
AVIATION BLACK BOX JUSTICE: NAVIGATING THE CONFLUENCE OF CONFIDENTIALITY AND VICTIMS' RIGHTS

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ABSTRACT

This paper investigates how the concept of confidentiality around aviation black box data affects matters of determining liability and compensating victims of aviation crashes. Although the confidentiality system that is a part of the international law of aviation is meant to protect the integrity of safety investigations and promote full and open reporting, it may also restrict availability to important evidence that may be needed to prove fault. The central case in point is the Air India Flight 171 crash. Though a faulty fuel switch in the past had been complained about by pilots, the official investigation had mainly pointed to a pilot error as the cause of the accident. Partial cockpit voice records were released to the public and most black box information was kept secret. Such discriminatory disclosure deterred the capability of the families of victims, as well as the legal forums carrying out investigations on potential systemic or mechanical oversights. By critically pursuing the ICAO Annex 13 and its discussion of confidentiality in safety investigations, the paper examines whether its present understanding is overly focused on investigative confidentiality and not on judicial openness. Although the Annex aims to safeguard against the misuse of sensitive information and the preservation of non-punitive safety culture, its use might intimidate the right of the victims to the truth, accountability, as well as fair compensation. The paper, based on the regulatory theory, tort liability, and comparative judicial practices, will determine the extent to which the status quo balance between the safety investigation secrecy and the provision of the necessary evidence to the courts and the families of the victims is normatively justified. It is a balanced system that is required in this way so that fair justice is delivered, institutional negligence does not remain hidden and people do not lose their trust in aviation safety and the law.

Keywords: ICAO annex 13, Victims rights, Black Box, Aviation, compensation

Introduction: The Paradox of Aviation Secrecy and Justice

Aviation is a business that is made up of accuracy, dependability and consumer confidence. In the case of a catastrophe of an aircraft, the truth-tellers that prove very important in recreating the chain of events that cause the disaster are the black box that consists of the Cockpit Voice Recorder (CVR) and the Flight Data Recorder (FDR). Even though these devices are painted in bright orange so that they are easily seen when conducting rescue operations, the blackness of the black box does not lie in the colour but in the legal and institutional veil that envelops data within the box.¹

This is a secret embedded in the international legal regime of accident investigation, specifically the ICAO Annex 13², which had always emphasized the notion of non-punitive safety reporting. Its premise is that the pilots, engineers, air traffic controllers and maintenance workers should be allowed to freely exchange information without a fear that what they say or what they tape in the cockpit may be used against them in a civil court, criminal court or even the disciplinary process. Differently put, Annex 13 presupposes that honest cooperation, which is a precondition of confidentiality, and, consequently, that of enhancing aviation safety.³

As a result, CVR and FDR data are legally withheld without being disclosed unless there is a specific authority that expressly believes that the disclosure of the information is in the overwhelming interest of the people at large. This secret-favoring assumption is also mirrored in other similar legal regimes (as shown in Annex 13) and in similar legal systems in other jurisdictions (such as the Indian Aircraft (Investigation of Accidents and Incidents) Rules, 2017, EU Regulation 996/2010 and the disclosure practices of the U.S. NTSB). In all these systems the underlying idea is the same safety investigation must be kept off the hostile atmosphere of the courts.⁴

But there is a great dilemma arising out of this well-crafted philosophy. Even the data that can help define the truth about an accident, that is, what went wrong and who was responsible, and

¹ Balcerzak Tomasz, *Investigation of Aviation Accidents in the Context of a Conflict of Interests between Law Enforcement, Insurers, the Commission on Aircraft Accident Investigation and Other Entities* (2017)

² International Civil Aviation Organization, *Annex 13 to the Convention on International Civil Aviation: Aircraft Accident and Incident Investigation* (11th edn, ICAO 2016)

³ Elaine D. Solomon & Dina L. Relles, *Criminalization of Air Disasters: What Goal, If Any, Is Being Achieved?* (2011).

⁴ Nurul Alifah Jovita & Rosmawati, *Compensation and Absolute Liability Principle on the Case of Air Asia QZ 8501 Airplane Accident 2014* (2021), SJIL. <https://jim.usk.ac.id/SJIL/article/download/19278/8897>

what systemic failures might have contributed, is often not available to the most affected party, the victims, and their families⁵. Even the courts can be handicapped and have to answer complex liability questions without access to the entire evidence⁶⁷. This conflict is further escalated by the partial release of data, or the discriminatory disclosure of parts of the CVR/FDR material by investigators, which, among other things, constructs the public discourse and deprives the victims of the complete image.⁸

Air India Flight 171 air crash is an insightful example on how such secrecy may hinder justice. Although there had been pilot complaints regarding the faultiness of the fuel switch in the aircraft prior to the incident, the cockpit voice recording was eventually only recorded over six seconds, and most of the black box information was not available⁹. Because of this, the families, courts and individual experts were not able to decisively conclude whether the tragedy was caused by human error, mechanical failure or some kind of institutional negligence. What arises is a disturbing trend: the sheepskin change of Annex 13, despite its intended safety-promoting nature, can lead to sinister results by stretching the errors of the system out of sight¹⁰.

The following paper then critically analyses whether the contemporary interpretation and usage of the Annex 13 provision is overly in favor of confidentiality in investigations against transparency, accountability and the rights of victims. It argues based on legal standards, regulatory theory, principles of tort, and comparative practices that the current balance between safety and justice is justified in normative terms, or that the balance needs to be recalibrated to make sure that the aviation system is not only safe but also just.

Literature Review

The conflict between aviation safety and judicial transparency was an issue of long controversy between scholars and regulators. Confidentiality is regarded as the support of efficient investigations on the one hand, and as an obstacle to justice on the other.

⁵ Shashank Sharma & Bidisha Boruah, Case Study on Air India Flight-171 Crash (2025).

⁶ Elaine D. Solomon & Dina L. Relles, *Criminalization of Air Disasters: What Goal, If Any, Is Being Achieved?* (2011).

⁷ Phyllis Kayten & Carol A. Roberts, *The Application of CVR and FDR Data in Human Performance Investigations* (2022).

⁸ Phyllis Kayten & Carol A. Roberts, *The Application of CVR and FDR Data in Human Performance Investigations* (2022).

⁹ Shashank Sharma & Bidisha Boruah, Case Study on Air India Flight-171 Crash (2025).

¹⁰ Shashank Sharma & Bidisha Boruah, Case Study on Air India Flight-171 Crash (2025).

According to researchers, like Van Stewart¹¹ and Mary Fan¹², cockpit voice recorders (CVRs) and flight data recorders (FDRs) are used more as accident prevention tools than as blame apportionment devices. The safety culture of the non-punishing nature built in Annex 13 will motivate the pilots and crew to report any mistakes without the fear of legal action. Nevertheless, such legal experts as Tomasz Balcerzak¹³ and Marieke de Hoon¹⁴ point out that such confidentiality motivated by safety usually brings about conflict of interest, especially in cases where the investigative authorities are run under or in partnership with the state regulators and airlines.

The focus of the literature narrows down to one dilemma: secrecy may safeguard the process, but may jeopardise justice. Families of victims in crashes are often deprived of the full access to black box data and it is virtually impossible to demonstrate negligence or systemic failure in the court. Research also indicates that this kind of obscurity not only undermines compensation claims, but also undermines the social trust in aviation safety and governance.

Black Box Confidentiality as Law

The international aviation law is founded on the tension between two imperatives the need to conduct efficient safety investigation and the right of victims to the justice. This tension has been enacted into law over time. The outcome is an international system that promotes secrecy over disclosure, entrenched in ICAO Annex 13¹⁵, reinforced by the Chicago Convention, and enforced by regional and national rules in India, Europe¹⁶, or the United States¹⁷¹⁸¹⁹. Collectively, these tools create an integrated framework which makes confidentiality a default attribute of aviation regulation- regularly to the disadvantage of judicial transparency.

¹¹ Van Stewart, Privileged Communications? The Bright Line Rule in the Use of Cockpit Voice Recorder Tapes (2003).

¹² Mary D. Fan, Private Data, Public Safety: A Bounded Access Model of Disclosure (2015).

¹³ Balcerzak, Tomasz, Investigation of Aviation Accidents in the Context of a Conflict of Interests between Law Enforcement, Insurers, the Commission on Aircraft Accident Investigation and Other Entities (2017)

¹⁴ Marieke de Hoon, Navigating the Legal Horizon: Lawyering the MH17 Disaster (2017), Utrecht Journal of International and European Law.<https://utrechtjournal.org/articles/ujiel.368>

¹⁵ ICAO, Annex 13 to the Convention on International Civil Aviation: Aircraft Accident and Incident Investigation (11th ed., 2016)

¹⁶ Marieke de Hoon, Navigating the Legal Horizon: Lawyering the MH17 Disaster (2017), Utrecht Journal of International and European Law. <https://utrechtjournal.org/articles/ujiel.368>

¹⁷ Dr. Sandeepa Bhat B., Air Carrier Liability for Passenger Death or Injury under the Carriage by Air Act, 1972 (2016). <http://docs.manupatra.in/newslines/articles/Upload/4A8DA709-4CB5-4D85-AAF7-0239A252CD47.pdf>

¹⁸ Van Stewart, Privileged Communications? The Bright Line Rule in the Use of Cockpit Voice Recorder Tapes (2003).

¹⁹ Mary D. Fan, Private Data, Public Safety: A Bounded Access Model of Disclosure (2015).

ICAO Annex 13: The Graal of Confidentiality

ICAO Annex 13 is the primary tool of the investigation of aircraft accidents and incidents. It institutionalises the fact that cockpit voice records, flight data, eyewitness testimony and medical data are highly confidential. The disclosure is only allowed when a competent authority is convinced that the interest of the people dominates over the possible damage caused to safety investigations.

The reason behind this principle is the need to safeguard the so-called non-punitive safety culture proposed by ICAO. The rationale behind it is that aviation workers should be not afraid to share information without the risk of any civil or criminal prosecutions. The premature disclosure, as per the guidance materials of ICAO, may deter honesty and minimise efficiency of investigations.

Although this reasoning is valid, it also develops a legal wall between the investigators and the courts. The system is so efficient that it makes the judicial bodies unable to access important evidence, instead, they have to use the summaries or interpretation of the investigative agencies, instead of using the raw data. Practically, this restricts the option of the victims to appeal against official finding or demonstrate culpability in a court of law.

Chicago Convention and Global Integration

Article 26 of the Chicago Convention mandates the state in which the accident has give rise to, to carry out an investigation in accordance with the procedures suggested by ICAO. Though the annexes of the ICAO are not legally binding, this article gives them a quasi-binding power, through the fact that the procedures are a part of the international practice. This has led to almost all the member states such as India, replicating their investigative structure on the base of Annex 13.

This has been widely adopted and has brought uniformity in the investigation of aviation throughout the world but has also ensured the hegemony of confidentiality. What was first introduced as a useful measure to prevent abuse, has become a universal orthodoxy, in which maintaining secrecy takes precedence over transparency. This conformity implies that the rights of the victims to access evidence are equal among jurisdictions.

Regulatory Framework of Indians

The rules on Aircraft (Investigation of Accidents and Incidents) in India are similar to those of Annex 13, 2017²⁰. According to these rules, it is obvious that no disclosure of CVR and FDR data or any records used in investigations can be provided under any extraordinary cases as decided by competent authority or court. Moreover, the regulations do not allow the use of such information during civil, criminal, or disciplinary action without a court order.

Although this is a more appropriate way to bring India to the international level, it acts as a major obstacle to justice to the victims. The litigants and the courts cannot use the primary evidence when they need to make their decisions, but they have to depend on partial disclosures or selective summaries or investigative interpretations. This opacity, as observed in Air India Flight 171 case, most of the times translates into frustration by the judicial system, minimal accountability and compensation delays.

The U.S. and the European Union Models.

This Regulation (EU) No. 996/2010 of the European Union reflects the confidentiality provisions contained in the Annex 13; however, it puts much more solid basis on the principles of privacy and data protection. Article 14 discourages the publication of the sensitive investigation materials unless the public interest is overwhelming. This model also places a lot of emphasis on the integrity of transnational investigations but also puts limits to access to evidence by the victims.

Whereas ICAO Annex 13²¹ is not explicitly enforced in the United States, the National Transportation Safety Board (NTSB) imposes a somewhat similar practice. It publishes cockpit recordings written transcripts but not the audio. Privacy issues and fears of media sensationalism are the reasons why this policy is justified. It is common in the American courts to support the discretion of the NTSB, which proves the notion that the complete public disclosure might pose a threat to the aviation safety culture.

The EU and the U.S. models are evidence of the universal opinion on the incompatibility of

²⁰ ICAO, Annex 13 to the Convention on International Civil Aviation: Aircraft Accident and Incident Investigation (11th ed., 2016).

²¹ ICAO, Annex 13 to the Convention on International Civil Aviation: Aircraft Accident and Incident Investigation (11th ed., 2016).

unrestricted access to black box information with aviation safety. Yet these systems also point out the dilemma- how to take into consideration the right to know and the need to protect.

Case Study: Air India Flight 171 and Approaches to Hidden Disclosure.

Air India Flight 171 (Boeing 787-8 Dreamliner) disintegrated on June 12, 2025 a few minutes after departing Ahmedabad because of all the people on board (294). Official inquiries revealed that both engines suddenly had their fuel supply shut off at once leading to loss of thrust. Past pilot reports of faulty fuel selection switches were not unknown, and the ultimate report held the root of the problem to be mainly cockpit mismanagement.

Cockpit audio was only provided in six seconds, and the essential FDR parameters were not made available. This selective disclosure, which was allowed by the provisions of Annex 13 confidentiality, did not allow the families, independent experts, and courts to investigate other possible causes, like mechanical or regulatory failure. The black box was decoded overseas thereby creating delays and possible integrity issues throughout the chain of custody.

As later noted by the Supreme Court of India, the pilot was not at fault, which implicitly conceded that it could have been a systemic failure. However, the court was unable to make definite conclusions without having access to complete evidence. The families are subjected to long litigation, delayed insurance payment and incompleteness of the truth. The safeguarding of confidentiality intended to help safety was in fact hindering justice thereby leaving the victims of the obstructed justice with a very big legal and emotional gap.

Tort Liability and Barriers of Evidence.

The principle of duty, breach, causation and damage are the foundation of tort law. It presupposes the possibility of discovering the truth--a reproducible course of human and mechanical processes which define responsibility²². However, in the aviation sector, such an assumption is more complex and is complicated by the secrecy of evidence. Once the Cockpit Voice Recorder (CVR) and the Flight Data Recorder (FDR), the least biased witnesses of a given accident, are buried under the legal veil of secret, the whole system of tort responsibility

²² Riley M. Wagstaff, *Flight Path to Accountability: A Legal Comparison of Boeing's Shortcomings, Airbus's Successes, and International Aviation Safety Regulations* (2025), 90 *J. Air L. & Com.* 177. <https://scholar.smu.edu/cgi/viewcontent.cgi?article=4274&context=jalc>

starts to fail²³²⁴.

Black box is not only a technological artifact, but it is the testimonial core of any investigation of an aviation accident²⁵²⁶. Its records can indicate subtle mechanical anomalies, human factors, and decision-making that can lead to the outcome of an accident being lack of negligence, faulty design, or inevitable failure²⁷. In the absence of this information, courts are reduced to abstractions expert briefs, partial transcripts and state reports which refract the truth through institutional judgment²⁸. The resulting evidentiary vacuum defeats the very rationale of tort law in finding a wrongdoer and recompensing damages²⁹.

The main consequence is the establishment of information asymmetry, firstly. The investigators, regulators, and airline operators have privileged access to the information, whereas the families of victims, lawyers representing plaintiffs, and even the court are deprived of it³⁰. This asymmetry enables the institutional actors, the ones who could be guilty of negligence, to construct the cause and effect narrative³¹. When the state and the operator are in control of the information circulation, it becomes hard to tell the difference between the truth and the interpretation. It is the official truth in which the official report is often not open to attack. This was the case with Air India Flight 171 when the investigators provided only a partial cockpit recording and presented the root cause of the accident to suggest it as a pilot error³². In the absence of the raw data, the families would not be able to challenge the conclusion despite the fact that previous mechanical complaints were recorded. The truth

²³ Van Stewart, Privileged Communications? The Bright Line Rule in the Use of Cockpit Voice Recorder Tapes (2003).

²⁴ ICAO, Annex 13 to the Convention on International Civil Aviation: Aircraft Accident and Incident Investigation (11th ed., 2016).

²⁵ Andrija Vidović, Andrea Franjic, Igor Stimac & Maja Ozmec Bana, The Importance of Flight Recorders in the Aircraft Accident Investigation (2022)

²⁶ Guy Walker, Redefining the Incidents to Learn From: Safety Science Insights Acquired on the Journey from Black Boxes to Flight Data Monitoring (2022)

²⁷ W. Bradley Wendel, Technological Solutions to Human Error and How They Can Kill You: Understanding the Boeing 737 Max Products Liability Litigation (2019).

²⁸ Marieke de Hoon, Navigating the Legal Horizon: Lawyering the MH17 Disaster (2017), Utrecht Journal of International and European Law. <https://utrechtjournal.org/articles/ujiel.368>

²⁹ Riley M. Wagstaff, Flight Path to Accountability: A Legal Comparison of Boeing's Shortcomings, Airbus's Successes, and International Aviation Safety Regulations (2025), 90 J. Air L. & Com. 177. <https://scholar.smu.edu/cgi/viewcontent.cgi?article=4274&context=jalc>

³⁰ Mary D. Fan, Private Data, Public Safety: A Bounded Access Model of Disclosure (2015)

³¹ Tomasz Balcerzak, Investigation of Aviation Accidents in the Context of a Conflict of Interests between Law Enforcement, Insurers, the Commission on Aircraft Accident Investigation and Other Entities (2017),

³² Shashank Sharma & Bidisha Boruah, Case Study on Air India Flight-171 Crash (2025)

turned into a monopoly and those questioned controlled it³³.

The second outcome is procedural injustice. The victims may seek damages beyond strict liability in a Montreal Convention and domestic tort regime on the basis that they have demonstrated negligence³⁴. But how then can negligence be established where the most authoritative evidence is in custody? Theoretically, the law allows victims to get remedies; in reality, the confidentiality regime deprives them of the factual basis to go after them. This paradox turns the rights of victims as substantive to procedural imaginations. They are entitled to justice, which they do not have in a material sense³⁵.

In addition, black box data obscures the blame game. In the case of incomplete evidence, blame has a tendency to shift onto the most recognisable human factor, the pilot³⁶. This may also be called the pilot blame bias, and it makes it easier to reduce complex failures that occur in a system to human error. In Air India 171, initial indications were that there was cockpit mismanagement although there had been prior reports that malfunctioning fuel switches were involved. It took a long time before judicial authorities began to doubt the validity of the original report following prolonged legal pressure. At this point however, the institutional narrative had already settled and the public perception was shaped and liability was curtailed by the manufacturers and the regulatory agencies³⁷.

Economic and psychological aspects of this system are also harmful. The families of the victims have their share of litigation, delayed settlements and partialized compensation³⁸. Emotional trauma builds up because there is a sense of uncertainty. Failure to get the truth not only frustrates legal redresses but also impedes emotional closure. Justice in the case of aviation torts can be said to be compensatory and symbolic-it is not only going to repair the financial

³³ Marieke de Hoon, *Navigating the Legal Horizon: Lawyering the MH17 Disaster* (2017), *Utrecht Journal of International and European Law*. <https://utrechtjournal.org/articles/ujiel.368>

³⁴ Nurul Alifah Jovita & Rosmawati, *Compensation and Absolute Liability Principle on the Case of Air Asia QZ 8501 Airplane Accident 2014* (2021), *SJIL*.<https://jim.usk.ac.id/SJIL/article/download/19278/8897>

³⁵ Alpo Vuorio et al., *Duty of Notification and Aviation Safety – A Study of Fatal Aviation Accidents in the United States in 2015* (2018).

³⁶ Van Stewart, *Privileged Communications? The Bright Line Rule in the Use of Cockpit Voice Recorder Tapes* (2003).

³⁷ Alpo Vuorio et al., *Duty of Notification and Aviation Safety – A Study of Fatal Aviation Accidents in the United States in 2015* (2018).

³⁸ Loraine Brown, Marina Efthymiou & Caroline McMullan, *Recovering from a Major Aviation Disaster: The Airlines' Family Assistance Centre* (2022).

stability but also the moral dignity³⁹. Once the truth is hidden, the victims are denied the second tragedy the denial of recognition.

Regulatively, confidentiality hinders the elimination of moral hazard. When operators and regulators understand that the evidence of negligence may be held back under the banner of Annex 13⁴⁰, there will be less motivation to implement active safety reform⁴¹. Transparency is also accountability; it is a measure to make institutional failures visible in the eyes of the people and rectify it. Secrecy on the contrary allows complacency and destroys deterrence. In such a way, over confidentiality harms victims, but it also compromises the very long-term objective of aviation safety.

The normative aspect of this scenario shows the lack of correspondence between the law and regulation. Tort law is put in place to distribute the blame whereas the aviation regulation is put in place to avoid blame⁴². These two logics work against each other. The way out of this disconnect is by paradigm shift: absolute secrecy to limited transparency. The balance can be re-established through the introduction of conditional disclosure mechanisms whereby access to the black box data by courts can be warranted under the confidentiality protection. These mechanisms would maintain safety culture and allow justice⁴³.

Lastly, the argument of morality cannot be refuted. The right to know is not a litigation right, it is a human right⁴⁴. To the bereaved family members, the reality of what transpired during the last few minutes is not an abstraction but a lifeline to healing. Without the truth of tort law, it is a meaningless liability that rewards loss without seeking causes. A legal regime that conceals the truth in the pretext of safety will be jeopardising its morality. In the absence of justice, there can never be true safety⁴⁵.

³⁹ Riley M. Wagstaff, *Flight Path to Accountability: A Legal Comparison of Boeing's Shortcomings, Airbus's Successes, and International Aviation Safety Regulations* (2025), 90 *J. Air L. & Com.* 177. <https://scholar.smu.edu/cgi/viewcontent.cgi?article=4274&context=jalc>

⁴⁰ ICAO, Annex 13 to the Convention on International Civil Aviation: Aircraft Accident and Incident Investigation (11th ed., 2016).

⁴¹ Gerald L. Dillingham, *Aviation Safety: Proposals to Enhance Aircraft Tracking and Flight Data Recovery May Aid Accident Investigation, but Challenges Remain* (2015), GAO. <https://www.gao.gov/assets/gao-15-443.pdf>

⁴² Marcia Fajer & Frida Marina Fischer, *Air Accident Investigation Among Regulatory Agencies* (2012).

⁴³ Mary D. Fan, *Private Data, Public Safety: A Bounded Access Model of Disclosure* (2015).

⁴⁴ Tomasz Balcerzak, Alexandra Yarushina & Jan Rajchel, *Is Safety Always Going to be More Important Than Privacy?* (2023). URL: <https://jaoam.com/index.php/jaoam/article/view/45>

⁴⁵ Mary D. Fan, *Private Data, Public Safety: A Bounded Access Model of Disclosure* (2015).

Discussion: Jumping ship: Confidentiality and Its Consequences.

The ramifications of too much secretiveness have much deeper roots than procedural impediments; they reach the ethical, institutional, and psychological pillars of the world aviation system. The secrecy philosophy previously supported by the imperative of safety has become a reflex of the institution. Investigators use confidentiality as a fact of custom and not need whereas policymakers equate transparency with exposure⁴⁶. However, the more serious threat is not disclosure, but loss of trust of the people due to being hidden⁴⁷.

The moral implication is enormous. Aviation tragedies are not just technical accidents, but are human tragedies that have ripple effects in societies. Families want to know the truth not only to be compensated, but also to be morally closed/acknowledged about what happened wrong, who was to blame, why etc^{48,49}. Governments that are withholding black box data are depriving victims of this fundamental moral right⁵⁰. The justice no longer is participatory, it becomes paternalistic: the state goes on to decide what truth is safe to tell. The paternalism nature destroys the ethical basis of the very law that is based on transparency and responsibility^{51,52}.

Institutionally, the culture of confidentiality develops dependency and mistrust. In such nations as India, where it is necessary to use foreign help to decipher the black box data, the sovereignty over the evidence is virtually outsourced⁵³. This reliance causes logistic delays and subversiveness of home investigations. Additionally, the conflict of interests cannot be avoided when state agencies not only regulate airlines, but also investigate crashes^{54,55}. There can never be a referee to examine the irregularities within its self-regulation. In these situations,

⁴⁶ Tomasz Balcerzak, Investigation of Aviation Accidents in the Context of a Conflict of Interests between Law Enforcement, Insurers, the Commission on Aircraft Accident Investigation and Other Entities (2017),

⁴⁷ Mary D. Fan, Private Data, Public Safety: A Bounded Access Model of Disclosure (2015).

⁴⁸ Andrija Vidović, Andrea Franjic, Igor Stimac & Maja Ozmec Bana, The Importance of Flight Recorders in the Aircraft Accident Investigation (2022).

⁴⁹ Loraine Brown, Marina Efthymiou & Caroline McMullan, Recovering from a Major Aviation Disaster: The Airlines' Family Assistance Centre (2022).

⁵⁰ Tomasz Balcerzak, Alexandra Yarushina & Jan Rajchel, Is Safety Always Going to be More Important Than Privacy? (2023).<https://jaoam.com/index.php/jaoam/article/view/45>

⁵¹ Marieke de Hoon, Navigating the Legal Horizon: Lawyering the MH17 Disaster (2017), Utrecht Journal of International and European Law. <https://utrechtjournal.org/articles/ujiel.368>

⁵² Mary D. Fan, Private Data, Public Safety: A Bounded Access Model of Disclosure (2015).

⁵³ Dr. Sandeepa Bhat B., Air Carrier Liability for Passenger Death or Injury under the Carriage by Air Act, 1972 (2016).<http://docs.manupatra.in/newslines/articles/Upload/4A8DA709-4CB5-4D85-AAF7-0239A252CD47.pdf>

⁵⁴ Tomasz Balcerzak, Investigation of Aviation Accidents in the Context of a Conflict of Interests between Law Enforcement, Insurers, the Commission on Aircraft Accident Investigation and Other Entities (2017),

⁵⁵ Marcia Fajer & Frida Marina Fischer, Air Accident Investigation Among Regulatory Agencies (2012). <https://scispace.com/pdf/air-accident-investigation-among-regulatory-agencies-44azgedjdj.pdf>

confidentiality turns into not a cloak of truth, but a bunting of bureaucratic ineffectiveness and self-defence by the institution⁵⁶.

It is equally troubling in the judicial outcome. The absence of primary evidence to be used in the court can force judges to rely on secondary reports in order to render judgments on complicated aviation cases⁵⁷. Lacking technical skills and objective information, the judges tend to accept the investigative agencies, which strengthens the monopoly of the state on the truth. This dynamic undermines the separation of powers and courts are turned into passive observers of administrative findings, rather than adjudicators of fact. As observed in the Air India flight 171 litigation⁵⁸, judicial frustration exerts itself where the courts are supposed to give a verdict, having no access to any evidence. When accountability lacks transparency, the entire structure is destroyed.

The courtroom is not the only setting where the social and psychological effects are felt. Secrecy of investigations creates suspicions in the society. Families, journalists and communities start seeing the aviation industry as a place of privilege--unquestionable, unprotected by responsibility. This understanding undermines the belief in safety organizations⁵⁹. Every secret recording or omission in the reports is fuel to the culture of distrust, which, ironically, is potentially fatal as it demolishes the cooperation and trust that the industry depends on^{60,61}.

Policymaking wise, it is counterproductive to have an absolute confidentiality regime. Although it is meant to be a non-punitive approach to reporting, the fact is that when a secretive culture of reporting is in place, learning is usually stifled. Lessons that would help to avert future tragedies are still stored in secret archives. Silence cannot help in promoting safety. Transparency, when done in a responsible manner, increases mutual learning, generates innovation, and improves international cooperation. Balance between disclosure and protection

⁵⁶ Marieke de Hoon, *Navigating the Legal Horizon: Lawyering the MH17 Disaster* (2017), *Utrecht Journal of International and European Law*. <https://utrechtjournal.org/articles/ujiel.368>

⁵⁷ Van Stewart, *Privileged Communications? The Bright Line Rule in the Use of Cockpit Voice Recorder Tapes* (2003).

⁵⁸ Shashank Sharma & Bidisha Boruah, *Case Study on Air India Flight-171 Crash* (2025)

⁵⁹ Alpo Vuorio et al., *Duty of Notification and Aviation Safety – A Study of Fatal Aviation Accidents in the United States in 2015* (2018).

⁶⁰ Guy Walker, *Redefining the Incidents to Learn From: Safety Science Insights Acquired on the Journey from Black Boxes to Flight Data Monitoring* (2022)

⁶¹ Phyllis Kayten & Carol A. Roberts, *The Application of CVR and FDR Data in Human Performance Investigations* (2022)

would be through controlled disclosure mechanisms such as judicial access to confidentiality agreements and post-investigation data release.

The economic aspect of the impact of secrecy also exists. Disasters in aviation are related to colossal expenditures insurance, compensation, reputation loss, and regulatory restructuring⁶²⁶³⁶⁴. These costs are multiplied by delayed investigations and suit actions brought about by the concealment of data. Airlines have to suffer years of uncertainty; the families of victims have years in their lives of emotional and financial instability. By contrast, a clear system helps to solve issues more easily, through the fairness of settlement, as well as the public trust of the institutional justice⁶⁵.

Finally, the philosophical implication of the unchecked secrecy is the loss of justice as such. Being stopped as an instrument of truth, law becomes an instrument of control⁶⁶. When selective sharing of evidence takes place, the boundary between truth and narrative becomes blurred and justice is performed and not stated. Confidentiality must be revisited not as an end, but as a means, a temporary process, a means of ensuring integrity, but not as a barrier against truth⁶⁷⁶⁸.

Thus, this paper argues that aviation justice will thrive in the future through the adoption of limited transparency. This type of model would maintain the confidentiality of investigations as long as the inquiries are still active but would require disclosure at the time of closure especially in the case of the judiciary⁶⁹. The approach is consistent with the values of restorative

⁶² Mahmudul Hasan, *Reparation of Civil Aerial Accidents Under International Air Law: A Case Study of the 2020 Ukrainian Plane Accident in Iran (2024)*, DergiPark.<https://dergipark.org.tr/en/download/article-file/3844283>

⁶³ Nurul Alifah Jovita & Rosmawati, *Compensation and Absolute Liability Principle on the Case of Air Asia QZ 8501 Airplane Accident 2014 (2021)*, SJIL. <https://jim.usk.ac.id/SJIL/article/download/19278/8897>

⁶⁴ Riley M. Wagstaff, *Flight Path to Accountability: A Legal Comparison of Boeing's Shortcomings, Airbus's Successes, and International Aviation Safety Regulations (2025)*, 90 *J. Air L. & Com.* 177. <https://scholar.smu.edu/cgi/viewcontent.cgi?article=4274&context=jalc>

⁶⁵ J. Ramirez, *The Victims Compensation Fund: A Model for Future Mass Casualty Situations (2002)*, *Transportation Law Journal*. <https://digitalcommons.du.edu/cgi/viewcontent.cgi?article=1233&context=tlj> (+ John Goglia article referenced alongside)

⁶⁶ Mary D. Fan, *Private Data, Public Safety: A Bounded Access Model of Disclosure (2015)*. <https://scispace.com/pdf/private-data-public-safety-a-bounded-access-model-of-24jrwumc26.pdf>

⁶⁷ Marieke de Hoon, *Navigating the Legal Horizon: Lawyering the MH17 Disaster (2017)*, *Utrecht Journal of International and European Law*. <https://utrechtjournal.org/articles/ujiel.368>

⁶⁸ Tomasz Balcerzak, Alexandra Yarushina & Jan Rajchel, *Is Safety Always Going to be More Important Than Privacy? (2023)*. <https://jaoam.com/index.php/jaoam/article/view/45>

⁶⁹ ICAO, *Annex 13 to the Convention on International Civil Aviation: Aircraft Accident and Incident Investigation (11th ed., 2016)*.

justice: it admits the harm, discloses the truth and helps to heal⁷⁰.

In addition, the institution(s) independence should also be enhanced. The regulatory and political control over the accident investigation bodies should be separated⁷¹. The fine balance between safety and justice can only be handled by independent agencies which are mandated by law and are answerable to both the state and the citizens⁷²⁷³.

Lastly, the ethical transparency obligation should be stipulated in the international aviation law⁷⁴. The families of victims have the right to have truth, rather than a privilege. The withholding of information, in particular, one that extends misery is a secondary victimisation⁷⁵. Due to the globalisation and increasingly complicated technologisation of aviation, its legal regulations should be changed to a more humane, transparent and accountable one⁷⁶⁷⁷.

Conclusion

Black box confidentiality which was created to ensure safety has ended up being an obstacle to justice. It suppresses the truth in the name of precautions, makes victims unaccountable, and substitutes openness with manufactured stories. The Air India Flight 171 tragedy is one of those many sobering reminders of this imbalance--of silence, which, no matter how institutionalised, has its human cost. The existing international system, which is based on the ICAO Annex 13, Chicago Convention and local laws, has to change. Aviation law should not be destroyed through breaking the secrets, but should be redefined. Nondisclosure of information should not always be final, the safe-keeping should be accompanied with the involvement. A system that

⁷⁰ Loraine Brown, Marina Efthymiou & Caroline McMullan, *Recovering from a Major Aviation Disaster: The Airlines' Family Assistance Centre* (2022).

⁷¹ Gerald L. Dillingham, *Aviation Safety: Proposals to Enhance Aircraft Tracking and Flight Data Recovery May Aid Accident Investigation, but Challenges Remain* (2015), GAO. <https://www.gao.gov/assets/gao-15-443.pdf>

⁷² Tomasz Balcerzak, *Investigation of Aviation Accidents in the Context of a Conflict of Interests between Law Enforcement, Insurers, the Commission on Aircraft Accident Investigation and Other Entities* (2017)

⁷³ Marieke de Hoon, *Navigating the Legal Horizon: Lawyering the MH17 Disaster* (2017), *Utrecht Journal of International and European Law*.

⁷⁴ ICAO, *Annex 13 to the Convention on International Civil Aviation: Aircraft Accident and Incident Investigation* (11th ed., 2016).

⁷⁵ Loraine Brown, Marina Efthymiou & Caroline McMullan, *Recovering from a Major Aviation Disaster: The Airlines' Family Assistance Centre* (2022).

⁷⁶ Riley M. Wagstaff, *Flight Path to Accountability: A Legal Comparison of Boeing's Shortcomings, Airbus's Successes, and International Aviation Safety Regulations* (2025)

⁷⁷ W. Bradley Wendel, *Technological Solutions to Human Error and How They Can Kill You: Understanding the Boeing 737 Max Products Liability Litigation* (2019)

respects both the safety and the justice can be created with the help of controlled access to the judicial system, time-bound data disclosure, and independent investigative agencies. There is no way one can separate true aviation safety and accountability and no justice without truth. The black box as a representation of memory and evidence should not only be used to avoid crashes in the future, but also to make the past light. Aviation law can only fulfill its promise because of transparency which heals and does not hide but saves as well as enriches life in the air and dignity on the ground.