.). Besides, the court in *Saks* rejected the equation of 'accident' with 'occurrence' in Annex 13 (ICAO Annex 13 Appendix, n.d.) to the Convention on International Civil Aviation 1944 ("Convention on International Civil Aviation - Doc 7300," n.d.) on the basis that this Annex 'expressly applies to aircraft accident investigations and not to principles of liability to passengers under the Warsaw Convention'.

Annex 13 defined 'Accident' as 'An occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, in which: a) a person is fatally or seriously injured as a result of: being in the aircraft, or — direct contact with any part of the aircraft, including parts which have become detached from the aircraft, or — direct exposure to jet blast, except when the injuries are from natural causes, self-inflicted or inflicted by other persons, or when the injuries are to stowaways hiding outside the areas normally available to the passengers and crew; or b) the aircraft sustains damage or structural failure which: adversely affects the structural strength, performance or flight characteristics of the aircraft, and — would normally require major repair or replacement of the affected component, except for engine failure or damage, when the damage is limited to the engine, its cowlings or accessories; or for damage limited to propellers, wing tips, antennas, tires, brakes, fairings, small dents or puncture holes in the aircraft skin; or c) the aircraft is missing or is completely inaccessible. Note 1. — For statistical uniformity only, an injury resulting in death within thirty days of the date of the accident is classified as a fatal injury by ICAO. Note 2.— An aircraft is considered to be missing when the official search has been terminated and the wreckage has not been located (ICAO, 2001).

2.1. The definition of the Convention's 'accident'

The Conventions did not define the term 'accident' leaving the door open for judicial interpretations. The U.S. Supreme court in *Air France v.*

Saks (ICAO Annex 13 Appendix, n.d.) interpreted the term 'accident' under the Warsaw Convention to be 'an unexpected or unusual event or happening that is external to the passenger' ("Refworld | Air France v. Saks," n.d.). The Conventions' 'accident' is not necessarily related to the characteristics of air travel ("KLM Royal Dutch Airlines v Morris [2001] EWCA Civ 790 (May 17, 2001)," n.d.).

Saks became the leading case in interpreting the term 'accident' and it was followed by several courts in different countries where the courts applied *Saks*'s requirements to the event in question to decide whether it is an 'accident' or not (George N. Tompkins, 2010). Post *Saks*, the courts applied the criteria of being unexpected, unusual events and external to the passenger in order to decide whether the causes in each case fulfil the requirement of the Conventions' 'accident'. The decision of *Saks* was reaffirmed by the U.S. Supreme Court in *Olympic Airways v. Husain* ("Olympic Airways v. Husain: 540 U.S. 644 (2004): Justia US Supreme Court Center," n.d.) which considered the refusal of three explicit requests by a passenger with Asthma previous condition to be re-seated would be an event or happening under the ordinary unusual definitions of these terms.

The question arising here is whether to apply the requirements of being external, unexpected, or unusual happening to the infection by COVID-19 or the event that caused the infection. The passengers by air are placed in a restricted space with many other passengers where the concept of social distancing is not an option coupled with the fact that COVID-19 is highly communicable. In such cases, the possibility of catching COVID-19 is, in general, expected, or usual? In our opinion, the question as to whether contracting COVID-19 is the 'accident' is not the correct one to ask. The reason for that is that by applying the above requirements of getting infected will not be an 'accident' as it should be expected under the current situations where no treatment or vaccine is found yet. However, the event that caused an infection to the passenger is the one to be looked at in order to decide whether there is an 'accident' or not. Therefore, the requirements of being external; unexpected and unusual event during travel by air should be applied on the cause of the infection not the infection itself. The infection in our opinion is the injury which resulted from an 'accident. For example, the court in *Waxman v. CIS Mexicana De Aviacion* ("WAXMAN v. C.I.S. MEXICANA DE AVIACION, S.A. DE C.V., (S.D.N.Y. 1998) | 13 F. Supp.2d 508 | S.D.N.Y. | Judgment | Law | CaseMine," n.d.), ruled that the faulty cleaning of the aircraft where Mr. Waxman was stuck in his right leg by a hypodermic needle that was protruding from the fabric of the seat immediately in front of his seat an 'accident. Therefore, contracting COVID-19 on board the aircraft by passenger because of negligence of the carrier or his agents or sub-contractors should be considered an 'accident'. Similar to *Waxman*, the court in *Dias v Transbrasil 26 Avi* ("Covid-19 and the Aviation Industry: Turbulent Times Ahead? - Lexology," n.d., "The Warsaw Convention Annotated: A Legal Handbook - Lawrence Goldhirsch - Google Books," n.d.) ruled that the poor cabin air quality because the aircraft's air filtration system is not working properly causing an injury to the passenger constitutes an 'accident'.

2.2. The 'accident' needs not to be the sole cause

The Conventions' 'accident' does not have to be the sole cause of the passenger's injury or death. All what is needed is that the 'accident' forms some link in the chain of causes of the injury or death. 'Any injury is the product of a chain of causes, and we require only that the passenger be able to prove that some link in the chain was an unusual or unexpected event external to the passenger ("Air France v. Saks: 470 U.S. 392 (1985): Justia US Supreme Court Center," n.d.).' Accordingly, it is enough for the infection with COVID-19 to be a link in the chain of the causes to fulfil the requirement of an 'accident'. In all cases, the circumstances surrounding the event that resulted in the death or injury to the passenger should be taken into account in each case to decide whether there is an 'accident' or not (George N. Tompkins, 2010). In this regard, actions of other passengers causing injuries to some passengers

were considered by some courts ‘accidents. For example, the falling of an intoxicated passenger causing injuries to a fellow passenger was considered ‘accident’ (“[COLONIAL PIPELINE COMPANY v. MORGAN | FindLaw](#),” n.d.).

This raises the question of whether transferring COVID-19 from a passenger who is carrying the virus with no symptoms causing an infection to a fellow passenger during the flight constitutes an ‘accident’. In our opinion and based on *Saks*, the carrier would be liable if his acts or omissions form a link in the chain of causes to this injury such as being negligent in cleaning the aircraft. However, if the injury resulted merely from the passenger’s own internal reaction to the usual, normal, and expected operation of the aircraft, the event would not constitute an ‘accident’ (“[Refworld | Air France v. Saks](#),” n.d.).

2.3. The ‘accident’ under the strict liability regime

It is worth noting that *Saks* was decided under the Warsaw Convention where air carrier’s liability is based on presumed-fault liability. Will the definition of ‘accident’ be different if the Montreal Convention is applied where the carrier’s liability in tier one is an absolute liability? Interestingly, *Saks* which was decided long time before agreeing the MC in 1999, it discussed the interpretation of the term ‘accident’ under the Montreal Agreement 1966 where air carrier’s liability is an absolute or a strict one similarly to carrier’s liability in tier one of the MC. The court concluded that “[T]hat Agreement while requiring airlines to waive “due care” defences under Article 20(1) of the Warsaw Convention, did not waive Article 17’s “accident” requirement.” (“[Air France v. Saks: 470 U.S. 392 \(1985\): Justia US Supreme Court Center](#),” n.d.) Another U.S. courts concluded that the Montreal Agreement 1966 did not change the meaning of article 17 of the Warsaw Convention and its framers assumed the same restricted meaning of this article (“[Catherine E. Macdonald, Plaintiff, Appellant, v. Air Canada, Defendant, Appellee, 439 F.2d 1402 \(1st Cir. 1971\): Justia](#),” n.d.). In support to this conclusion, the authors believe that the requirement of an ‘accident’ should not be affected by the change in the nature of the carrier’s liability, which became an absolute liability. The MC used the same terminology in regulating air carrier’s liability for passengers in an indication that the interpretation of the term ‘accident’ under the MC should not be different from the one in the Warsaw Convention. If the drafter of the MC wanted to change the conditions of air carrier’s liability for passengers, they would have replaced the term ‘accident’ by another term such as the term ‘event’ which had been used by the Guatemala City Protocol of 1971 (“[Protocol to Amend the Convention for the Unification of Certain Rules Relating to International Carriage by Air, Signed at Warsaw on October 12, 1929, as Amended By The Protocol Done At The Hague on September 28, 1955, Signed at Guatemala City, on 8 March 1, 1971](#)”).

3. The period of air carrier’s liability for passengers’ contraction of COVID-19

In order to establish the air carrier liability for passenger’s injury caused by an ‘accident’, the passenger needs to prove that the location of the ‘accident’ is within the period of the carrier’s liability. According to the carriage by air conventions, the period during which the carrier is liable for passenger’s safety is when the passenger is on board the aircraft or in the course of any of the operations of embarking or disembarking. Similar to the term ‘accident’, the Conventions did not define any of these terms opening the door for judicial interpretations. Several issues arise here ([Prager, 2011](#)). First, when does the operations of embarking start and the operations of disembarking ends. Secondly, to what extent of certainty the passenger can prove that contracting the virus happened during the carrier’s liability period. In the following we will analyse these two issues, respectively.

3.1. The operation of embarking

The wording of the Conventions indicates that the operations of embarking extend to areas outside the aircraft and might cover the terminal areas according to the tests introduced by the U.S. Federal Supreme Court in *Day v. Trans World Airlines, Inc.* (“[Day v. Trans World Airlines, Inc., 393 F. Supp. 217 \(S.D.N.Y. 1975\): Justia](#),” n.d.), which became the leading case in interpreting the phrase ‘Operations of embarking’. The court in *Day* listed eleven steps an air passenger needs to go through before boarding the aircraft. These steps start with the passengers presenting their tickets to the airline at the checking desk on the upper level; obtaining boarding passes from the airline; obtaining baggage checks from the airline; obtaining an assigned seat number from the airline; passing through passport and currency control imposed by the governmental authorities; submitting to a search of the passenger by the police; submitting their carry-on baggage for similar inspection by the police; walking through the designated gate to the airline’s bus; boarding the bus; riding in the bus; and walking off the bus and onto the aircraft (“[Day v. Trans World Airlines, Inc., 393 F. Supp. 217 \(S.D.N.Y. 1975\): Justia](#),” n.d.).

The court adopted and applied a test to determine whether the passenger is involved in the embarking operations or not. The test was based on the nature of the activity the passenger is engaged, the control of the airline over the passenger and the location of the passenger at the time of the accident. A fourth test was added by some court after *Day* relating to the imminence of actual boarding the aircraft (“[McCarthy v. Northwest Airlines, Inc., 862 F. Supp. 17 \(D. Mass. 1994\): Justia](#),” n.d.). The key test out of these tests according to most courts dealt with such cases was the activity test. Therefore, for the events occurring in the terminal area to be considered within the embarking operations, the court will investigate the passenger’s activity (what was the passenger doing); the passenger is under the carrier’s control; the location; and time of occurrence of the accident. Applying these tests suggests that the embarking operations may start as early as the passenger present himself to the checking in point in the terminal. It should be noted that the embarking operations may be interrupted between the checking in point and boarding the aircraft and therefore, any accident occurring during one of these interruptions, will not be within the carrier’s liability. Regarding COVID-19 cases, the passenger may contract the virus at any of the above-mentioned places placing a huge burden on the carrier ([Nancy, 1992](#)). Applying the above tests with focusing on the activity test alone, in our opinion would place a huge responsibility on the carrier which in COVID-19 cases. Therefore, in our opinion two key tests (control and location) should be taken together into account. Applying these tests together will eliminate air carrier’s liability if the accident takes place in locations which are operated by a third party and the carrier have no control over. For example, inside the aircraft, boarding gate, the check in point one may expect the carrier to have the ability to control and disinfect. On the other hand, escalators, and the area between the checking in zone and the boarding gate are used by other carriers and other users, therefore, the carrier will not have control over them.

3.2. The operations of disembarking

Regarding the disembarking interpretation, courts seem to apply the same embarking tests explained above. The court in *Catherine E. MacDonald v. Air Canada*, decided that the operations of disembarking will be terminated ‘by the time the passenger has descended from the plane by the use of whatever mechanical means have been supplied and has reached a safe point inside of the terminal, even though he may remain in the status of a passenger of the carrier while inside the building’ (“[MacDonald v. Air Canada, 439 F.2d 1402 | Casetext Search + Citor](#),” n.d.).’ This decision was confirmed by the United States Court of Appeals in *Martinez Hernandez v. Air France* (“[Martinez Hernandez v. Air France, 545 F.2d 279 | Casetext Search + Citor](#),” n.d.) the court followed *Day*’s

tripartite test and decided that the carrier was not 'in real control of the passengers' activity' at the time of the accident. The court rejected applying the simple location test preferring the application of 'a tripartite test' as a reasonable and flexible one 'because it is consistent both with the terms of the Convention and with the realities of modern air travel. In my opinion, the Second Circuit's holding concerning the embarkation provision of Article 17 is equally applicable to disembarkation cases' ("545 F2d 279 [Martinez Hernandez v. Air France | OpenJurist](#)," n.d.).

It is worth noting that, in principle, the duration of disembarking and the passengers' activities during it are more limited than those of embarking. The passengers are normally placed under the directions of the carrier until they enter the terminal building, the point which in the authors' opinion the operations of disembarkation ends ([Air and Law, 1992](#)). Therefore, contracting COVID-19 between the time the passengers leave the aircraft and the time they enter the terminal building should in principle be considered within the period of air carrier's liability.

4. Exoneration of air carrier's liability in COVID-19 cases

4.1. Defences related to the carrier or third parties

Defences available to air carrier to exonerate himself from liability for passengers' death or bodily injuries depend on the nature of air carrier's liability. The Carrier's liability under the WC-29 is a presumed-fault liability whereas, under the MC-99 it is an absolute or strict liability ([Pearson and Daniel S. Riley, 2015](#)) in tier one and a presumed-fault liability in tier two ([Larsen et al., 2012](#)).

The defence of taking all necessary measures by the carrier and his agents to avoid the damage is available to the presumed-fault liability (Article 20/1 of the WC-29 provides that 'The carrier is not liable if he proves that he and his agents have taken all necessary measures to avoid the damage or that it was impossible for him or them to take such measures'. The MC-99 adopted this defense with changing the wording. Article 21/2 of the MC-99 provides that 'The carrier shall not be liable for damages arising under paragraph 1 of Article 17 to the extent that they exceed for each passenger 100 000 Special Drawing Rights if the carrier proves that: (a) such damage was not due to the negligence or other wrongful act or omission of the carrier or its servants or agents; or (b) such damage was solely due to the negligence or other wrongful act or omission of a third party').

Another defense was added by the MC-99 in tier two of the carrier's liability by exonerating the carrier from liability if the damage was 'solely due to the negligence or other wrongful act or omission of a third party'. Therefore, according to the later defence if another cause participated in the passenger's injury in addition to the third party's acts, the carrier will not be exonerated from liability.

4.2. The passenger's contributory negligence

A common defence between the Conventions in all types of carrier's liability is the contributory negligence of the passenger. Article 20 of the MC-99 provides that 'If the carrier proves that the damage was caused or contributed to by the negligence or other wrongful act or omission of the person claiming compensation, or the person from whom he or she derives his or her rights, the carrier shall be wholly or partly exonerated from its liability to the claimant to the extent that such negligence or wrongful act or omission caused or contributed to the damage (Article 21 of the WC-29 provides that 'If the carrier proves that the damage was caused by or contributed to the negligence of the injured person the Court may, in accordance with the provisions of its own law, exonerate the carrier wholly or partly from his liability'. In an application to this article, the court in [Chutter v. KLM Royal Dutch Airlines, 132 F. Supp. 611 \(S.D.N.Y. 1955\)](#) held the carrier not liable as the passenger's injury was caused by her negligence in ignoring the carrier's 'Fasten seat belt'

sign resulting in her falling out of the aircraft injuring her leg.' ("[Chutter v. KLM Royal Dutch Airlines, 132 F. Supp. 611 \(S.D.N.Y. 1955\)](#): *Justia*," n.d.).

Applying this defence to COVID-19 cases would reduce the burden on the carrier as this disease can be prevented if the passenger was careful and followed the instructions provided by the WHO and the carrier. Finally, the question of whether there was in fact any contributory negligence depends on the facts of each case and the national law of the court ([I. H. Ph. Diederiks-Verschoor and Pablo Mendes de Leon, 2012](#)).

5. The scope of safety from the aviation perspective

Many international aviation companies during COVID 19 are exploring possible routes for facilitating a "restart" of international aviation by airlines in safety way to grant passengers trust and safety. Therefore, the resumption of international flights would entail crossing a range of hurdles to allow governments to fly, and more hurdles in terms of passenger fly, including departure and arrival airports, flights themselves, and other elements such as the measures should be applied in the airport and in the plane by the air carrier ("[IATA - COVID-19: All resources](#)," n.d.). However, these measures are enforceable for the air carriers since its very important for the safety of the passengers such as temperature screening which should be employed at both departure and arrival, using of surgical masks and gloves as advised by WHO, preventing people from having close contact with each other, cleaning and disinfection of frequently/recently touched surfaces is advised by WHO, All of the measures employed currently around the world to slow the spread.

Aviation safety is at the core of ICAO's fundamental Objectives. The organization is constantly striving, in close collaboration with the entire air transport community, to further improve aviation's successful safety performance while maintaining a high level of capacity and efficiency. Individually and collectively, air carries should understand the global challenges now facing, and it must, therefore, rely on that understanding, and on its ability to develop tailored recovery measures that are consistent with the new situation COVID 19 while addressing their specific priorities ("[Guidance Material](#)," n.d.).

5.1. Definition of safety

No doubt that the concept of aviation safety contains one meaning which is human care. This care extends to all elements of air transport and its activities related to passengers and employees and the work environment in airplanes and airports and in the places of maintenance, offices, and places of reservations and waiting rooms inside the airports ([ICAO J O U R N A L PROTECTING DATA COLLECTED FOR SAFETY PURPOSES](#), n.d.).

Due to the urgent need to reduce the risks related to the COVID -19 pandemic by air transport, aviation safety is at the core of ICAO's fundamental objectives, and this goal to be achieved through certain measures such as social distance practice, closures of workspaces and other public health intervention measures. To do so the collaboration with the entire air transport community which is arranged by ICAO to further boost the safety performance of aviation while maintaining a high degree of flexibility and efficiency. The civil aviation has a great interest in air safety as it is the most important axis of the air transport industry. The concept of air safety extends to cover the fields of work including employee, tools, and machines, but the concept of airport safety focuses on the airside without losing sight of the importance of the ground side.

Attention to aviation safety comes from our perspective from important points: the first one relates to the value of the human being, which is the most dangerous at the main time, and the second is due to the costs of accidents, such as the COVID -19 at the present time, although there is legal insurance in terms of coverage of compensation

and damages. However, these facts or events have other consequences that shake the airline's reputation and repercussions for a long period of time, especially when declaring that we have to live with COVID -19 until the vaccine is present (*Doc 10 144 ICAO Handbook for CAAs on the Management of Aviation Safety Risks related to COVID-19, n.d.*).

In light of the COVID-19 pandemic, attention must include the work environment by passengers and employees, by adhering to the conditions and safety of work sites such as the airstrip, halls and offices, and this interest is pivotal in all areas in order to preserve its health and provide at the same time to the work system the highest levels of giving And performance, and thus exclude or reduce the spread of disease or infection to others, taking in consideration that flying is the most attractive and safe means of transport.

5.2. The ICAO's COVID-19 safety measures

Regardless of the immediate need to minimize the risks and legal liability associated with the COVID -19 pandemic by air transport, the airport will have clear safety measures covering the structure, washing, disinfection, and hygiene of airport terminals, Physical distance, personnel safety, entry, check-in area, security screening, airside areas, gate facilities, transfer of passengers, disembarkation, baggage claims, and arrivals areas. Therefore, certain measures should be under the air carrier's responsibility in addition to the other measures belong to the airports such as; Physical distancing in side plane, embarking, disembarking and arrivals.

5.2.1. Terminal building

The passenger safety department will take charge of guidance for terminal building management, which will take into account all aspects of operations, including who has access to the terminal, the maintenance of cleanliness and disinfection procedures in place within the terminal building, as well as health measures, instructions and protocols for first aid/medical care guidelines and protocols for passengers and staff, otherwise, they will be liable for any transmission of the disease (*"Airport Module - Terminal Building," n.d.*).

5.2.1.1. Cleaning and disinfection. In accordance with the standard operating procedures described in the WHO guide on aviation hygiene and sanitation, a written strategy for better cleaning and disinfection between the Airport Health Authority, airport operators, and service providers should be agreed to preserve passenger safety and prevent any legal liability. Continue to update the plan as new information becomes available regarding operation, schedule, and products. Therefore, terminal facilities and all equipment should be regularly cleaned and disinfected, and their frequency should be increased as required due to traffic and use and increasing the available products for cleaning and sanitizing (*Guide to Hygiene and Sanitation in Aviation Third Edition Module 1: Water Module 2: Cleaning and Disinfection of Facilities, 2009*).

To prevent the spread of any disease spread and to preserve public health, the responsible airport authority will ensure that all passengers are aware of the cleaning and disinfection program, this will happen as employees make good use of products and discuss areas that are most affected and are most likely to be infected, such as: Passengers with special needs desks, check-in areas, immigration/customs areas, security screening area, boarding areas, lifts and escalators, handrails, baggage trolleys and collection points: washed with wet wipes or disinfectants that can be used It is necessary to ensure that bins are made available for disposal and seats prior to security screening and in boarding/check-in areas, parking shuttle buses and airside buses and concentration, method and contact time of disinfectants (*"Safety," n.d.*).

In addition, it is necessary to take into account that increasing the use of air conditioning is very important and effective filtration systems to keep air clean, decrease recirculation and increase the fresh-air ratio which should be limited to horizontal airflows.

5.2.1.2. Physical distancing. At the present time Physical distancing is an effective measure to limit COVID-19 transmission and should be part of a comprehensive package of measures to limit COVID-19 spread. So far at airports, physical distance measures should be at least consistent with what is applied for other transport modes – in particular urban public transport used for access to/from airports, applied to the maximum extent possible throughout the airport and applied to the maximum extent possible throughout the airport (*"Airport Module - Terminal Building," n.d.*).

At the same time, other certain measures should be taken, regarding applying to the maximum extent possible throughout the airport. Physical distancing should target reaching at least one (1) meter between all individuals. Nevertheless, Passengers should wear masks or other face coverings in accordance with applicable health guidelines and where their use does not create shortages for healthcare workers. But without denying the reality of Mutual recognition of equivalent physical distancing measures that mitigate the health risks at the point of departure and of arrival is encouraged (*"IATA - COVID-19 Coronavirus & Travelers," n.d.*).

5.2.1.3. Staff protection. For a long time, the level of adequate employee protection will be assessed on a case-by-case basis. Such protection can include personal protective equipment, a health screening program for employees, scheduling (holding employees in steady teams and shifts), easy access to alcohol-based hand sanitizers, pre- and post-shift specific staffing practices, workstation physical work distance schedules (*"COVID-19 Webinar Series - ICAO TV," n.d.*). In fact, employees should be equipped with personal protection equipment depending on the exposure to danger and the extent of transmissions such as gloves, surgical masks, goggles or a face shield, and gowns or aprons can also be used (*"Airport Module - Terminal Building," n.d.*).

In addition, to prioritize and change all maintenance and repair plans in public areas, which are likely to interrupt unessential work and maximizing the use of online training and virtual staff preparedness classrooms. Furthermore, the application of physical separators between selected workers and passengers is recommended for areas of repeat transfers and transactions (*"Airport Module - Terminal Building," n.d.*).

5.2.1.4. Airport terminal access. Because of each airport specifics and the national legislation in place, in an initial phase, airport terminal access can be limited to staff, travellers and accompanying persons in circumstances such as disabled passengers, minors with reduced mobility or unaccompanied; as long as it does not produce crowds and queues that increase the risk of transmission and create potential vulnerability security (*"Airport Module - Terminal Building," n.d.*).

5.2.2. General check-in area

An airport's general check-in area is usually an area which sees high traffic for passengers. Passengers will complete as much of the check-in process as possible before arriving at the airport (ready to fly), in order to limit queues and crowds. Self-service options should be made available and used to limit contact at passenger touchpoints, as much as possible.

In this case, certain measures should be implemented which reduce congestion within these areas through advanced passenger flow planning and monitoring. However, to promote physical distancing, airports should provide signs, floor markings and announcements through the Public Address (PA) system. Help coordination of key safety messages from health authorities by means of audio messages and signage at key passenger travel touchpoints and different self-service tools, such as boarding passes and baggage tag kiosks, and baggage drop, are of particular concern due to the high physical contact levels that increase the likelihood of contamination. Nonetheless, the use of these devices should be encouraged to reduce face-to - face interactions, but with careful attention to managing passenger flow and adequately

maintaining such devices and disinfected constantly (“[Introduction to Aviation Management](#) - Google Books,” n.d.).

To avoid traffic for passengers, passengers should be encouraged to complete check-in processes before they arrive at the airport, wherever possible. Online check-in, online boarding pass, off airport baggage tagging, and other initiatives will contribute to the reduction in the amount of contact with airport staff and infrastructure. Therefore, ICAO’s recommended that governments eliminate any regulatory obstacles to such enabling types of off-airport processes (“[Airport Module - General Check-In Area](#),” n.d.). It appears that it is necessary to use retractable stanchions and floor signage in the queuing area at the traditional check-in counters to encourage physical distance and consider setting up transparent barriers before staff at counters and self-sanitizing technology can also be considered for integration in touch screens kiosks so that the screen can be disinfected between each application (“[Airport Module - General Check-In Area](#),” n.d.).

As much as possible, airport and other stakeholders should use contactless processes and technology, including contactless biometrics such as facial or iris recognition. These processes of digital identification can be extended to self-service bag drops, separate queue entry, boarding gates and retail and duty-free outlets. For sure, this will eliminate or greatly reduce the need for interpersonal and passenger contact with travel documents. This can also speed up various procedures, leading to improved health security, decreased queuing and other process efficiencies.

5.2.3. Security screening

Passenger screening at the airport is the most important part of security to get you safely to your destination. In the initial stages of the pandemic response, we can expect the need to maintain physical distancing measures at the security checkpoints, including the screening process (Sakano et al., 2016). For compliance with new COVID-19 sanitary guidelines, steps to monitor access to the security screening checkpoint that need to be considered, as well as potential changes to the standard screening procedure (“[Airport Module - Security Screening](#),” n.d.).

5.2.3.1. Checkpoint access procedures. Notwithstanding the foregoing procedures, if health screening is needed prior to the checkpoint by applicable legislation, non-contact thermometers should be used in a specified location, under conditions that reduce the effect on operations. However, in reply to any passengers who show signs of illness, correct protocols should be enforced in consultation with the relevant government agencies. In addition, having hand sanitizers and disinfection items whenever possible before passengers and employees view access points to minimize the risk of exposure, screeners, whereas, passengers should maintain physical distance as much as possible or wear the correct personal protective equipment (“[IATA - ACI and IATA Collaborate to Deliver Smart Security](#),” n.d.).

For further intensive development to prevent the spread of disease or transmission the rearrangement of access to and configuration of security checkpoints should be considered with the goal of rising queues and crowding to the extent possible while preserving optimal throughput. These will include all divestment areas and areas where passengers recover their cabin baggage under screening. Therefore, the necessary to provide inside the queuing area; markings on the ground to indicate the proper distance recommended by the relevant authorities and physical distancing will remain in effect until relevant health authorities are told that relaxation is secure (“[Aviation and COVID-19](#),” n.d.).

Procedures should be carried out to the extent possible concerning passengers delivering boarding passes and other travel documents to security officials, while avoiding physical contact and thus reducing face-to-face interaction. If a person wearing a mask against a government-issued photo identity needs to be detected, the mask may be removed if physical distancing measures are met. Appropriate signage

which clearly informs about subsequent steps of the process should be deployed (“[Airport Module - Security Screening](#),” n.d.) the potential options include:

- Guide the passengers to use automated boarding pass scanners at access points while maintaining the necessary physical distance
- Use handheld boarding pass scanners which are operated by security personnel.
- Normal operating procedures include a visual review of the boarding pass and related identity documents.

According to current unprecedented circumstances, in order to reach the high global standards of safety, automated gates and the reader surface for mobile scanners should be disinfected with the same frequency as any other high-touch surface and passenger preparedness officers will be assigned to ensure that travelers are prepared for the conditions of the divestment. Screeners should improve processes for passengers entering divesting areas so that they divest correctly and are less likely to cause a false alarm (to reduce the use of manual searches). In addition, routine improved cleaning and disinfection of regularly handled/exposed surfaces and health screening equipment should be carried out, including trays and baggage areas at the security checkpoint (“[Airport Module - Security Screening](#),” n.d.).

5.2.3.2. Passenger screening. This effectively measures are forced to ensure the protection of the health of passengers through a wide list of responsible entities supports the balance of passenger and authority for aviation interests of regulators (“[Airport Module - Security Screening](#),” n.d.) such as:

- Hand sanitizers based on alcohol should be distributed to staff for cleaning and disinfecting their hands, and gloves should be worn by screening personnel and after each manual search, screeners should change gloves. Besides, employees should be advised to wash their hands after removing gloves.
- Relevant signage and passenger information about newly enacted safety standards, as well as updated screening procedures, should be clearly displayed. Signage will emphasize the need for cooperation between passengers in the screening process.
- Whenever a high number of passengers are processed by screening checkpoints, personnel and crew screening should be done at dedicated checkpoints and separately from passengers (as an additional preventive health measure), where possible. Alarm resolution should also be performed, whenever possible, in a designated area isolated from passenger traffic. Whereas this methodology mitigates the risk of building up queues and maintains passenger throughput but may require additional personnel to be positioned ([Restarting aviation following COVID-19](#), n.d.).

5.2.4. Terminal airside area

The airside area of the post-security terminal is an area of high passenger traffic, with few physical barriers and generally wide-open space. The temporary need for physical distance must be considered, while still supplying passengers with retail access, duty-free concessions, and food and beverage offerings, in gate areas, VIP lounges, and other services also see a high volume of passengers in this area. The evaluation and deployment of various flow monitoring tools, physical installations, floor markings and adapted wayfinding is required. Enhanced cleaning and hygiene measures may need to be planned and deployed to help limit the virus’s spread.

To ensure that airport take the necessary procedures to secure the terminal airside area, a certain consideration should be taken such as:

- Encourage self-service options where passengers have limited contact with staff working in retail, food and drink.

- To minimize physical contact between passengers, an orderly boarding process will be important, particularly once the load factors begin to increase. It is important that airline, airport and government work closely together. Airlines will need to review their current process of embarking. Airports will need to assist with the renovation of gate areas and governments may need to change the rules and regulations that apply. It will encourage the increased use of automation, such as self-scanning and biometrics.
- Particularly during the early stages of the restart phase, carry-on baggage should be limited to allow a smooth boarding process, and Wherever possible, the implementation of self-boarding technologies at the gate should be considered with units that use automatic doors, integrated boarding pass readers, passenger instruction LCD displays and a seat assignment printing device changes.
- Increase the use of all other document self-scanning opportunities when identification is required. However, sitting areas (lounges, gates, restaurants) may be opened as a temporary measure at restricted capacity to meet the short-term need for physical space. As the recovery phase progresses and health needs evolve, it is possible to envisage a return to regular capacity. And temporary closure or enhanced monitoring of some service areas based on mitigation phases, such as: self-service food buffet, Coffee seating, or multi-functional seating, Smoking Zones and Kids Play Areas.
- Ensure that several alcohol-based hand sanitizer stations with appropriate passenger signage are available in the airport. And installation of touch-free toiletries, such as: automatic flushing system with toilet, taps and hygienic soap/hand dispenser and hand towel dispenser automatic (“[Airport Module - Terminal Airside Area](#),” n.d.).

5.2.5. Terminal Gate Equipment

In response to a shortage of passenger traffic, IACO’s recommended that many airports will have decommissioned some assets. Appropriate safety checks must be carried out before the airline traffic is recuperated. To meet this requirement, airports and airlines must work together to ensure that correct flight schedules are issued (“[Airport Module - Terminal Gate Equipment](#),” n.d.).

Electromechanical devices such as boarding bridges, escalators and elevators have to be checked and tested or operated regularly. Inspections of these decommissioned equipment are necessary before returning them to passenger service, based on the advice of the manufacturers and the National Building Codes and to define and deploy maintenance protocols. However, during colder climates, it is imperative that all outdoor-based equipment such as jetways and Pre-Conditioned air units retain control. Hence the airport operator will notify essential service providers and government officials in advance on ramp-up schedules and plans to bring temporarily closed facilities into operation (“[Airport Module - Terminal Gate Equipment](#),” n.d.).

5.2.6. Disembarking and arrivals

Border checks and customs procedures can need to be changed temporarily to improve physical distancing. Where equipment currently exists, the use of automated border control equipment, automated passenger identification (biometrics) as well as technology (thermal screening) that could function as an additional measure of health screening could speed up the immigration process, eliminate queuing and minimize interaction between border officials and passengers. In addition, during the initial stages, some governments are considering the concept of a health declaration to be given as an initial screening measure for arriving passengers before departure or upon arrival. Passenger information can be vetted by officials who can decide whether a passenger should be sent for secondary assessment (“[Airport Module - Disembarking and Arrivals](#),” n.d.). However, a certain consideration should be taken:

- Coordinate with various border regulatory agencies (customs, immigration, health, etc.) for steps to promote entry/arrival clearance, such as allowing contactless processes (e.g. passport chip readings, facial recognition etc.).
- To minimize human-to-human contact, governments should consider electronic options (mobile applications and QR codes) where declarations are required upon arrival. Information can be forwarded via government portals in advance. Where appropriate green/red lanes are recommended for self-declarations, for customs formalities.
- Automate the method of identity authentication, using biometric technology. The use of contactless technology, automated border control or egates should be promoted with a view to increasing transaction time and reducing interaction between travelers, officers and staff.
- As required by applicable regulations, smart thermal cameras can be mounted to quickly and unobtrusively monitor the temperature of multiple passengers.
- Secondary health tests should be set during the initial stages of recovery and, if necessary, to sustain the main general flow of passengers. Thermal screening may be conducted in front of the customs building, but individual passenger safety tests should be avoided in order to prevent a dramatic effect on the throughput and further queue formation.
- Smart thermal cameras may be positioned at suitable locations to screen incoming passengers for higher-risk flights from areas where there is cluster or population transmission, in conjunction with public health authorities (“[Arrival of an affected aircraft: Standard Operating Procedure](#),” 2014).

5.2.7. Baggage claim area

An airport’s baggage claim area is susceptible to high passenger footfall and physical contact with luggage carts, baggage, washrooms, and other equipment. Disinfection steps should be introduced, and cleaning rates increased. Based on that certain consideration should be taken as follow:

- Every effort must be made to ensure a smooth baggage claim process to ensure passengers are not required to wait for long periods of time in the baggage claim area and maximize the use of available carousels to restrain passenger selection for check-in luggage. Therefore, governments must ensure that the process of clearing customs is as swift as possible, and that appropriate action is taken when physical checks of baggage are made.
- Adjust cleaning schedule based on flight schedules to ensure more frequent, in-depth disinfection of luggage carts, washrooms, elevator buttons, walls etc.
- Enable for passengers who need to report lost or damaged baggage online or self-service kiosk options. To facilitate physical space inside the baggage carousel, use retractable stanchions and floor markers as a temporary measure. Provide a clear security separator for airline agents at lost luggage counters, where possible, and encourage the use of baggage delivery services where luggage can be transported directly to the hotel or home for the passenger. Although share baggage tracking information with passengers so that they can claim baggage if it is handled improperly without waiting in the reclaim area; and create a cleaning and disinfection procedure for the area (“[Airport Module - Baggage Claim Area](#),” n.d.).

5.2.8. Exit the Landside Area

Passengers arriving outside the landside area have to have procedures and safeguards in place. Consideration should be provided to greeter area and terminal exit. In the initial restart processes, steps can include setting a perimeter around the greeter’s area or limiting access to the terminal building (“[Airport Module - Exit the Landside Area](#),” n.d.).

5.2.8.1. Airport terminal access.

- Airport terminal access can be limited to staff, passengers and accompanying persons in circumstances such as disabled passengers, elderly persons or unaccompanied minors in the initial process, in compliance with the requirements of each airport and the national legislation in place to the degree that it does not generate crowds and queues that would then increase transmission risks and create possible vulnerability to protection.
- Until leaving the terminal building, have several hand washings stations or hand sanitisers. However, improve flight schedule cleaning to ensure more regular, in-depth disinfection of public areas along the landscape, including seating areas, food and beverage and retail, handrails, washrooms, automatic movement systems and buses (“[Airport Module - Exit the Landside Area](#),” n.d.).

6. Conclusions

Through our study on the air carrier’s liability for the safety of passengers during COVID-19 pandemic, it was found that international conventions related to air transport have standardized international air transport rules. As these conventions are the basic pillar for organizing and coordinating air transport provisions at the international level, as these conventions had a valuable and successful contribution in the field of air transport and were satisfactory on a large scale and thus formed a clear legal basis without it, the particular measures that some countries take in light of the current pandemic cannot succeed without adhering to global air transport rules to prevent the spread of the disease.

From the above, and based on what has been studied, we reached a set of results related to various aspects of the topic as follows:

First: The Warsaw [Convention for the Unification of Certain Rules for International Carriage by Air - Montreal, 1999](#) (WC-29) and [Martinez Hernandez v. \(MC-99\)](#) have created two different regimes of carrier’s liability for passengers’ injuries during the carriage by air. The WC-29 created presumed-fault responsibility of the air carrier enabling the carrier to exonerate himself from liability by proving that he and his agents and employees have taken all necessary measures to avoid the loss. The MC-99 adopted a two tier liability system, tier one strict liability based on risk and tier two is based presumed-fault liability. Therefore, the defences available to the carrier under the MC-99 are more limited than those under the WC-29.

Second: Due to the possible connection between COVID-19 cases and some of the elements of the air carrier’s liability, the elements of accident and the location of the accident are the main focus when applying the rules of Conventions. We found that the mere fact that the passenger has got infection by COVID-19 during the air travel does not necessarily mean that there is an air accident. Whether the infection by COVID-19 constitutes an ‘accident’ is based on the facts and surrounding circumstances of each case. The proper question of law to ask under COVID-19 cases is whether the infection with the virus constitutes an ‘accident’ according to the carriage by air conventions. To constitute an ‘accident’, the criteria which was created by Saks to be external, unexpected and unusual should be applied and proved by the passenger. These criteria would be applied even under the strict liability regime in tier one of the air carrier’s liability under the MC-99. It is highly important to note that the accident needs not to be the sole cause of the passenger’s infection. Applying the four factors which were adopted by the courts to determine the location of the accident (control, location, activity and proximity in time) to COVID-19 cases would limit to some extent the scope of air carrier’s liability. Courts used to focus on the activity factor. The control factor, in our opinion, should be given more weight and should be extended to cover the control of the carrier on the passenger and on the location of the accident.

Third: To consider the liability of the air carriers, the facts of

contributory negligence is an acceptable defense to the air carriers under the Conventions and regardless of whether the liability is a strict or presumed-fault liability. Deciding whether there is a contributory negligence and to what extent is the carrier exempted from liability in each case will be decided in accordance to the national law of the court.

Based on above concluding remarks, we invite all the air carries and passengers to comprehend the following recommendations:

- 1 -Follow-up to the recent economic, social and technical health developments in the world with respect to the COVID-19 and study the extent of their impact on the provisions of air transport so that international conventions on air transport are modified in line with these developments to achieve thus a fair legal guarantee for the users of the air transport sector without prejudice to the continuity and development of air transport activity.
- 2 -Passengers should follow all the instructions ruled by the air carriers in line with ICAO rules to prevent the transmission of COVID-19. Disobeying such instructions may result in establishing the contributory negligence of the passengers in breach and therefore, denying them compensation partly or wholly.
- 3 -Attempting to unify all legislations and regulations related to the provisions of air navigation and air transport to find a kind of legal integration among them to confront the renewed changes that may be imposed by health and economic conditions.
- 4 -The importance of spreading awareness of the danger of COVID-19 among passengers and what their rights are by requiring air transport companies to accurately indicate their responsibilities on their websites, as these responsibilities are to be clearly presented in airports through the civil aviation authorities.

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