Legal Perspectives on The Protection of Passenger Data in International Carriage by Air

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Submitted in Partial Fulfillment of the

Requirements for the Degree of

Master of Laws

2024

Abstract

The global air transport industry relies heavily on data to enhance safety, security, and the overall travel experience while also addressing environmental and health issues. However, the critical transmission of passenger data for border security and counterterrorism purposes is complicated by inconsistent and sometimes contradictory national data protection regulations. These regulations are inadequately suited to the unique nature of international civil aviation, creating substantial challenges for governments and air carriers in terms of application and implementation. Airlines face conflicting legal obligations and operational restrictions, risking fines or even imprisonment for pilots. Most critically, this fragmentation of laws can lead to violations of fundamental human rights. Differing priorities of States concerning national security versus individual privacy, combined with a lack of transparency and non-compliance with the Annexes to the Chicago Convention, exacerbate these challenges. Additionally, ICAO's restricted mandate and enforcement powers hinder its effectiveness.

This thesis addresses these issues by evaluating existing measures, identifying key challenges, and proposing innovative solutions. It advocates for expanding ICAO’s mandate through customary international law and human rights frameworks and establishing consistent universal provisions for handling air passenger data in a dedicated Annex to the Chicago Convention. Public awareness and strategic partnerships with other organizations are recommended to increase transparency and generate compliance pressure from external actors. Furthermore, the thesis suggests transitioning the Chicago Convention to a reward-based compliance system, leveraging ICAO's influence to incentivize States with high compliance levels.

Through a comprehensive approach and actionable recommendations, this thesis aims to inspire decision-makers to move from merely addressing to actively strengthening the protection of passenger data in aviation. By offering a fresh perspective on international air law, it seeks to ensure that the industry can adapt to evolving technologies while maintaining regulatory coherence and safeguarding the protection of passenger data on a global scale.

Resumé

L'industrie mondiale du transport aérien repose fortement sur les données pour améliorer la sécurité, la sûreté et l'expérience globale des passagers, tout en abordant les enjeux environnementaux et de santé. Cependant, la transmission critique des données des passagers à des fins de sécurité aux frontières et de lutte contre le terrorisme est compliquée par des réglementations nationales en matière de protection des données, souvent incohérentes et parfois contradictoires. Ces réglementations sont mal adaptées à la nature unique de l'aviation civile internationale, créant des défis substantiels pour les gouvernements et les transporteurs aériens en termes d'application et de mise en œuvre. Les compagnies aériennes se trouvent face à des obligations légales conflictuelles, risquant des amendes, des restrictions opérationnelles, voire l'emprisonnement des pilotes. Plus gravement, cette fragmentation des lois peut entraîner des violations des droits fondamentaux de la personne. Les priorités divergentes des États concernant la sécurité nationale par rapport à la vie privée des individus, combinées à un manque de transparence et à la non-conformité aux Annexes de la Convention de Chicago, aggravent ces défis. De plus, le mandat restreint et les pouvoirs limités d'application de l'OACI réduisent son efficacité.

Cette thèse aborde ces questions en évaluant les mesures existantes, en identifiant les principaux défis et en proposant des solutions innovantes. Elle plaide pour l'élargissement du mandat de l'OACI à travers les cadres du droit international coutumier et des droits de l'homme, ainsi que pour l'établissement de dispositions universelles cohérentes pour la gestion des données des passagers aériens dans une Annexe dédiée. Une sensibilisation du public et des partenariats stratégiques avec d'autres organisations sont recommandés afin d'accroître la transparence et de générer une pression de conformité venant d'acteurs externes. De plus, la thèse propose de faire évoluer la Convention de Chicago vers un système de conformité basé sur la récompense, en tirant parti de l'influence de l'OACI pour inciter les États à atteindre des niveaux élevés de conformité.

Grâce à une approche globale et à des recommandations concrètes, cette thèse vise à inspirer les décideurs à passer d'une simple réponse aux problèmes à un renforcement actif de la protection des données des passagers dans l'aviation. En offrant une perspective nouvelle sur le droit aérien international, elle cherche à garantir que l'industrie puisse s'adapter aux technologies en évolution tout en maintenant la cohérence réglementaire et en protégeant les données des passagers à l'échelle mondiale.

Acknowledgements

First and foremost, my deepest gratitude goes to my family, whose unwavering support and unconditional love always is a constant source of strength, no matter where my journey takes me or what path I choose. I am deeply grateful to my supervisor, Professor Vincent Correia, for sharing his passion for air law and inspiring me to my next career steps within the aviation industry. His guidance and expertise have been invaluable in shaping this thesis from its inception to completion.

A special thanks goes to Sylvain Lefoyer, who has always taken the time to discuss ideas and share meaningful conversations about ICAO, my work and life in general. Your encouragement and wisdom have been greatly appreciated.

Lastly, I would like to acknowledge my dear friends Anna Tormen and Roenika Wiggins, who have shared this journey with me, writing their theses alongside mine, through all its ups and downs. Your companionship and belief in me have made all the difference.

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List of Abbreviations

API: Advance Passenger Information

CAEP: Committee on Aviation Environmental Protection

CBP: U.S. Customs and Border Protection

CJEU: Court of Justice of the European Union

CORSIA: Carbon Offsetting and Reduction Scheme for International Aviation

ECAC: European Civil Aviation Conference

ECHR: European Convention on Human Rights

EDPS: European Data Protection Supervisor

ETS: Emissions Trading System

FAA: Federal Aviation Administration

GDPR: General Data Protection Regulation

IATA: International Air Transport Association

ICAO: International Civil Aviation Organization

ICCPR: International Covenant on Civil and Political Rights

ICESCR: International Covenant on Economic, Social and Cultural Rights

OECD: Organisation for Economic Co-operation and Development

OHCHR: Office of the High Commissioner for Human Rights

PIU: Passenger Information Units

PNR: Passenger Name Record

SARPs: Standards and Recommended Practices

TEU: Treaty of the European Union

TSA: Transportation Security Administration

UDHR: Universal Declaration of Human Rights

UNCCT: United Nations Counter-Terrorism Centre

UNFCCC: United Nations Framework Convention on Climate Change

UNOCT: United Nations Office of Counter-Terrorism

USAP: Universal Safety Oversight Audit Programme

USOAP: Universal Safety Oversight Audit Programme

WTO: World Trade Organization

Chapter 1.

Introduction and Background

Air transport is a cornerstone of the global economy, creating employment opportunities, facilitating international trade, enabling tourism, and supporting sustainable global development. Within every 24 hours, more than 12 million passengers travel on over 128,000 flights linking 21,000 city pairs worldwide.[1] This air connectivity relies heavily on efficient data connectivity. The significance of this was underscored during the COVID-19 pandemic when governments rapidly imposed new requirements for individual health data and related personal information as part of public health measures.[2] Simultaneously, few industries are as politically sensitive and controversial as the air transport industry, with a diverse array of stakeholders, including commercial airlines, border control authorities, airports, ground handlers, and travel agencies competing over the collection and sharing of the personal data of passengers.

The complexities of managing data protection in international civil aviation emerged well before the COVID-19 pandemic. Before the events of 9/11, passenger data was mostly confined to its primary function: facilitating air travel reservations. This data was not systematically collected, and reservations could often be made with minimal information, such as a person's initials.[3] However, in the post-9/11 era, the U.S. Customs and Border Protection (CBP) recognized that processing passenger data could play a crucial role in preventing terrorists from entering the country. As a result, the CBP began demanding access to passenger data from international airlines, requiring it to be both accurate and comprehensive.[4] This data, known as Passenger Name Record (PNR), refers to the travel

[1] Air Transport Action Group, "Aviation Benefits Beyond Borders", online: https://aviationbenefits.org.

[2] International Civil Aviation Organization, Working Paper, Assembly 41st Session "A41-WP/73, Revision No. 1, 19/9/22, "International Carriage by Air and Data Protection Laws".

[3] Paul De Hert & Vagelis Papakonstantinou, "The PNR Agreement and Transatlantic anti-terrorism Cooperation: No firm human rights framework on either side of the Atlantic" (2009) 46:3 COLA 885–919 at 899.

[4] Kerianne Wilson, "Gone With the Wind? The Inherent Conflict between API/PNR and Privacy Rights in an Increasingly Security-Conscious World" (2016) 41:3 AILA 229–264 at 234.

record of an individual as maintained by airline and travel agency databases.[5] PNR data includes a wide range of personal information necessary for purchasing an airline ticket, such as the passenger's full name, date of birth, address, contact numbers, email, passport details, payment information, emergency contact details, special meal requirements, and seating preferences. The specific content of a PNR varies depending on the information provided by the passenger, with many fields remaining optional. Neither airlines nor travel agencies verify the accuracy of this data, and it often goes unchecked by the public authorities that receive it.[6] Today, each PNR entry could potentially contain up to 34 fields of personal information. The extensive collection of such data from each passenger is significant, especially when the data may be used for purposes beyond simply improving airline services. The creation of comprehensive databases with detailed personal information of this kind, including sensitive inferences about religion or health based on meal or seating preferences, raises substantial privacy concerns.[7]

Concurrently, various jurisdictions maintain data protection laws that regulate the collection, use, transmission, and retention of personal information. These data protection laws vary significantly across jurisdictions, despite the recommendation in Annex 9 of the Chicago Convention for States to adhere to ICAO Guidelines on PNR to achieve uniformity in the handling of such data.[8] While ensuring data privacy is crucial, the current patchwork of national data protection laws is often inconsistent and sometimes contradictory, posing significant challenges in terms of compliance and practical implementation for both governments and airlines. These difficulties are expected to intensify as governments increasingly adopt new technology and personal information

[5] International Civil Aviation Organization, *Guidelines on passenger name record (PNR) data*, 1st ed, Doc. 9944 (Montréal, Quebec: International Civil Aviation Organization, 2010), hereinafter "ICAO Guidelines on PNR" at 2.1.1.

[6] *Ibid* at 2.16.1.

[7] De Hert & Papakonstantinou, *supra* note 3 at 887.

[8] International Civil Aviation Organization, *supra* note 5.

requirements to improve border management, passenger facilitation, and security operations.[9]

The challenges have intensified as the number of States requiring PNR data has increased from 25 in 2018 to 69 by January 2024.[10] Currently, approximately 70% of ICAO Member States have enacted data protection laws.[11] However, these laws were not designed with the unique operational and regulatory characteristics of international civil aviation in mind. The increasing conflicts among national data protection laws and their extraterritorial reach are making it progressively harder for airlines to ascertain which legislation applies to a passenger's travel itinerary, which renders compliance exceedingly challenging. This fragmentation also hinders cooperation among domestic authorities focused on preventing and controlling terrorism and other serious crimes. If these inconsistencies are not addressed and concrete solutions are developed, there is a significant risk that the discrepancies will hinder the cohesive advancement of international civil aviation.

The central issue presented in this thesis underlines the intricate interplay between international air law and broader political and social developments. It underscores the reality that air law does not operate in a vacuum but is profoundly influenced by the dynamics of society at large. Moreover, air law is not an isolated field of law but intersects with various other legal categories. As Milde aptly articulates, "[w]hat is usually called 'air law' is but a conglomeration of different branches of the system of law - a comprehensive scientific specialization which combines the research in several fields of law; the so-called 'air law' cannot be considered an independent branch of the system of law."[12] This perspective highlights the necessity of understanding air law within the

[9] Working Paper FALP/13-WP/32, presented by the International Air Transport Association, "Tackling passenger name record (PNR) data challenges, and conflicts of data protection laws" at 1.1.

[10] *Ibid* at 1.1.

[11] Directors General of Civil Aviation-Middle East Region, Seventh Meeting (DGCA-MID/7), "Creation of a Multi-Disciplinary Group Under the ICAO Legal Committee to Review the Interaction Between National Data Protection Laws and International Carriage by Air", DGCA-MID/7 at p. 2.1.

[12] Michael Milde, "Conflicts of Laws in the Law of the Air" (1965) 11:3 McGill LJ 220 at 221.

broader legal and societal context, recognizing its multidisciplinary nature and the diverse legal principles it encompasses.

1.1. Data Protection and Privacy as Fundamental Human Rights

"When it comes to privacy and accountability, people always demand the former for themselves and the latter for everyone else."

- *DAVID BRIN.*

The conceptualization of privacy as a fundamental human right has a long-standing history, deeply embedded in various international legal frameworks.[13] Article 12 of the Universal Declaration of Human Rights (UDHR), proclaimed by the United Nations General Assembly in 1948, states that "no one shall be subjected to arbitrary interference with his privacy, family, home or correspondence, nor to attacks upon his honour and reputation".[14] Article 17 of the International Covenant on Civil and Political Rights (ICCPR) echoes this sentiment, emphasizing the protection of privacy as a universal human right.[15] The European Convention on Human Rights (ECHR),[16] and the American Convention on Human Rights,[17] also contain provisions safeguarding privacy. Despite these protections, defining privacy has proven complex. Scholars from various disciplines have grappled with the concept, leading to descriptions of privacy as "exasperatingly

[13] Olga Mironenko Enerstvedt, *Aviation Security, Privacy, Data Protection and Other Human Rights: Technologies and Legal Principles*, Law, Governance and Technology Series (Springer International Publishing, 2017) at 35.

[14] Universal Declaration of Human Rights adopted 10 December 1948.

[15] International Covenant on Civil and Political Rights adopted 16 December 1966.

[16] Article 8(1) of the European Convention of Human Rights, signed on 4 November 1950, provides that 'everyone has the right to respect for his private and family life, his home and his correspondence'.

[17] Article 11(2) of the American Convention of Human Rights, signed on 22 November 1969, holds that 'no one may be the object of arbitrary or abusive interference with his private life, his family, his home, or his correspondence...'.

vague",[18] "notoriously elastic",[19] "highly subjective",[20] and "culturally relative".[21] Yet, despite its elusive nature, privacy remains a right highly valued by societies globally, linked intrinsically to human dignity, autonomy, and personhood.[22]

In response to the rise of digital technologies making the collection and processing of personal data ubiquitous, particularly in the European Union (EU), the right to privacy has evolved into an additional, distinctive right to data protection.[23] Because of this, legal questions have emerged concerning the specific normative significance and practical effectiveness of this right, especially in the context of counter-terrorism measures. These measures required the establishment of new legal frameworks to safeguard the personal data of individuals from misuse and unauthorized access.[24] In the EU, Directive 95/46/EC (the Data Protection Directive) was a significant milestone in this regard, aiming to harmonize data protection laws across EU Member States and ensure the free flow of personal data within the EU while safeguarding the rights of individuals.[25] The Directive was replaced by the General Data Protection Regulation (GDPR) in 2018,[26] which reinforced these principles by stating that it protects "fundamental rights and freedoms of

[18] AR Miller, The Assault on Privacy: Computer, Data Banks, and Dossier (Ann Arbor, University of Michigan Press, 1973) at 12.

[19] H Delany and E Carolan, The Right to Privacy: A Doctrinal and Comparative Analysis (Dublin, Thompson Round Hall, 2008) at 4.

[20] J Bennett and C Raab, The Governance of Privacy: Policy Instruments in a Global Perspective, 2nd edn (Cambridge MA, MIT Press, 2006) at 8.

[21] AD Moore, Privacy Rights: Moral and Legal Foundations (University Park PA, The Pennsylvania State University Press, 2010) at 11.

[22] Maria Tzanou, *The fundamental right to data protection: normative value in the context of counter-terrorism surveillance*, paperback edition ed, Modern studies in European law volume 71 (Oxford London New York New Delhi Sydney: Hart Publishing, 2019) at 8.

[23] *Ibid* at 12.

[24] *Ibid* at 1.

[25] European Union, Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the Protection of Individuals with Regard to the Processing of Personal Data and on the Free Movement of Such Data, [1995] OJ L 281/31.

[26] European Union, Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the Protection of Natural Persons with regard to the Processing of Personal Data and on the Free Movement of such Data, and Repealing Directive 95/46/EC (General Data Protection Regulation), [2016] OJ L 119/1.

natural persons and in particular their right to the protection of personal data".[27] Data protection is also enshrined as a fundamental human right in Article 8 of the Charter of Fundamental Rights of the European Union (EUCFR), which enjoys the status of EU primary law under Article 6 (1) of the Treaty of the European Union (TEU).[28] The right to the protection of personal data includes requirements for the fair processing of data, the necessity of legitimate bases for processing, the right of access and rectification, and the oversight of independent authorities.[29] This elevation of data protection to a fundamental right underscores its importance beyond mere privacy concerns and reflects the need to address the challenges posed by modern technologies in a digital world.

Despite their close relationship, privacy and data protection are considered distinct rights within the European framework. The right to data protection is not merely redundant nor a subordinate component of privacy rights; it possesses unique legal and practical significance.[30] It extends beyond regulating the common market and commercial flows of personal data, also encompassing processing activities for law enforcement purposes. Recognizing data protection as a standalone right aligns better with the diverse constitutional traditions of EU Member States, such as Germany and France. In these countries, data protection is grounded in principles of liberty, dignity, and personality, going beyond the right to privacy alone.[31] Moreover, elevating data protection to a fundamental right serves the pragmatic purpose of ensuring that individuals are not only

[27] *Ibid*, Art 1(2). See also Art 1(1).

[28] Consolidated Version of the Treaty on European Union [2008] C326/15 (TEU), Art 6(1) TEU provides: 'The Union recognizes the rights, freedoms and principles set out in the Charter of Fundamental Rights of the European Union of 7 December 2000, as adapted at Strasbourg, on 12 December 2007, which shall have the same legal value as the Treaties.'

[29] See G González Fuster, The Emergence of Personal Data Protection as a Fundamental Right of the EU (Cham, Springer, 2014) at 4.

[30] See Joined Cases C-92/09 and C-93/09 Volker und Markus Schecke GbR (C-92/09), Hartmut Eifert (C-93/09) v Land Hessen (CJEU (GC), 9 November 2010) para 52.

[31] See for example Mironenko Enerstvedt, *supra* note 13, Tzano, *supra* note 22, and Elif Mendos Kuşkonmaz, *Privacy and Border Controls in the Fight against Terrorism: A Fundamental Rights Analysis of Passenger Data Sharing* (Brill | Nijhoff, 2021).

aware of this right but also understand their ability to enforce it, particularly given the fast-paced advancements in information and communication technologies.[32]

The threats posed by the widespread collection and use of personal data are not confined to Europe. The United Nations, through the work of its Human Rights Council and the Special Rapporteur on the right to privacy, has acknowledged the critical need for global frameworks that address the challenges of privacy in the digital age.[33] Several international instruments, such as the Council of Europe's Convention 108+,[34] and the African Union's Personal Data Protection Guidelines,[35] also underscore the global recognition of the importance of data protection as a human right.[36] The UN has expressed concerns over the expansion of State surveillance powers and the growing reliance on private sector data, which often occur without sufficient legal safeguards.[37]

Ultimately, privacy and data protection form an essential foundation for the realization of human rights in the digital age. As digital footprints grow and data processing technologies become more sophisticated, the need for robust legal frameworks, effective oversight, and accountability mechanisms becomes ever more urgent. Safeguarding these rights is not merely a matter of protecting individuals from data misuse but is essential for maintaining the integrity of democratic societies and ensuring that individuals can exercise their full range of human rights, free from unwarranted interference.

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[32] Tzano, *supra* note 22 at 21.

[33] United Nations Human Rights Council, *The right to privacy in the digital age*, UNGAOR, 39th Sess, UN Doc A/HRC/39/29 (2018) at 2.

[34] Council of Europe, *Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data, ETS 108, as amended by the Protocol amending the Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data*, CETS 223 (2018). This convention is open for accession by non-member States of the Council of Europe. Countries from Africa and Latin America (e.g. Uruguay, Mauritius and Tunisia) have acceded to or are in the process of acceding it, which reflects its broader global scope and influence.

[35] African Union, *African Union Convention on Cyber Security and Personal Data Protection*, 27 June 2014.

[36] United Nations Human Rights Council, *supra* note 33.

[37] United Nations Human Rights Council, *supra* note 33 at 3.

1.2. The Use of Passenger Data in Civil Aviation

Although the 9/11 attacks were the catalyst for the initial wave of enhanced aviation security measures, subsequent incidents have further shaped and intensified security developments in civil aviation. On December 22, 2001, an individual known as the ”shoe bomber” attempted to detonate explosives concealed in the heel of his shoes on a flight from Paris to Miami. This incident highlighted vulnerabilities in passenger screening processes and prompted States to implement rigorous shoe screening policies, significantly altering the protocols for inspecting passengers' footwear.[38] The Madrid train bombings in March 2004, orchestrated by an Al-Qaeda terrorist, resulted in nearly 200 fatalities and over 2000 injuries. This tragic event underscored the need for enhanced intelligence and data sharing. Consequently, the EU mandated the transfer of Advanced Passenger Information (API) by airlines to State authorities, aiming to improve pre-flight passenger vetting and identify potential threats more effectively.[39] Later the same year, two Chechen suicide bombers simultaneously committed attacks on two Russian aircraft, killing 90 people, which initiated the development of new screening technologies and improved explosive detection equipment. A 2006 plot involving an attempt to smuggle liquid explosives onto a flight between the United Kingdom (UK) and the U.S. led to the implementation of stringent regulations on the carriage of liquids in hand luggage. The year 2015 was marked by a series of catastrophic terrorist incidents, including the downing of a Russian aircraft due to an in-flight explosion and coordinated shootings and bombings in Paris. These events, killing hundreds of people, accelerated efforts within the European Union to adopt the PNR system, aimed to enhance the tracking and profiling of passengers to prevent future attacks.[40]

Against this background, it is easier to understand why national security regimes all around the world have changed and become stricter. Some of the measures, such as requiring passengers to take off their shoes or restrictions of liquid in carry-on luggage, present less impact on human rights. Other initiatives, however, such as increased use of

[38] Mironenko Enerstvedt, *supra* note 13 at 114.

[39] *Ibid* at 114.

[40] *Ibid* at 116.

personal data, imply considerably higher risks of interfering with human rights in a way that must be carefully considered.

In the context of international civil aviation, the use of passenger data involves two distinct relationships: operators to operators and operators to States. Understanding the dynamics of these relationships is crucial to addressing the challenges posed by data protection laws. The relationship between operators, primarily airlines and travel agencies, revolves around the efficient exchange of PNR data for operational and commercial purposes. This data is essential for facilitating travel reservations, managing passenger services, and ensuring operational efficiency.[41] Operators within the industry generally have aligned interests in handling PNR data, aiming to enhance customer experience and streamline operations. Their primary concern is to maintain data accuracy and integrity to support these objectives. While operators face challenges in data standardization and ensuring seamless integration across different systems, these issues are often technical and can be addressed through industry-wide standards and technological solutions. The International Air Transport Association (IATA) plays a significant role in developing guidelines and best practices to support operators in this aspect.[42]

As highlighted by the panellists of the Data Protection and International Carriage by Air Seminar held in Montreal on the 27th and 28th of September 2023, the more complex and problematic relationship lies between operators and States.[43] Unlike commercial exchanges, where operators typically collaborate to maintain operational efficiency, the transfer of PNR data to State authorities is governed by stricter legal frameworks due to sensitive national security and law enforcement activities. Operators, primarily airlines, must navigate a labyrinth of national data protection laws that vary significantly across

[41] Paul Von Nessen & Gary Heilbronn, "Airline and Aviation Industry Information Retention: Problems for Privacy Law Proposals on Data Breach Notification in Australia?" (2009) 34:4/5 AILA 261–284 at 265.

[42] *Ibid* at 267.

[43] Data Protection and International Carriage by Air Seminar, 27-28th of September 2023, Montreal, "Role of ICAO in enhancing awareness amongst regulators", online: https://www.icao.tv/data-protection-and-international-carriage-by-air-seminar.

jurisdictions. Several factors contribute to this complexity. First, States have developed their data protection laws based on their unique legal, cultural, and political contexts. This divergence leads to varying requirements for data handling, making it difficult for airlines to standardize their data protection practices. Differing priorities among States reflect broader philosophical differences in how States view the balance between national security and individual privacy.[44] Moreover, most data protection laws have extraterritorial provisions, meaning they apply to data processed outside their borders if it involves their citizens. This extraterritorial reach further complicates compliance for international airlines, as they simultaneously must navigate the legal requirements of multiple jurisdictions. For instance, an airline based in Asia but operating flights to Europe and the U.S. must ensure that its data practices comply with the European GDPR and the PNR Directive,[45] as well as with U.S. regulations and potentially other national laws, each with its own set of requirements and enforcement mechanisms.

The conflicting legal frameworks also lead to significant operational challenges for airlines. They must implement complex compliance programs to manage the various data protection requirements, often at considerable costs. Failure to comply with any of these regulations can result in severe penalties, including fines, operational restrictions, or even imprisonment for their personnel. This situation places airlines in a precarious position, balancing competing legal obligations while striving to maintain efficient and secure operations. Furthermore, the dynamic nature of data protection laws adds another layer of complexity. Laws and regulations continually evolve in response to technological advancements and emerging threats. Airlines must stay abreast of these changes and adjust their compliance strategies accordingly. This constant state of flux makes it difficult to establish stable and predictable data management practices, further exacerbating the operational compliance burden on operators.

[44] *Ibid.*

[45] European Parliament and Council, Directive (EU) 2016/681 of 27 April 2016 on the use of Passenger Name Record data for the prevention, detection, investigation, and prosecution of terrorist offenses and serious crime, OJ L 119 (2016) 132.

1.2.1. The Development of PNR Agreements

Faced with a dilemma of conflicting obligations, airlines within the EU coordinated with the European Commission to issue a statement supporting compliance with the requests from third countries. This resulted in protracted attempts to establish different PNR agreements between States to legalize the situation by fulfilling the "adequacy" criterion in European data protection.[46] According to Article 45 (1) of the GDPR, personal data transfer to a third country is permissible only if the country ensures an adequate level of protection, aiming to prevent personal information from leaving the EU without acceptable safeguards. This criterion has been applied by the EU in all data protection regulations concerning third countries and is relevant to both commercial and security data processing.[47] The adequacy assessment is determined by either Member States or the European Commission, considering various factors such as the nature of the data, the purpose and duration of processing, and the existing legal framework in the non-EU country.[48] For data processing due to security reasons, the same criterion is articulated in the Council of Europe Convention on Automatic Processing of Personal Data and its Additional Protocols, requiring that personal data transfers to non-party States or organizations are only allowed if those entities ensure adequate protection (Art. 2(1)).[49] Therefore, even after the European Court of Justice (ECJ) placed PNR data processing under the security regime, the adequacy requirement remains applicable, although the implementation procedure no longer adheres to the GDPR.[50]

The adequacy of data protection in third countries, as measured against EU standards, remains a contentious issue. In the commercial sphere, prolonged negotiations between the EU and the U.S. led to the Safe Harbor Principles, which aimed to affirm the adequacy of certain data processing practices to facilitate international commerce.[51] Thus,

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[46] De Hert & Papakonstantinou, *supra* note 3 at 899.

[47] General Data Protection Regulation, Article 45 and Recitals 103-107.

[48] *Ibid*.

[49] Council of Europe Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data (Convention 108), 28 January 1981.

[50] De Hert & Papakonstantinou, *supra* note 3 at 900.

[51] U.S. Department of Commerce, U.S.-EU Safe Harbor Framework (26 July 2000).

these principles only covered the transfer of PNR data from operators to operators, and not between operators and State authorities. The first PNR Agreement between the U.S. and the EU was signed separately in 2004, allowing European airlines to continue operating in the U.S. market while complying with U.S. data requirements for security purposes.[52] However, this agreement was invalidated by the ECJ in 2006 in a ruling that addressed legal concerns about the legal basis used to adopt the agreement.[53] This ruling required the EU and the U.S. to renegotiate the terms of the PNR data transfer under a new legal framework, leading to the second PNR agreement in 2007.[54] Although not invalidated by a court decision as the first agreement, the second PNR agreement faced criticism due to concerns about the adequacy of privacy safeguards and the broad scope of data collection and retention. Consequently, the PNR agreement between the EU and the U.S. was renegotiated to a third edition, which remains in effect today.[55]

In 2015, the ECJ invalidated the Safe Harbor framework in *Schrems v. Data Protection Commissioner* decision (*Schrems I*),[56] ruling that it did not adequately protect EU citizens' personal data from U.S. government surveillance, particularly in light of revelations about mass surveillance programs. Following the *Schrems I* ruling, the Safe Harbor framework was replaced by the EU-U.S. Privacy Shield in 2016,[57] which sought to address the shortcomings identified by the court. Interestingly, in July 2020, also the Privacy Shield was invalidated by the ECJ through *Schrems and Facebook Ireland*

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[52] Council of the European Union, *Agreement between the European Community and the United States of America on the Processing and Transfer of Passenger Name Record (PNR) Data by Air Carriers to the United States Department of Homeland Security*, Bureau of Customs and Border Protection, [2004] OJ L183/84 (28 May 2004).

[53] *European Parliament v. Council of the European Union and Commission of the European Communities*, Joined Cases C-317/04 and C-318/04, [2006] ECR I-4721.

[54] Council of the European Union, *Agreement between the European Union and the United States of America on the Processing and Transfer of Passenger Name Record (PNR) Data by Air Carriers to the United States Department of Homeland Security*, [2007] OJ L204/18 (23 July 2007).

[55] Council of the European Union, *Agreement between the European Union and the United States of America on the Use and Transfer of Passenger Name Record (PNR) Data to the United States Department of Homeland Security*, [2012] OJ L215/5 (26 July 2012).

[56] *Schrems v Data Protection Commissioner*, [2015] C-362/14, Court of Justice of the European Union.

[57] EU-U.S. Privacy Shield Framework (12 July 2016).

Limited v. Data Protection Commissioner decision (*Schrems II*),[58] based on similar grounds as the invalidation of the Safe Harbor framework. Although this ruling did not directly impact the PNR agreement, it raised doubts about whether the agreement would withstand judicial scrutiny if it were subjected to a thorough evaluation by the court today.[59]

Following the negotiations between the EU and the U.S., the EU has engaged in negotiations on similar agreements with other third countries, such as Japan,[60] the UK,[61] and South Korea.[62] The EU-Canada PNR agreement was one of the first subsequent PNR agreements between the EU and a third country.[63] Negotiations began in the mid-2000s, and the agreement was signed in 2005. Similar to the U.S. agreement, it faced scrutiny and legal challenges regarding its compatibility with EU fundamental rights. In 2017, the ECJ invalidated the agreement in *Opinion 1/15,* citing concerns over data protection standards and the lack of adequate safeguards for individuals' rights.[64] While acknowledging the necessity of combating terrorism, the ECJ concluded that the agreement violated the standards established in Articles 7 and 8 of the EU Charter of

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[58] *Data Protection Commissioner v Facebook Ireland Limited and Maximillian Schrems*, [2020] C-311/18, Court of Justice of the European Union.

[59] Elif Mendos Kuşkonmaz, Privacy and Border Controls in the Fight against Terrorism: A Fundamental Rights Analysis of Passenger Data Sharing (Brill | Nijhoff, 2021).

[60] See the Recommendation for Council Decision to authorize negotiations for an Agreement between the European Union and Japan for the transfer and use of Passenger Name Record (PNR) data at https://ec.europa.eu/commission/presscorner/detail/en/IP_19_5872, and the press release "European Commission adopts adequacy decision on Japan, creating the world's largest area of safe data flows" at https://ec.europa.eu/commission/presscorner/detail/en/ip_19_421.

[61] Trade and Cooperation Agreement between the European Union and the United Kingdom of Great Britain and Northern Ireland, 24 December 2020, [2020] OJ L 444, 14.

[62] *Proposal for a Council Decision on the signing, on behalf of the European Union, of an agreement between Canada and the European Union on the transfer and processing of Passenger Name Record (PNR) data*, 4th of March 2024, COM(2024) 94 final, available online: eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52024PC0094.

[63] *Agreement between the European Community and the Government of Canada on the processing of Advance Passenger Information and Passenger Name Record Data, EU-Canada*, 3 June 2005, OJ L 91, 29.3.2006.

[64] Court of Justice of the European Union, *Opinion 1/15*, EU: Court of Justice, 26 July 2017, online: http://curia.europa.eu/juris/document/document.jsf?text=&docid=193406&pageIndex=0&doclang=EN&mode=req&dir=&occ=first&part=1&cid=247518.

Fundamental Rights.[65] Referring to its previous case law, most notably the *Schrems* cases, the Court emphasized that the transfer of personal data constitutes an interference with the fundamental right to data protection and privacy, which can only be justified under stringent conditions of necessity and proportionality.

After the invalidation by the ECJ, negotiations have persisted and only on March 4, 2024, the European Commission issued two proposals for Council Decisions regarding the signing and conclusion of a new Agreement between Canada and the EU on the transfer and processing of PNR data.[66] Following these proposals, the European Data Protection Supervisor (EDPS) issued on the 29th of April 2024 "Opinion 15/2024 on the signing and conclusion of an Agreement between the EU and Canada on the transfer of Passenger Name Data",[67] providing a thorough set of recommendations aimed at ensuring the PNR Agreement aligns with the jurisprudence of the ECJ. The analysis reveals a strong emphasis on limiting data retention, restricting the use of PNR data to specific purposes, ensuring exceptional access is justified, and maintaining robust oversight through joint reviews.

Although PNR agreements include privacy guarantees and safeguards, they progress slowly and their adequacy in practice is debatable. As illustrated by *Opinion 1/15*, though still in force, concerns are indicating that the EU-U.S. agreement could be deemed illegal if re-evaluated today.[68] Furthermore, the European PNR Directive has been accused of not consistently complying with the EU's own data protection principles.[69] This raises questions about the feasibility of providing sufficient safeguards and whether strict data

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[65] Charter of Fundamental Rights of the European Union (7 December 2000).

[66] COM (2024) 94 final and COM (2024) 95 final.

[67] European Data Protection Supervisor, "Opinion 15/2024 on the signing and conclusion of an Agreement between the EU and Canada on the transfer of Passenger Name data", online: https://www.edps.europa.eu/data-protection/our-work/publications/opinions/2024-04-29-edps-opinion-152024-signing-and-conclusion-agreement-between-eu-and-canada-transfer-passenger-name-record-pnr-data_en.

[68] Especially since the Court's decision indicated that storing PNR data of all air passengers beyond six months is not strictly necessary, conflicting with the 2012 US-EU PNR agreement's provision that allows the Department of Homeland Security to retain PNR data for up to five years, with depersonalization after six months (2012 US-EU PNR Agreement, at 565).

[69] Brendan Lord, "The Protection of Personal Data in International Civil Aviation: The Transatlantic Clash of Opinions" (2019) 44:3 AILA 261–274.

protection requirements are realistic.[70] As Tukdi (2008) very encapsulating points out; "[a]lthough in some respects the EU-U.S. PNR conflict illustrates that the prevailing socio-political climate tolerates trading privacy rights for promises of increased national security, it simultaneously demonstrates that arriving at a cross-cultural agreement that strikes precisely the appropriate balance between both interests is an extremely complex undertaking".[71]

1.2.2. The Security Versus Privacy Dilemma

The EU and the U.S. are perhaps the most prominent examples of divergent approaches to balancing national security interests with individual privacy, each shaping global discourse and practices in significant ways. Their policies not only set benchmarks within their territories but also exert a profound extraterritorial impact on cross-border data flows and compliance standards.

U.S. privacy laws and Europe's GDPR are complete opposites in terms of scope, ambition, and underlying philosophy. In the U.S., consumer privacy law is framed around the concept of privacy as a commodity, driven significantly by the aim to cultivate an innovative environment for American businesses.[72] In Europe, the conceptual and regulatory balance is reversed. Privacy and data protection are viewed as fundamental human rights, leading to comprehensive legal protections that prioritize safeguarding individual rights over facilitating compliance for companies.[73] Thus, the GDPR's ambitious protection of individual rights, stringent prohibitions, effective enforcement mechanisms, and broad applicability stands in sharp contrast to the fragmented U.S. approach that prioritizes facilitating commerce and national security over safeguarding individual privacy.[74]

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[70] Mironenko Enerstvedt, *supra* note 13 at 401.

[71] Irfan Tukdi, "Transatlantic Turbulence: The Passenger Name Record Conflict" (2008) 45:2 Hous L Rev 587 at 620.

[72] Lindsey Barrett, "Confiding in Con Men: U.S. Privacy Law, the GDPR, and Information Fiduciaries" (2018) 42:3 Seattle U L Rev 1057–1114 at 1059.

[73] *Ibid* at 1060.

[74] *Ibid* at 1057.

However, the EU's approach in the security versus privacy debate is not purely one-sided. Adopted in April 2016, the Passenger Name Record (PNR) Directive aims to enhance security by facilitating the collection, use, and exchange of passenger data for the prevention, detection, investigation, and prosecution of terrorist offences and serious crimes.[75] The PNR Directive requires airlines operating flights to and from the EU to transmit PNR data to the national authorities of EU Member States, known as Passenger Information Units (PIUs). It further mandates this data to be retained for a period of five years, with certain measures in place to protect passengers' privacy, such as anonymization after six months.[76] While Article 12 of the PNR Directive ensures that the processing of PNR data adheres to data protection regulations, including the GDPR, it has sparked debate about its alignment with European privacy standards due to the mass collection of data and the potential for misuse.[77] Its implementation raises complex issues related to data protection, legal harmonization, and the extraterritorial impact of European regulations on non-EU airlines and passengers.

The data protection framework governing air passengers in the U.S. is a complex amalgamation of general data protection laws and sector-specific regulations. Key regulations include those from the Federal Aviation Administration (FAA) and Transportation Security Administration (TSA), as well as broader laws such as the Privacy Act of 1974,[78] the Homeland Security Act,[79] and the Electronic Communications Privacy Act (ECPA).[80] These regulations collectively address various aspects of data protection and privacy, although not specifically for the aviation sector. However, the

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[75] See the preamble to Directive (EU) 2016/681 of the European Parliament and of the Council of 27 April 2016 on the use of Passenger Name Record (PNR) data for the prevention, detection, investigation, and prosecution of terrorist offenses and serious crime, [2016] OJ L 119/132.

[76] *Ibid*, Article 8.

[77] See for example Elisa Orrù,'The European PNR Directive as an Instance of Pre-emptive, Risk-based Algorithmic Security and Its Implications for the Regulatory Framework 1 (2022) 131 – 146, Sara Roda, "Shortcomings of the Passenger Name Record Directive in Light of Opinion 1/15 of the Court of Justice of the European Union" (2020) 6:1 European Data Protection Law Review 66–83, and Maria Tzanou, "The fundamental right to data protection: normative value in the context of counter-terrorism surveillance", Modern studies in European law volume 71 (2019).

[78] Privacy Act of 1974, Pub. L. No. 93-579, 88 Stat. 1896 (1974).

[79] Homeland Security Act of 2002, Pub. L. No. 107-296, 116 Stat. 2135 (2002).

[80] Electronic Communications Privacy Act of 1986, Pub. L. No. 99-508, 100 Stat. 1848 (1986).

U.S. legal system does not guarantee a general right to individual privacy. Instead, privacy rights are either explicitly granted for specific situations or inferred through other legal sources, such as Supreme Court rulings.[81]

In recent years, there has been a growing call for more comprehensive federal privacy and data protection legislation in the U.S., driven in part by concerns over the adequacy of existing laws in addressing the complexities of modern data usage and cross-border data flows. [82] In response, the House Energy and Commerce Committee approved the American Data Privacy and Protection Act in July 2022.[83] Although the future of this legislation in the new Congress remains uncertain, its introduction represents a shift away from the U.S. historically one-sided emphasis on national security and commercial interests and signals a growing recognition of the need for stronger privacy protections on this side of the Atlantic as well.

Against this background, the EU and the U.S., as representatives of opposing regulatory philosophies, illustrate the broader global challenge of reconciling differing priorities in data protection. Their stark contrasts demonstrate the need for a coordinated international framework to address the inherent conflicts and inconsistencies in cross-border data governance.

1.2.3. A Scholarly Outlook

The debate surrounding the exchange of PNR data underscores the significant challenges posed by fragmented legal frameworks, driven by differing perspectives on security and privacy. Human rights scholars, such as Tzanou (2019), argue that data protection should be viewed as a distinct right, offering a comprehensive framework for the fair processing of personal data that goes beyond merely protecting privacy.[84] She highlights that despite its recognition in various judgments from the European Court of Human Rights (ECtHR)

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[81] De Hert & Papakonstantinou, *supra* note 3 at 892.

[82] Gina Marie Stevens, "Privacy: Total Information Awareness Programs and Related Information Access, Collection, and Protection Laws" at 5-6.

[83] American Data Privacy Protection Act, H.R. 8152, 117th Cong. (2022).

[84] Tzanou, supra note 22.

and the CJEU, confusion about the scope and content of data protection hampers its functionality. This ambiguity leads to inconsistent applications and enforcement across jurisdictions, even within the EU, which undermines the effectiveness of data protection laws.[85] This view aligns with Mendes de Leon (2017), who points out that the way PNR data can reveal sensitive information such as travel habits, financial status, and personal relationships, poses a privacy risk so significant it could probably not be justified by any public interests from a human right law perspective.[86]

Another important aspect highlighted by scholars such as Lord (2019),[87] Smith (1998),[88] and Wojnowska-Radzińska (2023),[89] is the issue of wrongful profiling of passengers. PNR data can be used for profiling in various ways: *reactively* (for investigations and prosecutions after a crime has occurred), in *real-time* (to prevent crimes by monitoring or arresting individuals before a crime is committed), and *proactively* (for analyzing data and creating criteria to assess passengers before they travel).[90] This practice is controversial because it operates as a form of mass surveillance, treating every passenger as a potential suspect until proven otherwise. Hert and Papakonstantinou (2015) emphasize the crucial need for efficient legal redress mechanisms for individuals affected by unlawful profiling, a gap that persists in both European and less stringent data protection frameworks.[91]

Conversely, security proponents emphasize the necessity of PNR data for identifying and preventing security threats. Wilson (2016) addresses the issue from a different perspective, highlighting that the aviation industry is driven by commercial interests

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[85] *Ibid* at 197.

[86] Pablo Mendes de Leon, *Introduction to Air Law*, 11th ed, Aerospace Law and Policy Series (Kluwer Law International B.V, 2022).

[87] Lord, s*upra* note 68.

[88] Donna Smith, ”Passenger Profiling: A Greater Terror Than Terrorism Itself” (1998) 32:1 J Marshall L Rev 167.

[89] Julia Wojnowska-Radzińska, *Implications of Pre-emptive Data Surveillance for Fundamental Rights in the European Union* (Brill | Nijhoff, 2023).

[90] See the EU PNR Directive proposal at p. 3.

[91] Paul Hert & Vagelis Papakonstantinou, “Repeating the Mistakes of the Past Will Do Little Good for Air Passengers in the EU: The Comeback of the EU PNR Directive and a Lawyer’s Duty to Regulate Profiling” (2015) 6:2 New Journal of European Criminal Law 160–165.

which inevitably leads to a prioritization of operational efficiency over privacy concerns: "[t]he global aviation industry is first and foremost a business environment: if Swiss Air's business model is made more successful and profitable by providing passenger data to Russia, then that is what Swiss Air will choose to do. Political concerns must always take into consideration this basic truth of the aviation industry".[92] She further notes that PNR data can be valuable for tracking individuals not already identified by security authorities, illustrating the broader utility of PNR data for governmental agencies despite privacy concerns. This pragmatic and business-oriented perspective is shared by McWhinney (1987), who notes that the doctrine of safeguarding public safety often necessitates broad-brush infringements on individual liberties to prevent acts that threaten social stability.[93]

The privacy versus security dilemma has also caught the attention of the organizations of the industry and has been discussed by ICAO and the International Air Transport Association (hereinafter "IATA") in different formats on several occasions.[94] Both the Facilitation Panel, the Legal Committee, and the Assembly of ICAO, as well as high-level panellists on relevant seminars and events seem to agree that the issues stemming from this dilemma are growing and, if unaddressed, have the potential to "adversely affect connectivity and the development of international civil aviation between States".[95] The Report to the Assembly on the Executive Committee in 2022 noted that: "[m]any delegates agreed that complex conflict of laws and legal compliance issues are broader

[92] Wilson, *supra* note 4 at 262.

[93] Edward McWhinney, *Aerial piracy and international terrorism: The illegal diversion of aircraft and international law*, 2nd ed, International studies on terrorism (Martinus Nijhoff; Extenza Turpin, 1987).

[94] The issue has been discussed in the Facilitation Panel FALP/13-WP/32 "Tackling Passenger Name Record (PNR) Data Challenges, and Conflicts of Data Protection Laws" and FALP/13-WP/6 "UNOCT/ICAO Collaborative Work on the Implementation of Advance Passenger Information and Passenger Name Record and Proposals for Additional Capacity Building", in the Legal Committee LC/38-WP/7-1 "Privacy Laws and International Carriage by Air", LC/39-WP/6-3 "International Carriage by Air and Data Protection Laws", in the Assembly A41-WP/73 "International Carriage by Air and Data Protection Laws", the Executive Committee in "ICAO Doc 10183 Executive Committee Report of the 41st Assembly", paragraph 13.26, and at different seminars and events.

[95] International Civil Aviation Organization, Doc LC/39-WP/6-3 "International Carriage by Air and Data Protection Laws" at 1.

than the provisions of Annex 9 - *Facilitation* and would need to be addressed".[96] IATA, like Wilson (2017), further emphasizes the importance of commercial feasibility in data protection and privacy regulations. In Working Papers presented in several ICAO Committee meetings and panel debates, IATA argues that while privacy and data protection are crucial, aviation realities necessitate practical and economical implementation of these responsibilities. This viewpoint reflects a broader industry trend where regulatory compliance must be balanced with economic sustainability, highlighting the need for regulations that are both effective and operationally feasible.[97]

As Wilson (2017) illustrates, PNR requests are unlikely to decrease and are expected to grow in both frequency and complexity, resulting in higher costs for air carriers unless efforts toward harmonization are made.[98] While several scholars propose a comprehensive multilateral agreement to standardize global processes and requirements to foster a unified approach that balances security needs and privacy concerns,[99] several factors undermine the feasibility of this initiative. As noted by Kobrin (2001), one factor that complicates the establishment of a multilateral agreement on PNR data transfers is that "protection of the privacy of name-linked data is a[n] ... issue characterized by sharp cross-national differences in basic beliefs and approaches".[100] Another obstacle that might hinder the creation of a multilateral solution to the PNR debate is that formalizing and ratifying multilateral accords is often a lengthy and disputatious process.[101] Rightly so remarked by Tukdi (2008), "[t]he length and intensity of the bilateral EU-U.S. debate

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[96] International Civil Aviation Organization, Doc 10183 "Executive Committee Report of the 41st Assembly", (2022), paragraph 13.26.

[97] International Civil Aviation Organization Legal Committee, Doc LC/38-WP/7-1 "Privacy Laws and International Carriage by Air", Doc LC/39-WP/6-3 "International Carriage by Air and Data Protection Laws".

[98] Wilson, *supra* note 4.

[99] See for example Nicole Lazzerini & Elena Carpanelli, "PNR: Passenger Name Record, Problems Not Resolved? The EU PNR Conundrum After Opinion 1/15 of the CJEU" (2017) 42:4/5 AILA 377–402 and Irfan Tukdi, "Transatlantic Turbulence: The Passenger Name Record Conflict" (2008) 45:2 Hous L Rev 587.

[100] Stephen J. Kobrin, "Territoriality and the Governance of Cyberspace" (2001) 32:4 J Int Bus Stud 687–704 at 687, 699.

[101] See Oran R Young, *Creating Regimes: Arctic Accords and International Governance* (Ithaca, NY: Cornell University Press, 1998), explaining the time-consuming process of international treaty ratification.

over PNR data disclosures clearly illustrates the difficulty of striking even a bilateral balance".[102] Forming a multilateral agreement would be far more difficult due to the increased number of issues related to government access and privacy that would need to be resolved, not to mention the inherent difficulty of reconciling the differing views of numerous States. This type of agreement risks failure, similar to previous multilateral privacy agreements, by becoming overly broad and lacking enforceability.[103] While some advocate for stronger data protection measures such as anonymizing data, using secure transmission protocols, and conducting regular data protection impact assessments,[104] these kinds of measures are unlikely to be consensually approved in the international arena.[105]

From a more practical standpoint, Mironenko Enersvedt (2017) advocates for a mix of general technology-neutral regulations and technology-specific regulations, including industry-developed instruments such as Codes of Practice, to acknowledge the dynamic nature of technology and the need for adaptable regulatory frameworks that can keep pace with technological advancements.[106] She further argues that ICAO should take a more active role in creating an international legal framework for data protection in aviation. This perspective is shared by Lord (2019), who emphasizes the need for further development of guidelines to provide a robust legal framework aligning with modern data protection principles. He further suggests that ICAO could use *Opinion 1/15* of the CJEU as a rubric for drafting precise and effective guidelines.[107]

The consensus among scholars seems to be that, regardless of the proposed solutions, all approaches necessitate the implementation of a more robust legal framework. While it might be true that current provisions governing the handling of passenger data are

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[102] Tukdi, *supra* note 70 at 613.

[103] See e.g. Michael J. Gilligan & Nicole Simonelli, "International Multilateral Agreement Negotiations" (Oct. 13, 2006) (unpublished paper presented to the 2006 Shambaugh Conference), online: http://www.saramitchell.org/GilliganSimonelli.pdf.

[104] De Hert & Papakonstantinou, *supra* note 3.

[105] Lord, *supra* note 69.

[106] Mironenko Enerstvedt, *supra* note 13 at 399.

[107] Lord, *supra* note 69.

inadequate, it is important to acknowledge that the recent amendments to the Standards and Recommended Practises (SARPs) on PNR in Annex 9, coupled with the provisions in ICAO's Guidelines on PNR, already establish a comprehensive framework designed to ensure adequate protection of passenger data. Therefore, the issue now appears to be less about the lack of guidance or legislative frameworks and more about other factors, such as the legal value of existing instruments and ICAO's limited mandate and enforcement powers, leading to low compliance rates with the already existing PNR provisions. These issues will be discussed in more detail in Chapter 2.

1.3. The Role of ICAO

ICAO is the specialized agency of the United Nations (UN) that handles issues of international civil aviation, established by the Convention on International Civil Aviation signed in Chicago on December 7, 1944 (the Chicago Convention).[108] The status of ICAO as a specialized agency of the UN is based on the Agreement between the UN and ICAO dated May 13, 1947, making the Organization a part of the UN family.[109] This status involves a number of formal obligations and implies close working relations with the UN and its other Specialized Agencies.[110] One of the overarching objectives of ICAO, as contained in Article 43 of the Chicago Convention, is to foster the planning and development of international air transport so as to "meet the needs of the peoples for safe, regular, efficient and economical air transport".

The obligation of all States to develop their capability to collect, process, and analyze PNR data was made in the United Nations Security Council Resolution (UNSCR) 2396.[111] Additionally, the resolution called on ICAO to work with its Member States to create standards for the management of PNR data. In response, ICAO established a PNR

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[108] Convention on International Civil Aviation, 7 December 1944, 15 UNTS 295 (entered into force 4 April 1947).

[109] International Civil Aviation Organization, Doc 7970; 8 *UNTS* et seq., 324 (1947); see ICAO Resolution A1-2: *Approval of the Agreement with the United Nations*; and A2-24: *Relations with the United Nations*, ICAO Doc- 9796.

[110] Ludwig Weber, *International Civil Aviation Organization (ICAO)*, third ed (Kluwer Law International B.V, 2017) at 130.

[111] United Nations Security Council, UNSC Res 2396, UN Doc S/RES/2396 (2017).

Task Force, which formulated a set of PNR SARPs that were put into Chapter 9 of Annex 9 - *Facilitation* to the Chicago Convention. These SARPs were approved at the Eleventh Meeting of the Facilitation Panel (FALP/11) in January 2020 and came into effect in February 2021.[112]

The issue of handling passenger data was brought to light by ICAO more than a decade before the provisions were put into an Annex. Questions regarding the collection of PNR data were first raised in ICAO at the Twelfth Session of the Facilitation Division already in April 2004.[113] The Division adopted Recommendation B/5, which commended ICAO "to develop guidance material for States that may require access to PNR data to supplement identification data received through an API system, including guidelines for distribution, use, and storage of data and a composite list of data elements [that] may be transferred between the operator and the receiving State".[114] Following this recommendation, ICAO put together a comprehensive document of provisions, known as Guidelines on Passenger Name Record Data (the PNR Guidelines"), which was published in 2010.[115]

The development of new PNR SARPs and ICAO's PNR Guidelines marked a significant step towards addressing the growing concerns surrounding the collection and use of passenger data. However, while these provisions offered a foundational framework for States and operators, they did not fully resolve the broader complexities associated with data protection in international aviation, as will be discussed more in detail below. Beyond the technical aspects of data collection and the establishment of uniform practices, it is the divergence in national data protection laws and the inconsistencies in how States interpret and enforce these laws that are the major issues.

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[112] International Civil Aviation Organization, Facilitation Panel (2024), Working Paper presented by International Air Transport Association "Tackling passenger name record (pnr) data challenges, and conflicts of data protection laws", Doc FALP/13-WP/32 at 2.

[113] International Civil Aviation Organization, "Facilitation (FAL) Division – Twelfth Session", Report Doc FAL/12-WP/118.

[114] *Ibid* at 2.4:17.

[115] International Civil Aviation Organization, *supra* note 5.

As airlines and other aviation operators must comply with the data protection laws of each State in which they operate, the aviation industry itself cannot resolve the inconsistencies arising from the discrepancies between these laws. Given that the root of the problem lies in the different data protection standards among States, the solution must also be State-driven.[116] To address these issues effectively, States need to work together to create standardized data protection provisions for civil aviation that all Member States can adopt. ICAO represents the most appropriate platform for facilitating this State-level interaction and negotiation, as it provides the international legal framework necessary for such cooperation. Only through State-level interaction and negotiation can the aviation industry achieve the regulatory coherence necessary for protecting passenger data on a global scale.[117]

1.3.1. ICAO's Mandate

The general mandate of ICAO is outlined under Article 37 of the Chicago Convention, which states that the organization shall adopt and amend international standards and practices dealing with issues mentioned in the Article, such as air navigation aids and airworthiness of aircraft. The last sentence of Article 37 broadens the scope, although not in a very clarifying way, by also giving ICAO the authority to handle "other matters concerned with the safety, regularity, and efficiency of air navigation as may from time to time appear appropriate".

Several articles within the Chicago Convention collectively establish a clear legal basis for ICAO's regulatory authority of the *facilitation* of the transfer of passenger data, such as Article 13 (conferring sovereignty to States over their territories, implicitly supporting the regulation of data transfers within these jurisdictions), Article 22 (imposing an obligation on States to facilitate civil aviation, which encompasses the efficient and secure handling of passenger data), and Article 29 (mandating carriers to maintain and carry passenger lists, effectively defining the concept of passenger information within the treaty). However, these articles do not establish an explicit legal basis for ICAO to

[116] International Civil Aviation Organization, *supra* note 43.

[117] *Ibid.*

regulate the handling of passenger data beyond border management, security and operational purposes and do not encompass the broader domain of privacy or data protection regulations. Privacy concerns, although intrinsically linked to the handling of passenger data, have historically been considered to fall outside the scope of ICAO's primary mandate and therefore been governed by national and international privacy laws and regulations.[118]

Several legal principles are relevant to take into consideration in this context. The principle of specialty is fundamental to the operation of international organizations, emphasizing that while States retain full sovereignty and discretion to regulate within their territories, international organizations are limited in scope. International organizations do not possess inherent sovereignty; instead, their authority is derived from the powers explicitly delegated to them by Member States.[119] Consequently, these organizations must operate strictly within the boundaries of the competence assigned to them, focusing exclusively on the objectives for which they were established, to not be considered to act *ultra vires*.[120] However, ICAO's authority is not solely derived from the universality of its contracting States, but it also stems from the powers explicitly granted to it by those States. The doctrine of attribution of powers originates from the intentions of the founders, and in the case of ICAO, these powers were attributed by its member States when it was established as an international technical organization and a permanent civil aviation agency to administer the Chicago Convention.[121]

Article 44 of the Chicago Convention outlines the aims and objectives of ICAO "to develop the principles and techniques of international air navigation and to foster the planning and development of international air transport", underscoring the legislative, administrative, and investigative functions of the organization within the areas it is given competence. ICAO may also claim what is referred to as "inherent powers", allowing it to perform any

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[118] *Ibid.*

[119] Christiane Ahlborn, "The Rules of International Organizations and the Law of International Responsibility" (2011) 8:2 Int Organ Law Rev 397–482 at 421.

[120] Ruwantissa Abeyratne, "Aviation Security Audits" in *Aviation Security Law* (Berlin, Heidelberg: Springer Berlin Heidelberg, 2010) 265 at 273.

[121] *Ibid.*

actions necessary to achieve these objectives.[122] These powers are not tied to a specific source of authority but are inherent in ICAO's status as an international organization. The inherent powers doctrine offers significant advantages, both by allowing the organization to pursue its objectives without being constrained by strict legal formalities and by releasing the organization from legal limitations that might otherwise hinder its ability to fulfill its goals.[123] Therefore, as long as actions are not explicitly prohibited by ICAO's founding document, the Chicago Convention, they are considered legally valid.

ICAO must however be vigilant in ensuring that its regulatory activities remain firmly within its designated scope. This requires a careful delineation of its role to avoid unintentionally overstepping into areas such as privacy regulation, which may fall outside of its specialized jurisdiction without a clear legal basis.[124] This delineation is vital to maintaining the focus of ICAO's work on issues directly related to international civil aviation and upholding the organization's credibility and legitimacy in the eyes of its Member States.

1.3.2. ICAO's Legislative Powers

The Chicago Convention established a special rule-making procedure for adopting SARPs to achieve uniformity in international air law. Article 37 of the Chicago Convention allows the 36 States that constitute the ICAO Council to adopt binding standards and non-binding recommended practices for air navigation, which are incorporated into the 19 Annexes of the Convention. While States are generally expected to adhere to these standards, they have the option to file a difference under Article 38 if they choose not to comply. Granting legislative power to only a select group of contracting States is a unique feature of ICAO, likely influenced by the fact that the Convention was drafted before the establishment of the United Nations Charter.[125] This distribution of legislative authority within ICAO stems

[122] *Ibid.*

[123] *Ibid* at 274.

[124] Michael Gill in "Data Protection and International Carriage by Air Seminar", 27-28th of September 2023, Montréal, *supra* note 43.

[125] Bin Cheng, "Centrifugal Tendencies in Air Law" (1957) 10:1 Current Leg Probs 200 at 204.

from the geopolitical realities of the time, where major aviation powers held significant influence, and the concept of universal participation in global decision-making had not yet fully evolved. Consequently, ICAO's governance framework remains distinctive, shaped by the early stages of multilateralism in international civil aviation.[126]

The legal value of recommended practices is inherently understood as non-binding guidance. However, ICAO's special rule-making process has fueled ongoing debates about the binding nature of its standards. This discussion is particularly relevant in light of Article 54(1), which specifies that Annexes are included for convenience, emphasizing that they do not hold the same binding authority as the Convention itself under international law.[127] Under Article 37, contracting States are only committed to achieving the *highest practicable* uniformity in the regulations, standards, and procedures adopted by ICAO. What degree is considered practicable is judged by each State. However, the wording of the Chicago Convention implies that a State agrees to ICAO standards unless it explicitly files a notification of difference, and that non-compliance without such notification is not permitted. Article 33 reinforces the obligation of compliance by requiring States to recognize certificates of airworthiness and competency from other States, provided they meet ICAO's minimum standards. Under Article 12, States must comply with ICAO standards over the high seas, making Annex 2 - *Rules of the Air* explicitly binding without exceptions. The terms "become effective" and "coming into force" within the Convention further support the view that the Annexes have binding effect for States that do not file differences.[128] Moreover, many countries have incorporated these standards into their domestic legislation, demonstrating that they regard them as legally binding.[129] Despite the uncertain legal status of ICAO's standards, the strong commitment of the aviation community to promoting regulatory uniformity has resulted in a highly effective system, even though some may regard these standards as soft law.

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[126] Vincent Correia, *Advanced Introduction to Air Law* (forthcoming).

[127] Cheng, *supra* note 125 at 204.

[128] Correia, *supra* note 126 at 19.

[129] For example, the U.S. and Germany, see *ibid* at 20.

In addition to the articles of the Chicago Convention and the SARPs in the Annexes, ICAO can adopt provisions through Assembly resolutions that typically reflect the consensus of contracting States. These resolutions guide the Council, Secretariat, or other ICAO bodies on the Organization's priorities and encompass both Statements of consolidated practices and the establishment of new objectives. From a legal perspective, these resolutions have no binding value outside of the organization, similar to the UN General Assembly's resolutions. However, they can reflect an existing *opinio juris* and significantly influence States' subsequent practices and indicate the existence or contribute to the formation of customary international law.[130] Thus, both politically and practically, these resolutions are highly significant and prioritized by contracting States, to the extent that some States make reservations to them although it is a practice typically associated with treaties. This is often done for political reasons or to prevent the inadvertent creation of customary international law that could bind the State, which underscores the political importance and sensitivity of Assembly resolutions. Despite their non-binding legal status, some resolutions have led to significant developments in ICAO's activities in recent years, such as the Universal Safety Oversight Audit Programme (USOAP) and the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).[131]

1.4. Objectives and Purpose

In light of this context, it is safe to conclude that the security versus privacy dilemma is pressing and requires thorough deliberation. The unresolved questions remain: how should this issue be most effectively addressed, and who holds the responsibility for doing so? ICAO has already developed new SARPs to facilitate the transfer of PNR data and compliance with these provisions is audited regularly as they are part of the Universal Security Audit Programme (USAP). In addition, ICAO is participating in the United Nations Countering Terrorist Travel Programme, with the aim of supporting States' implementation of API and PNR standards for preventing and detecting terrorists

[130] *Ibid* at 16.

[131] *Ibid.*

and serious criminals by collecting and analyzing passenger data while ensuring adequate protection of passenger data.

IATA has long pushed for further action from ICAO by proposing the establishment of a multi-disciplinary group of experts, specifically committed to addressing the problem. In a White Paper from May 2024, IATA states that "there is consensus amongst stakeholders", assumingly referring to the air carriers, that ICAO should take further action on the issue.[132] Perhaps it is true that ICAO is the best-suited organ to finalize a possible solution by the end of the process. However, during the Legal Committee Meeting in Montreal in June 2024, the organization emphasized that the industry must first provide necessary data and information demonstrating the negative impacts on the industry, along with concrete proposals for action, before ICAO can constructively tackle the issue.[133] In the aforementioned White Paper, while IATA does highlight the key issues, it fails to offer a clear explanation of how these challenges are impacting the industry in a manner that would justify further involvement from ICAO. Further, while some concrete solutions are proposed, they primarily focus on how to improve the facilitation of the handling of passenger data and "the practical necessity" to help airlines perform their operations, with little emphasis on the data protection issue at the core of the problem.[134]

Two main considerations arise in this aspect. Firstly, although IATA's primary priority understandingly is to facilitate the operations among its member airlines, ICAO has a broader responsibility. As a specialized UN organization, ICAO has an obligation not only to fulfill its objectives under the Chicago Convention to ensure safe, secure, and efficient air transport but also to ensure these goals are achieved with full respect for human rights and freedoms.[135] Thus, one could argue that ICAO's awareness that its

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[132] International Air Transport Association, "White paper: Data protection and international carriage by air" (2024) at 4.

[133] Comment by Chairwoman Tan Siew Huay during the discussions of IATA's Working Paper "Data Protection and International Carriage by Air" at the ICAO Legal Committee 39th Session in Montreal, June 2024.

[134] International Air Transport Association, *supra* note 132 at 10.

[135] See further discussion in Chapter 3.2.1.

member States are committing human rights violations in their aviation activities is, in itself, a compelling reason for the organization to take decisive action. The data protection issue can therefore not be approached solely from a facilitation perspective but must be considered within a broader framework. To effectively address this issue, ICAO must actively engage with the industry to understand the practical implications of data management and protection in aviation operations. This is where the involvement of IATA becomes crucial, as it holds valuable industry-specific data and insights that ICAO lacks access to. Therefore, a coordinated approach involving both regulatory oversight and industry expertise is necessary to ensure the aviation sector addresses these challenges holistically. Secondly, to approach the issue from this broader perspective, it is essential to recognize the main rule that ICAO is bound by the mandate given by its Member States under Article 37 of the Chicago Convention. Since the protection of passenger data is not explicitly covered in this article, expanding ICAO's mandate to include data protection would require identifying a legal basis either through innovative interpretation of existing provisions or through the adoption of rules outside the Convention.

Against this backdrop, the primary objective of this study is to critically evaluate the efficiency of the measures implemented by ICAO in addressing data protection issues within international civil aviation, to identify the specific challenges that persist and provide a clearer understanding of the necessary steps forward. The study also aims to explore what concrete actions ICAO can undertake to enhance the protection of passenger data, particularly by investigating the potential to expand ICAO's mandate through legal frameworks beyond the Chicago Convention, such as customary international law and human rights law. To address the challenges that would persist even with such an expansion, this thesis seeks to offer new perspectives on issues such as State sovereignty and hierarchy of norms to present arguments for ICAO to establish international data protection standards that would obligate States to comply even without explicit consent. Ultimately, this research seeks to inspire decision-makers to take concrete action by uncovering innovative approaches to tackling the issue of data protection in international civil aviation.

While this thesis focuses on the legal aspects of the transfer of air passenger data, it deliberately excludes discussions on the automated processing of such data. The challenge of ensuring that automated systems do not unfairly target specific groups based on sensitive data is acknowledged as relevant in the broader context of PNR data management. However, this study concentrates solely on the legal frameworks governing the transfer of PNR data, leaving technical and ethical implications of automated systems beyond its scope. Additionally, the thesis does not engage in discussions surrounding the use of biometric data. Finally, it is noteworthy that the term ”passenger data”, as used in this thesis, also encompasses the personal information of crew members.

Chapter 2.

Key Challenges

The issue of data protection in civil aviation presents several key challenges that must be addressed to balance security needs with privacy rights. Fragmented laws across different jurisdictions lead to inconsistencies in how passenger data is managed, while non-compliance with ICAO's PNR provisions in Annex 9 weakens global standardization efforts. Additionally, a lack of transparency in data handling processes and limitations of the sanction-based compliance system under the Chicago Convention raise concerns about unidentified privacy violations and accountability. This chapter explores these challenges and reviews current measures, such as the PNR provisions in Annex 9, ICAO's Guidelines on PNR, and the United Nations Counter Terrorist Travel Programme, to provide a clearer understanding of their impact on global data protection efforts in civil aviation and to lay the groundwork for identifying potential solutions.

2.1. Existing Measures

ICAO has actively addressed the management of PNR data through several initiatives such as the provisions in Annex 9, ICAO's Guidelines on PNR, and the participation in the United Nations Counter-Terrorist Programme, each approaching the issue from different perspectives. By critically evaluating the effectiveness of these measures, specific gaps and challenges can be more clearly identified, highlighting areas where further alignment with data protection standards may be necessary. This evaluation will serve as a foundation for the practical solutions proposed in Chapter 4, guiding the development of recommendations for strengthening ICAO's approach to better balance security and data protection in international civil aviation.

2.1.1. Annex 9

Although the revised PNR provisions in the latest edition of Annex 9 demonstrate a significant increase in detail and a stronger emphasis on human rights compared to earlier versions, they still focus primarily on facilitating the transfer of passenger data and do not

adequately address the protection of human rights.[136] Their purpose is to provide a framework of safeguards and uniform regulations for States that opt to exchange this personal information, rather than evaluating the ethical or legal implications of collecting and processing such data.

Certain phrases of the provisions are vague, which could lead to inconsistent interpretations and applications. Terms such as ”necessary and proportionate”,[137] the obligation to ensure ”appropriate legal and administrative framework”,[138] and that the use of sensitive data, such as health or racial information, can be justified under ”exceptional and immediate circumstances”,[139] are not clearly defined. What one State considers appropriate or exceptional may differ significantly from another, leading to a lack of coherence in how the standards are applied. Without clearer definitions, these terms might lead to inconsistencies that potentially undermine the provisions' goal of establishing universal management of PNR data. In addition to the use of vague terminology, the provisions lack specificity in certain areas. For instance, while they mandate penalties for the misuse of PNR data, they do not specify what those penalties should be or how severe they ought to be. This absence of detail could result in uneven enforcement, with some States imposing strict penalties and others taking a more lenient approach. Similarly, while the document requires States to define retention periods for PNR data, it does not offer concrete guidance on what constitutes a necessary and proportionate retention period.

The primary reason for this lack of clarity is presumably a result of compromises made by State-nominated experts and the challenge of reaching consensus on more precise provisions. Additionally, ICAO likely seeks to avoid overstepping its mandate by imposing detailed regulations in areas where it believes States should retain the right to legislate differently, in accordance with the principle of sovereignty. In fact, the PNR

[136]Annex 9 - *Facilitation* to the Convention on International Civil Aviation, 16th edition, July 2022.

[137] *Ibid*, 9.31 a).

[138] *Ibid*, 9.24 a).

[139] *Ibid*, 9.30 b).

provisions in Annex 9 do not appear to aim for absolute uniformity.[140] Standard 9.35(b) grants contracting States the flexibility to implement stricter PNR data protection measures, establish additional agreements with other nations, and create more specific regulations, provided that these do not conflict with the existing standards outlined in Annex 9. However, while complete uniformity might not be the main objective, the provisions would benefit from greater precision and clearer definitions to better achieve the goal of facilitating the transfer of passenger data while protecting the privacy of passengers. Where terms like ”appropriate” and ”exceptional” are used, the provisions should offer more explicit definitions or provide examples to ensure a more uniform understanding. By setting minimum standards for penalties related to the misuse of PNR data, the provisions could help avoid variations in enforcement. More specific guidance on retention periods would also contribute to greater consistency across States, particularly if the document proposed clear timeframes based on different use cases.

2.1.2. ICAO’s Guidelines on PNR

In response to Recommendation B/5, which urged ICAO to create guidance material for States requiring access to PNR data, ICAO developed and published the comprehensive ”Guidelines on Passenger Name Record Data” (PNR Guidelines) in 2010.[141] These guidelines provide clear direction for the transfer and management of PNR data and assist States in designing their data requirements and procedures. They address the issue of PNR data transfer from an airline’s system to a State, as well as the management, storage, and protection of this data.

An important aspect of the PNR Guidelines is that they require airlines to comply with the data-transfer laws of both the State from which they are departing and the State of destination,[142] and specifically address how to resolve potential conflicts of law between States regarding data transfer.[143] They recommend that States limit their requirements to

[140] Correia, *supra* note 126 at 88.

[141] International Civil Aviation Organization, *supra* note 5.

[142] International Civil Aviation Organization, *supra* note 5 at 2.4.3.

[143] *Ibid* at 2.4.4 – 2.4.5.

only the necessary and relevant PNR data elements, which are detailed in Appendix 1 of the document. These elements may include any passenger information collected, such as biographical and flight details of a passenger, along with additional data like payment methods, billing information, contact details, frequent flyer information, and travel agent information. More importantly, the provisions specify the types of data that should *not* be collected by aircraft operators or required by States. This includes information that is not needed to facilitate a passenger's travel, such as racial or ethnic origin, political opinions, religious or political beliefs, trade union membership status, marital status, or sexual orientation.[144] Unlike the PNR provisions in Annex 9, central to the guidelines are principles on the protection, security, and integrity of PNR data. The provisions outline principles for the frequency and timing of PNR data transfer[145], as well as the filtering, storage, and onward transfer of such data.[146] Additionally, the guidelines also provide guidance on passenger redress, issues related to airline costs, and the imposition of sanctions and penalties.[147]

While the PNR Guidelines are thorough, they have not been updated since their initial release when the transfer of PNR data was considered a Recommended Practice rather than a standard under Annex 9. Moreover, in the years since 2010, technological advancements have significantly transformed data processing, storage, and security. The rise of big data analytics, artificial intelligence, and increasingly sophisticated cybersecurity threats have created new challenges and opportunities that the original guidelines do not fully address. There is significant value in accelerating the update of this comprehensive reference document to better support States in developing their capabilities for collecting, using, processing, and protecting PNR data, as well as addressing the various aspects of a PNR program.[148]

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[144] *Ibid* at 2.1.9.

[145] See *Ibid* at 2.8.

[146] See *Ibid* at 2.9-2.11.

[147] See *Ibid* at 2.14-2.16.

[148] IATA working paper FALP/13-WP/32 to the 13th Session of the ICAO Facilitation Panel in February 2024.

The most significant limitation of the PNR Guidelines, however, lies in their lack of binding legal force. As non-binding recommendations, these guidelines rely on the voluntary cooperation of States for implementation. This lack of enforceability inevitably leads to inconsistencies in how PNR data is handled across different jurisdictions, which undermines the goal of harmonized international standards. Without legal force, the guidelines are insufficient to ensure that all States adhere to the same level of data protection, especially in a rapidly evolving technological environment like aviation.

2.1.3. The United Nation's Counter Terrorist Travel Programme and goTravel

The United Nations Countering Terrorist Travel Programme (CT Travel Programme) is a comprehensive initiative designed to enhance global efforts in preventing and combating terrorism. Launched in 2019 by the United Nations Office of Counter-Terrorism (UNOCT) in collaboration with several UN partners, including ICAO, the CT Travel Programme aims to assist Member States in developing and implementing advanced systems for the collection, analysis, and sharing of passenger data.[149] Central to this initiative is the goTravel software, a state-of-the-art tool designed to facilitate the efficient and secure transfer of API and PNR data from airlines to national Passenger Information Units (PIUs).[150] The CT Travel Programme has focused on providing legislative, operational, and technical support to beneficiary States. This includes the deployment of goTravel in pre-production environments and the establishment of legislative frameworks to support API and PNR data collection. The programme's training initiatives have involved multiple consultations and the development of implementation roadmaps for participating States.[151]

The goTravel software was initially developed by the Netherlands and donated to the UNOCT in 2018. It is intended to provide a uniform, interoperable, and secure platform

[149] Fionnuala Ní Aoláin, "Position Paper of the Special Rapporteur on the Promotion and Protection of Human Rights and Fundamental Freedoms while Countering Terrorism on the United Nations Countering Terrorist Travel ('CT Travel') Programme and the goTravel Software Solution", United Nations Human Rights Special Procedures (2023) at 10.

[150] *Ibid* at 11.

[151] *Ibid.*

for the seamless input and transfer of API and PNR data.[152] By leveraging this software, the CT Travel Programme aims to enhance the capabilities of participating States in identifying and preventing terrorist activities and serious crimes related to air travel. As of October 2023, the software has been implemented in Norway and Botswana, with ongoing negotiations to extend its use to 65 additional Member States.[153]

In 2023, both the CT Travel Programme and the goTravel software were extensively investigated by the United Nations Office of Counter-Terrorism and a Special Rapporteur of the UN as a part of the United Nations Human Rights Special Procedures.[154] Both evaluations concluded that although the initiative presents significant advancements in global efforts to combat terrorist travel, it faces considerable implications for human rights. They specifically noted that despite its potential to enhance the detection capabilities of participating States, the decentralized nature of the goTravel system raises substantial data protection and privacy concerns.[155] As stated by the Special Rapporteur, "[i]n circumstances where it can be reasonably foreseen that State authorities may use technology freely provided by the UN in ways which are unregulated and discretionary, and thus inconsistent with human rights protection, the risks for the UN are significant and deeply detrimental to its perceived neutrality and integrity".[156]

The security of the system depends on the robustness of each participating State's infrastructure, creating vulnerabilities that could lead to data breaches and unauthorized access. Several participating States have histories of surveillance, persecution of dissidents, and arbitrary detention. Providing these States with powerful data collection and analysis tools without adequate safeguards is a critical concern for the protection of fundamental rights and freedoms.[157] The data collected can be used by States to monitor and suppress political dissidents, activists, and journalists, undermining freedom of expression and the

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[152] *Ibid*.

[153] *Ibid.*

[154] See the United Nations Office of Counter-Terrorism, "United Nations Countering Terrorist Travel Programme, Mid-term Independent Joint Evaluation" (2023), and Ní Aoláin, *supra* note 149.

[155] Ní Aoláin, *supra* note 149 at 13.

[156] *Ibid* at 21.

[157] *Ibid* at 19.

right to dissent, creating a chilling effect on free speech and political activism.[158] The use of travel data to impose arbitrary travel bans or detentions can also restrict individuals' freedom of movement, particularly in States where legal protections are weak, and arbitrary actions by authorities are common.[159] Additionally, as an experimental software, goTravel has not undergone extensive testing for accuracy and reliability, raising concerns about its potential to produce false positives or negatives, which could result in additional significant human rights violations.[160]

The extensive collection of personal data under the CT Travel Programme also has profound implications for data protection and privacy. The use of API and PNR data for surveillance and profiling poses considerable risks, particularly in States with poor human rights records.[161] The anonymization processes are not foolproof and depersonalized datasets can still be re-identified by cross-referencing with other data sources. The effectiveness of these processes depends on the compliance of national PIUs, which may vary significantly.[162] National PIUs can use this data to profile individuals based on travel patterns and other criteria, leading to intrusive surveillance and targeting of specific groups such as political dissidents, human rights defenders, and journalists.[163]

Finally, it was noted by the Special Rapporteur that the current framework of the CT Travel Programme lacks robust mechanisms for oversight and accountability. Once deployed, there is no mechanism for the UN or other international bodies to monitor how States use the collected data, leaving no assurance that States adhere to human rights standards.[164] Furthermore, the commitments to human rights compliance within the Memorandums of Understanding (MoUs) and Agreements (MoAs) with recipient States are not legally

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[158] *Ibid* at 27.

[159] *Ibid* at 28.

[160] *Ibid* at 13.

[161] The United Nations Office of Counter-Terrorism, "United Nations Countering Terrorist Travel Programme, Mid-term Independent Joint Evaluation" (2023) at 27.

[162] *Ibid*.

[163] *Ibid* at 23.

[164] Ní Aoláin, *supra* note 149 at 20.

binding, and there are no enforceable sanctions or penalties for data misuse, making it challenging to address violations effectively.[165]

In light of these analyses, it is evident that the CT Travel Programme and the associated goTravel software raise significant concerns regarding their compatibility with international human rights law. The broad adoption of this technology, while motivated by the legitimate aim of countering terrorism, risks infringing on fundamental rights such as privacy, freedom of movement, and freedom of expression. By proclaiming a focus on human rights protection without implementing actual safeguards to ensure this aim, the initiative risks exacerbating the very issues it seeks to address. The Special Rapporteur underscores the gravity of this situation, stating that "[b]are assertions of human rights compliance are deeply concerning and raise fundamental concerns about the consequences of a pattern of misuse or misuse that leads to the violation of both derogable, non-derogable and jus cogens norms".[166] Given these concerns, she advocates for pausing the global rollout of these technologies until a comprehensive human rights review is conducted with the involvement of all relevant stakeholders. She further argues for the necessity of establishing clear legal frameworks to regulate the collection, processing, and sharing of personal data, emphasizing the need for strict limitations on its use and robust safeguards against misuse. Although these recommendations are intended to promote the establishment of an international framework at the UN level beyond the scope of civil aviation, they also strengthen the argument for creating a universal legal framework for data protection within civil aviation, as proposed in this thesis.

2.2. Fragmentation

Traditionally, air law has been characterized by a strong emphasis on multilateral cooperation and consensus-building among States, reflecting the inherently international nature of aviation. However, the increasing tendency of States to extend their legal and regulatory frameworks beyond their borders, often driven by national interests, has

[165] The United Nations Office of Counter-Terrorism, *supra* note 161 at 25.

[166] Ní Aoláin, *supra* note 149 at 20.

introduced a degree of fragmentation into the international legal order. While a certain degree of fragmentation of laws allows legal frameworks to accommodate local or regional specificities, ensuring that laws are better suited to the cultural, social, and economic contexts in which they operate, this trend towards extraterritoriality is concerning in the context of international air law where harmonization and standardization are crucial for ensuring safety, security, and efficiency in global aviation.[167] For instance, environmental regulations imposed unilaterally by one State impact international airlines and airports in other countries, creating a patchwork of compliance requirements that complicate international air operations. Similarly, unilateral competition laws affect global airline alliances and mergers, disrupting the cooperative agreements that have been essential for the industry's growth and efficiency.[168]

As the aviation industry continues to operate without harmonized standards, the level of fragmentation across global markets is likely to increase. In the realm of privacy and data protection, this lack of uniformity is the main reason for the inconsistencies in how airlines across different countries handle procedures such as passenger data management. Over time, this divergence not only complicates compliance for air carriers but also creates challenges in maintaining security protocols and managing operational costs efficiently. Most importantly, as discussed above, the fragmentation of data protection laws poses a threat to individual rights, particularly in cases where conflicting regulations create gaps or inconsistencies in the protection of personal data. Individuals may find that their data is protected to different degrees depending on the jurisdiction in which they reside or where their data is processed. For example, an individual in the EU may enjoy robust protections under the GDPR, but if their data is transferred to or processed in a country with weaker data protection laws, those protections may be diminished or lost. This inconsistency undermines the principle of universal human rights and can erode trust in cross-border activities.

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[167] See Correia, *supra* note 126 at 75 ff.

[168] *Ibid* at 11.

The issue of fragmentation is not solely a result of differing data protection regulations. Enersvedt (2017) effectively demonstrates in a comprehensive analysis of various aviation security regimes that substantial differences also exist between States in aviation security practices, despite global efforts to standardize international aviation security regulations.[169] Factors such as inadequate cooperation between States, the absence of robust enforcement mechanisms, and disparities in technical capabilities, economic conditions, and threat perceptions contribute to these variations.[170] These challenges further complicate efforts to establish a unified approach to data protection, both practically and legally, as national security practices influence the broader regulatory landscape. As the digital economy continues to grow and data becomes an increasingly valuable asset, the need for greater international cooperation and harmonization in data protection laws becomes ever more urgent. Without concerted efforts to bridge these differences, the risks of fragmentation will only increase over time and potentially undermine the benefits of a globally connected digital world.

2.3. Non-Compliance

The effectiveness of a compliance system in international organizations heavily depends on the clarity of its standards and the robustness of its audit mechanisms. Scholars have emphasized the need for clear, measurable metrics and a strong audit program as foundational elements for establishing a successful compliance system. For instance, Kang (2015) discusses the evolution of aviation sanctions and underscores the importance of developing precise compliance metrics that can guide States in adhering to international standards.[171] Similarly, Steinbach (2016) highlights how structured audits and evaluations can significantly enhance compliance by identifying gaps and providing targeted support to address them.[172] These components not only provide transparency and

[169] Mironenko Enerstvedt, *supra* note 13 at 399.

[170] *Ibid.*

[171] Myongil Kang, "Refining Aviation Sanctions from an Air Law Perspective" (2015) 40:6 AILA 397–420.

[172] Armin Steinbach, "Structural Reforms in EU Member States: Exploring Sanction-Based and Reward-Based Mechanisms" (2016) 9:1 Eur J Legal Stud 173.

accountability but also foster a culture of continuous improvement among Member States.

ICAO has adopted this approach by implementing its own audit systems: the Universal Safety Oversight Audit Programme (USOAP), focusing on safety-related provisions, and the Universal Security Audit Programme (USAP), focusing on security provisions. The objective of USAP is to improve global aviation security through auditing and continuous monitoring of the aviation security performance of Member States. This is achieved by assessing the sustainability of a State's security system and its degree of compliance with the standards of Annex 17 - *Security* and the security-related standards of Annex 9 - *Facilitation*, including the provisions on PNR.[173] The USAP forms an integral part of ICAO's overall aviation security framework, which encompasses policy, audits and assistance. It generates State-specific, regional and global data, providing critical information to facilitate the provision of targeted and tailored assistance to States, while also providing valuable feedback to ICAO for the development of SARPs and guidance material.[174]

While the audit results from the USOAP are publicly available through ICAO's website,[175] the 35th Session of the Assembly held in October 2004 mandated ICAO to maintain strict confidentiality of all State-specific information derived from audits conducted under the USAP.[176] However, in order to promote mutual confidence in the level of aviation security between States, the Assembly urged all Contracting States to "share, as appropriate and consistent with their sovereignty, the results of the audit carried out by ICAO and the corrective actions taken by the audited State, if requested by another State".[177] The 36th Session of the ICAO Assembly adopted Resolution A36-20,

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[173] International Civil Aviation Organization, "Universal Security Audit Programme Continuous Monitoring Approach – Analysis of Audit Results", Thirteenth Edition (2023) at 2.

[174] *Ibid.*

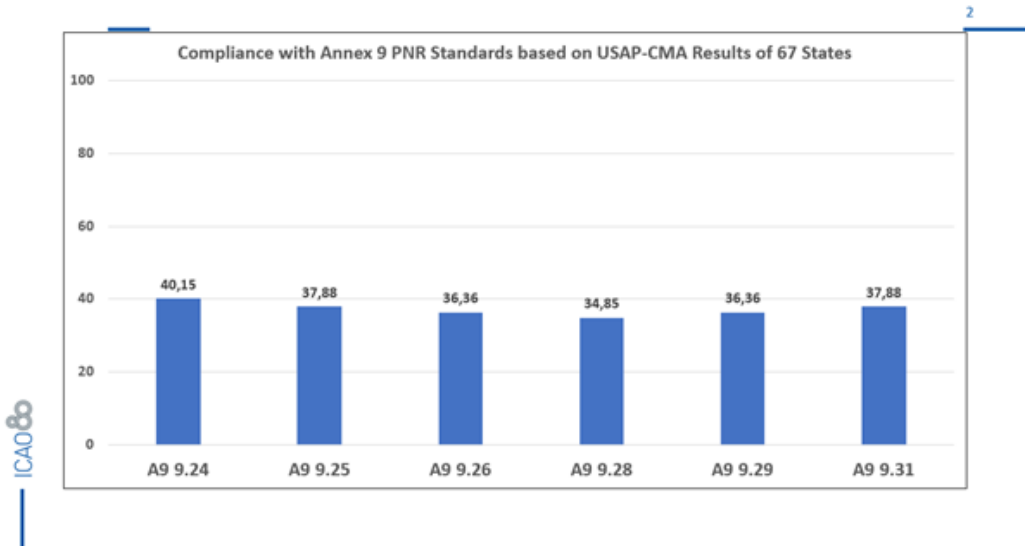
[175] See International Civil Aviation Organization, "Safety", online: https://www.icao.int/safety/pages/usoap-results.aspx.

[176] Abeyratne, *supra* note 120 at 268.

[177] International Civil Aviation Organization, Doc A35-9, Appendix E, Resolving Clause 4; and Recommended Practice 2.4.5 of Annex 17 - *Security*.

Appendix E, which directed the Council to consider the introduction of a limited level of transparency with respect to ICAO aviation security audits, balancing the need for States to be aware of unresolved security concerns with the need to keep sensitive security information out of the public realm.[178] The ICAO Council approved this proposal by issuing a Memorandum of Understanding (MoU) with the States audited that enabled the limited transparency requested during the 36th Session of the ICAO Assembly.[179] The disclosed information includes the level of implementation of critical elements in an audited State's aviation security oversight system and the degree of compliance with Annex 17 - *Security* standards. This information is made available to all member States through the secure USAP website.[180] However, data on the overall compliance rates across member States are published each year in ICAO's Audit Reports.

Despite the expectation that the disclosure of USAP results to other States would pressure States to maintain high compliance with the provisions of the annexes to the Chicago Convention, the 2023 audit results reveal an alarmingly low compliance rate for the PNR-related provisions in Annex 9 (see figure below).



[178] International Civil Aviation Organization, Resolution A36-20, "Consolidated Statement on the continuing CA policies related to the safeguarding of international civil aviation against acts of unlawful interference", Report of the Executive Committee (Report Folder) Assembly, 36th Session, Doc A36 - WP/336, p/46 at 16-2.

[179] International Civil Aviation Organization, "Security and Facilitation", online: https://www.icao.int/Security/USAP/Pages/Limited-Transparency-and-Significant-Security-Concerns.aspx.

[180] *Ibid.*

Figure 1: Compliance with Annex 9 PNR Standards[181]

Column 9.24 is related to the following questions: a) "Has the State established an appropriate legal and administrative framework for the collection, use, processing and protection of PNR data for flights to and from its territory?", and b) "Has the State defined and implemented PNR data requirements in accordance with ICAO Doc 9944 and PNRGOV message implementation guidance materials?".[182] As illustrated in *Figure 1 - Compliance with Annex 9 PNR Standards*, the audit results show a compliance rate of less than 41% among the 67 audited States. Interestingly, while 80 States have reported compliance with these provisions,[183] only 15 States have filed a difference.[184]

This data leads to two critical conclusions. First, the overall compliance rate for the PNR provisions in Annex 9 is worryingly low, highlighting significant gaps in the implementation of these standards. Second, there appears to be a dissonance between what States report and the actual audit findings. The fact that many States either believe - or perhaps want others to believe - that they are compliant, despite audit results suggesting otherwise, points to potential issues of transparency and accountability. This inconsistency could stem from a variety of factors, such as a lack of internal capacity, inadequate understanding of the requirements, or even deliberate attempts to project compliance where it does not exist.

2.3.1. The Limitations of the Chicago Convention's Sanction System

ICAO's dual mechanism for enforcing standards is twofold. First, Article 33 of the Chicago Convention mandates that certificates of airworthiness and competency issued by one contracting State must be recognized by others, provided they meet or exceed ICAO's minimum standards.[185] This principle is often included in bilateral air services agreements,

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[181] Extract from International Civil Aviation Organization, Universal Security Audit Programme Continuous Monitoring Approach "Analysis of Audit Results – Reporting period ending: 31 December 2023".

[182] See the full protocol questions in Appendix A.

[183] See Appendix B.

[184] See Appendix C.

[185] The Chicago Convention, Article 33.

which allow States to revoke or suspend airline authorizations if minimum standards are not met, thereby ensuring compliance through the threat of severe sanctions. Second, the USOAP and the USAP were created to address discrepancies between reported compliance and actual adherence to standards. They apply to all contracting States and promote greater transparency and disclosure of audit results. However, due to the decentralized and rudimentary nature of international law, States bear the primary responsibility for enforcing relevant rules according to the principle of *pacta sunt servanda*, and traditionally, they also mutually monitor each other's compliance.[186] Thus, ICAO's enforcement mechanisms are inherently limited and rely on voluntary compliance, which is easily undermined by States with conflicting interests.

The limited enforcement powers of ICAO significantly reduce the effectiveness of its ability to impose sanctions on non-compliant States. According to Article 54(j) of the Chicago Convention, the Council is only to ”[r]eport to contracting States any infraction of this Convention, as well as any failure to carry out recommendations or determinations of the Council”.[187] The Assembly can decide to suspend the voting power in both the Assembly and the Council for any contracting State found in default under Article 88 of the Convention. However, such a sanction requires that a dispute be referred to the Council first, as stated in Article 84 of the Convention. Currently, no State seems willing to pursue such a referral, which makes these sanctions largely symbolic. Additionally, the outcome of any referral is uncertain due to the political nature of the Council, where decisions can be influenced by the political interests of its members rather than purely by legal considerations. This adds to the unpredictability and limits the effectiveness of the sanctions.[188]

The requirement for States to report any deviation from ICAO standards is thought to promote regulatory consistency, motivating States to promptly resolve differences to avoid jeopardizing being excluded from the international aviation community.

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[186] Correia, *supra* note 126 at 96.

[187] The Chicago Convention, Article 54(j).

[188] Correia, *supra* note 126 at 97.

Conversely, the risk of exclusion has created a problematic situation. Although States have clear legal obligations under the Convention either to comply with the standards or to file a difference under Article 38, there are concerns about whether States inform ICAO of their compliance with the new standards or their intention to file a difference.[189] Worse, even if States do not intend to comply with the standards, they often refrain from filing a difference due to a lack of political courage. This ongoing tolerance of the silent treatment of ICAO standards by many States may have been politically convenient in the short term, but ultimately undermines the credibility of ICAO.[190]

Weak sanctioning powers are not unique to ICAO. International cooperative law generally has limited sanctions, relying on the principle that non-cooperative parties exclude themselves from collective benefits which promotes uniformity even in the absence of specific sanctions.[191] The benefits of participating in the common work of ICAO, such as access to international aviation standards and cooperative frameworks, typically outweigh the consequences of isolation. Nevertheless, when States prioritize their national values and interests over international norms, they might willingly accept isolation, rendering the threat of losing voting rights in the Assembly ineffective. This has been showcased recently by Russia after the series of actions taking place in Ukraine since February 2022.[192] If States voluntarily choose isolation, driven by their own political or ideological agendas, the sanction power of any international organization simply loses its potency. When States disregard ICAO's sanctions, violations of international air law go unpunished. This lack of accountability can embolden other States to follow suit, further weakening the overall regulatory framework and disrupting the delicate balance of international air law. This dislocation of the equilibrium of air law is closely linked to the fragmentation discussed in the previous chapter, which not only

[189] Michael Milde, "Problems of Safety Oversight: Enforcement of ICAO Standards" in Chia-Jui Cheng, ed, *The Use of Air and Outer Space Cooperation and Competition* (Brill | Nijhoff, 1998) 251 at 258.

[190] *Ibid.*

[191] See Friedmann's thoughts on how the benefits of participating in international cooperation usually override the substance of sanctions, Wolfgang Friedmann, "The Changing Dimensions of International Law" (1962) 62:7 Columbia Law Review 1147 at 793.

[192] Correia, *supra* note 126 at 98.

creates legal difficulties at an international level but also increases the likelihood of conflicts between States.[193]

2.3.2. Lack of Transparency

The important *publicatio legis* principle, stating that laws and other legal sources must be communicated to the public, is closely related to the principle of transparency which requires that information provided to the public should be easy to access and understand.[194] The transparency principle does not only include transparency of the legal rules on specific practices, but also transparency on the practices themselves. This is fundamental to the rule of law and is comparable in importance to the principle of proportionality in the context of privacy legislation.[195] As some experts have emphasized, "[i]f we can only remember two concepts as regards the legislation on privacy, it needs to be these two [proportionality and transparency]."[196]

The principle of transparency faces significant challenges within the realm of aviation security. Firstly, the international nature of air travel, coupled with the multiple laws and regulations that may apply to a single journey, particularly if it involves multiple flights, creates an environment where it is exceedingly difficult for individuals to determine which legal protections apply to them during their journey. Consequently, both the clarity and accessibility of legal rules of data protection in aviation are inadequate. Secondly, aviation security operations inherently involve a vast amount of restricted information, which severely limits openness and transparency in how these procedures are carried out.[197] Unlike other areas of law, where public information is truly public, much of what is labelled as public in aviation security cannot be disclosed due to security concerns. The decision-making process in aviation security is not subject to democratic scrutiny, and the

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[193] Correia, *supra* note 126 at 99.

[194] Mironenko Enerstvedt, *supra* note 13 at 165.

[195] *Ibid.*

[196] Poullet, Yves, "Data protection legislation: What is at stake for our society and democracy?", *Computer Law & Security Review 25:3* (2009): 211-226 at 224.

[197] Jimena Blumenkron, "Implications of Transparency in the International Civil Aviation Organization's Universal Safety Oversight Audit Programme", thesis for the fulfillment of a Master of Laws, Institute of Air and Space Law, McGill University (2009) at 2.

specifics of the technologies and methods used are often kept confidential. This opacity is largely dictated by security authorities, who may prioritize the withholding of information under the justification of protecting national and international security.[198]

The secrecy surrounding aviation security operations also poses significant challenges for State authorities and airlines in ensuring that data transferred to another State is handled according to the agreed-upon standards.[199] Even when PNR agreements are in place, designed to regulate the collection, use, and protection of passenger data, there is often no way to verify whether the receiving State is honoring the terms of the agreement. The classified nature of security operations means that once data is transferred, the sending State and airlines must rely on assurances rather than concrete evidence that the receiving State is complying with the agreement.

There is no practical mechanism for monitoring or enforcing compliance, as the receiving State's security protocols are often beyond the reach of external oversight.[200] This lack of transparency creates a fundamental trust issue between States, particularly when the receiving State may have less stringent data protection laws or when national security priorities take precedence over privacy considerations. The inability to ensure that data is handled in accordance with agreed standards highlights a critical gap in the current regulatory framework, further complicating efforts to uphold the transparency principle in international civil aviation.

2.4. Conclusions

Current measures taken by ICAO demonstrate a commitment to addressing the issues related to the handling of passenger data. However, an assessment of their effectiveness reveals that additional steps are needed to fully resolve these challenges. The PNR provisions in Annex 9, while more detailed and human rights-focused than previous versions, still prioritize the facilitation of data transfer over the protection of such data

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[198] Mironenko Enerstvedt, *supra* note 13 at 167.

[199] Rachel Hall, *The Transparent Traveler: The Performance and Culture of Airport Security* (Toronto: University of Toronto Press, 2018) at 178.

[200] *Ibid.*

and contain vague terminology that could lead to inconsistent application across States. The ICAO's Guidelines on PNR are comprehensive and offer clear direction on data transfer and management, but they are outdated and non-binding, leading to further discrepancies in implementation and insufficient human rights protection in the evolving technological landscape. The CT Travel Programme and goTravel software, despite their aim to safeguard human rights, raise significant privacy concerns due to their decentralized nature, the potential for misuse, and lack of robust oversight and accountability mechanisms, necessitating a review and a more robust international regulatory framework before broader implementation.

That being said, the primary challenge lies not in the quality of ICAO's existing provisions but in the broader limitations of its mandate and governance structure. ICAO's authority as an international organization is ultimately constrained by the sovereignty of its Member States. This limitation restricts its capacity to enforce regulations and secure uniform compliance across diverse legal and political landscapes. The issue of non-compliance with Annex 9 is symptomatic of these deeper structural challenges. A low compliance rate for PNR-related provisions, as highlighted in this chapter, reveals significant gaps in the enforcement of international standards. This discrepancy stems partly from the voluntary nature of international air law, where States are responsible for implementing ICAO's regulations within their own territories – to their *highest practicable degree*.[201] As such, ICAO lacks the direct authority to compel States to adhere to its standards, resulting in a patchwork of compliance levels across the global aviation sector.

ICAO's existing sanctioning mechanisms, such as the suspension of voting rights, are inadequate to address this issue. The threat of sanctions is often ineffective, particularly when the benefits of adhering to ICAO standards are outweighed by domestic considerations. This dynamic weakens ICAO's ability to maintain a consistent and unified regulatory framework, leading to negative fragmentation in international air law. Such fragmentation is particularly evident in areas where States extend their regulatory

[201] As Stated in Article 37 of the Chicago Convention.

reach beyond their borders, as is inevitably the case with data transfers, which creates conflicts between national laws and international standards.

While data protection laws may theoretically be transparent and accessible, the practical application of these laws in the secretive and complex domain of security presents significant challenges. The secrecy surrounding security operations, whether justified or not, combined with the multitude of intersecting legal frameworks, creates a critical obstacle to implementing the transparency principle effectively in the field of data protection in civil aviation. Lack of transparency not only affects passengers' ability to understand how their data is handled but also impairs the ability of States and airlines to ensure compliance with international agreements, ultimately undermining the trust and efficiency of the global data protection regime.

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Chapter 3.

A New Perspective on International Air Law

To effectively address the challenges discussed, ICAO must pursue amendments that reinforce both the legal and operational foundations of its regulatory framework. Placing a stronger emphasis on human rights is crucial to aligning the framework with international standards, ensuring that the collection and management of passenger data not only serves security and facilitation purposes but also protects fundamental rights and freedoms. However, refining the provisions alone will not be sufficient. ICAO's limited mandate means that even the most robust standards are only as effective as the mechanisms in place to enforce them.

This chapter explores how ICAO's mandate could be expanded to address broader legal and ethical considerations, moving beyond purely technical and operational aspects of aviation governance. In certain areas of international air law, the traditional reliance on consensualism among Member States may no longer be sufficient. Promoting non-consensual approaches where rules become effective without the need for explicit consent from all States could offer more timely and effective solutions to critical global challenges, especially those related to fundamental human rights.

In addition to expanding ICAO's mandate, this chapter advocates for rethinking the legal sources that underpin international air law. While treaties and conventions, particularly the Chicago Convention, have long served as the cornerstone of international air law, there is a growing need to enhance the role of other law instruments, such as ICAO's SARPs contained in the annexes of the Convention. In an increasingly complex legal environment, SARPs and other forms of alternative legal sources offer a more flexible and dynamic approach to addressing emerging issues. By strengthening the value and influence of these instruments, international air law can adapt more readily to the evolving challenges of global aviation, while still being anchored in its foundational treaties and conventions.

3.1. Expansion of ICAO's Mandate

One of the overarching objectives of ICAO, as contained in Article 44 of the Chicago Convention, is to foster the planning and development of international air transport so as to meet the needs of the people for safe, regular, efficient and economical air transport.[202] Within this objective lies the five comprehensive strategic objectives: to enhance global civil aviation safety; to increase the capacity and efficiency of the global civil aviation system; to enhance global civil aviation security and facilitation; to foster the development of a sound and economically viable civil aviation system, and; to minimize the adverse environmental effects of civil aviation activities.[203] These objectives are closely linked to ICAO's broader mandate to ensure the development and enforcement of international standards in civil aviation for the safety, security, efficiency, and regularity of air transport.[204] Even without looking elsewhere for a legal ground to expand ICAO's mandate, arguments can be found within this very objective that support a deeper involvement from the organization in the realm of data protection.

This thesis proposes a fresh perspective on the data protection issue, contending that ensuring adequate protection of passenger data need not conflict with the goal of enhancing national security. In the digital age, safeguarding passenger data is inherently tied to *enhanced* security, rather than opposing it. Personal data breaches can lead to significant security risks, including identity theft, fraud, and potentially even terrorism. Establishing robust and unified data protection standards in civil aviation can enhance the fight against terrorism by proactively securing sensitive information. Therefore, one could argue that ensuring data protection is a strategic measure that supports ICAO's commitment to maintaining the integrity of the aviation system, thereby contributing to enhanced security overall.

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[202] The Chicago Convention, Article 44 d).

[203] International Civil Aviation Organization, "Strategic Objectives", online: http://www.icao.int/about-icao/Council/Pages/strategic-objectives.aspx.

[204] The Chicago Convention, Article 37.

Further, economic considerations are central to ICAO's strategic objective "to foster the development of a sound and economically viable civil aviation system". Data breaches can have severe financial implications for airlines and the broader aviation industry, including regulatory fines and operational costs, as well as reputational damage that can lead to a loss of customer trust, reduced bookings, and long-term impacts on brand loyalty. Additionally, airlines may face legal liabilities from affected passengers and stakeholders, further compounding the financial and operational burden. Protecting passenger data not only prevents these costly matters but also promotes consumer confidence in air travel. When passengers are assured that their personal information is secure, they are more likely to choose air travel over other modes of transportation, thus driving economic growth in the sector. The operational benefits of establishing a harmonized framework for the handling of passenger data could also be seen as a matter concerned with the efficiency of air navigation as referred to in the last sentence of Article 37.

Lastly, ICAO's objective explicitly includes meeting the needs of the people. In today's world, these needs encompass not only physical safety and efficient travel but also the protection of personal privacy. Passengers expect that their personal information will be handled with the utmost care and confidentiality. By incorporating data protection into its regulatory framework, ICAO would be directly addressing these contemporary concerns, fulfilling its obligation to meet the evolving needs of the global population. Based on the doctrine of inherent powers, explained in Chapter 1.3.1, ICAO can act in any matter that is necessary to fulfill its aims and objectives as long as it is not explicitly prohibited by the Chicago Convention. Article 13 of the Convention grants States sovereignty over regulations concerning the entry and clearance of aircraft and passengers within their territories but does not explicitly prohibit ICAO from regulating matters related to the protection of such data. Therefore, even in the absence of another specific legal source, this doctrine could provide ICAO with the necessary mandate to address the protection of passenger data more stringently and comprehensively.

Thus, there are compelling arguments for ICAO to take greater responsibility for the protection of passenger data simply by looking at its objectives and mandate outlined in

the Chicago Convention to ensure the safety, efficiency, regularity, and economy of international air transport, while also meeting the contemporary needs of the people. However, several additional arguments to be found outside of the Chicago Convention to further amplify this position will be discussed below.

3.1.1. Customary International Law and Human Rights Law

Customary international law is one of two primary forms of international law, the other being the treaty.[205] Customary international law is typically explained as a ”general and consistent practice of States followed by them from a sense of legal obligation”.[206] In other words, it is defined by two primary elements: consistent and general practice of States and a belief that such practice is legally obligatory (*opinio juris*).[207] Human rights law has its foundation in various international treaties, such as the Universal Declaration of Human Rights (UDHR),[208] the International Covenant on Civil and Political Rights (ICCPR),[209] and the International Covenant on Economic, Social, and Cultural Rights (ICESCR).[210] These treaties codify a wide array of rights and freedoms that States commit to upholding. However, not all States are parties to all treaties, and even among those that are, the extent and manner of implementation can vary significantly.[211]

Customary international law is essential in bridging the gaps left by treaty law. Certain human rights norms, through widespread and consistent State practice accompanied by *opinio juris*, attain the status of customary international law. Examples include the prohibitions against genocide, slavery, and torture, which are recognized as binding on all

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[205] Jack L Goldsmitht, “A Theory of Customary International Law” at 1113.

[206] ReStatement (Third) of the Foreign Relations Law of the United States § 102(2) (ALI 1987).

[207] Tony Evans, “International Human Rights Law as Power/Knowledge”, Human Rights Quarterly (2005) 27:3 1046–1068 at 165.

[208] United Nations, General Assembly, *Universal Declaration of Human Rights*, GA Res 217 A (III), UNGAOR, 3rd Sess, Supp No 13, UN Doc A/810 (1948) 71.

[209] International Covenant on Civil and Political Rights, 16 December 1966, 999 UNTS 171 (entered into force 23 March 1976).

[210] International Covenant on Economic, Social and Cultural Rights, 16 December 1966, 993 UNTS 3 (entered into force 3 January 1976).

[211] See Evans, *supra* note 207.

States, irrespective of their treaty obligations.[212] The process of these norms becoming customary law underscores the principle that consistent and general State practice, coupled with a belief in their obligatory nature, can elevate specific human rights to universal applicability even in the absence of specific treaty commitments.[213]

International courts and tribunals play a pivotal role in interpreting and applying both treaty-based human rights law and customary international law.[214] Through their judgments, these courts contribute to the development of customary norms by elucidating State practices and *opinio juris*.[215] Domestic courts often reference international human rights treaties and customary international law, further solidifying these norms within national legal systems. Additionally, the development of national legislation and diplomatic actions strongly contribute to the formation and evolution of customary international law. Concurrently, human rights treaties often influence the development of customary international law. Provisions within these treaties can crystallize into customary norms when a significant number of States, including those not party to the treaties, begin to observe these provisions as a matter of legal obligation. For instance, the principles articulated in the UDHR, although not legally binding in themselves, have significantly shaped international customary law due to their widespread acceptance and implementation.[216]

Despite their interdependence, the relationship between human rights law and customary international law is not without challenges. Variations in State practices, differing interpretations of legal obligations, and the influence of political considerations can affect

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[212] Annika Tahvanainen, "Hierarchy of Norms in International and Human Rights Law" (2006) 24:03 Nordic Journal of Human Rights 191–205 at 204.

[213] *Ibid* at 191.

[214] Key cases where the ICJ has reinforced the importance of customary international law; see for example "Barcelona Traction, Light and Power Company, Limited" (*Belgium v Spain*), Second Phase, [1970] ICJ Rep 3, "Military and Paramilitary Activities in and against Nicaragua" (*Nicaragua v. United States of America*) [1986] ICJ Rep 14, and "Legality of the Threat or Use of Nuclear Weapons", Advisory Opinion, [1996] ICJ Rep 226.

[215] Tahvanainen, *supra* note 212 at 200.

[216] *Ibid* at 197.

the consistency and universality of human rights norms.[217] Moreover, the identification of *opinio juris* can be contentious, complicating the determination of customary status for certain rights. Nevertheless, the synergy between human rights law and customary international law strengthens the overall framework of international human rights protection. Customary international law extends the reach of human rights norms beyond treaty boundaries, ensuring broader applicability and adherence. At the same time, human rights treaties provide detailed and specific obligations that guide State behaviour and judicial interpretation.

As discussed in Chapter 1, human rights advocates argue that privacy is not merely a subset of other rights but is integral to the very concept of individual liberty.[218] This perspective asserts that "the right to privacy is inherent in the right to liberty and is the most comprehensive of rights, and the right most valued by civilized man",[219] positioning it as a fundamental component of human dignity and autonomy. As societies continue to grapple with the balance between security and individual freedoms, the protection of privacy and data rights will certainly remain a key issue in the ongoing dialogue about human rights in the digital age. While they may not yet be classified as obligations *erga omnes* or *jus cogens*, the prevailing view is that fundamental human rights must always occupy a central position within any legal system, irrespective of the industry involved.

As data protection and privacy rights are recognized as fundamental human rights in the legal frameworks of most countries, these rights, though not absolute, are held in high regard and are deeply embedded in modern legal and societal norms. Building on the foundations of human rights law, it is possible to argue that the right to data protection can fulfill the *opinio juris* requirement of customary international law. As States increasingly recognize data protection as a fundamental human right, this acknowledgment contributes to the perception that such a right constitutes a binding legal obligation under international

[217] Anthony D'Amato, "Human Rights as Part of Customary International Law: A Plea for Change of Paradigms" (1995) 25:1 & 2 Ga J Int'l & Comp L 47.

[218] See for example Mironenko Enerstvedt, *supra note 13* and Tzanou, *supra* note 22.

[219] Ruwantissa Abeyratne, *Aviation and International Cooperation: Human and Public Policy Issues* (Cham: Springer International Publishing, 2015), at 189.

law.[220] Further incorporation of data protection requirements into national laws and regulations reinforces the perception of legal obligation and shows that States are willing to adapt to these norms through consistent State practice.[221] When States legislate data protection norms and enforce compliance within their jurisdictions, it underscores their commitment to these principles as binding legal standards also on the international arena which increasingly reinforces the recognition of data protection as a customary international norm. Further, national and international courts' rulings on data protection issues can both shape *opinio juris* and provide evidence of consistent State practice.[222] Case law following the decisions in the *Schrems* cases pushes the development forward in this regard, strengthening the view that these measures are obligatory.[223]

In the context of aviation, it is evident that the majority of States favor ICAO taking a more assertive stance on the issue of data protection. This sentiment was particularly clear during the 39th Legal Committee meeting, held in Montreal in June 2024, where a working paper presented by IATA[224] calling for ICAO to take further action on data protection received widespread support from ICAO member States.[225] This is not an isolated incident - IATA has consistently advocated for ICAO's involvement in this area, raising the issue on multiple occasions.[226] While IATA represents the interests of airlines rather than individual States, the fact that its member airlines hail from countries across the globe suggests that their home States are likely aligned with this position. Either way,

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[220] Goldsmith & Posner, *supra* note 205 at 1190.

[221] Tahvanainen, *supra* note 212 at 202.

[222] Tahvanainen, *supra* note 212 at 202.

[223] *Schrems v. Data Protection Commissioner*, C-362/14, [2015] 2 CMLR 19 (CJEU) and *Schrems v. Facebook Ireland Ltd*, C-311/18, [2020] 3 CMLR 36 (CJEU).

[224] International Civil Aviation Organization, Legal Committee 39th Session, Doc LC/39-WP/6-3 "International Carriage by Air and Data Protection Laws".

[225] See International Civil Aviation Organization, Legal Committee 39th Session, Doc LC/39-WP/7 "Report on Agenda Item 6", 6:5-6:10, online: https://www.icao.int/Meetings/LC39/Documents/LC%2039_Item%206_E.pdf.

[226] The issue has been discussed in the Facilitation Panel FALP/13-WP/32 "Tackling Passenger Name Record (PNR) Data Challenges, and Conflicts of Data Protection Laws", in the Legal Committee LC/38-WP/7-1 "Privacy Laws and International Carriage by Air", LC/39-WP/6-3 "International Carriage by Air and Data Protection Laws", in the Assembly A41-WP/73 "International Carriage by Air and Data Protection Laws", and at several seminars and events.

the strong support from ICAO's Member States to implement more stringent, or at least more harmonized, data protection laws suggests that data protection could evolve into a recognized State practice over time, also within the sphere of civil aviation.

If ICAO were to establish a comprehensive legal framework on data protection that is widely adopted by States, this practice would satisfy the State practice component of customary international law. The widespread and consistent implementation of data protection measures, guided by ICAO's regulations, would demonstrate that States not only view these measures as legally obligatory but also engage in them as a general practice.

3.1.2. The Environment Saga

Due to its focus on the standardization of technical norms and procedures in aviation, ICAO has historically approached environmental concerns primarily through the lens of civil aviation's impact on noise disturbances and local air quality near airports.[227] The Chicago Convention did not specifically assign the organization the responsibility of addressing environmental issues. Its primary goal was to achieve uniform regulation of international aviation, reflecting the global priorities of the Cold War era when economic development and safety were paramount and environmental protection was not yet a pressing concern.[228]

As environmental issues began to gain prominence in global discourse, ICAO was compelled to adapt. The organization's first significant engagement with environmental matters occurred in 1968 with the adoption of Resolution 16-03 which acknowledged the issue of noise pollution affecting communities near airports.[229] Subsequently, following the UN Conference on the Human Environment, ICAO also recognized the adverse

[227] Marcela Braga Anselmi, "Conflictive climate governance architecture: an analysis of the climate negotiations under the international civil aviation organization (ICAO)" (2018) at 84.

[228] Yaw Nyampong, "Aircraft and airport noise. Local issues with global implications". In: DEMPSEY, P.; JAKHU, R. (Eds). *Routledge Handbook of Public Aviation Law*, New York: Routledge (2017).

[229] International Civil Aviation Organization, *Resolution A16-3 on aircraft noise in the vicinity of airports*. Resolutions adopted by the Assembly and index to documentation, Doc 8779, 1968.

effects of aviation on local air quality.[230] At this stage, ICAO's role in addressing these environmental concerns was limited to assisting member States in managing the localized impacts, while emphasizsing that economic growth in the aviation sector should not be hindered. This sentiment was explicitly articulated in Resolution A22-12, which discouraged unilateral actions by States that could obstruct aviation's economic development.[231]

ICAO's significant engagement with environmental issues began after the adoption of the United Nations Framework Convention on Climate Change (UNFCCC)[232], which placed civil aviation's role in anthropogenic climate change on ICAO's agenda. The 29th ICAO Assembly in 1992 was a pivotal moment, marking the first time the organization formally recognized aviation's potential environmental impact on the upper atmosphere, in the wake of the UN Conference on Environment and Development.[233] ICAO acknowledged the need for more scientific research to determine aviation's contribution to climate change and asserted its mandate to address and propose policies to mitigate these impacts.[234] IATA strongly supported this shift in focus, advocating for ICAO to be the primary forum for aviation-related environmental discussions, rooted in concerns that the international climate regime might impose limitations on the industry's economic development.[235] By consolidating ICAO as the main forum for these discussions, the industry sought to ensure a coordinated, multilateral response that would prevent the

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[230] *Ibid.*

[231] International Civil Aviation Organization, *Resolution A22-12 on international civil aviation and the human environment.* Resolutions adopted by the Assembly and index to documentation, Doc 9215, Assembly 22nd Session, 1977.

[232] United Nations Framework Convention on Climate Change, 9 May 1992, 1771 UNTS 107, Can TS 1994 No 7.

[233] Braga Anselmi, *supra* note 226 at 85.

[234] International Civil Aviation Organization, *Resolution A29-12 on environmental impact of civil aviation on the upper atmosphere.* Resolutions adopted by the Assembly and index to documentation, DOC 9600, 1992.

[235] International Air Transport Association, "*Environmental Protection*" Working Paper Doc A29-WP/68, submitted to the 29th ICAO Assembly, 1992.

emergence of fragmented regulatory regimes, which could complicate the harmonization of aviation rules and increase transaction costs.[236]

In 1997, the Kyoto Protocol of the UNFCCC further solidified ICAO's role by granting it a clear mandate to address greenhouse gas emissions from international aviation.[237] Two key factors contributed to this delegation of responsibility: the complexity of allocating aviation-related greenhouse emissions to specific countries and the lack of consensus among States on the necessary actions to address climate change.[238] Despite this expanded role, ICAO was initially hesitant to implement measures that could potentially harm the economic interests of the aviation industry. This reluctance led to the European Union taking a significant step in 2005 by establishing the Emissions Trading System (ETS) as a central policy tool to combat climate change through the reduction of carbon emissions. In 2012, the EU sought to extend the ETS to include international aviation, requiring all airlines operating to and from the EU, including non-EU carriers, to pay for their carbon emissions.[239] This decision sparked disputes between the EU and non-EU countries, with the latter arguing that the EU's attempt to regulate emissions beyond its airspace constituted a violation of international law and an infringement on their sovereignty.[240]

To avoid escalating political tensions and to allow ICAO time to develop a global solution, the EU temporarily suspended the inclusion of non-EU carriers in the ETS

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[236] *Ibid.*

[237] Kyoto Protocol to the United Nations Framework Convention on Climate Change, 11 December 1997, 2303 UNTS 148, Can TS 2005 No 7, Article 2.

[238] Beatrice Martinez Romera, "*Regime interaction and climate change: the case of international aviation and maritime transport*", New York: Routledge (2018) at 182.

[239] European Parliament. "Directive 2008/101/EC of the European Parliament and of the Council of 19 November 2008 amending Directive 2003/87/EC so as to include aviation activities in the scheme for greenhouse gas emission allowance trading within the Community." *Official Journal of the European Union* 50 (2009): 3-21.

[240] See for example Florian Wozny et al, "CORSIA—A Feasible Second Best Solution?" (2022) 12:14 Applied Sciences 7054, and J Liu, "The Role of ICAO in Regulating the Greenhouse Gas Emissions of Aircraft" (2012) 5:4 Carbon & Climate Law Review 417–431.

through a decision known as ”Stop the Clock”.[241] This pause created the impetus for ICAO to intensify its efforts and pursue several initiatives aimed at mitigating the global environmental impact of international aviation. These efforts culminated in the adoption of the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) at the ICAO Assembly in October 2016. CORSIA introduced a global market-based mechanism similar to the ETS, requiring participating airlines to monitor, report, and offset their international flight emissions above a specified baseline. Airlines would achieve this by purchasing carbon offsets that represent emissions reductions elsewhere, effectively balancing out their own emissions. While CORSIA has faced some criticism regarding its efficiency,[242] it is widely regarded as a groundbreaking initiative that successfully unified the aviation industry in its efforts to combat climate change.

The Environment Saga serves as a compelling illustration of two critical dynamics in international aviation governance. Firstly, it demonstrates how member States can acquiesce to an expansion of ICAO's mandate under the influence of industry pressure. This pressure, coupled with the practical need for a consistent global regulatory framework, has led member States to support a de facto expansion of ICAO's mandate to include environmental protection as a central concern. Secondly, it underscores the potential of a universal framework to address global issues effectively, even in the face of divergent national laws and perspectives. Despite varying national policies on climate change and differing levels of commitment to environmental protection, ICAO has managed to secure widespread participation in a global scheme.

This same approach could be applied to data protection, where ICAO's leadership could help harmonize regulations across diverse legal landscapes by addressing privacy

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[241] Commission of the European Union, *DECISION No 377/2013/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 April 2013 derogating temporarily from Directive 2003/87/EC establishing a scheme for greenhouse gas emission allowance trading within the Community*.

[242] See for example Florian Wozny et al, “CORSIA - A Feasible Second-Best Solution?” (2022) 12:14 *Applied Sciences 7054*, Jin Liu, “The Role of ICAO in Regulating the Greenhouse Gas Emissions of Aircraft” (2012) 5:4 *Carbon & Climate Law Review* 417–431, and Tom Prater, “Corsia: The UN’s plan to ‘offset’ growth in aviation emissions”, (4 February 2019), online: *Carbon Brief* <https://www.carbonbrief.org/corsia-un-plan-to-offset-growth-in-aviation-emissions-after-2020/>.

concerns while streamlining compliance for airlines operating in multiple jurisdictions. Furthermore, EU's considerable influence within ICAO, evidenced by its strong presence in both the ICAO Council and the Committee on Aviation Environmental Protection (CAEP), as well as the coordinated efforts of individual European States and additional representation from the EU and the European Civil Aviation Conference (ECAC) as observer members, positions it well to successfully push other member States to support an expansion of ICAO's mandate to include data protection, similar to its successful efforts in the realm of environmental regulation.

3.2. Innovative Approaches to International Air Law

Even if an expansion of ICAO's mandate were to be achieved, the persistent challenge of aligning the diverse perspectives of Council member States in order to pass a new legal framework would remain due to the complexities of political dynamics and national interests. The heterogeneity of political, economic, and security priorities among States can create significant barriers to consensus, particularly when addressing reforms in international air law. To navigate these obstacles, one potential solution lies in re-examining key aspects of international air law through innovative legal perceptions. By adapting existing legal principles to contemporary challenges, ICAO could establish norms that, over time, gain the force of customary international law, becoming legally binding even without explicit State consent. Embracing such innovative legal perspectives could help bridge the political divide, allowing for the creation of a more progressive and inclusive legal architecture for international aviation.

3.2.1. ICAO and Human Rights

At the Chicago Conference, the drafters of the Chicago Convention foresaw the creation of a post-war international organization like the United Nations. As a result, they included Article 64 in the Convention, which allowed ICAO to establish arrangements with a global organization focused on maintaining peace if approved by a vote of the

ICAO Assembly.[243] During the first ICAO Assembly in May 1947, a Resolution was unanimously adopted by the 32 Contracting States, approving a formal relationship with the United Nations and authorizing the ICAO Council President to sign the necessary protocol. On October 3, 1947, President Edward Warner signed the protocol, officially making ICAO a specialized agency of the UN.[244]

As a specialized agency, ICAO is bound by the cooperative framework established by Article 57 and Article 63 of the UN Charter.[245] The relationship between specialized agencies and the UN extends beyond a purely legal framework, imposing a moral responsibility to maximize the effectiveness of their collaboration. In their respective areas of expertise, these agencies operate as 'executive organs' or 'executive arms' of the UN, contributing to its overarching goals.[246] Thus, while Article 1 of the agreement between ICAO and the UN[247] recognizes the autonomy of ICAO, the organization is also obligated to operate in coordination with the UN to fulfill its broader purposes, including the promotion of international peace and security, economic and social development, and human rights protection.[248] This foundational obligation is reinforced through other agreements between ICAO and the UN, which explicitly include commitments to various social and humanitarian concerns, underscoring the agency's role in supporting human rights.[249]

The importance of human rights within the whole UN system is explicitly reinforced by the UN Secretary-General's declaration that "human rights must be incorporated into

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[243] International Civil Aviation Organization, "ICAO and the United Nations", online: https://www.icao.int/about-icao/History/Pages/icao-and-the-united-nations.aspx.

[244] *Ibid.*

[245] Charter of the United Nations, 26 June 1945, Can TS 1945 No 7.

[246] Eugene Sochor, "ICAO in the United Nations Context: A Case History in Functionalism" in *The Politics of International Aviation* (London: Palgrave Macmillan UK, 1991) at 51.

[247] Relationship Agreement Between the United Nations and the International Civil Aviation Organization, 13 May 1947, 21 UNTS 51.

[248] See particularly regarding the promotion of human rights in Article 55 c) of the Charter of the United Nations, 26 June 1945, Can TS 1945 No 7.

[249] Sochor, *supra* note 246 at 52.

decision-making and discussion throughout the work of the Organization". [250] This commitment extends to all areas of the UN's operations, including specialized agencies like ICAO. The Secretary-General has further emphasized the necessity for "human rights [to be] fully considered in all decision-making, operations, and institutional commitments", with the goal of strengthening UN leadership in advancing human rights, enhancing synergies across all pillars of the UN's work, and responding innovatively to emerging challenges in the field.[251]

ICAO has on several occasions demonstrated its commitment to human rights through actions that align with broader UN policies. For example, in the early years of ICAO, the organization faced political pressure regarding the membership of Francoist Spain and apartheid South Africa. In both cases, ICAO took steps that reflected the UN's stance against regimes violating human rights. Spain was excluded from ICAO due to its fascist regime, aligning with UN resolutions that sought to isolate Franco's government.[252] Similarly, ICAO's actions against South Africa during the apartheid era, including recommending sanctions and suspending its membership, were guided by the broader UN agenda to combat racial discrimination and promote human rights.[253] No later than 2022, ICAO condemned Russia's invasion of Ukraine and took significant measures to address the situation.[254] On June 15, 2022, ICAO called on Russia to stop the dual registration of aircraft, which violates international aviation norms. These actions were part of a broader set of international sanctions that disrupted the operations of Russian airlines by prohibiting leasing, maintenance services, and airworthiness certifications.[255] ICAO's commitment to human rights is also evident in its adherence to recommendations from

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[250] Medium, "Human Rights in the World Health Organization - PMC (nih.gov)", online: https://medium.com/@WeWantDrTedros/human-rights-in-the-world-health-organization-a-q-a-with-dr-tedros-b50a57863c99.

[251] António Guterres, United Nations Secretary-General on the occasion of the seventy-fifth anniversary of the United Nations, "The Highest Aspirations – A Call to Action for Human Rights".

[252] Sochor, *supra* note 246 at 42.

[253] Sochor, *supra* note 246 at 46-47.

[254] European Commission, "Commission welcomes international condemnation of Russia for violation of aviation rules", online: Commission welcomes international condemnation of Russia for violation of aviation rules - European Commission (europa.eu).

[255] Aviation International News, "ICAO Calls on Russia to Cease Dual Aircraft Registration", online: ICAO Calls on Russia to Cease Dual Aircraft Registration | Aviation International News (ainonline.com).

the UN regarding various social and humanitarian issues. For instance, ICAO has addressed issues such as the rights of Palestinians and the status of women, reflecting its alignment with the UN's human rights agenda.[256]

The recognition of human rights within the realm of international aviation is further reinforced by global human rights instruments. In terms of data protection, ICAO is cognizant of and committed to the Universal Declaration of Human Rights (UDHR),[257] the International Covenant on Civil and Political Rights (ICCPR),[258] the UN Personal Data Protection and Privacy Principles,[259] as well as the Secretary-General's Data Strategy.[260] The UDHR acknowledges the inherent dignity and equal rights of all individuals, emphasizing the right to freedom of movement, life, liberty, and security.[261] This overarching obligation to protect human rights brings to the forefront the fundamental issue of the privacy versus security dilemma. ICAO, with its primary responsibility to ensure safe and secure civil aviation, underscores the necessity of efficient counter-terrorism measures as a means to safeguard the right to security. However, when these security measures encroach upon other human rights, such as the right to privacy and data protection, ICAO must carefully balance its approach to uphold the rule of law on both fronts. The organization must navigate this delicate balance, ensuring that security measures are implemented without disproportionately infringing on privacy rights, thereby maintaining a lawful and respectful equilibrium between all individual rights and freedoms.

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[256] Sochor, *supra* note 246 at 52.

[257] Universal Declaration of Human Rights, GA Res 217 A (III), UNGAOR, 3rd Session, Supp No 13, UN Doc A/810 (1948).

[258] International Covenant on Civil and Political Rights, 16 December 1966, 999 UNTS 171 (entered into force 23 March 1976).

[259] United Nations Personal Data Protection and Privacy Principles, UN Doc ST/SGB/2018/3, 11 December 2018.

[260] Opening Remarks by the Council President of the International Civil Aviation Organization, Mr. Salvatore Sciacchitano, to the Data Protection & International Carriage by Air Seminar, Montréal 27th of September, 2023, online: https://www.icao.int/about-icao/MrSciacchitano/Documents/20230927_PRES_opening_speech.IATA%20Legal%20Seminar_Data%20Privacy.FINAL%20POSTED.pdf.

[261] Universal Declaration of Human Rights, GA Res 217 A (III), UNGAOR, 3rd Sess, Supp No 13, UN Doc A/810, (1948) 71, arts 1, 3, 13.

3.2.2. Non-Consensualism as a Catalyst for Human Rights Protections

As with any other specialized branch of international law, the Chicago Convention is based on the fundamental principle of State sovereignty which affirms that each State has control over its airspace, letting the principle of nationality govern international civil aviation relations.[262] As Abeyratne observes, "[i]n international aviation, the concept of sovereignty is the fundamental postulate upon which other norms and virtually all air law is based".[263] At the international level, sovereignty dictates that a State is not bound by a rule it has not agreed to, particularly in areas where its authority is exclusive. Consequently, international air law is fundamentally intergovernmental and inherently linked to nationality requirements.[264] While this traditional interpretation of State sovereignty ensures territorial integrity and national security, it simultaneously restricts the efficient regulation of international aviation, leading to a paradox where the principle that enables international aviation also hinders its optimization.[265] This tends to emphasize national control to the extent that it often hinders international collaboration and efficiency. For instance, the absolute sovereignty of States allows them to impose various restrictions on foreign aircraft, which can lead to a disjointed and inefficient global aviation system. This approach fails to recognize the inherently international character of civil aviation, where cooperation and harmonization of rules are essential for safe and efficient operations. Michael Milde reinforces this, though only focusing on one aspect of a much larger problem, by stating that "[t]he perspectives of the globalization of international trade make it apparent that the complex network of hundreds of un-coordinated bilateral agreements is an obstacle to the liberalization of this economic activity."[266] He further notes that international law, while creating some obstacles, offers

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[262] The Chicago Convention, Art. 1.

[263] Ruwantissa Abeyratne, Role of Civil Aviation in Securing Peace, 19 INT'L J. WORLD PEACE 53, 54 (2002) at 10.

[264] Correia, *supra* note 126 at 5.

[265] See SG Sreejith, Lakshmi Srinivasan & Vistasp Irani, "The Philosophy of International Aviation Law" (2023) 33:1 IICLR 169–190 and J A C Salcedo, "Reflections on the Existence of a Hierarchy of Norms in International Law" (1997) 8:4 European Journal of International Law 583–595.

[266] Michael Milde, "Problems of Safety Oversight: Enforcement of Icao Standards" in Chia-Jui Cheng, ed, The Use of Air and Outer Space Cooperation and Competition (Brill | Nijhoff, 1998) 251 at 108.

many possibilities through renewalist thinking and re-imagination.[267] Therefore, it is essential to move beyond the limited epistemology of international air law and develop new frameworks and discursive patterns to effectively govern civil aviation.[268]

Non-consensualism, or objectivism, in international law challenges the consensualist approach by asserting that certain legal norms exist independently of State consent. Objectivist theories argue that some norms are universally binding due to their fundamental importance to the international community and cannot be overridden by State consent.[269] Such a non-consensual approach, though controversial, suggests a move towards binding international rules based on global necessity rather than individual State agreement. This represents a hierarchy within international law, imposing limitations on State sovereignty for the sake of fundamental values, such as the protection of fundamental human rights.[270] The notion of an international community, as opposed to a mere collection of sovereign States, further underscores this shift towards a more cooperative and integrated global legal order and the growing importance of international organizations, human rights protection, and collective security arrangements.

While the consensual nature of treaties such as the Chicago Convention underscores the importance of State agreement, the increasing complexity of global aviation challenges might demand a reevaluation of this principle to demonstrate that non-consensualism and objectivism can coexist. The push for uniform human rights standards in aviation could lead to a shift toward more non-consensual approaches, where States may be bound by certain rules even without explicit consent for the greater good of international aviation, even without explicit consent. This aligns with broader trends in international law that emphasize the regulation of global challenges through binding international norms, rather than relying solely on State discretion. Such a shift towards non-consensualism in

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[267] *Ibid*.

[268] SG Sreejith, Lakshmi Srinivasan & Vistasp Irani, "The Philosophy of International Aviation Law" (2023) 33:1 IICLR 169–190 at 172.

[269] Lim, C. L., and Olufemi Elias. "Withdrawing from Custom and the Paradox of Consensualism in International Law." Duke Journal of Comparative & International Law, vol. 21, no. 1 (2010) pp. 143-156.

[270] J A C Salcedo, "Reflections on the Existence of a Hierarchy of Norms in International Law" (1997) 8:4 European Journal of International Law 583–595 at 593.

specific areas of international air law would not undermine State sovereignty but instead recognize the necessity of collective action to protect fundamental human rights.

A shift towards non-consensualism through the recognition of customary international law and human rights law could provide a solid foundation for prioritizing certain human rights, including the right to privacy and data protection, over other legal considerations. As Salcedo highlights, the development of these peremptory norms reflects the growing interconnectedness of international society, underscoring the necessity for certain fundamental rights to be upheld universally and unconditionally.[271] As data protection and privacy have emerged as fundamental human rights, their safeguarding is increasingly seen as a global public good. Viewing data protection and privacy through an objectivist lens supports the idea that these rights should be protected as universal norms, similar to *jus cogens* norms, that apply to all States regardless of their specific agreements or practices.

In the context of international civil aviation, provisions that protect human rights, whether or not they hold the status as *jus cogens* norms or obligation *erga omnes*, should be paramount in the hierarchy of norms. This approach underscores the importance of moving beyond a fragmented legal landscape towards one that recognizes the primacy of human rights, ensuring that the right to privacy and data protection remains at the forefront of legal and regulatory considerations in international civil aviation.

3.2.3. Re-thinking the Hierarchy of Norms

Classical discussions on the sources of international law are based on Article 38(1) of the Statute of the International Court of Justice, which outlines the sources of law ICJ can consider.[272] In addition to these sources, various general principles underpin the international legal system, serving as fundamental norms that promote stability, fairness,

[271] Sreejith et al, *supra* note 268 at 194.

[272] Statute of the International Court of Justice, 26 June 1945, Can TS 1945 No 7.

and cooperation in the interactions between states and other international actors.[273] According to Dempsey (2017), the special characteristics of public international air law require an even broader and more practical approach, including "multilateral conventions; ICAO SARPs; bilateral agreements (e.g., traffic rights, safety, security); customary international law; intergovernmental decisions and regulations (e.g., those of the European Union); national legislation and regulation; administrative practice and procedure; contracts (e.g., air carrier alliance agreements, airport agreements); judicial opinions; jurisprudence of courts interpreting all the above in cases and controversies brought before them".[274] In other words, more or less every potential domain of regulation in civil aviation is fitted into the scope of Article 38(1).

In classical discussions of international law, legal sources have a hierarchical structure. Treaties and customary international law are typically seen as primary sources, carrying more direct legal authority, while other sources such as judicial decisions and academic writings are subsidiary sources, often used for interpretation or clarification. The problem with this approach is that it prioritizes certain sources over others, leaving the rest to rely on interpretative functions to remain relevant.[275] This can be theoretically contested by international air law, where the sources of law are regarded as having equal authority, with no formal hierarchy between them.[276] However, when historically dominant norms influence the framework, many valuable regulations in the sub-normative spaces are overlooked which limits the normative scope and fails to accommodate the dynamic and interconnected nature of modern civil aviation.[277] This is the case with the many extended sources of international air law, included within the normative scope of Article 38(1) without historical legitimacy, relying instead on the aspirations of scholars and a perceived sense of legitimacy.[278]

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[273] Edward McWhinney, "International Law and the Freedom of the Air—The Chicago Convention and the Future", 1 RUTGERS-CAMDEN L.J. at 229, 231.

[274] Paul Stephen Dempsey, *Public International Air Law* (1st ed, Montreal: McGill University, 2017).

[275] Sreejith et al, *supra* note 268 at 194.

[276] Dempsey, *supra* note 274.

[277] Sreejith et al, *supra* note 268 at 178.

[278] *Ibid.*

A re-evaluation of the legal sources in international air law could present many advantages. For example, while some consider both the Standards and the Recommended Practices of ICAO as soft law, they play an indispensable role in maintaining the dynamism of air law. Their ability to continuously adapt to shifting geopolitical and economic conditions allows them to effectively address and serve public interests in a way that more rigid legal frameworks cannot. Moreover, SARPs establish "the limits of legal conduct" by providing clear guidelines while allowing for flexibility within reasonable bounds.[279] This balance is crucial in international aviation, where the regulatory environment must be both robust and adaptable to ensure safety, security and efficiency. The dynamic nature of SARPs ensures that aviation law can promptly respond to new challenges and developments, such as technological advancements, emerging threats, and evolving market conditions. Furthermore, they are crafted by aviation experts uniquely positioned to create provisions that no other rule-making body can match in their suitability for the specific needs of the aviation industry. Their ability to bridge the gap between strict legal norms and practical operational requirements and their vital contribution to the effective governance of international airspace makes them a cornerstone of modern air law, allowing for a more comprehensive approach to regulation.

Despite their importance, SARPs are confined to the annexes of the Chicago Convention due to Article 37, which grants ICAO the exclusive authority to adopt and amend them. This exclusivity has created a narrow, ICAO-centric discourse, restricting the value of the standards from other aviation stakeholders; the voices from the frontline that represent the pulses of function. Although these standards often provide practical insights into the creation process of new SARPs, the lengthy consensus-based process for incorporating them into ICAO's Standards can dilute their effectiveness and relevance.[280] SARPs' core value is their ability to create uniformity of international air law. However, scholars argue that achieving this does not require limiting standards to those set by ICAO.[281] A broader

[279] *Ibid* at 188.

[280] *Ibid.*

[281] See for example Francesco Giovanni Albissini, "The Rise of Global Standards: ICAO's Standards and Recommended Practices", 18 ITALIAN J. PUB. L. 203, 214 (2016) and SG Sreejith, Lakshmi Srinivasan & Vistasp Irani, "The Philosophy of International Aviation Law" (2023) 33:1 IICLR 169–190.

approach, incorporating various sources of aviation standards, can better serve the goals of the industry. This involves rethinking SARPs' epistemological foundations, recognizing contributions from diverse aviation actors, and integrating these standards and guidelines from other parts of the aviation industry into the regulatory framework.[282]

To address this issue, Sreejiyh et al (2023) advocate for the adoption of a modern regulatory framework that incorporates practical standards set by national aviation agencies, pilot and air traffic controller associations, and air crash investigation bodies, into ICAO's SARPs.[283] This approach holds merit, particularly in areas such as data protection, where standards from relevant industry entities could complement the provisions of the Chicago Convention. Recognizing relevant input from a broader industry spectrum, even as "soft law", can address the dynamic and rapidly changing nature of global aviation more effectively.

3.3. Conclusions

ICAO's clear objective is to foster the planning and development of international air transport to meet the needs of the people for safe, regular, efficient, and economical air transport. While the primary focus of ICAO has traditionally been on the safety and efficiency of air travel, the evolving landscape of international aviation necessitates a rethinking of ICAO's role in international civil aviation. The potential for expanding ICAO's mandate to include the protection of passenger data and privacy can potentially be substantiated through legal frameworks found both within and outside of the Chicago Convention itself.

Customary international law, grounded in consistent State practice and *opinio juris*, serves as a dynamic source of the development of new international norms. As States increasingly recognize the importance of data protection in various domains, including aviation, consistent State practice can establish data protection as a customary norm. By demonstrating a readiness to grant ICAO the authority to regulate in this area, States are

[282] Sreejith et al, *supra* note 268 at 189.

[283] *Ibid*.

collectively contributing to the establishment of a norm that recognizes data protection in civil aviation as a legal obligation under international air law. Human rights law, with its emphasis on safeguarding fundamental rights, can support this development. The right to privacy, recognized as a fundamental human right under various international instruments, underscores the importance of protecting personal data as an integral component of this right. By integrating data protection into its regulatory framework, ICAO can not only fulfill its mandate as a specialized UN agency committed to upholding human rights within the aviation sector but also contribute to the establishment of *opinio juris* by framing data protection as a human rights obligation. Thus, as ICAO takes a firmer stance on regulating data protection, it not only encourages the necessary State practice but also facilitates the establishment of *opinio juris* that can transform data protection into a recognized and binding norm under customary international law. This dual approach ensures that data protection evolves from being a best practice to becoming an integral part of the legal obligations of international air law. A shift towards non-consensualism through the recognition of customary international law and human rights law could provide a solid foundation for prioritizing the right to privacy and data protection over other legal considerations.

The historical development of ICAO's environmental regulations sets a precedent for this approach. Industry pressure led to the successful expansion of ICAO’s mandate to address climate change, illustrating how customary international law can be instrumental in broadening the organization's responsibilities. This demonstrates the feasibility of establishing a universal framework that harmonizes legal approaches, even in areas where States hold divergent views. By drawing parallels between environmental protection and data privacy, a similar case can be made for expanding ICAO’s role to include universal data protection standards in aviation.

Despite the strong legal basis for expanding ICAO’s mandate, several challenges remain. Formalizing customary international law within the specialized domain of international air law requires ICAO to tread carefully. Expanding its role to influence global legal norms beyond ICAO’s explicit mandate risks creating tension between upholding the rule of law and overstepping its legal authority. States may be reluctant to cede additional regulatory

authorization to an international body, particularly in areas perceived as sensitive as national security and data protection. The balance between State sovereignty and international regulation is delicate, and achieving consensus can be difficult. ICAO must ensure the promotion of customary international law is legitimate and widely accepted, without compromising its foundational mandate or disrupting the established international legal order.

Structural inertia within ICAO is another obstacle that could hinder the adoption of new policies, and long-standing practices and bureaucratic resistance can slow down the implementation of innovative measures. Moreover, as any legislative change within ICAO requires the support of a majority of Member States in the Council, reaching a consensus on data protection measures can be challenging given the diverse interests and priorities of these States. Some States may prioritize national security over data protection, complicating efforts to establish robust and universally accepted privacy standards.

Nevertheless, based on these conclusions, this thesis argues that there are several ways to find a legal basis for ICAO to take command over the issue of passenger data in a way that not only focuses on the pure facilitation of data flow but also ensures the protection of such data in line with human rights law. This is a logical extension of ICAO's existing responsibilities, and a necessary evolution to maintain trust and security in the rapidly advancing digital age. Just as the evolution of international air law may require a shift toward non-consensualism to address global challenges, the promotion of data protection and privacy can benefit from an objectivist framework. By recognizing these rights as fundamental and universally applicable, the international community can ensure that data protection and privacy are safeguarded as part of a broader commitment to human rights and global governance, irrespective of individual State consent. Perhaps it is time for ICAO to, as Ruwantissa Abeyratne suggests, "think out of its [80]-year-old box and be[come] a beacon to air transport regulators".[284]

[284] Ruwantissa Abeyratne, *Regulation of Air Transport: The Slumbering Sentinels* (Cham: Springer International Publishing, 2014), at preface vi.

Chapter 4.

Practical Solutions

While some advocate for a facilitation-oriented approach to managing PNR data, emphasizing pragmatic and practical problem-solving,[285] counterarguments highlight that this perspective overlooks the broader legal and operational challenges inherent in the issue.[286] Facilitating the smooth exchange of PNR data is undoubtedly important for effective security measures and ensuring operational sustainability for air carriers, but it is only one aspect of a much larger and more complex set of concerns. Legal complexities and inconsistencies across jurisdictions create significant challenges that cannot be resolved by facilitation alone. As underlined during the ICAO Assembly Committee in 2022, "complex conflict of laws and legal compliance issues are broader than the provisions of Annex 9 – *Facilitation*",[287] and require a more comprehensive and holistic approach. Addressing these issues effectively demands a commitment to harmonizing international data protection standards.

Though efforts to raise awareness of the challenges presented in this thesis have been valuable, it is now time to shift the focus toward identifying and implementing realistic solutions. This chapter explores practical solutions that move beyond awareness-raising to actionable strategies. Starting with ICAO's expanded mandate in data protection, the next crucial step is to establish a universal legal framework for data transfer that harmonizes international practices and ensures consistent data protection standards across borders. Another suggested action is to integrate all data-related provisions into a dedicated annex of the Chicago Convention, thereby highlighting the importance of human rights alongside the facilitation of data transfer and creating a clearer, more cohesive regulatory structure for States to follow. Additionally, a shift towards a reward-

[285] As suggested by Laurant Pic, previous Ambassador and Permanent representative of France on the Council of ICAO, during the seminar on Data Protection in Civil Aviation in Montreal, 27-28th of September 2023, "The Role of ICAO in enhancing awareness amongst regulators".

[286] Gill, *supra* note 115.

[287] International Civil Aviation Organization, Executive Committee Report of the 41st Assembly, (2022) Doc 10183, paragraph 13.26.

based compliance system could incentivize higher standards of data protection by offering tangible benefits to compliant States. Finally, making audit results publicly accessible is suggested to create external pressure on States, enhancing accountability and transparency.

4.1. Establishment of a Universal Framework

Historically, the U.S. played a pivotal role in shaping the global approach to the collection and use of passenger data in the aviation sector, leading to significant amendments of Annex 9 of the Chicago Convention which influenced all other Member States. This precedent illustrates how a single nation or region can shape global norms. However, although other regions may not ascribe the same normative value to data protection and privacy as the EU, the EU will likely continue to uphold and possibly even strengthen these protections. Case law from the CJEU and the ECtHR underscores the EU's unwavering commitment to maintaining robust data protection measures across borders and industries, making it unlikely that the EU will soften its stance.

The GDPR's extensive influence beyond the EU's borders has cemented its status as a globally recognized framework.[288] Thus, for a more unified global approach to data protection and to address the issues of fragmentation, there is a strong likelihood that international standards will increasingly need to align more with the EU's legislative framework rather than the EU adapting to others. Consequently, the EU's robust data protection regulations, epitomized by the GDPR, may serve as a benchmark for global norms when aiming to achieve harmonization and consistency in protecting individuals' data and privacy rights across borders. Given the EU's current leadership in data protection, ICAO could similarly draw upon established EU practices and existing bilateral PNR agreements. Such an alignment would not only raise global minimum standards through a universal legal framework but also potentially rebalance the

[288] Article 3.2 specifies the territorial scope of the regulation, making it applicable to all data transfers to and from the EU.

historical dominance of the U.S. in this domain and reflect the EU's growing influence in setting global data protection norms.

To formulate a universally accepted and legally binding framework for the handling of air passenger data it is essential to establish a solid legal basis that accounts for the complex interplay between security, data protection, and international cooperation. To find common ground in a legal basis that could be universally accepted, relevant general legal principles must be taken into consideration as well as specific principles of privacy and data protection. To get the EU on board such a task, one must keep in mind that data protection law has been given a special place in the EU legal order. The fundamental right to data protection is directly protected by EU primary law. In a recent Opinion by CJEU, the Advocate General stressed that "the right of natural persons to the protection of personal data [enshrined in Article 16 TFEU] is of singular importance compared with the other fundamental rights included in the Charter".[289] Thus, when discussing a global approach to data protection in civil aviation, one has to keep in mind that a comprehensive data protection framework adopted on the basis of Article 16 TFEU already exists within the EU, consisting of the GDPR, the ePrivacy Directive,[290] LED,[291] and the European Union Data Protection Regulation (EUDPR).[292] A universal legal basis for processing air passenger data does not have to provide the same protection as the European laws, but it will need to fully comply with those instruments to the extent they are applicable.[293]

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[289] Opinion of Advocate General Szpunar, delivered on 11 May 2023, Case C-33/22 *Österreichische Datenschutzbehörde v. WK, Präsident des Nationalrates.*

[290] Directive 2002/58/EC of the European Parliament and of the Council of 12 July 2002 concerning the processing of personal data and the protection of privacy in the electronic communications sector (Directive on privacy and electronic communications), [2002] OJ L 201/37.

[291] Directive (EU) 2016/680 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data by competent authorities for the purposes of the prevention, investigation, detection or prosecution of criminal offences or the execution of criminal penalties, and on the free movement of such data, [2016] OJ L 119/89.

[292] Regulation (EU) 2018/1725 of the European Parliament and of the Council of 23 October 2018 on the protection of natural persons with regard to the processing of personal data by the Union institutions, bodies, offices and agencies and on the free movement of such data, [2018] OJ L 295/39.

[293] European Data Protection Supervisor, "Brussels Privacy Symposium on the EU Data Strategy", opening remarks Wojciech Wiewiórowski, 14 November 2023, online: https://www.edps.europa.eu/data-

If ICAO was to establish a universal legal framework for data protection in civil aviation, it should focus specifically on the handling of data related to aviation security and border control, namely API and PNR data, rather than data protection in general. Firstly, because other types of data, such as cargo information, baggage details, and flight operation data, do not pose the same level of sensitivity in terms of privacy and data protection. API and PNR data present unique challenges and legal considerations that differ from broader data protection issues. Secondly, expanding the framework to encompass general data protection would introduce unnecessary complexity and potentially hinder the effectiveness of measures designed to safeguard security. Focusing solely on API and PNR data allows ICAO to create a more targeted and practical framework that addresses the specific operational needs of the aviation industry, while still adhering to international human rights and data protection principles.

4.1.1. Key Elements

When implementing legal norms, States must adhere to both national and international standards designed to uphold democratic principles, including the rule of law. In adopting regulations governing the handling of personal data, the fundamental rights to privacy and data protection should not be unduly compromised.[294] As outlined in the ECHR and the EU Charter, any interference with these fundamental rights must satisfy the criteria of legality, pursue a legitimate aim of general interest, and be necessary and proportionate to achieving that aim.[295] The principle of proportionality, in its broad sense, is particularly important and must be adhered to in order to justify an interference. This means that the measure in question must be suitable and appropriate to achieve the general interest objective (in this context security), be strictly necessary and impose the least burden

protection/our-work/publications/speeches-articles/2023-11-14-opening-remarks-brussels-privacy-symposium-eu-data-strategy_en.

[294] Plixavra Vogiatzoglou et al, "From Theory To Practice: Exercising The Right Of Access Under The Law Enforcement And PNR Directives" (2020) at 275.

[295] See Council of Europe, European Convention on Human Rights (last amendment 2010) (ECHR), art 8(2). Charter of Fundamental Rights of the EU [2016] OJ C202/391 (Charter) Art. 52(1).

possible in relation to the intended goal.[296] Furthermore, it must be proportionate in the strict sense, ensuring a fair balance between the measure and its impact.[297]

Apart from establishing a universal legal basis for the transfer of passenger data, several key points must be addressed and clarified to ensure the effective safeguarding of human rights while meeting the security and operational needs of the aviation industry. First and foremost, the framework must establish robust judicial and administrative remedies for individuals whose data has been unlawfully processed, as stated in ICAO's Guidelines on PNR.[298] Ensuring access to justice is a critical human rights issue, but the effectiveness of redress mechanisms often varies across jurisdictions. Therefore, the framework must standardize these mechanisms to ensure that individuals, regardless of where they are, have equitable access to remedies. This is particularly important for ensuring that no one is disadvantaged by variations in legal protections between States.

Transparency and informed consent are also crucial components of any legal framework concerning PNR data.[299] Passengers should be fully informed about the collection, processing, and protection of their data, along with their rights to seek redress in case of misuse. However, the operational challenges faced by aircraft operators in informing customers about the transfer of PNR data must also be taken into consideration in this context.[300] Ensuring that passengers understand these processes and their implications might be challenging, especially given the diverse legal systems, languages, and levels of digital literacy globally. The framework should therefore mandate clear, standardized communication practices that ensure all passengers, regardless of location or language, are adequately informed through procedures that are also feasible for operators to implement consistently across various regions.

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[296] Vogiatzoglou et al, *supra* note 294 at 276.

[297] *Ibid.*

[298] International Civil Aviation Organization, *supra* note 5 at 2.14.3.

[299] *Ibid* at 2.14.1.

[300] *Ibid* at 2.15.2.

Mironenko Enersvedt (2017) further argues that protecting human rights in the evolving landscape of new technologies requires a combination of general technology-neutral regulation and technology-specific regulation.[301] The former addresses common challenges posed by emerging technologies as primary legislation, while the latter enhances legal certainty for specific technologies as secondary legislation.[302] In aviation security regimes, technologies are often implemented before specific regulations are in place, relying on broad, general laws that can encompass a wide range of activities. Consequently, international privacy and data protection regulations have tended to favor technology-neutral approaches over technology-specific ones. This trend is also evident in the reliance on general data protection laws, rather than developing specific provisions tailored to the handling of PNR data.[303] To more effectively address the security versus privacy dilemma, the focus should shift towards increasing the use of technology-specific regulations that account for the unique characteristics of civil aviation. Such an approach would provide greater clarity and precision in balancing security requirements with the protection of personal data in the context of civil aviation.

The EU legislation grants individuals the right to access, correct, or delete their PNR data, but enforcing this in a universal framework will likely be challenging. To exercise these rights, individuals would need access to the data systems that store their information, which, due to security concerns, is a significant hurdle. Even within the EU, where these rights are established, practical implementation has proven difficult. Extending such provisions globally would require overcoming varying legal structures and technological capabilities, making it highly complex to enforce consistently across different jurisdictions.

4.1.2. Case Study: The OECD

For more than 40 years, the Organisation for Economic Co-operation and Development (OECD) has been a key player in promoting international cooperation on various

[301] Mironenko Enerstvedt, *supra* note 13 at 399.

[302] *Ibid.*

[303] *Ibid* at 401.

dimensions of data and data flows by serving as a unique forum for establishing standards, facilitating international dialogue, and conducting in-depth policy research and analysis for sensitive areas such as health, finance, and national security.[304] The OECD has created several legal documents on data protection to protect individual privacy and personal data while not impeding the transborder flow of data. The Declaration on a Trusted, Sustainable and Inclusive Digital Future ("the OECD Declaration"), adopted on December 15, 2022, represents a significant milestone in the work of OECD as the first international agreement on data privacy and law enforcement in national security. The declaration emphasizes the need for legitimate government access to data, shared principles across countries, and promoting trust in cross-border data flows. By establishing common principles, including legal basis, legitimate aim, approvals for law enforcement and national security access, data handling rules, transparency, oversight, and redress mechanisms, the declaration acknowledges that while States may implement them differently, they can achieve the same end-goal.[305]

As an additional part of their work on data governance and privacy, the OECD has put together project groups on different topics aiming to explore potential strategies to enhance policy efforts in building trust in data and data flows by facilitating a series of regionally focused consultations. By gathering data flow experts from diverse fields, including technical experts, government, regulatory bodies, civil society, academia, and industry, the objective is to identify region-specific challenges and consider potential solutions.[306] The aim is to assess how the intricate network of data rules impacts various stakeholders and what actionable steps policymakers can take to improve this environment, such as addressing the interaction of various sectoral or cross-cutting regulations, identifying key areas for prioritization based on synergies or misalignments, and examining specific data protection principles that pose significant cross-jurisdictional challenges.[307] Phase two of the initiative focuses on investigating how States implement

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[304] The OECD, "Data free flow with trust", online: https://www.oecd.org/digital/data-free-flow-with-trust/.

[305] Clarisse Girot, OECD, "Data Protection and International Carriage by Air Seminar, Montreal 27-28 of September 2023", online: <https://www.icao.tv/data-protection-and-international-carriage-by-air-seminar>.

[306] *Ibid.*

[307] *Ibid.*

these principles, not only through laws and regulations but also in practice, documented through analytical pieces to help countries learn from each other. This analysis provides valuable insights and fosters greater alignment and cooperation in upholding democratic principles and protecting fundamental rights.[308]

Clarisse Girot, Head of Data Governance and Privacy at the OECD, emphasizes the critical need to revisit and reinforce the relevance and implementation of OECD privacy guidelines among Member States. While these guidelines are non-binding, they underpin nearly every data protection law globally. Despite commonalities across regulations, their true effectiveness lies in consistent and practical application. Girot highlights that the guidelines are instrumental in fostering cross-border collaboration among regulators and in helping sectoral regulators bridge gaps between various data protection frameworks, in sectors like banking, health, and finance. She further stresses that addressing data privacy issues in civil aviation requires moving beyond mere acknowledgment toward actionable, concrete solutions.[309] By adopting the OECD model's principles of common standards, cross-border collaboration, regulatory gap bridging, transparency, stakeholder engagement, sector-specific solutions, and continuous improvement, the aviation industry can enhance interoperability and data protection. This holistic approach could help build a more cohesive, secure, and efficient global aviation system, fostering trust among passengers, airlines, and regulators alike.

4.2. A Dedicated Annex

Annex 9 has traditionally addressed the handling of passenger data in the context of border control and immigration with the main goal of facilitating a smooth and efficient movement of passengers and goods across borders. However, as has been argued in this thesis, data protection issues extend far beyond the mere facilitation of data exchange and involve deeper concerns about the protection of fundamental rights. With the expansion of ICAO's mandate, there is a crucial opportunity to prioritize passenger data protection

[308] *Ibid.*

[309] *Ibid.*

through more detailed and specialized provisions that go beyond the facilitation focus of Annex 9.

Article 37 of the Chicago Convention underscores the necessity of uniform aviation regulations to maintain safe and efficient air navigation. Achieving this standard has consistently posed challenges for ICAO, particularly in balancing the diverse legal cultures and traditions of its Member States. Beyond the framework provided by the Chicago Convention and its annexes, ICAO has also developed several treaties addressing various aspects of civil aviation. The Montreal Convention of 1999 exemplifies the organization's ability to achieve consensus among States with differing legal traditions, successfully contributing to international legislation.[310] Similarly, the Montreal Protocol of 2014 highlights another instance of ICAO's adeptness at harmonizing diverse perspectives.[311] But, not all attempts at international aviation legislation have met with the same success. The Montreal Convention of 2009,[312] which aimed to define and address damage occurring on the surface, has seen a notably low level of ratification and is not yet in force, reflecting the difficulties in reconciling different legal interpretations and achieving broad acceptance among States.[313]

With this in mind, a more effective approach than establishing a new treaty to unify data protection regulations in international civil aviation would be to incorporate these rules into a dedicated Annex. Doing so would obligate all contracting States to comply without the need for the complex ratification process of a separate treaty, as Article 38 of the Convention binds States to the annex standards unless they explicitly file a difference. As discussed above, States generally avoid filing differences for a range of political and practical reasons as this can be seen as a departure from international norms, which could lead to diplomatic friction or economic disadvantages. This tendency toward de facto

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[310] Convention for the Unification of Certain Rules for International Carriage by Air, 28 May 1999, 2242 UNTS 309 (entered into force 4 November 2003).

[311] Protocol Relating to an Amendment to the Convention on International Civil Aviation [Article 83 bis] (Montreal Protocol of 2014), 6 October 2014, ICAO Doc 10015.

[312] Convention on Compensation for Damage Caused by Aircraft to Third Parties, 2 May 2009, ICAO Doc 9919 (not yet in force).

[313] Tan Siew Huay, International Civil Aviation Organization, *supra* note 115.

compliance, even without explicit treaty ratification, underscores why incorporating data protection rules within an Annex would be an efficient and effective solution.

Unlike the lengthy and often complex negotiations required to develop a new international treaty, the process of amending existing standards or creating new SARPs under ICAO's structure is more agile. As Sreejith et al point out: "[SARPs] are essential to international aviation regulation, setting "the limits of legal conduct" while allowing flexibility within reasonable bounds."[314] SARPs help harmonize the diverse regulatory frameworks of ICAO member States, addressing conflicting interests and economic disparities more efficiently than a treaty. This flexibility is particularly important given the rapidly evolving nature of data protection needs and technological advancements in aviation. By placing data protection within an annex, ICAO would be better positioned to respond swiftly to emerging challenges, ensuring that international civil aviation keeps pace with global standards and technological developments.

As technology continues to evolve, data protection requirements in the aviation industry are becoming increasingly complex due to advancements in data collection, storage, and processing technologies, coupled with the growing expectations surrounding privacy and cybersecurity. This situation necessitates not only robust legal provisions but also practical guidance on the appropriate technologies to use and how to implement them effectively. A legal framework for data protection would need careful consideration of issues such as data encryption, retention periods, and passenger consent. Embedding these comprehensive and highly technical requirements within Annex 9 could risk overwhelming its broader facilitation goals. Instead, a dedicated annex – perhaps combined with provisions on cyber security, which are considerably more closely related to data protection than facilitation - would provide the necessary space to address these specific challenges in a structured and coherent manner. This approach would allow ICAO to offer detailed technical guidance alongside legal provisions, helping States understand which technologies to deploy and how to use them to meet data protection standards. This would enable ICAO to adapt more readily to emerging technologies to

[314] Sreejith et al, *supra* note 268 at 188.

ensure that data protection regulations are both robust and tailored to the unique needs of the aviation industry.

Lastly, establishing a dedicated Annex for data protection would align ICAO's approach with global legal trends, where data protection is increasingly recognized as a specialized area of law.[315] Jurisdictions around the world, such as the EU with its GDPR, have developed comprehensive data protection regulations that are distinct from other regulatory frameworks. By creating a separate Annex, ICAO would be aligning its legal structure with these global practices, promoting consistency with international standards, and supporting the broader global movement toward stronger data protection norms.

While more explicit international provisions that prioritize data protection and privacy over merely facilitating data handling would help reduce fragmentation and emphasize human rights, it is unrealistic to expect that the resulting rules, shaped by the diverse States of the ICAO Council, would fully align with the EU's high data protection standards. Like all provisions of the Chicago Convention, these would represent minimum standards for States to comply with. States with a stronger focus on data protection and privacy may still prefer to negotiate bilateral or multilateral PNR agreements that align more closely with their national standards.

In this context, the EU-US PNR agreement and its preceding negotiations could provide valuable insights for developing guidelines for such agreements that could effectively balance personal data privacy with governmental security needs. During these discussions, the ICAO presented a working paper proposing a framework for such an agreement.[316] ICAO's proposal includes uniform data processing practices that ensure PNR data is accessible for law enforcement while protecting private data.[317] It specifically outlines which PNR data elements should be included, addresses data processing concerns policymakers should consider, and suggests considerations for data

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[315] Mironenko Enerstvedt, *supra* note 13 at 16.

[316] International Civil Aviation Organization, Working Paper "An International Framework for the Transfer of Passenger Name Record (PNR) Data", Doc 6325/04.

[317] *Ibid* at 3.

transfer and structure.[318] Many elements in the proposal align with requirements previously negotiated between the U.S. Customs and Border Protection and the European Commission. As such, this proposal could serve as a strong foundation for a working group to build upon when creating a template or guidance material for future multi- or bilateral PNR agreements.

Moreover, additional benefits can be achieved by supplementing provisions in an Annex with complementary guidance materials to further enhance uniformity. IATA expresses a similar perspective, consistently advocating for the creation of a multidisciplinary working group to develop high-level guidance and reference materials. These resources would help data protection regulators better understand the specific nuances of international civil aviation, providing a valuable reference when drafting or revising national laws and regulations.[319] Bringing together the right experts - national security, law enforcement, data protection regulators, government representatives, industry stakeholders, and civil society - is crucial for meaningful progress. As work progresses, the significance of the deal becomes more apparent, offering hope for successful implementation through expertise, time, and patience.[320]

4.3. Shift to a Reward-Based Compliance System

Despite the widespread perception that States are obligated to follow the standards set out in the Annexes to the Chicago Convention, the low compliance rate for the PNR provisions in Annex 9 raises significant concerns and highlights the potential inadequacies of ICAO's current sanction-based compliance system. While a sanction-driven approach has its merits, its effectiveness in achieving consistent compliance remains limited, as discussed above. In contrast, the implementation of reward-based compliance systems by other international organizations has demonstrated considerable

[318] *Ibid* at 4.

[319] IATA Working Paper Doc FALP/13-WP/32 to the 13th Session of the ICAO Facilitation Panel in February 2024.

[320] Girot, *supra* note 305.

success and may provide ICAO with valuable insights for improving adherence to its standards and ensuring a more uniform application.

A key advantage of a reward-based compliance system is its ability to encourage positive behavior among Member States. Instead of focusing on punitive measures for non-compliance, this approach emphasizes incentives for meeting or exceeding standards as positive reinforcement is known to be more effective in promoting long-term behavioral change.[321] As noted by Steinbach (2016), structured reward systems can significantly enhance compliance by providing tangible benefits that motivate States to improve their practices.[322] Moreover, reward-based systems foster a more collaborative and trustful relationship between regulatory bodies and Member States. When States perceive that compliance leads to benefits such as financial support, technical assistance, or public recognition, they are more likely to view ICAO as a partner rather than an enforcer.[323]

The effectiveness of a compliance system in international aviation heavily depends on the clarity of its standards and the robustness of its audit mechanisms. Clear, measurable metrics and a strong audit program are foundational elements for establishing a successful reward-based compliance system. Kang (2015) discusses the evolution of aviation sanctions and underscores the importance of developing precise compliance metrics that can guide Member States in adhering to international standards.[324] Similarly, Steinbach (2016) highlights how structured audits and evaluations can significantly enhance compliance by identifying gaps and providing targeted support to address them.[325] These components not only provide transparency and accountability but also foster a culture of continuous improvement among Member States.

Transitioning to a reward-based compliance system does not necessitate abandoning the principle of “No Country Left Behind”, which is central to ICAO's mission. While it is

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[321] Kang, *supra* note 171.

[322] Steinbach, *supra* note 172 at 208.

[323] *Ibid.*

[324] Kang, *supra* note 171.

[325] Steinbach, *supra* note 172.

true that developing countries often face greater challenges in implementing advanced technologies or procedures due to limited resources, a well-structured reward-based system can reinforce this principle by providing additional support where it is most needed. By establishing the right legal framework, ICAO could play a pivotal role in ensuring that developing countries are not left behind. For instance, financial incentives could be structured in a way that rewards States for incremental improvements, thus acknowledging progress even if full compliance with advanced standards is not immediately achievable. This approach would not only encourage compliance but also create a pathway for less-developed States to enhance their capabilities.

As with any structural change, several challenges must be addressed to ensure successful implementation. ICAO would need to carefully consider the funding and resource implications of introducing a reward-based system. The organization may need to secure additional resources to fund rewards such as technical assistance or financial incentives, potentially requiring support from member States or external partners. Pandemics and political instabilities have significantly harmed the world economy, which inevitably has a great impact on the financial strength of international organizations.[326] Securing additional funding would require innovative ideas and a rethinking of current practices. However, the potential benefits of increased compliance and international cooperation make it an option worth considering.

A shift toward a reward-based compliance system would represent a significant departure from ICAO's current enforcement mechanisms, which are grounded in mandatory compliance and collective oversight. The Convention's legal framework, particularly the provisions regarding State sovereignty, is rooted in a system of obligations rather than incentives. Article 94 of the Chicago Convention outlines the process for amendments to the Convention, requiring approval by a two-thirds majority of the ICAO Assembly and subsequent ratification by individual member States. This high threshold makes any amendment to the Convention a complex and time-consuming process, often requiring

[326] See International Monetary Fund, "World Economic Outlook", online: https://www.imf.org/en/Publications/WEO.

broad diplomatic consensus. Under a completely reward-based system, compliance would no longer be a mandatory obligation but a voluntary action incentivized by rewards. As such, a complete transition to a reward-based system would likely require fundamental changes to the Convention's normative and operational principles and would necessitate an amendment to the core articles of the Chicago Convention, such as Article 37, which obligates member States to adopt SARPs. Such a transition would alter the balance of responsibilities and duties between ICAO and its Member States, which the current text of the Convention does not foresee.

Given this complexity, an alternative solution might be to introduce a reward-based layer on top of the existing sanction system, without the need for formal amendments to the Convention itself. This approach would allow ICAO to maintain the current legal framework while incentivizing States that achieve high levels of compliance with the SARPs. In this hybrid model, the sanction provisions under the current system would continue to apply, ensuring that States failing to meet the required standards are still subject to existing sanctions. However, rewards could be introduced as a supplementary measure to encourage States to exceed minimum compliance levels. This would provide a flexible approach to compliance, encouraging States to strive for higher standards without undermining the uniformity of baseline enforcement.

Lessons from other international organizations demonstrate the potential effectiveness of reward-based systems. For example, the World Trade Organization (WTO) provides member States with economic incentives, such as most-favored-nation (MFN) status and access to its dispute resolution mechanisms, for adhering to trade agreements.[327] This creates a direct economic incentive for countries to adhere to WTO rules, as non-compliance could result in losing these valuable benefits. The Convention on Biological Diversity (CBD) offers another example of a successful reward-based system through its use of the Global Environment Facility (GEF). The GEF provides financial and technical support to countries that meet biodiversity conservation objectives, thus incentivizing

[327] WTO, "Understanding the WTO: Settling Disputes", online: https://www.wto.org/english/thewto_e/whatis_e/tif_e/disp1_e.htm.

compliance through tangible benefits.[328] Similarly, the International Labour Organization (ILO) promotes compliance through technical assistance, training, and capacity-building programs. Countries that adhere to ILO standards benefit from these resources, which help improve labour conditions and practices.[329] ICAO could establish a similar fund to support Member States in achieving and maintaining compliance with aviation standards, financing critical projects such as upgrading infrastructure, enhancing safety equipment, and implementing new technologies. In addition, ICAO could enhance training programs and offer further support to States that consistently meet safety and security standards. This dual approach of rewarding high compliance with financial resources while helping other States improve through shared knowledge and assistance would foster a more equitable and effective international aviation system, encouraging compliance through both incentives and support.

The United Nations Framework Convention on Climate Change (UNFCCC) also offers valuable insights through its Clean Development Mechanism (CDM), which rewards countries that reduce greenhouse gas emissions by granting them tradable credits.[330] ICAO could create a similar market-based mechanism for aviation compliance with a credit system similar to the CORSIA scheme - but reversed. Member States that exceed certain safety and security standards could earn tradable compliance credits. These credits could be sold to other countries needing to meet specific compliance benchmarks, creating a market-driven incentive for compliance, and encouraging investments in compliance improvements by making them economically advantageous.

In addition to the abovementioned initiatives, public acknowledgment of a State's achievements, such as being recognized for consistently meeting or exceeding ICAO standards, can provide significant value in itself. Positive recognition can enhance a State's international reputation, increase its standing within the global aviation

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[328] CBD, ”Financial Mechanism and Resources”, online: https://www.cbd.int/financial/.

[329] ILO, ”Technical Cooperation”, online: https://www.ilo.org/global/about-the-ilo/how-the-ilo-works/technical-cooperation/lang--en/index.htm.

[330] UNFCCC, ”Clean Development Mechanism (CDM)”, online: https://unfccc.int/process-and-meetings/the-kyoto-protocol/mechanisms-under-the-kyoto-protocol/the-clean-development-mechanism.

community, and foster trust and collaboration with other member States. Recognition as a reward is particularly effective in promoting long-term compliance because it taps into the intrinsic motivations of States.[331] Being publicly acknowledged by ICAO for compliance or exceeding safety and security standards can lead to further diplomatic and economic benefits, such as increased air traffic agreements or preferential partnerships. Moreover, such recognition can create a competitive environment where States strive to be recognized as leaders in aviation safety and security, encouraging continuous improvement across the industry.

In conclusion, transitioning ICAO's compliance strategy from a primarily sanction-based system to one that incorporates rewards and incentives represents a forward-thinking approach that could significantly enhance adherence to international aviation standards. A reward-based system would also align with these broader trends in international governance, where cooperative strategies are increasingly recognized as more sustainable and effective than punitive ones. By integrating lessons from other international organizations, ICAO can create a more flexible and responsive regulatory framework that better meets the evolving needs of global aviation. Whether through financial incentives, technical assistance, market-based mechanisms, or public acknowledgement, a reward-focused system would allow ICAO to not only enforce standards but also support Member States in achieving them.

4.4. Public Awareness and Strategic Partnerships as Drivers for Compliance

Currently, detailed audit results from the USAP are made public, but only accessible to State authorities and not to the broader public. While ICAO on its webpage states that "[t]he assurance of confidentiality is important to the USAP audit process because of the special sensitivity of aviation security-related information", and that "the audit report and all audit-related documentation[…] are strictly protected from release to any entity other

[331] Vera Akafo & Peter Agyekum Boateng, "Impact of Reward and Recognition on Job Satisfaction and Motivation" (2015) European Journal of Business and Management at 112.

than the audited State",[332] the Unlawful Interference Committee (UIC) of the ICAO Council has recommended to the Council that these data and trends be made public at the Assembly so both States and the public can be aware of the areas needing improvement without identifying specific States or vulnerabilities.[333]

This thesis aligns with the perspective of the UIC. The discussion surrounding the transparency of audit results of the USAP does not have to be framed in absolute terms of complete secrecy or full disclosure. There is a middle ground where audit results can be made public without compromising the security of individual States, particularly when the information disclosed is limited to provisions related to the protection of human rights. Releasing general information about the compliance levels of States, similar to the data presented in *Figure 1: Compliance with Annex 9 PNR Standards* in Chapter 2.3 but also showing specific compliance rates for each State, could disclose aggregate data or trends that highlight areas requiring improvement without exposing specific States or detailed vulnerabilities. Expanding public access to such audit results would increase scrutiny and promote greater accountability, empowering civil society and the media to hold governments accountable for their adherence to human rights standards within the aviation industry. This transparency can also create pressure from the international community and industry stakeholders, encouraging States to take corrective actions to avoid reputational damage and potential operational consequences, which could significantly enhance compliance with human rights standards.

Research suggests that transparency alone can be insufficient without broader engagement from civil society and strategic partnerships.[334] For example, leading brands in global supply chains have shifted from a purely audit-based approach to one that incorporates partnerships with civil society organizations. A collaborative approach has proven more effective in addressing systemic issues by leveraging external pressure and

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[332] International Civil Aviation Organization, "Security - USAP", online: https://www.icao.int/Security/USAP/Pages/Confidentiality.aspx.

[333] Abeyratne, *supra* note 120 at 266.

[334] Shift Project, "From Audit to Innovation: Advancing Human Rights in Global Supply Chains", online: https://shiftproject.org/resource/from-audit-to-innovation-advancing-human-rights-in-global-supply-chains/.

collective action to drive improvements in social performance.[335] This example underscores the importance of not only making information available but also engaging a broader network of stakeholders to ensure that transparency leads to tangible outcomes. In the context of aviation security and compliance with human rights standards, a similar strategy could be adopted.

The Office of the United Nations High Commissioner for Human Rights (OHCHR) is a key UN entity responsible for promoting and protecting human rights globally. Established in 1993, OHCHR works to ensure that the fundamental rights and freedoms of individuals are upheld by engaging with various stakeholders, including governments, civil society, and international organizations, to foster dialogue and cooperation on human rights issues.[336] Over the last few years, the OHCHR has engaged in several initiatives related to the critical intersection of digital privacy and human rights. In response to relevant resolutions by the General Assembly and the Human Rights Council, the organization has coordinated expert consultations and published reports to explore the challenges that the right to privacy and other human rights face in the digital age.[337]

By collaborating with the OHCHR, ICAO can leverage the human rights perspective to underscore the importance of data protection as a fundamental right. A partnership between ICAO and OHCHR could lead to joint initiatives that highlight the human rights implications of passenger profiling and inadequate data protection measures within the aviation industry. OHCHR could not only advocate for greater transparency but also actively participate in monitoring compliance with ICAO's PNR provisions, in addition to the USAP. This approach would heighten awareness of the ethical dimensions of data protection among both aviation stakeholders and the broader public, thereby generating external pressure that could compel States and industry players to adopt more stringent data protection practices in alignment with international human rights standards. This

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[335] *Ibid*.

[336] The Office of the United Nations High Commissioner for Human Rights, "Privacy in the Digital Age", online: https://www.ohchr.org/en/privacy-in-the-digital-age.

[337] See for example United Nations General Assembly, "The right to privacy in the digital age", Report of the United Nations High Commissioner for Human Rights, Doc A/HRC/48/31 (2021) and Report of the Office of the United Nations High Commissioner for Human Rights Doc A/HRC/51/17 (2022).

type of collaboration has been shown to be effective in other sectors where transparency laws and human rights due diligence are enforced through both public oversight and market-driven accountability mechanisms.[338]

In parallel, forming a strategic alliance with the OECD could provide ICAO with additional leverage to promote compliance with data protection provisions through the application of economic and policy-related pressures. The OECD's expertise in data governance, digital economy, and international regulatory frameworks makes it an ideal partner for ICAO. By working together, these organizations could develop the foundation of a new legal framework that integrates data protection into broader economic and regulatory policies affecting the aviation sector. Furthermore, the OECD's influence over its member States could be harnessed to encourage compliance with ICAO's data protection standards. The OECD's capacity to link data protection with economic incentives or disincentives could create a powerful impetus for States and companies to prioritize data protection in their aviation activities.

Making audit results more accessible to the public and engaging in strategic partnerships with other organizations, such as the OHCHR and the OECD, would create a multi-dimensional approach to data protection that combines transparency, civil society engagement, and formal oversight with human rights advocacy, economic policy, and regulatory pressure. By aligning these diverse but complementary agendas, ICAO could foster a more cohesive global effort to elevate data protection from a technical compliance issue to a central concern of both human rights and economic policy.

[338] Rachel Chambers & Anil Yilmaz Vastardis, “Human Rights Disclosure and Due Diligence Laws: The Role of Regulatory Oversight in Ensuring Corporate Accountability” 21:2 Chicago Journal of International Law.

Chapter 5. Discussion and Conclusions

In this digital age, the right to data protection has been solidified as a fundamental human right. Whether this right is understood as a distinct human right or as an extension of the right to privacy, it remains universally safeguarded through key international instruments such as the UN Declaration of Human Rights. Consequently, as members of the UN, all ICAO Member States are obligated to protect these rights within the context of civil aviation. Yet, as this study has demonstrated, the current practices fall short of this standard, particularly from a European perspective.

Many States seem to remain united in their recognition of the need for harmonized data protection mechanisms, with ICAO emerging as the most suitable institution to address these concerns. As a specialized UN agency, ICAO has a responsibility to uphold the broader objectives of the UN within the realm of international civil aviation, including the protection of human rights. However, current measures taken by ICAO, while significant, reveal substantial gaps. Although the revised provisions on PNR in Annex 9 offer improved protections, they still treat data protection as a secondary concern, focusing primarily on the facilitation of data transfer rather than placing it at the forefront of aviation governance. Similarly, ICAO's Guidelines on PNR, though comprehensive, are outdated and lack the binding force necessary to ensure global compliance. Moreover, while participation in the United Nations Counter Terrorist Travel Programme has advanced counterterrorism efforts, it has not placed enough emphasis on protecting human rights and lacks robust mechanisms for oversight and accountability.

Nonetheless, this thesis argues that the primary challenge lies not in the quality of ICAO's existing provisions but in the limited mandate under which the organization operates. Expanding ICAO's mandate to incorporate data protection within its regulatory scope is essential, whether through the delegation of power to existing treaties via new protocols, as seen in environmental protection, or through the application of legal frameworks both inside and outside the Chicago Convention. One way to do this would be through the application of human rights law and customary international law. If the responsibility of States to ensure the protection of data and privacy is recognized not merely as a preferred

practice but as a legal obligation grounded in human rights law, it should be reflected in the aviation standards and practices adopted by these States. To establish such State practice, ICAO could justify the inclusion of data protection within its mandate by referencing provisions in the Chicago Convention itself. Arguing that the needs of the people today encompass not only physical safety and efficient travel but also the protection of personal data and privacy, the protection of passenger data could be seen as a vital component of ICAO's objective as set out in Article 44 of the Convention. Further, harmonizing provisions on the protection of passenger data would greatly contribute to the development of a sound and economically viable civil aviation system, being such a matter concerned with the efficiency of air navigation as referred to in the last sentence of Article 37, which sets out the explicit mandate of the organization. Over time, this approach would evolve into customary international law, solidifying ICAO's leadership in establishing a harmonized legal framework in this area.

Even if such an expansion were realized, challenges related to the possible unwillingness of States to limit their national sovereignty would remain, not only by giving ICAO the authority to regulate data protection matters but also by viewing the standards in the Annexes to the Chicago Convention as binding legal obligations. One approach to overcoming these issues could be to reevaluate certain aspects of international air law through innovative legal perspectives. This could include advocating for a non-consensualist model that restricts State sovereignty in specific areas that involve human rights. The challenges posed by the creation of PNR agreements between States further underscore the need to limit State sovereignty and move towards centralized authority, enabling the creation of a legal framework that binds all States, regardless of their individual consent. Another approach involves reconsidering the hierarchy of legal sources in international air law. While international air law does not have a formal hierarchy of norms, the practical application of these sources often involves an implicit ranking based on their perceived authority or relevance. By reassessing how legal sources are valued in practice, some sources such as ICAO's SARPs and industry policies and guidelines, could be recognized with greater importance. SARPs are crafted by aviation experts and are uniquely suited to address the specific needs of the aviation industry, making them

particularly relevant and deserving of higher consideration in practice. If ICAO were to take bold, albeit slightly controversial, steps to advance the development of international air law in a manner that better aligns with the realities of modern society, and if these measures were accepted by States, they could gradually evolve into binding international law.

Scholars have proposed solutions such as the development of new, or amendment of existing, guidelines or bilateral agreements, or alternately the establishment of new treaties. However, these suggestions have clear limitations. Guidelines do not have the binding legal force necessary to achieve uniformity and bilateral agreements do not heal the root cause of the problem. The process of establishing a new international treaty is lengthy and complex and would still rely on individual State consent. Instead, this thesis advocates for the establishment of a harmonized framework that includes a universal legal basis for the transfer of passenger data. Such a framework should focus exclusively on the handling of API and PNR data, and ideally be included in a dedicated Annex to the Chicago Convention. This approach would provide the necessary space to address the specific challenges associated with data protection in a structured and coherent manner, ensuring that the complexities of data governance in the aviation sector are systematically and comprehensively managed. By creating a specialized Annex, ICAO would align its legal structure with global practices in data protection and be better positioned to respond swiftly to emerging challenges in the rapidly evolving digital landscape.

Another proposed step towards enhancing compliance with ICAO's standards is shifting from a punitive-based system to one that rewards compliance. The sanction-based approach currently employed by ICAO to enforce compliance with the Chicago Convention and its Annexes has significant limitations. Despite the clear legal mandates and the potential for punitive measures, compliance rates for passenger data provisions remain alarmingly low. This persistent challenge highlights the need for a strategic shift in ICAO's approach to compliance. However, transitioning to a completely reward-based compliance system would require an amendment to the Chicago Convention. This would be a complex and difficult process due to the high threshold for amendments and the fundamental nature of the changes involved. Instead, combining a reward-based system

with the existing sanction framework could be a more feasible solution that offers a pragmatic and incremental step forward**.** It would allow ICAO to experiment with incentive structures without fundamentally altering its legal basis, creating a pathway to greater compliance while maintaining the strength of the current sanction-based enforcement model. If successful, this interim solution could serve as a foundation for future discussions on more formalized amendments to the Chicago Convention, should the need arise.

The experiences of other international organizations demonstrate that reward-based systems can effectively enhance compliance by fostering a positive and collaborative environment. For instance, the World Trade Organization (WTO) and the United Nations Framework Convention on Climate Change (UNFCCC) have shown how incentives such as preferential treatment, financial support, and recognition can motivate member States to adhere to international standards. ICAO could establish a similar reward-based compliance system that aligns with these successful models. Developing a range of incentives, from technical assistance and financial support to market-based mechanisms and public recognition, would provide tangible benefits for compliance and would encourage States to exceed minimum standards. Such a reward-based compliance system can coexist with and even enhance the “No Country Left Behind” principle by ensuring that all States, regardless of their current capabilities, have the opportunity to improve their compliance with international aviation standards. This shift would not only enhance adherence to the Chicago Convention and its Annexes but also promote a more collaborative and positive international aviation environment. Given that ICAO already has a robust monitoring and evaluation framework in place through its Universal Security Audit Programme, tracking progress and making necessary adjustments to incentives and compliance criteria becomes a straightforward process.

Though an easy solution in theory, expanding ICAO's mandate in the realm of data protection in practice is easier said than done and is likely to be complicated by significant political challenges. As an international organization, ICAO derives its authority from the collective will of its member States, meaning it can only implement regulations that its members support. The reluctance of some States to cede additional

authority to ICAO, especially in areas that intersect with national sovereignty like data protection, remains a significant challenge. However, the legal arguments outlined in this thesis for enhancing ICAO's role in data protection could strengthen the position of member States advocating for increased focus on data protection. With the EU's significant representation in the ICAO Council and its strong emphasis on data protection and privacy, underpinned by a solid legal basis, the EU may exert pressure on other ICAO member States to support collective action. By framing data protection as a global necessity grounded in customary international law and human rights obligations, advocates of stronger regulations can present a compelling case for ICAO's leadership in this area. This could help build the consensus needed within the ICAO Council to advance initiatives that enhance data protection across the aviation industry, despite resistance from States less inclined to prioritize these issues. Perhaps one interim solution would be to issue an Assembly Resolution that could guide the development forward, while the global shift toward more stringent privacy laws continues to evolve. Or, as Milde (2008) suggests, starting by adopting uniform rules of conflict would facilitate the prospective unification of substantive law, which remains the ultimate goal. Taking gradual steps toward harmonization, such as uniform conflict rules, could lay the groundwork for more comprehensive legal integration in the future.[339]

One remaining challenge that might be difficult to resolve is the transparency issue as highlighted in Chapter 2.4. Requiring States to fully disclose how they use, store, and manage collected data is unrealistic due to national security concerns. Consequently, achieving full transparency regarding how States utilize this data, and whether they are adhering to PNR agreements, remains a complex issue. Establishing a unified regulatory framework for the protection of air passenger data would at least simplify the legal landscape for air carriers and passengers. Such a framework would provide clarity for air carriers by eliminating uncertainty about compliance and offering passengers a clear understanding of the laws that apply to them. Passengers could also rely on a consistent minimum level of protection, rather than navigating the current maze of disparate data protection regulations. Additionally, making parts of the USAP results accessible not just

[339] Michael Milde, *International Air Law and ICAO*, 1st ed (Eleven International Publishing, 2008).

to State authorities but to the broader public could increase transparency around State compliance with the Chicago Convention and its Annexes. Greater public awareness could, in turn, create external pressure that incentivizes States to comply more rigorously with international regulations. Furthermore, ICAO could significantly enhance its influence and effectiveness by forming strategic partnerships with other prominent international organizations, such as OHCHR and OECD. Such alliances would foster greater awareness and exert further external pressure that would lead to higher compliance with data protection provisions across the aviation sector.

Ultimately, this thesis argues that data sharing and data protection are not mutually exclusive goals. By establishing stronger and harmonized international standards for the protection of passenger data, particularly in sectors like aviation where data sharing is critical for security reasons, States can achieve a balance between maintaining national security and upholding the privacy rights of individuals. The focus is not on curbing the flow of information but on ensuring that the transfer of data is conducted in a manner that is secure, transparent, and respectful of international data protection principles. ICAO has a unique opportunity to transcend a reactive stance and take decisive leadership in guiding the aviation industry to confront this challenge. Through innovative legal strategies, stronger enforcement mechanisms, and a commitment to harmonizing international standards, ICAO can help create a more secure, efficient, and rights-respecting global aviation system.

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Appendix A[i]

PQ No.	PROTOCOL QUESTION GUIDANCE FOR REVIEW/OBSERVATION OF EVIDENCE	ICAO REF	CE
9.080*	Has the State established an appropriate legal and administrative framework for the collection, use, processing and protection of PNR data for flights to and from its territory? Verify documented evidence demonstrating that the State has established an appropriate legal and administrative framework, such as legislation, regulation or decree, for the collection, use, processing and protection of PNR data for flights to and from its territory.	A9 9.24	CE-2
9.085*	Has the State defined and implemented PNR data requirements in accordance with ICAO Doc 9944 and PNRGOV message implementation guidance materials? Verify documented evidence demonstrating that the State has: a) adopted and implements the PNRGOV message for airline-to-government PNR data transferral to ensure global interoperability: and b) aligned its PNR data requirements and its handling of such data with the guidelines contained in Doc 9944 and in PNRGOV message implementation guidance materials published and updated by the WCO and endorsed by ICAO and IATA. Note 1. — *The PNRGOV message is a standard electronic message endorsed jointly by WCO/ICAO/IATA. Depending on the specific aircraft operator's Reservation and Departure Control Systems, specific data elements that have been collected and stored by the aircraft operator for their own operational and commercial purposes and can be efficiently transmitted via this standardized message structure.* Note 2. — *States shall not require aircraft operators to provide non-standard data elements as part of PNR data. When considering requiring elements that deviate from the standard, States shall submit a request to the WCO/IATA/ICAO Contact Committee in conjunction with the WCO's Data Maintenance Request process via a review and endorsement process for potential inclusion of the data element in the guidelines.*	A9 9.24	CE-5
9.090*	Has the State identified in its legal and administrative framework the PNR data to be used in its operations, including the purposes for which PNR data may be used? Verify whether the State's legal and administrative framework clearly: a) identifies the PNR data to be used in the State's operations; b) sets the purposes for which PNR data may be used by the authorities which should be no wider than that necessary in view of the aims to be achieved, including in particular border security purposes to fight terrorism and serious crime; c) limits the disclosure of PNR data to other authorities in the same State or in other Contracting States that exercise functions related to the purpose for which PNR data are processed, including in particular border security purposes; and	A9 9.25	CE-5

PQ No.	PROTOCOL QUESTION GUIDANCE FOR REVIEW/OBSERVATION OF EVIDENCE	ICAO REF	CE
	d) establishes how the State ensures that comparable protections as those afforded by the disclosing authority are applied by other authorities receiving PNR data from the disclosing authority.		
9.095*	Has the State established in its legal and administrative framework penalties for misuse, unauthorized access, and unauthorized disclosure of PNR data? Verify whether the State's legal and administrative framework provides penalties for misuse, unauthorized access, and unauthorized disclosure of PNR data.	A9 9.26	CE-2
9.100*	Has the State established in its legal and administrative framework mechanisms to prevent unauthorized access, disclosure and use of PNR data? Verify whether the State has established in its legal and administrative framework requirements and procedures to: a) prevent unauthorized access, disclosure and use of PNR data; b) ensure safeguards applied to the collection, use, processing and protection of PNR data apply to all individuals without unlawful differentiation; c) ensure that individuals are informed about the collection, use, processing and protection of PNR data and related privacy standards employed; d) ensure that aircraft operators inform their customers about the transfer of PNR data; e) enable individuals to seek a remedy for the unlawful processing of their PNR data by public authorities; and f) enable individuals to obtain access to their PNR data and to request, if necessary, corrections, deletions or notations.	A9 9.26	CE-5
9.105*	Does the State ensure that the automated processing of PNR data is based on objective, precise and reliable criteria that effectively indicate the existence of a risk, without leading to unlawful differentiation? Verify whether the State has established and implements objective, precise and reliable criteria for automated processing of PNR data, that effectively indicate the existence of a risk, without leading to unlawful differentiation. Identify the documentation in which these criteria are established.	A9 9.28	CE-5
9.110*	Has the State designated one or more office(s) or entity(ies) as responsible for the independent oversight of PNR data protection? Identify the documentation in which this designation is established. Identify the entity(ies) responsible for conducting oversight of PNR data protection to determine whether PNR data are being collected, used, processed and protected with full respect for human rights and fundamental freedoms.	A9 9.29	CE-3

PQ No.	PROTOCOL QUESTION GUIDANCE FOR REVIEW/OBSERVATION OF EVIDENCE	ICAO REF	CE
	Verify whether the oversight of PNR data protection is undertaken independently from the entities and persons responsible for the implementation of PNR data processing.		
9.115*	Has the State established, in its legal and administrative framework mechanisms related to the retention of PNR data? Verify whether the State has established in its legal and administrative framework requirements and/or procedures to: a) retain PNR data for a set period necessary and proportionate for the purposes for which PNR data is used; b) depersonalize retained PNR data, which enable direct identification of the data subject, after set periods, which do not exceed what is necessary as defined in the national laws and policies, except when used in connection with an identifiable ongoing case, threat or risk related to purposes set by the State, including in particular border security purposes to fight terrorism and serious crime; c) only re-personalize or unmask PNR data when used in connection with an identifiable ongoing case, threat or risk related to purposes set by the State, including in particular border security purposes to fight terrorism and serious crime; and d) delete or anonymize PNR data at the end of the retention period, except when used in connection with an identifiable ongoing case, threat or risk as explained in b) above. Note. — *Depersonalization of PNR data is the masking of information which enables direct identification of an individual, without hindering law enforcement use of PNR data, whereas PNR data anonymization is the permanent removal of identity information of a person from the PNR record.*	A9 9.31	CE-5

Appendix B[ii]

Annex 9 PNR SARPs	States that notified Compliance of 16 April 2024	Total
STD 9.24	Australia, China, Fiji, Indonesia, Japan, Malaysia, Myanmar, Nepal, New Zealand, Papua New Guinea, Republic of Korea, Singapore, Sri Lanka, Thailand, Viet Nam, Angola, Madagascar, Mauritius, Rwanda, United Republic of Tanzania, Zambia, Zimbabwe, Azerbaijan, Bulgaria, Cyprus, Czechia, Estonia, Finland, France, Greece, Hungary, Iceland, Ireland, Italy, Lithuania, Montenegro, Netherlands, North Macedonia, Poland, Republic of Moldova, Romania, San Marino, Slovakia, Spain, Sweden, Switzerland, Tunisia, Turkiye, United Kingdom, Uzbekistan, Bahrain, Egypt, Iraq, Kuwait, Oman, Qatar, Saudi Arabia, Sudan, United Arab Emirates, Bahamas, Canada, Dominican Republic, Guatemala, Brazil, Chile, Colombia, Ecuador, Panama, Uruguay, Venezuela (Bolivarian Republic of), Benin, Burkina Faso, Cameroon, Côte d'Ivoire, Democratic Republic of the Congo, Gabon, Nigeria, Senegal, Sierra Leone, Togo.	80 States
STD 9.25	Australia, Indonesia, Nepal, Papua New Guinea, Republic of Korea, Singapore, Sri Lanka, Thailand, Rwanda, Zambia, Bulgaria, Cyprus, Czechia, Hungary, Iceland, Ireland, Italy, Montenegro, Morocco, Netherlands, North Macedonia, Poland, Republic of Moldova, Romania, San Marino, Switzerland, Tunisia, United Kingdom, Bahrain, Iraq, Kuwait, Oman, Qatar, Saudi Arabia, Sudan, United Arab Emirates, Bahamas, Canada, United States, Brazil, Colombia, Benin, Côte d'Ivoire, Gabon, Senegal, Sierra Leone, Togo	47 States
STD 9.26	Australia, Nepal, Papua New Guinea, Republic of Korea, Singapore, Sri Lanka, Thailand, Viet Nam, Rwanda, Zambia, Cyprus, Czechia, Hungary, Iceland, Ireland, Italy, Montenegro, Netherlands, North Macedonia, Poland, Republic of Moldova, Romania, San Marino, Switzerland, United Kingdom, Kuwait, Oman, Qatar, Sudan, United Arab Emirates, United States, Brazil, Benin, Gabon, Senegal, Sierra Leone, Togo	37 States

RP 9.27	Australia, Nepal, Papua New Guinea, Republic of Korea, Singapore, Sri Lanka, Thailand, Rwanda, Zambia, Cyprus, Czechia, Hungary, Iceland, Ireland, Italy, Morocco, Netherlands, North Macedonia, Poland, Republic of Moldova, Romania, San Marino, Switzerland, United Kingdom, Kuwait, Oman, Qatar, Sudan, United Arab Emirates, United States, Brazil, Peru, Benin, Gabon, Senegal, Togo.	36 States
STD 9.28	Australia, Nepal, Papua New Guinea, Republic of Korea, Singapore, Sri Lanka, Thailand, Rwanda, Zambia, Cyprus, Czechia, Hungary, Iceland, Ireland, Italy, Montenegro, Netherlands, North Macedonia, Poland, Republic of Moldova, Romania, San Marino, Switzerland, United Kingdom, Kuwait, Oman, Qatar, Sudan, United Arab Emirates, United States, Brazil, Peru, Benin, Gabon, Senegal, Sierra Leone, Togo	37 States
STD 9.29	Australia, Nepal, Papua New Guinea, Republic of Korea, Singapore, Sri Lanka, Thailand, Rwanda, South Africa, Zambia, Cyprus, Czechia, Hungary, Iceland, Ireland, Italy, Montenegro, Morocco, Netherlands, North Macedonia, Poland, Republic of Moldova, Romania, San Marino, Switzerland, United Kingdom, Kuwait, Oman, Qatar, Sudan, United Arab Emirates, United States, Brazil, Peru, Benin, Gabon, Senegal, Sierra Leone, Togo.	39 States
STD 9.30	Australia, Nepal, Papua New Guinea, Republic of Korea, Singapore, Sri Lanka, Thailand, Rwanda, Zambia, Cyprus, Czechia, Hungary, Iceland, Ireland, Italy, Montenegro, Netherlands, North Macedonia, Poland, Republic of Moldova, Romania, San Marino, United Kingdom, Kuwait, Oman, Qatar, Sudan, United Arab Emirates, United States, Brazil, Peru, Benin, Gabon, Senegal, Sierra Leone, Togo.	36 States
STD 9.31	Australia, Nepal, Papua New Guinea, Republic of Korea, Singapore, Sri Lanka, Thailand, Rwanda, Zambia, Cyprus, Czechia, Hungary, Iceland, Italy, Montenegro, Morocco, Netherlands, North Macedonia, Poland, Republic of Moldova, Romania, San Marino, Switzerland, United Kingdom, Kuwait, Oman, Qatar, Sudan, United Arab Emirates, United States, Brazil, Peru, Benin, Gabon, Senegal, Sierra Leone, Togo.	37 States
RP 9.32	Nepal, Papua New Guinea, Republic of Korea, Singapore, Sri Lanka, Rwanda, Zambia, Cyprus, Czechia, Hungary, Iceland, Italy, Montenegro, Morocco, Netherlands, North Macedonia, Poland, Republic of Moldova, Romania, San Marino,	34 States

	Switzerland, Ukraine, United Kingdom, Kuwait, Oman, Qatar, Sudan, United Arab Emirates, United States, Brazil, Peru, Benin, Gabon, Senegal.	
RP 9.33	Nepal, Papua New Guinea, Republic of Korea, Singapore, Sri Lanka, Thailand, Rwanda, Zambia, Cyprus, Czechia, Hungary, Iceland, Italy, Montenegro, Morocco, Netherlands, North Macedonia, Poland, Republic of Moldova, Romania, San Marino, Switzerland, United Kingdom, Kuwait, Oman, Qatar, Sudan, United Arab Emirates, United States, Brazil, Peru, Benin, Gabon, Senegal.	34 States
STD 9.34	Australia, Nepal, Papua New Guinea, Republic of Korea, Singapore, Sri Lanka, Thailand, Rwanda, Zambia, Cyprus, Czechia, Germany, Hungary, Iceland, Ireland, Italy, Malta, Netherlands, North Macedonia, Poland, Republic of Moldova, Romania, San Marino, Switzerland, United Kingdom, Kuwait, Oman, Qatar, Sudan, United Arab Emirates, United States, Brazil, Peru, Benin, Gabon, Senegal, Sierra Leone, Togo.	38 States
STD 9.35	Australia, Nepal, Papua New Guinea, Singapore, Sri Lanka, Rwanda, Zambia, Cyprus, Czechia, Iceland, Ireland, North Macedonia, Republic of Moldova, San Marino, Switzerland, United Kingdom, Kuwait, Oman, Qatar, Sudan, United Arab Emirates, United States, Brazil, Peru, Benin, Gabon, Senegal, Sierra Leone, Togo.	29 States
STD 9.36	Australia, Nepal, Papua New Guinea, Singapore, Sri Lanka, Rwanda, Zambia, Cyprus, Czechia, Hungary, Iceland, Ireland, Italy, Netherlands, North Macedonia, Republic of Moldova, Romania, San Marino, Switzerland, United Kingdom, Kuwait, Oman, Qatar, Sudan, United Arab Emirates, United States, Brazil, Peru, Benin, Gabon, Senegal, Sierra Leone, Togo.	33 States
RP 9.36.1	Australia, Nepal, Papua New Guinea, Republic of Korea, Singapore, Sri Lanka, Thailand, Rwanda, Zambia, Cyprus, Czechia, Hungary, Iceland, Ireland, Italy, Netherlands, North Macedonia, Republic of Moldova, Romania, San Marino, Switzerland, United Kingdom, Kuwait, Oman, Qatar, Sudan, United Arab Emirates, United States, Brazil, Benin, Gabon, Senegal, Togo.	33 States
STD 9.37	Australia, Nepal, Papua New Guinea, Singapore, Sri Lanka, Thailand, Rwanda, Zambia, Cyprus, Czechia, Iceland, Italy, Montenegro, Netherlands, North Macedonia, Poland, Republic of Moldova, Romania,	33 States

	San Marino, Switzerland, United Kingdom, Kuwait, Oman, Qatar, Sudan, United Arab Emirates, United States, Brazil, Peru, Benin, Gabon, Senegal, Sierra Leone.	
RP 9.38	Australia, Nepal, Papua New Guinea, Singapore, Sri Lanka, Thailand, Rwanda, Zambia, Cyprus, Czechia, Iceland, Ireland, Italy, Netherlands, North Macedonia, Poland, Republic of Moldova, Romania, San Marino, Switzerland, Kuwait, Oman, Qatar, Sudan, United Arab Emirates, United States, Brazil, Peru, Benin, Gabon, Senegal.	31 States
RP 9.39	Australia, Nepal, Papua New Guinea, Republic of Korea, Singapore, Sri Lanka, Rwanda, Zambia, Cyprus, Czechia, Hungary, Iceland, Italy, Netherlands, North Macedonia, Poland, Republic of Moldova, Romania, San Marino, Switzerland, United Kingdom, Kuwait, Oman, Qatar, Sudan, United Arab Emirates, United States, Brazil, Peru, Benin, Gabon, Senegal.	32 States

Appendix C[iii]

Annex 9 PNR SARPs	States that notified Difference as of 16 April 2024	Total
STD 9.24	Maldives, Mongolia, Botswana, Eritrea,Kenya, Uganda, Armenia, Belarus, Denmark, Kazakhstan, Morocco, Cuba, Nicaragua, United States, Guinea; and Hong Kong (SAR)	15 States+1SAR
STD 9.25	Maldives, Viet Nam, Kenya, Armenia, Kazakhstan, Cuba, Nicaragua, Guinea; and Hong Kong (SAR)	8 States +1SAR
STD 9.26	Kenya, South Africa, Armenia, Kazakhstan, Morocco, Cuba, Nicaragua,Peru; Hong Kong (SAR)	8 States +1SAR
RP 9.27	Kenya, Armenia, Kazakhstan, Cuba,Nicaragua,Sierra Leone; and Hong Kong (SAR)	6 States +1SAR
STD 9.28	Vietnam, Kenya, Armenia, Kazakhstan, Morocco, Cuba ,Nicaragua; and Hong Kong (SAR)	7 States +1SAR
STD 9.29	Kenya, Armenia, Kazakhstan, Cuba, Nicaragua; and Hong Kong (SAR)	5 States +1SAR
STD 9.30	Vietnam, Kenya, Armenia, Bosnia and Herzegovina, Kazakhstan, Morocco, Switzerland, Cuba, Nicaragua; Hong Kong (SAR)	9 States +1SAR
STD 9.31	Viet Nam, Kenya, Armenia, Ireland, Kazakhstan, Cuba, Nicaragua; and Hong Kong (SAR)	7 States +1SAR
RP 9.32	Australia, Kenya, Armenia, Ireland, Kazakhstan, Cuba, Nicaragua, Sierra Leone, Togo; and Hong Kong (SAR)	9 States +1SAR
RP 9.33	Australia, Kenya, Armenia, Ireland, Kazakhstan, Cuba, Nicaragua, Sierra Leone, Togo; and Hong Kong (SAR)	9 States +1SAR
STD 9.34	Viet Nam, Kenya, Armenia, Kazakhstan, Montenegro, Morocco, Cuba, Nicaragua; and Hong Kong (SAR)	8 States +1SAR
STD 9.35	Republic of Korea, Viet Nam, Kenya, Armenia, France, Germany, Hungary, Italy, Kazakhstan, Malta, Netherlands, Poland, Romania, Sweden, Cuba, Nicaragua; and Hong Kong (SAR)	16 States +1SAR
STD 9.36	Republic of Korea, Viet Nam, Kenya, Armenia, Kazakhstan, Poland, Cuba, Nicaragua; and Hong Kong (SAR)	8 States +1SAR
RP 9.36.1	Kenya, Armenia, Kazakhstan, Poland, Cuba, Nicaragua,Sierra Leone; and Hong Kong (SAR)	7 States +1SAR
STD 9.37	Republic of Korea, Vietnam,Kenya, Armenia, Ireland, Kazakhstan, Cuba, Nicaragua; and Hong Kong (SAR)	8 States +1SAR
RP 9.38	Republic of Korea, Kenya, Armenia, Kazakhstan, Montenegro, Cuba, Nicaragua, Sierra Leone, Togo; and Hong Kong (SAR)	9 States +1SAR

RP 9.39	Kenya, Armenia, Ireland, Kazakhstan, Montenegro, Cuba, Nicaragua, Sierra Leone, Togo; and Hong Kong (SAR)	9 States +1SAR

[i] Extract from International Civil Aviation Organization, Universal Security Audit Programme Continuous Monitoring Approach "Analysis of Audit Results – Reporting period ending: 31 December 2023".

[ii] *Ibid.*

[iii] *Ibid.*