The Legal Role of International Air Cargo in Time of Crisis

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Abstract

The impact of COVID-19 on the aviation industry has been quite bitter-sweet, as the period of 2020-21 witnessed airline personnel in the passenger field lose jobs yet has also been a very busy last two years for international air cargo. The type of air cargo has also changed because of the COVID-19 pandemic as there has been an increase in consumer shopping and the volume of air cargo. This has led to the use of a wide range of facilities to handle this expansion such as cooling facilities, time-sensitive security, which all has to be incorporated.

Accordingly, in an effort to alleviate some of the increasing strain on the roads and lower carbon emissions, the European Union for instance is advocating for a greater use of intermodal transportation. However, is the legal framework governing international air cargo entirely adequate for embracing the industry's diverse approaches to intermodality, capacity contracts, and associated decisions? This paper seeks to address that conundrum.

Keywords: air cargo transfer; carriage; multimodal transport; freight; Model law; cabotage; multimodal transportation; intermodal transportation; unimodal transportation; co-modal transportation

ملخص البحث:

يعتبر تأثير Covid-19 على شبكة قطاع الطيران وأنظمتها مزيجا من التحدّي التكنولوجي والبشري، حيث شهدت فترة 2020-2021 فقدانا كبيرا لعدد من وظائف شركات الطيران في مجالاتها المتنوعة منها نقل الأشخاص والشحن الجوي، في المقابل اتّسمت هذه الفترة بالاختلالات لشبكة نقل الشحن الجوي الدولي و تجدر الإشارة إلى أن اطار ونوع وسائط الشحن الجوي قد تغيرت أيضا بسبب جائحة كوفيد حيث زاد حجم الشحن الجوي أدّى هذا التغير المناخي إلى استخدام مجموعة واسعة من الوسائل اللوجستية للتعامل مع هذا التغير منها مرافق التبريد وكذلك حساسية العامل الزمني وتحقيق الأمان من خلاله والتي يجب دمجها وتحقيقها جميعا. وبالتالي في محاولة لتخفيف بعض الضغط المتزايد على وسائل النقل الجوي وتقليل انبعاثات الكربون، فإن الاتحاد الأوربي على سبيل المثال دعى إلى استخدام أكبر لنماذج النقل متعدد الوسائط والذي يشتمل على استعمال أكثر من نموذج وطريقة للنقل. انطلاقا مما سبق، يناقش هذا البحث الإطار القانوني الذي يحكم قطاع الشحن الجوي الدولي وإلى أي مدى يعتبر كافيا لاستيعاب الوسائل المتنوعة اتجاه نماذج النقل متعدد الوسائط وعقود النقل والقرارات المرتبطة بها تحديدا في مواجهة أزمات النقل.

الكلمات الدالة:

النقل، الشحن، نقل الشحن الجوي، متعدد الوسائط، النقل أحادي الوسائط، النقل المشترك.

1. Introduction

From a commercial viewpoint, the significant fall in passenger demand and volume, added to the notable rise in demand for air freight volume, has resulted in air freight becoming a vital airline revenue stream. Equally, the prompt air transportation of medical provisions, apparatus and food has forever been recognised as an essential form of logistics in times of conflict, famine, humanitarian emergency or natural disaster. The COVID-19 pandemic clearly magnified this global humanitarian imperative. Logistically speaking, air freight's ability to span the globe so much more quickly than other forms of transportation raises its value to the global supply chain and the international community's capability to tackle the pandemic. Thus, it is no exaggeration to deem air freight a lifeline, as it literally maintains both the aviation industry and the world. As an illustration of its high standing, Sand remarks (2016) the new 'value' of air freight is evident since its promotion from the cargo hold to the higher position of the passenger cabin, in a similar way that commercial airlines have fine-tuned the idea of upgrades for wealthy or notable individuals.(1)

(1) Sand, Peter H. "An Historical Survey of International Air Law Before the Second World War" (PDF). McGill Law Journal. **7** (1): 24–42. Archived =

The remarkable significance of air freight has been globally acknowledged by regulators who have swiftly adapted current regulations to improve the serviceability of air freight when confronted with increasing limitations on the international transportation of both individuals and goods. Yet as air freight transport involves more participants, more integration, more complex procedures, weight and volume combinations, a range of priority services, consolidation techniques, and different network itineraries - it is more complex than passenger transport, with more scope for uncertainty (Bunahri et al., 2023: 835).[1] The intricacy of air freight operations leads to a number of issues that have not yet been adequately addressed (Feng et al., 2015).[2]

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from the original (PDF) on 5 March 2016, https://www.iata.org/en/training/courses/aviation-law-regulation/tall18/en/, accessed on 4 July 2020

(1) Bunahri, R.R., Supardam. D., Prayitno, H. and Kuntadi, C. (2023, May). "Determination of Air Cargo Performance: Analysis of Revenue Management, Terminal Operations, and Aircraft Loading (Air Cargo Management Literature Review)." *Dinasti International Journal of Management Sciences*, 4(5).

(2) Feng, B., Li, Y., Shen, H. 2015. "Tying Mechanism for Airlines' Air Cargo Capacity Allocation". *European Journal of Operational Research* 244 (1): 322-330.

Moreover, the past century has seen numerous examples of conflict, national and international health emergencies, international welfare concerns, economic uncertainty and natural disasters which have resulted in strains on the global supply chain, and it is obvious that risk and the potential for crisis are an entrenched feature of international business. That crises may occur reveals potential failings and weaknesses in the transportation infrastructure supporting and enabling our very way of life and business. Yet as Allaz suggests (2004) crisis can also generate rapid improvement, healing, and innovation, often resulting in extraordinary changes to lifestyle, business, and infrastructure.(1)

Regardless of crisis, the multi-faceted global supply chain has developed and progressed since its inception, undeterred by relentless rivalry between the modes of transportation. This comprises finding updated roles for proven participants, innovative operating models, new market players, cutting edge improvements to machine performance and upgraded service provision, all of which have seen a dramatic upsurge in range and scope over a number of generations.

(1) Camille Allaz, *The History of Air Cargo and Airmail From the 18th Century* (Christopher Foyle Publishing in association with The International Air Cargo Association, 2004), at 9.

In just over a century, competition has become more intense as global business has developed and reformed in operational, relational, organisational, technical, and strategic areas. Similarly, air freight has accelerated competition within the areas of logistics and operations. This reciprocal air/road freight relationship demonstrates how airlines and freight companies progressively supply air waybills for air freight that will be transported by road as opposed to air in its entirety.(1)

The integration of innovative technology and digitalisation are key elements of this development. While nearly all modes of transport are increasingly introducing some digital capacity into their conventional processes, it is understood that the air freight industry and its auxiliary logistical infrastructure continues to be greatly paper dependent. However, digitalisation is only one factor. The convenience of ever more sophisticated freight management systems, in addition to improved capacity among all transportation modes allows for effective product management and the

(1) Communication from the Commission, European Commission Guidelines: Facilitating Air Cargo Operations during COVID-19 Outbreak, 26 March 2020), C(2020) 2010.

transportation of freight through the entire supply chain (Dempsey, 2004: 8).[1]

1.1 .1 General Outline

1.1.2 Research Problem

The numerous attempts to create universal liability regimes, whether for unimodal or multimodal carriage, have repeatedly demonstrated that significant issues remain unresolved and little consistency has been attained.

Hence, there is a need for solutions for the legal pitfalls, gaps that arise when trying to ascertain which legal rules apply to a goods forwarding transaction, digitalization and environmental concerns. This is especially true when transport is carried out using multiple modes in accordance with environmental policies. Secondly, there have been struggles with prior attempts at harmonisation, and reform ideas to determine the extent of potential improvements to the current situation.

(1) Dempsey, P.S. (2004). "International Air Cargo & Baggage Liability and the Tower of Babel." *36 Geo. Wash. Int'l L. Rev.*, 239, p. 8.

1.1.3 Aims

The importance of the legal role of international air cargo in the time of crisis lies in the following points:

- This paper will explore the developing role of air freight in a progressively multimodal worldwide freight industry.
- This article discusses the situation as a catalyst for transformation.
- The final objective of this study examines the legal liability issues within the air freight industry, their role in development and the necessary move to a multimodal legal system.

1.1.4 Contribution to Knowledge

The purpose of this paper is to add to the continuing discussion over the viability of establishing a standardised worldwide multimodal transport regime. Furthermore, in evaluating the suitability of unimodal transport systems to administer a progressively multi-modal global freight transport model, this paper affords due attention to the present and future relational, structural, systemic, operational, logistical, commercial and technological areas of air freight. This paper will guarantee that any recommendations regarding changes to the legalities refer

accurately and appropriately to the existing realities of air freight transportation and the issues arising as a result of the continuing development of the industry.

2. Structure of Paper

The structure of this paper is as follows:

- Abstract
- Introduction
- Structure and Content
- History of Air Cargo and Associated International Convention
- Gaps in Current Policy:
  - International Air Cargo Industry's Ability in Crises
  - Transformative Commerce and Law
  - Coordinated Governance for International Air Cargo
  - Air Cargo and Non-Aviation Legal Instruments
- The Necessity for a Multi-Modal Cargo Framework
- Integration with Warsaw, Montreal and CMR Conventions
- Leveraging International Air Cargo During Crises
- Global Multi Modal Air Cargo and Legislation
- Conclusions and Recommendations

After the introduction to the topic and structure of the paper is outlined, the third section provides a historical overview of air cargo in unimodal international conventions. The fourth section presents some gaps in policy regarding international air cargo, and how the air cargo industry manages crises, coordinates governance and how non-aviation legal instruments are harnessed. The fifth section explores the necessity for a multi-modal air cargo framework. The sixth section provides an explanation of how there can be better integration between the various conventions. The seventh section looks at how international air cargo can be leveraged during crises. The eighth section covers the legislation in place for global multi modal air cargo and also addressed the concept of force majeure applicable in the context of air cargo liability. In the last section is an overall conclusion, some recommendations and areas for future exploration.

3. History of Air Cargo and Associated International Convention

The familiar air company-customer interactions have also changed over time. Cargo companies have expanded their agency functions to now include direct communication with airline passengers. As a result, traditional hauliers have less direct communication with airlines but more contact with carriers. More

crucially, the past 5 decades have witnessed the expansion of two forms of global business that have made substantial contributions to both the modal and commercial forms of transportation.

The first form encompasses the express delivery companies, such as DHL, Federal Express and UPS, which have expanded into worldwide multi-modal comprehensive logistics suppliers employing their own individual multi-modal transportation fleets. The second form refers to Amazon which, besides integrating multi-modal fleets and comprehensive transportation logistics, has enlarged its functions by incorporating direct producer and consumer relationships. Fundamentally, Amazon has fashioned its own version of worldwide multi-modal logistics and supply chain, allowing for greater control over production, sourcing, conveyance, and delivery, while overseeing wholesaler and retail customer relations including marketing, advertising, service and sales.(1)

(1) Will Horton, "Cargo Aircraft Roar To Life, Reaching Record Utilization As Coronavirus Creates Urgent Demand For Air Freight", Forbes, March 2020, https://www.forbes.com/sites/willhorton1/2020/03/31/cargo-aircraft-roar-to-life-reaching-recordutilization-as-coronavirus-creates-urgent-demand-for-air-freight/#4b29161fbdd7

3.1 Air Cargo in the Warsaw Convention Regime and the Montreal Convention 1999

Clear examples are the Warsaw Convention, and the Convention for the Unification of Certain Rules for International Carriage by Air 1999, also known as the Montreal Convention and modernizes the former (Truxal, 2017: 90).(1) While the compulsory details to be entered on an air waybill were streamlined in 1955, and a permanent liability maximum for harm, destruction, delay or loss was introduced in 1975, basic rules concerning freight have changed very little since they were instituted in 1929. Simultaneously, attempts to organise current unimodal agreements into a unified, multi-modal agreement have not been successful to date, and with the agreement in its existing form, little development is predicted.

Since the Warsaw Convention of 1929 (WC29) several prickly international air freight questions have been examined and addressed through agreements, modifications, and procedures

(1) Truxal, S. (2017). *Economic and Environmental Regulation of International Aviation: From International to Global Governance*. Abingdon, Oxon and New York, NY: Routledge.

focusing principally on airline liability regarding travellers and their belongings.

1934 marked the start of Europe's integration in the field of air transport, as seen with the Pan-European Economic Conference (de Leon, 1992: 136).(1)

From the point of view of commercial significance, legal proceedings, and general legal relevance, freight matters have traditionally been viewed as less important than traveller or baggage matters. As a result, modifications to the WC29 have concentrated predominantly on passenger and baggage transport. Critical defences, including "all necessary measures", were the principal focus of the discussion, but only from the perspective of passenger claims. De Leon notes (1992: 82) that it was not until 1955 that a freight-specific defence was accepted with the Hague Protocol (HP).(2) Between 1929 and 1975, the question and definition of "willful misconduct" or "damage done intentionally or recklessly and with knowledge that damage would probably result" accounted for a substantial quantity of legal

(1) Mendes de Leon, P. (1992). *Cabotage in Air Transport Regulation*. Dordrecht: Martinus Nijhoff Publishers.

(2) Ibid., p.82.

proceedings. Excluding a review of specifics essential to air waybills and a modification in the standards of liability limits. It was only in 1975 that the principles related to freight provisions were analysed and freight liability requirements underwent significant changes (Allaz, 2004; Cluxton, 2002: 5-6; De Leon, 1992: 36), with the application of Montreal Additional Protocol No. 4.(1)

The unbreakable liability limit, established in MAP4 created a serious impact (Cluxton, 2002: 136).(2) Problems connected to unlimited liability were now deemed irrelevant apart from jurisdictions where WC29 and HP continued to be valid. By including the freight related requirements of MAP4 into the Montreal Convention 1999 (MC), disputes continued to decrease. It is the only mode of transnational freight haulage to recognise the premise of an unbreakable limit of liability.(3)

(1) Camille Allaz, *The History of Air Cargo and Airmail From the 18th Century* (Christopher Foyle Publishing in association with The International Air Cargo Association, 2004) p.9.

(2) Cluxton, D. (2022). *Aviation Law Cause of Action Exclusivity in the Warsaw and Montreal Conventions*. Cheltenham, Glos: Edward Elgar Publishing.

(3) Ibid p.16. De Leon, *op.cit.*, p.32

While air freight legal action has reduced greatly, litigation does persist including harm, destruction, delay or loss taking place in the air section of the transportation; what factors distinguish the grounds for action for harm, destruction, delay or loss of cargo; those to be considered valid plaintiffs; what can be defined as valid announcement of complaint to the carrier under Art 31, which of the parties should give notice, should the notice be presented in a written form on paper, and should advising the agent issuing the air waybill at the behest of the carrier constitute actual notice. The move from Warsaw Convention regime to MC did not replace the traveller centeredness. While the fourth iteration in the Preamble to the MC does mentioned to "the desirability of an orderly development of international air transport operations and the smooth flow of…cargo", the consideration of air freight issues continued to be of lower importance throughout its creation, with minimal amendments being made to freight provisions.(1)

As air freight is more conventionally shipped via different transportation modalities, legal discussion has gradually moved to explore the correlation between the MC and other modal

(1) *infra* where the The United Nations (UN) Convention on International Multimodal Transport of Goods of 24 May 1980 (UNCIMTG) is addressed.

principles. Courts are increasingly occupied with issues regarding what air carriage means, as specified in Art 18(3) of the MC, and additionally, possible measures to find resolution under Art 18(4) of the MC, under which the location of harm, destruction, delay or loss is not established. In situations where the relevance of rival unimodal standards should be ascertained, judgments may fail to document an explicit, globally accepted resolution assisted by sufficient judicial logic.(1)

The move in legal attention from unimodal to multimodal investigation has been long. It echoes the development of the air freight industry towards a multimodal concept. The industry's development and the related attention to legal matters has shown that aviation agreements may not be considered valid should harm, destruction, delay or loss occur during the freight's transportation under an air waybill, if the transportation contract's completion relates to the use of further or additional transportational modes to air carriage.(2)

(1) Will Horton, "Cargo Aircraft Roar To Life, Reaching Record Utilization As Coronavirus Creates Urgent Demand For Air Freight", Forbes, March 2020, https://www.forbes.com/sites/willhorton1/2020/03/31/cargo-aircraft-roar-to-life-reaching-record-utilization-as-coronavirus-creates-urgent-demand-for-air-freight/#4b29161fbdd7.

(2) Ibid p.14.

4. Gaps in Current Policy

4.1. International Air Cargo Industry's Ability to Handle Crises

One of the major challenges to the air cargo industry is the climate crisis and how to adapt accordingly. Although all modes of freight transport express strong commitments to decarbonisation, certain modes may have different environmental goals. For instance, there is significant pressure on the shipping sector to lower sulphur dioxide emissions, and industrialised nations' trucking networks today often use ultra-low-sulphur fuels. As a result, research and development initiatives may concentrate on diverse areas of the freight industry.

Historically, the air freight industry made shifts towards greener technologies at a gradual pace due to the very nature of the aviation industry wherein it can take ten years to design a new aircraft and then manufactured over the course of twenty or thirty years. Up to fifty years can be the average life of an aircraft. Many of the global fleet of dedicated air cargo aircraft were initially passenger planes (McKinnon et al., 2010: 154).(1)

(1) McKinnon, A., Allen, J. and Woodburn, A. (2010). "Development of greener vehicles, aircraft and ships." Alan McKinnon, Sharon Cullinane, =

In aviation, load consolidation lowers energy consumption and externalities per tonne-km, just like with other forms of transportation. The typical air cargo payload has increased due to the increase in both belly-hold capacity and size of passenger planes especially on long-hail flights. 'Belly cargo' referring to and carriage below deck yet used mostly for air cargo rather than for sea cargo (Djadjev, 2017: 152).(1) Carrying capacity is also further increased by the conversion of large passenger aircraft into cargo aircraft and also with new freighter designs of these aircraft.

4.2. Why Legal Frameworks Have Failed to Adapt to the Expansion and Evolution of Air Cargo?

The UN Convention on Multimodal Transport of Goods 1980 does not discuss placing environmental obligations on multimodal transport operators. This is although it governs sets of options for implementing or utilizing greener transport usage

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Michael Browne and Anthony Whiteing (eds.), *Green Logistics: Improving environmental sustainability of logistics.* London, Delhi and Philadelphia: KoganPage.140-167.

(1) Djadjev, I. (2017). *The Obligations of the Carrier Regarding the Cargo: The Hague-Visby Rules*. Cham, Switzerland: Springer.

(Rebelo, 20024: 25).[1] Due to this, within the broader scope of carriage contracts and international chartering rules, there are green and environmental standards that are adhered to. These standards are therefore noted in typical forms or a contracts illegality, hence there Eftestøl-Wilhelmsson (2015: 130) proposes a,

Modern, harmonised liability regime that aims to enhance sustainable carriage of goods should cover rules on the environmental duties of transport integrators, the logistical service providers that procure and perform multimodal contracts of carriage, such as carriers and freight forwarders.[2]

This is why the Norwegian Maritime Committee has suggested considering environmental issues in interpreting the Rotterdam Rules. Furthermore, the next-generation multimodal transportation system is utilising cutting edge technologies to build a more effective and connected transportation system. Yet Solakivi (2024) highlights, though in the context of decarbonising shipping,

(1) Rebelo, P. (2024). "The knock-on effects of green finance frameworks: a green normative framework for chartering?" Ellen J. Eftestøl, Anu Bask and Maximillian Huemer (eds.), *Towards a Zero-Emissions and Digitalized Transport Sector: Law, Regulation and Logistics*. Cheltenham, Glos: Edward Elgar Publishing Limited. 18-41.

(2) Eftestøl-Wilhelmsson, E. (2015). *European Sustainable Carriage of Goods: The Role of Contract Law.* Abingdon, Oxon: Routledge.

that there are significant challenges in this regard.(1) Moreover, there is still some apprehensiveness when it comes to artificial intelligence as Schütte (2024) mentions that when it comes to autonomy there has to be regulation for civil liability on account of when damage can be caused, as within shipping this is a concern when ships are automated.(2)

Prandtstetter et al. (2016) discuss quattro-modal hubs which are logistic pivots where road, rail, waterways and air cargo work, four predominant means of transport, in tandem.(3) While DaBlanc and Rodrigue (2017: 50) also discuss hubs can harness smaller electric vehicles to facilitate urban freight distribution via small loads. However, Hauger et al (2016) have noted that other means

(1) Solakivi, T. (2024). "Decarbonising shipping: understanding the scale of the challenge." Ellen J. Eftestøl, Anu Bask and Maximillian Huemer (eds.), *Towards a Zero-Emissions and Digitalized Transport Sector: Law, Regulation and Logistics*. Cheltenham, Glos: Edward Elgar Publishing Limited. 104-121.

(2) Schütte, B. (2024). "Damage caused by autonomous ships: towards regulation for civil liability in EU waters." Ellen J. Eftestøl, Anu Bask and Maximillian Huemer (eds.), *Towards a Zero-Emissions and Digitalized Transport Sector: Law, Regulation and Logistics*. Cheltenham, Glos: Edward Elgar Publishing Limited. 214-234.

(3) Prandtstetter et al. (2016, October). "Integrating air cargo into multimodal transportation networks: vision and practical relevance of quattro-modal freight hubs." European Transport Conference 2016, Barcelona. Volume: Proceedings of the European Transport Conference 2016, (2016), 14.

cannot smoothly work together when units are exchanged via the different modes, and their varying system properties.[1] These include sea and inland waterways, regular and broad gauge, and pipelines (Grimaldi, 2023).[2] These are not feasible at the macro-economic level.

4.3.Transformational Commerce and Law, and International Air Cargo

Air freight traffic such as congestion, pollution and loss of safety, etc. constitute an important challenge to local authorities. There are important synergetic opportunities between tools improving delivery workers' working conditions. For local authorities, freight traffic is a significant problem because of issues including route disruptions, pollution, delays etc. however, there are significant prospects for tools to operate in tandem to improve the conditions of delivery workers.

(1) Hauger, G., Wanjek, M., Berkowitsch, C., Pfoser, S., Schauer, O., Putz, L.-M., Schodl, R., Eitler, S., Prandtstetter, M. and Markvica, K. (2016) The Concept of Quattro Modal Freight Hubs, Paper presented at the WMCAUS 2016, Czech Republic 13.-17.06.2016, Prague.

(2) Grimaldi, M. (2023). *Inland Waterway Transport: The European Legal Framework*. Abingdon, Oxon and New York, NY: Informa Law/Routledge.

4.4 Coordinated Governance for International Air Cargo

There also has to be improved governance around the implementation of legislation to facilitate sustainable delivery. Mckenzie and Soyer (2024) in their paper "The Poseidon Principles on Marine Insurance (PPMI): an effective private governance tool?" discuss how the main objectives of the PPMI is to generate knowledge and support marine insurance clients and industry in decarbonisation of the world's ocean going fleet.(1)

4.5 Air Cargo and its Relationship with Non-Aviation Legal Instruments

Generally speaking, transnational cargo transportation may take place by plane, train, ship, or truck, or a variety of the above, with each mode applying a relevant and theoretically valid convention. As freight carriage under an air waybill may include or replace modes of transport in addition to air, it is vital to determine the relevant applicable law as a first step to resolving such claims. Over time, air and road transportation have become

(1) Mckenzie, A. and Soyer, B. (2024). "The Poseidon Principles on Marine Insurance (PPMI): an effective private governance tool?" Ellen J. Eftestøl, Anu Bask and Maximillian Huemer (eds.), *Towards a Zero-Emissions and Digitalized Transport Sector: Law, Regulation and Logistics.* Cheltenham, Glos: Edward Elgar Publishing Limited. 41-60.

intrinsically connected and have embedded aspects of air freight logistics, procedures, and agreements of transportation. In this discussion, evaluation will focus on matters evolving from global air and road freight transportation. In situations of joint air and road transportation, the Warsaw Convention regime and the MC, the Convention on the Contract for the International Carriage of Goods by Road (CMR), provide rulings included in and relevant to the contractual details of freight transportation and the law of the State where litigation arises.(1) CMR, applied primarily in Europe, covers 56 States, is an international agreement regulating international road haulage. It standardises international requirements of road haulage contracts, specifically consignment notes, and road hauliers' legal responsibilities. CMR governs "every contract for the carriage of goods by road in vehicles for reward" providing the taking over of the goods and the place designated for delivery, as specified in the contract, are situated in two different countries, of which at least one is a contracting country.

CMR states the haulier is prima facie liable for damage or loss to goods from the moment the goods are received until

(1) WC29, *supra* no. 8, Art. 25: "wilful misconduct or equivalent default" and Article 25 HP: "intent to cause damage or recklessly and with knowledge that damage would probably result". *See*, also, MP4, *supra* no. 8.

delivery, in addition to any delay. The protections stated in Article 17(2) are key as they feature situations that the haulier could not avoid, as well as any fundamental weakness in the goods, and any contributing neglect or careless claimant instructions. The liability maximum for the haulier is SDR 8.33 per kg, yet should a claimant be able to demonstrate, similar to WC29, that the harm resulted from deliberate mismanagement by a road haulier, its agents or workers, then liability is unrestricted. A one-year limitation period is incorporated into the Convention unless willful wrongdoing is claimed, whereby the limitation period is 3-years.(1)

European judiciaries disagree over whether the CMR can be enforced over a multimodal freight transportation contract. Frequently, and particularly in Europe, air waybills should state both aviation and road segments of the transport. Furthermore, they should state if a road segment has been utilized in place of an air segment by the air company. Courts in England hold that the CMR is valid in this type of road segment, as the haulier is in possession of the freight at the destination airport. Furthermore, they surmise that transportation combining air and road contains two separate

(1) Convention on the Contract for the International Carriage of Goods by Road, signed at Geneva on 19 May 1956.

parts, both regulated by their own international agreements. However, other courts, including the German and Dutch, hold that CMR was not created for transport contracts containing two different modes of transport and thus, it is invalid in the road sections of such cases.[39] The analysis does not relate to the MC which is seen to be valid for the aviation section as the MC has multimodal conditions, that is Articles 18 and 38. Germany and Netherlands apply their national regulations, which specifically address transport contracts of this type and therefore fill holes in the CMR.(1)

CMR bears most relevance to the Warsaw Convention and MC regimes however, neither of the latter regimes sufficiently resolves the genuine, logistical connection between air and road haulage. Moreover, there is no international modal regime that oversees air freight. To complicate matters further, a 1980 United Nations (UN) attempt to address laws relevant to the multimodal haulage of cargo failed (Nikaki, 2013: 71),(2) and it is improbable that the UN

(1) Evans, D.S. & Padilla, J. (2005). "Designing Antitrust Rules of Assessing Unilateral Practices: A NeoChicago Approach." *72 University of Chicago Law Review 7*.

(2) Nikaki, T. (2013). "Bringing Multimodal Transport Law into the New Century: Is the Uniform Liability System the Way Forward?" *Journal of Air*
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Convention on International Multimodal Transport of Goods (UNCIMTG), discussed later, will be realised in its present state. Consequently, the management of legal matters regarding international modal regime continues to be a pressing need.(1)

5. The Necessity for a Multi-Modal Cargo Framework

Established unimodal ideas of air freight and related logistics surpass unimodality and require modification to mirror its current multimodal worldwide concept. While haulage can be logged on an air waybill, it may not comprise any air transportation and is likely to progressively incorporate a variety of haulage modes. Therefore, it is crucial to reassess the function, relations, and incorporation of air freight, haulage, and the law applicable to modern worldwide multimodal supply chains.(2)

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Law and Commerce, 78(1), Accessed Online October 2024: https://core.ac.uk/download/pdf/147637618.pdf

(1) Malcolm Clarke, *International Carriage of Goods by Road: CMR*, Sixth Edition, (Informa Law from Routledge, 2014); and Andrew Messent and David Glass, *CMR: Contracts for the International Carriage Of Goods by Road*, Fourth Edition, (Informa Law from Routledge, 2017)

(2) Ibid p.30.

5.2 The Modal Mystery

With *co-modal transportation* the effective and efficient utilisation of many modes, both separately and in combination, is the main goal of this kind of transportation. The use of two or more modes of transportation is known as co-modality, according to the Commission of the European Communities (CEC, 2006). It differs from multimodality in two specific ways: (i) it is utilised by a consortium or conglomeration of shippers in the chain, and (ii) transportation modes are used more intelligently to optimise the advantages of all modes in terms of overall sustainability (Verweij, 2011).(1)

The movement of people and products using a variety of methods, including air, sea, rail and road is referred to as *multimodal transportation* and involves a multimodal transport operator (MTO) who oversees contracts within all phases of the transport (Baughen, 2020: 42).(2) The MTO could be a non-vessel-

(1) Verweij, K. (2011). "Synchronic Modalities – critical success factors." P.J. van der Sterre (ed.), Logistics Yearbook 2011. 75-88.

(2) Baughen, S. (2020). "Multimodal Carriage of Goods by Sea: Time for an International Convention." Charles Mitchell and Stephen Watterson (eds.), *The World of Maritime and Commercial Law: Essays in Honour of Francis Rose.* Oxford and New York: Hart/Bloomsbury. 41-63.

owning carrier (NVOC), and so not undertake any of the carriage, or the MTO may assume responsibility for part of the carriage, like the sea carriage for instance.

Eftestøl-Wilhelmsson (2015: 71) has discussed that the rules governing air transport contracts broaden their applicability to include specific multimodal scenarios.(1) For example, the Montreal Convention covers both multimodal transportation carried out inside an airport and multimodal transportation outside of an airport for loading, delivery, or transhipment. However, the prerequisite is that the carriage "takes place in the performance of a contract for carriage by air" (Montreal Convention, Art.18.4). Likewise, a carrier who, even though it was firstly agreed to between the parties that the carriage would be by air, changes the carriage to another mode of transport for the entirety or part of the carriage, without obtaining consent from the cosigner. Leloudas (2013: 90-91)(2) suggests a basic principle which is that,

(1) Eftestøl-Wilhelmsson, E. (2015). *European Sustainable Carriage of Goods: The Role of Contract Law.* Abingdon, Oxon: Routledge.

(2) Leloudas, G. (2013). "Multimodal Transport under the Warsaw and Montreal Convention Regimes: A Velvet Revolution?" in Baris Soyer and, Andrew Tettenborn (eds.), *Carriage of Goods by Sea, Land and Air: Unimodal and Multimodal Transport in 21st Century*. Abingdon, Oxon and New York, NY: Informa Law/Routledge. 95-97.

That carriage outside the airport is not covered by international air law conventions, but for exceptional circumstances and only in a supplementary manner.

Hence, other than the maritime conventions, all conventions cover multimodal carriage yet in a limited manner. It is a requirement of both the CNMI and the CMR that the goods *not* be transported. However, only *intended* multimodal carriage outside of an airport that is used for loading, delivery or transhipment is covered under the Montreal Convention. In regards to the extent to which the conventions apply to sea carriage – they have no provisions at all when it comes to multimodal carriage.

However, additional multimodal carriage is not necessarily excluded from the conventions' scope by the limited scope restrictions. Since the scope of a unimodal convention is determined in respect to the transport document in use, a contract of carriage carried out by multiple modes of transportation may be considered unimodal. So if an airway bill is issued for carriage between Japan and Denmark, the air law system applies even if the bill has a choice for the carrier to switch air carriage by another mode of transportation, such as sea. The liability system is therefore in tandem with the document in use, in the case where

there are more than one document, different legal regimes will be selected (Eftestøl-Wilhelmsson, 2015: 76).(1)

Existing unimodal systems appeared in simpler times. The varying freight modalities relied heavily on paper transactions and the exchange of documents. The various modes of transportation were, generally speaking, separate and lacked integrated communication apart from the transfer of documents. Digitisation and e-commerce were either wishful thinking or remote notions in a modally separated industry. The number of participants in the carriage industry was lower. A freight forwarder's role differed markedly from their contemporary equivalent, in its transformation from agent to include the additional roles of transporter, principal, and key customer.

5.3 The Changing Role and Infrastructure of Air Cargo in the Global Cargo Industry and Multimodal Supply Chain

There are two key issues influencing the increasingly key role of air freight in the global supply chain which deserve focused discussion. First is the incorporation of other freight transport

(1) Eftestøl-Wilhelmsson, E. (2015). *European Sustainable Carriage of Goods: The Role of Contract Law.* Abingdon, Oxon: Routledge.

modes into air freight logistics. Second is the constant variability of participant roles in the modal and logistical supply chain, resulting in a substantial change in the commercial and financial supply chain relations. The fluctuations in supply chain relations contribute to the methods of execution of transport contracts, the modal options for the entire or part of the transportation, the location and time of transportation, the cost, and therefore, the crucial financial burden of freight transportation.

An example of this is the first freight flight undertaken. The proprietor of a department store in Columbus, Ohio, a Mr. Morehouse, contracted a shipment of goods from the Wright Company, and purposely opted for air transportation, with no replacement. Morehouse and the Wright Company directly negotiated the cost without an intermediary. The transportation was executed by the Wright Company, with no carrier or mode of transportation replacement. Historical sources fail to demonstrate the identity and function of the coordinating and responsible parties for the road haulage before and subsequent to the air transportation.[1]

(1) The United Nations (UN) Convention on International Multimodal Transport of Goods of 24 May 1980 (UNCIMTG).

To clearly establish the details of this flight, it is important to verify if the air and road transport segments were elements in a combined contract originating at the Dayton warehouse, concluding at the Columbus department store, or a succession of independent contracts fulfilled separately. If the Wright Company's transportation could be said to be limited to taking receipt of the shipment at Dayton airport and delivering it to Mr. Morehouse at the destination, then the air transportation would be concluded to be unimodal. However, if the transportation could be said to begin at procurement at the wholesaler's warehouse in Dayton, and incorporate road transport, deeper investigation would be needed to establish whether transportation would be classified as multimodal and whether the road transportation parties were therefore independent hauliers. If the road transportation parties were seen as agents of the principals, whether Mr. Morehouse, the purchaser contracting the shipment, the wholesaler delivering the shipment to the airport in preparation for the air transport or, the Wright Company arranging to take charge of the shipment from the warehouse as a portion of the agreement with Mr. Morehouse. Thus, key issues of modality, the definition of transportation, and functions and interactions of supply chain parties have been valid since the first commercial air freight flight. This suggests that

crucial commercial, economic, logistic, and legal issues encountered by the current air freight industry are, essentially the same as those encountered over a century ago.(1)

One key factor is the wide range of legal matters and apparatuses requiring solutions that have traditionally been managed within the transnational unimodal transport agreements which administer the specific modes of transportation (Hoeks, 2010: 27).(2) Those agreements are now obsolete. There has been a lack of sufficiently rapid progress in the specific modes of transportation, and upgrades have not reflected the commercial reality of modern freight transportation and supply chain connections either in the air or on the ground.

5.4 Structural, Relational and Modal Shift in the Global Cargo Industry[44]

The International Air Traffic Association was established in 1919. Later renamed as the International Air Transport Association (IATA) in 1945, it oversaw significant development in air freight

(1)International Civil Aviation Organization "Safety Audit Information", http://www.icao.int/safety/Pages/USOAP-Results.aspx (last visited Jun. 30, 2016)

(2) Ibid p.19.

infrastructure and relationship management between 1919 and 1945. By 1927, all IATA members had implemented the International Dispatch Note, forerunner to the modern air waybill, as the consistent document of transportation.(1) In the same year another substantial step was undertaken towards multimodal transportation with the launch of the sea-air combination defining postal items as freight. By 1929, the European air freight industry engaged in addressing the issues of freight distribution systems and had started to found the mutual connections of logistical and modal parties in the transnational air freight supply chain. Directions for the air transport of freight, the forerunner to the modern General Conditions of Carriage for Cargo, were instituted in the same year. By 1938, issues and limitations to air freight transportation had already begun to occur. Cross-European air freight traffic was facing restricted capacity, rising costs, intensity of surface transportation, and economically testing small transport distances. Yet, in spite of these issues, the development of European freight continued to grow.(2)

(1) Ibid p.23.

(2) Ohio History Collection, "Ohio Aviation Firsts: First Air Cargo Shipment", 10 August 2015, https://www.ohiohistory.org/learn/collections/history/history-blog/2015/august-2015/first-air-cargo.

The American air freight industry evolved at a slower rate than Europe. While routine air freight services existed in 1927, it was only in the 1940s that the major US air companies began to focus resources on air freight. By 1950, the aviation industry could be said to have "entered definitively into the age of airfreight, the Air Cargo Age". At this time, the US air freight industry focused on key questions, specifically development prospects, charter and scheduled provision relationships, financial running of traffic movement, airline and airport relationships, customs authorities, and associated carriers, and the financial viability of air freight. European air freight companies were encountering comparable issues and, ironically, these same concerns continue to loom over the current air freight industry.(1)

After the formation of the IATA's Worldwide Distribution System in 1945, an organisation overseeing cargo agencies was formally established. This acknowledged the inclusion of freight agents, a well-established category of freight supply chain members mediating between commercial airlines and freight shippers within the sales process. Yet it was only in 1947 that saw the IATA's Sales

(1) 3 George William, The Airlines Industry and the Impact of Deregulation (Aldershot: Ashgate, 1993) p.49.

Agency Resolution and Standard IATA Cargo Agency Agreement, that stated "the roles of registered cargo agents and general sales agents were codified and standardized for all IATA members including the benefit of a 5% commission on sales". The IATA Cargo Agency Agreement acknowledged individual shipments only. However, air freight economics had by then led to a greater use of consolidation and, consequently an additional number of supply chain members: the consolidator or freight forwarder. This was defined by the IATA in 1953 as "… one who assembles or provides for assembly in single consignments goods delivered to him by the general public; … assumes responsibility to the general public for the transport of such goods from the point of receipt by him or his agent to point of delivery by him or his agent; and… quotes for this service his own rates which may be different from the ratesfixed by the carrier."

The appearance of forwarders in the 1950s introduced a number of concerns affecting core air cargo economics, comprising whether or not the relationship between forwarders and air carriers should be regulated, whether forwarders should receive commissions when they had already profited from providing services to shippers at higher rates than those received by air companies for carriage, whether forwarders should be prohibited

from imposing lower charges on clients than those of air companies and, most importantlywhether freight forwarders could function in a concomitant personae as authorised agents. Seven decades on, this issue continues to stand at the centre of air freight structure, economics, and legislation with no ready solution in sight.(1)

Simultaneous to the additions of the member parties and associations in the supply chain, air freight modal expansion also thrived. Container innovation between 1956-58, including the establishment of unit load devices, was a substantial move in improved logistics productivity. It also aided the growth, between 1960 and 1980, of European road haulage. This was primarily for "pre- or post-shipment of transit traffic between one airport and another" and between 2018 and 2020 the IMF noted that global GDP was between 3 and 3.6% annually, while the volume of air traffic was at around 5% (Kalić et al., 2022).(2)

(1) Alex Lennane, "Direct China-Europe rail service looking attractive to air shippers in a queue", 20 March 2020, https://theloadstar.com/direct-china-europe-rail-service-looking-attractive-to-air-shippers-in-a-queue/?utm_source=The+Loadstar+daily+email&utm_campaign=9127a15d8c-EMAIL_CAMPAIGN_2020_04_25_03_13&utm_medium=email&utm_term=0_c4570e43d4-9127a15d8c-125882609

(2) Kalić, M., Dožić, S. and Babić, D. (2022). *Introduction to the Air Transport System*. Abingdon, Oxon and New York, NY: CRC Press.

By 1970, in Europe road transportation progressively took the place of air transport and, in 1973, IATA relaxed its rules covering the use of road haulage in combination with air transportation by officially permitting the replacement of road haulage within Europe.(1)

In America, while UPS had transported air freight since 1953, it expanded substantially in the 1970s, and this decade witnessed the formation of DHL and Federal Express, worldwide express parcel and freight air companies, in additional positions as integrators. They "…shook to the core the traditional division of competencies between… client, … freight forwarder, and… airline. They provided the client with a complete range of services from his door to that of the recipient, integrating into a single offer service which had been hitherto divided between the freight forwarders and the airlines".

As competition among air companies, freight forwarders and integrators increased in the 1970s (Feng et al, 2015), established roles were repeatedly confronted and "the traditional scheme of things in which customers produced, freight forwarders processed

(1) Johnson, P.S. (1988). *The Structure of British Industry*. Abingdon, Oxon and New York, NY: Routledge. 293-294.

… and airlines transported goods were confronted with change from all sides: the airlines bought freight forwarders, while the freight agents got involved in running cargo airlines on their own account". Fast forwarding to the present, it is easy to identify the impact that modern-day market participants like Amazon, have made on the worldwide freight and supply chain industries.(1)

At the same time as the air freight industry continued to grow, evolve, and investigate new markets, modalities, and logistics (DaBlanc and Rodrigue, 2017: 36-41),(2) it was predictable that conflict would grow between the numerous supply chain parties. In 1970, the International Federation of Freight Forwarders Associations (FIATA), obtained acknowledgement by IATA as the "sole representative of…freight forwarders worldwide". A similar acceptance of air freight carriers was allowed in the International Chamber of Commerce (ICC). At the close of a 1976 ICC air freight conference, the ICC Commission on Air Transport "emphasized the need for a dialogue between shippers, airlines and

(1) Convention for the Unification of Certain Rules Relating to International Carriage by Air, Signed at Montreal on 28 May 1999.

(2) DaBlanc, L. and Rodrigue, J.P. (2017). "The Geography of Urban Freight." (eds.), *The Geography of Urban Transportation*. New York, NY: The Guildford Press. 4th Edition. 34-57.

freight agents," while lamenting that although "some progress has been noted in the establishment of a dialogue...the progress has not been significant."[1]

The development of multimodal air freight carriage has, obviously, been a worldwide phenomenon and not limited to the United States and Europe. The role of international crisis cannot be overstated. For instance, the oil crises of the 1970s, saw a rise in multimodal carriage of freight throughout the Middle East as concurrently maritime transportation contracted and air-rail and air-road transportation expanded. This dependance on air-rail continues to the present. As growth has continued in the Gulf and the Far East economic growth has proceeded, and with a growing dependence on aircraft for long-haul transportation, the combination of air and sea freight logistics has likewise grown (Kalić et al., 2022).[2] Alongside the development and implementation of technological innovation, it is unsurprising that a total modal shift could take place. This is exemplified, by the rapid expansion of and clamour for the Silk Road rail link linking Europe

(1) *See*, IATA, "The Founding of IATA", https://www.iata.org/en/about/history/.

(2) Kalić, M., Dožić, S. and Babić, D. (2022). *Introduction to the Air Transport System*. Abingdon, Oxon and New York, NY: CRC Press.

and China despite reduced air and sea volume, as a result of the COVID-19 pandemic.(1)

Considering this context, it is therefore unsurprising that the UNCIMTG was written as and when it was.[75] It is vital to accept that politically and commercially, its failure was chiefly due to the varied and very competitive interests that its modal and supply chain parties wanted to protect and secure in the 1980s. The past four decades have witnessed substantial development, maturity, and enhancement of the global supply chain and in its participants' abilities. The air, road, maritime, and rail industries all offer greater security, more capabilities within their transport modes. Improvements to technology permits fine-tuning to practically every part of transport and infrastructure, including, for instance, RFID, temperature control and worldwide location structures, resulting in improved accuracy in transportation, communications, and the on-board setting of all modes of transportation.(2)

Besides sector stimuli such as productivity, cost-effectiveness, technological innovation, and market penetration, it

(1) 7 M Armstrong & D Sappington, Recent development in the theory of regulations (Handbook of Industrial Organization, Oxford, North Holland 2007) p3.

(2) Ibid p.19.

is debatable that significant modal development in the past four decades has been the consequence of and connection with external pressures demonstrated by intensified consumerisation and consumer impact on the freight industry. It is notable that in the current supply chain, the shipment modality may not be evident or recognisable to consignors, consignees or purchasers. Supply chain parties, using Amazon as an example, do not typically broadcast the variety of transportation modes used to fulfil customer orders.(1)

To summarise, there can be no doubt that the air freight industry has undergone significant, fundamental development recently. Major contributory causes include, but are not limited to:(2)

1. **rapid changes to customer behaviour** and the readiness to purchase online from a wide variety of goods and providers, a move from in-person, "brick and mortar" selling, to home delivery, and a need for rapid delivery

(1) William M Landes and Richard A Posner, 'Market Power in Antitrust Cases', Volume 94 No. 5 Harvard Law Review March (1981), p937.

(2) Zoe McLernon, "Intermodal the key to boosting efficiency and reliability and going greener", 10 June 2020, https://theloadstar.com/intermodal-the-key-to-boosting-efficiency-and-reliability-and-going-greener/

2. **the rise and increase in supply chain parties** occupying the whole supply chain and operating as manufacturer, buyer, vendor, and transporter of products, while promoting and orchestrating changes in customer behaviour
3. **rising competition among the various transportation modes and new market entrants**, such as innovative transportation segments such as first and last mile; and the constant enhancement of technology and effectiveness allowing for an increasing variety of freight to be shipped by air.(1)

While the traditional relationship-based form of air freight may continue to function essentially as traditional air transporters, consolidators, representatives, forwarders and integrators, these positions have developed even while competition has risen. This competition does not lessen the fact that customer demands on the current worldwide multimodal freight supply chain could greatly profit from consolidation and organisation of the commercial, operational, relational and logistical problems encountered in each modality, plus the legal concerns considered and regulated in

(1) Zoe McLernon, "Intermodal the key to boosting efficiency and reliability and going greener", 10 June 2020, https://theloadstar.com/intermodal-the-key-to-boosting-efficiency-and-reliability-and-going-greener/

existing unimodal agreements, many of which significantly precede the UNCIMTG.(1)

6. Integration with Warsaw, Montreal, CMR and Other Conventions

In the event of a carrier opting to fulfil a contract for carriage of goods door-to-door, a number of transport modes can be utilised. So for example, a sea carriage segment has the addition of air or land transport, either before or after the initial sea segment. It is important to bring attention to the four main conventions, those being: the CMR, the CIM-COTIF, the CMNI and the Warsaw/Montreal conventions (see Hodgkinson and Johnston, 2017: 29-87).

Additionally, attempts to advance and enhance the various regimes have jeopardised what was accomplished at a unimodal level, losing the support (Lamont-Black, 2019).

One excellent example is the air conventions, which allow a variety of convention options following two air transport conventions, five Protocols to the original Warsaw convention, and

(1) Jankiewicz J., Huderek-Glapska S.2015. "The air transport market in Central and Eastern Europe after a decade of liberalisation – Different paths of growth", *Journal of Transport Geography* 50: 45-56.

a supplemental convention to include actual carriers into the Warsaw regime. However, the most recent Montreal Convention has already gained widespread ratification, demonstrating its value. In contrast, the Hague, Hague-Visby, and Hamburg Rules led to fragmentation and, in each instance, reduced ratification in line with new treaties in the maritime transportation sector. The most recent of these was the Rotterdam Rules, which were accepted in 2008. At present, many have questioned whether the desired harmonisation could be achieved if it ever came into effect or have doubts that it will ever come into effect.

6.1 The Clash of Conventions?

In the event of it being impossible to localise any damage and a convention noted in Article 82 governs this segment of transport – the Rotterdam Rules do not supersede that convention. Yet there may be instances wherein there is a clash between the Rotterdam Rules and a convention such as the CMR as it may also relate to sea carriage.

Article 82 has to cover the only international conventions which inland waterways, air, rail and road transportation, even though the Article does not specify the particular conventions. Hence, the CNMI (European inland waterways carriage), the

Montreal or Warsaw conventions (which cover carriage by air), the CIM-COTIF (European rail carriage) and the CMR (European carriage by road). In contrast, the names of other non-multimodal conventions which may clash are highlighted in Article 30 of the Multimodal Convention. Article 82 states:

Nothing in this Convention affects the application of any of the following international conventions in force at the time this Convention enters into force, including any future amendment to such conventions which regulate the liability of the carrier for loss or damage to the goods.

a) Any convention governing the carriage of goods by air to the extent that such convention according to its provisions applies to any part of the contract of carriage;

b) Any convention governing the carriage of goods by road to the extent that such convention according to its provisions applies to the carriage of goods that remain loaded on a road cargo vehicle carried on board a ship;

c) Any convention governing the carriage of goods by rail to the extent that such convention according to its

provisions applies to carriage of goods by sea as a supplement to the carriage by rail; or

d) Any convention governing the carriage of goods by inland waterways to the extent that such convention according to its provisions applies to a carriage of goods without trans-shipment both by inland waterways and sea.

Hence, Article 82 relates to conventions which were only in force when the Rotterdam Rules came into force, the possible future adoptions of conventions were not included.

The prospect of the Rotterdam Rules being expanded or contradicted by future amendments and protocols led to fierce discussion, with many in Europe criticising Article 82 for restricting developments in transport legislation. The goal of the CMR Convention is to provide standardisation in the area of international road freight transportation. Some commentators suggest that this objective has not been met, as seen by case law in the various member nations; local courts have differing opinions on a range of issues, including the carrier's liability for customs charges, the possibility of violating the CMR limits, and the applicability of the CMR Convention.

Some of the confusion arises as the four conventions do not relate to the same subject matter (Bokareva, 2019).(1) So although they do govern carrier liability and the carriage of goods, each convention was designed to particularly address matters related to a specific mode of transport. Despite all being multilateral treaties, the Contracting States vary and they were implemented by different international organizations. Bokareva (2019) for example highlights that if the Rotterdam Rules are enforced, the conventions will not be rejected by State parties as they still govern their corresponding modes of transport except in cases where all of the conventions are denounced by all Contracting States. This resolves any issue of the conventions being incompatible.(2)

7. Leveraging International Air Cargo During Crises as Catalysts for Change

The international air freight business has experienced numerous crises (Geada and Anunciacão, 2021; 137;(3) Ozdemir et

(1) Bokareva, O. (2019). *Uniformity of Transport Law Through International Regimes*. Cheltenham, Glos: Edward Elgar Publishing.

(2) See ibid.

(3) Geada, N. and Anunciacão, P. (2021). *Reviving Businesses with New Organizational Change Management Strategies.* Hershey, PA: IGI Global.

al, 2023: 9).[1] From the very start, local and international crises, ensuing from conflict, humanitarian, medical, weather-related, or natural disasters have frequently occurred. Indeed, global crises are not anomalies but are accepted.

7.1 Ongoing Crises and International Air Cargo

Economic crises have been equally globally impactful. The Great Depression of 1929 resulted in severe financial loss worldwide. The 1971 United States transition of the dollar to gold conversion accompanied the choice to accept variable currency conversion rates, resulting in global economic uncertainty, particularly in the air cargo business.[87] The subsequent growth in the cost of oil from 1973 and 1980, created further worldwide financial instability, ending an episode of growth in aircraft and correlated freight capability. In the USA, for instance, both United Airlines and American Airlines terminated their freight ventures in 1984. In Europe, the consequences of the oil crisis linked with tough conditions of service for short to medium cross-European

(1) Ozdemir, E., Under, U., Bulbul, K.G. and Gerede, E. (2023). "Adaptation and Validation of the Employer Attractiveness Scale for the Air Transport Industry." Salim Kurnaz, Antonio Rodrigues and Dorothea Bowyer (eds.), *Challenges and Opportunities for Aviation Stakeholders in a Post-Pandemic World*. Hershey, PA: IGI Global. 1-29.

cargo flights, was to hasten the growth of road freight across Europe as air companies retreated from cross-European segments.(1)

The COVID-19 pandemic created a wealth of humanitarian, health economic and commercial events which have revealed the scale of weaknesses in the international freight industry (Abeyratne, 2021: 57).(2) The rapidity and concentration of worldwide determination, both within and without the air industry, combined with the accessibility of instant telecommunications, simplifies social, political, medical and technological attempts to resolve and progress from the crisis, affording an advantageous moment to evolve. The air freight industry has taken the initiative in a short period of time. The rapidity and effectiveness with which air companies have transformed passenger jets to freight by removing the seats, and the similarly prompt attempts to achieve regulatory support for make room for freight in the passenger cabins excluding removing the seats is a good example. Other modes of

(1) Azzam, M., Klingauf, U., Zock, A., 2013. "The accelerated growth of the worldwide air transportation network". *The European Physical Journal Special Topics* 212: 35-48

(2) Abeyratne, R. (2021). *Air Transport and Pandemic Law: Legal, Regulatory, Ethical and Economic Issues*. Cham, Switzerland: Springer.

cargo transportation have pursued the industry's model in transforming passenger cabins for the purpose of freight.(1)

The pandemic's adverse commercial effect is reported in a surfeit of data permeating industry news sources, covering noteworthy falls in freight volume, dips in global production, supply chains interruptions, business closures, and border limitations. Such elements have contributed to the decrease and delays in freight transportation (Abeyratne, 2021: 113).(2) In spite of current volume concerns and the fall in income and profit, there are signs of economic turnaround in the air freight industry.[94] It is highly likely, that the air freight sector will recovery quicker than passenger traffic. Granted, this upturn will need time, yet, there is room for a positive outlook regarding the air freight industry's stronger and more flexible future.

More recently, some new challenges have arisen as a result of the current conflicts in Ukraine, the Middle East and the Red Sea particularly. Due to shipping vessels being targets of Houthi militants in Yemen, and seven of the world's largest ten shipping

(1) Hugh Beale (ed), *Chitty on Contracts*, Thirty Third Edition, (Sweet & Maxwell, 2019), at 15-156.

(2) Abeyratne, R. (2021). *Air Transport and Pandemic Law: Legal, Regulatory, Ethical and Economic Issues*. Cham, Switzerland: Springer.

companies have decided that the risk is to great and as a result divert their vessels around the continent of Africa rather than take the now precarious route via the narrow passage between Yemen and East Africa, known as the Strait of Bab al-Mandab through to the Suez Canal.

Yet this is more costly, and these shipping companies make up two thirds of the global shipping market. On the journey between Asia and Europe the route via the Strait of Bab al-Mandab saves about 25% of the time so it is vital trade link and 12% of global trade passages via this strait including 30% of the world's container shipments of clothing, electronics, cars etc. This amounts to around a Trillion USD of goods every year. While 10% of global oil shipments also travel through this Strait of Bab al-Mandab up through to the Suez Canal. A significant amount of Europe's oil pass via this route. The challenges is that even air freight does not have the large carrying capacity of shipping fleets. With no end in sight of this conflict, disruption to this route is hugely impactful.

A dependable but more expensive option for transporting products from the Far East into Europe is air freight. Though the cost of not having the products at all is frequently far higher, the cost to the shipper or end user can sometimes three to four times higher than using a sea or rail. Even though spot rates for shipments

in December were only 6% higher than those in January, observers have projected a large increase in the usage of airfreight, which has not yet been completely achieved. Combining air and marine freight is one option that shippers may have. By bypassing the Red Sea and offering a substantial decrease in transit times, a multimodal approach enables a partial cost reduction prior to the last transit leg being completed by air. While Lamont-Black (2018; 2019) suggests however that it has taken longer than anticipated for the change in transportation techniques to maximise the performance of multimodal logistic chains, especially by utilising more energy-efficient modes.(1) The current Red Sea and Suez Canal Crisis may accelerate changes in this regard.

7.2 Leveraging Air Cargo During Crises

The issue of recognising warning signs and being able to react in a timely manner has interrupted the development of air

(1) Lamont-Black, S. (2018). "Towards Transparency and Predictability in Freight Forwarding - the case for a Model law." University of Edinburgh School of Law Working Paper, no.2018/37. Accessed Online October 2024: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3263513

Lamont-Black, S. (2019). "Towards Transparency and Predictability in Freight Forwarding - the case for a Model law." Jason Chuah (ed.), *Research Handbook on Maritime Law and Regulation*. Cheltenham, Glos and Northampton, MA: Edward Elgar Publishing. 67-116.

freight and created a humanitarian crisis. Yet it further created the initial air freight humanitarian effort, whereby British aeroplanes flew to Ghent in Belgium from Folkestone, England bringing food stuffs, bedding and medication to the needy.

The UK Royal Air Force organised aid flights to the Netherlands after the end of the Second World War, including the Berlin airlift with its complicated logistics and global involvement. It continues to be, logistically speaking, among the most challenging humanitarian and political crises that air freight has participated in. Furthermore, the initial long-haul, intercontinental cargo charter was conducted for humanitarian purposes, with Lufthansa transporting hospital equipment from Germany to Santiago de Chile in 1939 bringing aid to earthquake victims and weather-related crisis prompted RAF humanitarian airlifts in 1944, in response to the drought in Aden.(1)

7.2 Change Within the Aviation Industry

The pandemic has highlighted global awareness on the important role of and demand for air freight during times of crisis.

(1) Amaruchkul, K., Lorchirachoonkul, V., 2011. "Air-cargo capacity allocation for multiple freight forwarders". *Transportation Research Part E* 47 (1): 30–40.

Industry organisations including IATA, the International Air Cargo Association (TIACA), FIATA and the Airport Council International (ACI), have changed focus on the current needs of the air freight industry to safeguard operational continuity.(1)

IATA has traditionally allocated generous financial resources to developing and coordinating air freight with specific focus on quality control, supply chain upgrades, freight handling and operations, digitisation, health and safety, and the transportation of unusual cargo comprising live creatures, perishable items and pharmaceuticals. From the pandemic's inception IATA has intensified its energies with supplementary industry outreach and with direction in several operationally vital areas, particularly transportation of pharmaceuticals, medical apparatus, provisions and perishables. It has promoted the air freight sector and bestowed substantial resources on ensuring that parties in the air freight supply chain can access crucial real time information, training, economic and operational guidance.(2)

(1) Ibid., p.185.

(2) George Leloudas, "Multimodal Transport under the Warsaw and Montreal Convention Regimes: A Velvet Revolution?" in Baris Soyer and, Andrew Tettenborn (eds.), *Carriage of Goods by Sea, Land and Air: Unimodal and Multimodal Transport in 21st Century* (Informa Law from Routledge, 2013), at 95-97.

ICAO has restated its undertaking to enable, protect, and grow air freight as an essential service and resource, providing members with regulations in accommodating freight carriage for the duration of the pandemic. It has enthusiastically supported strategies to maintain flight operations and safeguard flight crew health via its Collaborative Arrangement for the Prevention and Management of Public Health. The World Customs Organisation, in collaboration with the World Trade Organization has, likewise, acted swiftly to support Customs administrations to "… help minimise the overall impact of the COVID-19 outbreak on… economies and societies. Customs administrations are strongly urged to… ensure the integrity and continued facilitation of the global supply chain".(1)

As exemplification only, and in response to the various international state activities and reactions to the pandemic, the European Union released its communique highlighting its own enabling of air freight operations for the duration of the COVID-19 pandemic. Publishing Regulation 2020/696 on general rules for air service processes in regard of the pandemic, assuring an adaptability in consenting to the continuance of operational passes, to permit member states to enforce traffic rights and limits for the

(1) Ibid p.96.

purpose of public health, to expand ground handler benefits, avoid the need for redundancies, and maintain staff employment and rights, all backdated for activities undertaken preceding enactment.

This shows a development from generalised proclamations of backing for the critical function of air freight in the global supply chain and the accompanying regulations, to a more specific and detailed apparatus for guaranteeing the sustained functioning of the supply chain. The European Union Aviation Safety Agency (EASA), for instance, has published advice on freight transportation in passenger cabins.(1)

7.3 Legal Liability Issues as Catalysts for Change

In the contemporary multimodal supply chain, and specifically with the meeting of air and road freight transportation, any litigation for the destruction, injury or damage, of freight are not limited to determination under MC. With substantial dependence on road transportation as a key part of the aviation freight supply chain, those claims frequently conclude with either CMR or national law determination. Challenging sections in

(1) Ibid p.23.

destruction, damage or loss of freight claims under MC and CMR are worthy of discussion.(1)

7.4 Are the Concepts of Force Majeure Applicable in the Context of Air Cargo Liability?

Since the pandemic began to interrupt or cause an inability to fulfill contractual requirements, there has been significant debate within the global freight industry on the specific conditions in which the notion of *force majeure* is appropriate. Government limits on air travel is an illustration of limitations placed on the completion of contracts of freight transportation promptly or at all.(2) Abeyratne (2019: 20) suggests that risk shifting on force majeure and the remedies for a breach of contract would obviate any principles of national laws.(3)

(1) Prasad Badgujar, "Air Cargo Needs to Survive the Wave of Digitalisation", 6 June 2020, "https://www-stattimes-com.cdn.ampproject.org/c/s/www.stattimes.com/news/air-cargo-needs-to-survive-the-wave-of-digitalisation/amp

(2) Burghouwt, G., Poort, J., Ritsema, H. 2014. "Lessons Learnt From The Market For Air Freight Ground Handling At Amsterdam Airport Schiphol." *Journal of Air Transport Management* 41: 56-63

(3) Abeyratne, R. (2021). *Air Transport and Pandemic Law: Legal, Regulatory, Ethical and Economic Issues*. Cham, Switzerland: Springer.

With particular attention to air freight transportation, it is unlikely that *force majeure* will be a substantial concern. Contractual force majeure articles may not replace or modify the MC's conditions in any authority where it affords the only and absolute cause of action and solution for the destruction, damage, delay or loss of freight during global air transportation. This principle has progressively, but not entirely, been acknowledged by national courts. Therefore, the requirements of the MC remain predominant over contractual requirements and less favorable domestic law principles. The only permissible defences for destruction, damage, delay or loss of or to freight are specified in Articles 18(2) and 19 MC. Neither article specifically refers to force majeure, while Article 18(2)(d) permits a defence that is theoretically comparable to force majeure for destruction, damage or loss, as a result of the "act of public authority in connection with the entry, exit, or transit of the cargo". Any governmental ruling halting the importation of unnecessary freight leading to destruction, damage or loss could be covered by this.(1)

(1) Marian Hoeks, *Multimodal Transport Law. The Law Applicable to the Multimodal Contact for the Carriage of Goods*, (Wolters Kluwer, 2010), at 22

Article 19 MC offers greater flexibility. The transporter is able to avoid liability on demonstration that it …took all measures that could reasonably be required to avoid the damage or that it was impossible for it or them to take such measures.

This wording is considered sufficiently comprehensive to incorporate situations of force majeure associated not only to acts of government Customs departments, but additionally events concerning aircraft inoperability due to crew isolation, government restrictions on movement of individuals, or airports decreasing flight numbers. IATA RP 1601 contains no clauses on force majeure or the cancelation / postponement of contracts due to unforeseen circumstances. The wording agreement would have proved problematic and, thus, it remains the responsibility of individual air companies to decide whether such clauses are included in their General Conditions of Contract.

Clauses such as this are typically written to include the cancelation, alteration or suspension of flights or the additional carriage of the freight as a result of events out of the airline's control or unforeseen circumstances. They would further isolate the cases qualifying as force majeure, which may incorporate acts of God, embargoes, acts of war and terror, medical isolation, government procedures, and manpower shortages. While

pandemics are not specifically included, it is feasible that the insertion of words such as governmental actions, embargo and quarantine could meet this need. This is probable in situations that the force majeure clause includes a general phrase, such as "any other cause beyond the airline's control". Similarly, IATA CSC Resolution 600b, Conditions of Contract for air waybills, does not include a clause for force majeure however, clause 2.2.2 includes the air company's General Conditions of Carriage for Freight by means of a reference.

Regardless of the expression of a specific clause of force majeure in the Conditions of Contract, Article 26 MC explicitly forbids any prescribed condition that alleviates carrier liability. Furthermore, reliance on this type of justification in a MC reliant freight claim is unlikely to succeed due to its exclusivity. Article 17(2) CMR may offer more chance of invoking the spirit of force majeure than the MC if the destruction, damage or loss was caused

> …through circumstances which the carrier could not avoid and the consequences of which he was unable to prevent.

While the routine defence has frequently been ineffectively argued by transporters in situations of armed robbery and theft,

there is a possibility of being more successful in claims related to the pandemic or additional crisis.(1)

For courts in England it is important that the transporter must demonstrate extreme attention, namely a "standard somewhere between, on the one hand, a requirement to take every conceivable precaution, however extreme, within the limits of the law, and on the other hand a duty to do no more than act reasonably in accordance with prudent current practice". This means that the transporter must apply measures that are "feasible or practicable or sensible", regarding the probability of loss, as established by the value of the cargo, the journey, in addition to industry information concerning, inter alia, potential routes. Thus, with CMR, there is a possibility that the transporter could defend claims for destruction damage or loss of goods due to obligatory redirection in order to avoid a quarantined area, an unexpected lack of drivers due to restrictions and isolation procedures or a border closure. However, a lack of clarity remains regarding whether a border closure alone would amount to a reasonable defence, if the carrier persisted in

(1)Robert Virasin, "Summary of the International Air Carriage Act 2015", http://www.siam-legal.com/thailand-law/summary-of-the-international-air-carriageact-2015/ (last visited Jan. 4, 2016).

accepting loads, aware that customs authorities would not process them.(1)

Thus, it is possible to say that force majeure clauses could have a function in service contracts with freight forwarders, hauliers, or in umbrella agreements with industrial consigners. The termination of an agreement due to the pandemic's impacts rests on the clause itself and the explicit evidence a party relies upon to cite force majeure, in addition to any applicable law. It should be noted that, in situation where agreements offer reprieve from completion (and liability) due to force majeure, the law in England expects that "performance has become physically or legally impossible, and not merely more difficult or unprofitable". A key concern would be whether completion could be affected via other means, even at additional cost. It is unlikely for a force majeure claim to be successful in situations where, for instance, border agencies maintain priority for essential goods or raise customs duties on non-essential goods. Simultaneously, considering that air freight routes continue to be open, it is increasingly hard for consigners using alternative transport modes to claim force majeure in a preventative

(1) Zahir, F.A. (2005). *Commercial Aviation Law, Air Law*. Cairo: Arab Renaissance House for Publishing. p. 14

manner in sales contracts, if a substitute, though additionally expensive, mode of transport is accessible. For long-term such as block space agreements, force majeure, if it is applicable in any form at all, could be viewed as pertinent only and explicitly for the time in which completion is impossible. A claim of force majeure is fact specific and dependent and may be trusted, inter alia, only for the makeup of the contract, the period of execution, and the potential for substitute completion. Thus, considering any claims in which the MC or CMR is applied, it is dubious whether force majeure would be viable.(1)

8. The Legislation and Law for Global Multi-modal Cargo

When the EEC Treaty was signed, there was a concern among some academic commentators that blocs would be formed which could divide and disrupt international air routes. The need for a consistent international legislative approach is no better seen in air cargo than in the case of the forwarder. Although the forwarder's job was originally domestic, their operations now span national borders, exposing them to various legal frameworks and laws.

(1) Dempsey, P.S. (2004). "International Air Cargo & Baggage Liability and the Tower of Babel." *36 Geo. Wash. Int'l L. Rev.* 239. p. 19.

Contracts for goods forwarding may:

1. focus solely on the transportation of goods, including the management of import and export procedures and paperwork; or
2. frequently incorporate additional services like packaging, loading and unloading, combining cargo into transport units, storing or warehousing goods prior to or following transportation, collecting payment upon delivery, and insurance of the goods during transit.
3. They might also offer additional value-added services or on-demand delivery to the customer's purchasers at the destination, or they might take over the management of the supply chain for the client overall.

As a result, goods forwarders deal with a variety of services, and the laws governing these services differ substantially across foreign markets. Small and medium-sized firms (SMEs) are more likely to be impacted by the liability gaps and traps brought on by ambiguity regarding which laws apply than larger companies with local offices that have access to pertinent legal expertise worldwide

(Lamont-Black, 2019).[1] It is as a result of this intertwining network and diverse ecosystem, that Verheyen (2024: 82) suggests that there needs to be an innovative model as a regulatory solution beyond traditional B2C sales contracts for individual transactions.[2] Goedhuis (1957) stated that:

The implications of global air transport should never be lost sight of. Tendencies in the world toward dealing with aviation problems on an *exclusively* regional basis should be combated. Regional problems should never be discussed apart from the world problems of aviation, and regionalism should never lead to the formation of blocks of closed sky.[3]

(1) Lamont-Black, S. (2018). "Towards Transparency and Predictability in Freight Forwarding - the case for a Model law." University of Edinburgh School of Law Working Paper, no.2018/37. Accessed Online October 2024: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3263513

Lamont-Black, S. (2019). "Towards Transparency and Predictability in Freight Forwarding - the case for a Model law." Jason Chuah (ed.), *Research Handbook on Maritime Law and Regulation*. Cheltenham, Glos and Northampton, MA: Edward Elgar Publishing. 67-116.

(2) Verheyen, W. (2024). "Towards 03 sustainability in parcel delivery chains: ecosystem-based regulation- stuck in a tangle of interests." Ellen J. Eftestøl, Anu Bask and Maximillian Huemer (eds.), *Towards a Zero-Emissions and Digitalized Transport Sector: Law, Regulation and Logistics.* Cheltenham, Glos: Edward Elgar Publishing Limited. 81-104.

(3) Goedhuis, D. (1957). "The role of air transport in European integration." *JALC* 279.

The EEC Treaty provided a legal basis for a regional approach for international air transport. Plans which were put forward prior to this were neither tangible nor convincing, yet the Treaty and its secondary legislation were a closer example of the desire at the time to create a "one Europe in the air" (Mendes de Leon, 1992: 138).(1)

Cabotage has been an issue in maritime or aerial navigation, and is a term which causes a degree of confusion due to its proximity to the word sabotage. It is a word with Latin roots and in French is known as 'capotage' and is derived from the verb 'caboter' which means 'to navigate along the coats, from cape to cape'. In Spanish the root word is 'cabo' which means cape, and 'capotage' in Spanish means 'navigation near the coast while its still in sight'. In Maritime law, cabotage refers to the exclusive right of a state to regulate its seaborne transportation of goods and passengers between two points in its territory (Kurniasari, 2011: 717).(2) The amount of transport orders greatly influences the

(1) Mendes de Leon, P. (1992). *Cabotage in Air Transport Regulation*. Dordrecht: Martinus Nijhoff Publishers.

(2) Kurniasari, N.A. (2011, July). "Connecting Indonesia's Maritime Cabotage and the 1982 United Nations Convention on the Law of the Sea." 8(4), 716-734.

consolidation's success. Freight moves through one-to-one interactions, or "groupage". On the other hand, collaboration in logistics refers to the process of having a coordinated joint-working approach.

To make things even more convoluted, the rules that apply are determined by local jurisprudence aswell as the location of the cargo loss. This is particularly true when it comes to the application of *unimodal transport regulations* to *multimodal transport operations* by the specific tribunal. The unpredictability and uncertainty of the terms of the current multimodal transport regimes in general, particularly with regard to their various regulations regarding default limits of liability along with fundamental issues like paperwork or time constraints, should be added to that. Therefore, it should come as no surprise that government officials and business participants have publicly attacked the current multimodal transport regime as being unsatisfactory, uneconomic, and even preventing the advancement of global trade (Nikaki, 2013: 73).(1)

(1) Nikaki, T. (2013). "Bringing Multimodal Transport Law into the New Century: Is the Uniform Liability System the Way Forward?" *Journal of Air Law and Commerce*, 78(1), Accessed Online October 2024: https://core.ac.uk/download/pdf/147637618.pdf

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This long-standing legal dilemma has finally drawn the regulatory attention of the international community, as anticipated. A number of multilateral organisations have suggested a new kind of multimodal transport regime, either regional or international, as a result of their focus on harmonising international multimodal transport regulations. For example, a panel of specialists was commissioned by the United Nations' Economic Commission for Europe's (UNECE) Inland Transport Committee in 1998 to develop an international legal instrument on multimodal transport.

Based on current unimodal liability regimes, the expert panel advocated for a new effort to create mandatory international legislation on multimodal transport liability. As a result, it suggested implementing a modified network system of liability that is comparable to the Convention on the Contract for the International Carriage of Goods by Road (CMR) and includes default norms for unlocalized damages.

9. Conclusions and Recommendations

In conclusion, alongside modernization of the infrastructure and equipment for moving goods, standard regulations on

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international multimodal transport can also help to support the creation of multimodal transportation systems that are economical, efficient, and seamless will promote global trade. Nevertheless, this has not yet been accomplished, as was previously mentioned, global multimodal transport operations are subject to intricate and disjointed legal regulations that raise the expense of litigation and insurance. Since it is thought that the current regulations and more significantly, their shortcomings stand in the way of the growth of freight intermodalalism globally, it is therefore essential to harmonise the existing international multimodal transport laws.

9.1 Research Findings

The assessment presented in this study has resulted in several findings:

1. Air cargo rates at present are up 14% exacerbated by airspace disruptions over the Middle East as a result of conflict in the region. Air freight demand however is still on the rise, particularly from North America and the Asia Pacific regions. This indicates the need to ensure an effective international air cargo which is adaptable, timely and robust enough for the modern world and its challenges. To a large degree therefore, both freight and passengers

equally benefit from and advance at roughly the same pace in aviation's environmental advancements. Additionally, it affects the despite global conflict and related disruptions. Any initiative pertaining to multimodal transport legislation has a better chance of success now that the concept of harmonising various worldwide multimodal transport regimes seems to have reached a mature stage.

2. The realisation that the development of disparate regulations negatively impacts the effectiveness of multimodal transportation and the advancement of global trade is the driving force behind the effort to harmonise international multimodal transport legislation. Nevertheless, despite the efforts of numerous international organisations, the long-awaited harmonisation has not yet been accomplished. Although this paper has already set a framework for international multimodal transport laws, any attempt to that goal would be pointless if it does not address the issues with the existing regulations. In other words, only if a new international legal framework on multimodal transport includes regulations that are dependable, certain, affordable, and well-liked by the global transportation community will it have a real chance of becoming widely accepted. Because

they raise factual questions about determining the locus of cargo loss and other related legal issues, which raise friction costs for all parties involved, it has been questioned whether the network and modified network systems of liability, as implemented in the current multimodal transport rules, meet those objectives, as this paper explains.

3. Then, is a uniform liability plan the best course of action? This might make sense, but a lot relies on how uniform liability rules are written. The aforementioned analysis specifically shows that while a uniform liability scheme should have predictable liability rules, legal certainty will not be attained until effective conflict-of-conventions clauses are included in rules to prevent conflicts with current or upcoming unimodal transport conventions. However, as was demonstrated in the previous discussion, conflict clauses still allow for the application of unimodal transport conventions, creating legal ambiguities regarding their application to multimodal transport operations, so even in that case, the goal of legal certainty will not be fully achieved. Conflict clauses create legal uncertainties regarding their applicability to multimodal transport operations because they nevertheless allow for the

application of unimodal transport rules.

4. Advances in logistics and operations in addition to modal penetration go hand in hand with technology and strengthen geographical connectivity. For instance, the rapid development of the Silk Road rail service between China and Europe inserts a fresh addition to air and sea transportation, as the entire sector continues to investigate innovative possibilities. It is vital that legal developments keep pace with this and adjust to this ongoing modal growth. There is a great deal that still requires consideration and refinement in the unimodal Warsaw Convention system and the MC in particular, must interact with other modal structures and principles. With this context in mind, this research considers the history of handling of freight within the Warsaw Convention system and the MC, in addition to its association with other unimodal legal apparatuses.

9.2 Recommendations

The increasing developmental speed of technological innovation has aided independent transport modes to advance separately, and to come together in the advancement of a mutual transport objective. In this way unimodal businesses have adapted over a number of years to serve an intricate international multimodal

supply chain. In addition to relational, operational, and organisational development, and with the implementation of innovation, digitisation, and future developments in Artificial Intelligence, the future world of air freight, and its related worldwide multimodal associates and supply chain will appear quite dissimilar from today. The expectation and perception of these transformations is an ongoing concept driving change in all modes of carriage. It has been over four decades since the creation of the 1980 UN Multimodal Convention, more than sixty years since the creation of the CMR, and 21 years since the MC was created. Considering the substantial commercial, relational, operational, technological and logistical developments and requirements in all of the global freight supply chain modes that this text has discussed.

The air cargo industry therefore is relying on the resilience of ecommerce and consumer purchasing online wherein both buyers and sellers are ready to pay for swift delivery and tracking services. While there are warnings of reduced consumer spending and maybe even a short-term recession, Boeing has recently suggested in 2023 that due to ecommerce boosts by 2039 global air cargo traffic will more than double it would be wise to reexamine the prospect for unifying the laws covering the future of global

freight transportation. Some recommended ways in which this can be done are as follows:

1) Re-evaluation of existing regulations pertaining to unimodal handling of freight within the Warsaw Convention and the MC to support smooth cooperation in logistics between manufacturing and producing companies.
2) Re-assessing the handling of additional modes of freight transport within their individual unimodal regimes.
3) Eliminating the significant barriers and shifting the focus from the top-down, state-led paradigm of international regulation to one that gives the sector the authority to offer solutions agreed by the industry for adoption through a Model Law.
4) Facilitating a fusion of existing unimodal freight transport operations into a comprehensive multimodal operation that can flawlessly combine the commercial, logistical, functional, relational, technological and legislative concerns related to the constituent modes of carriage.
5) Such a novel air-road agreement would result in technological progress in air-road freight transport, thereby increasing intermodal clarity and confidence. This would further aid in identifying any specifics of destruction,

damage, delay, loss or other breakdown in the transportation chain throughout a period of air or road transportation.

6) Dedicated sustainable urban logistics plans which will accelerate the deployment of zero-emission solutions
7) Prioritising sustainability for air travel via cooperation between manufacturers, airlines, regulatory agencies, and industry stakeholders to hasten the adoption of sustainable aviation fuels and move the aviation industry towards environmental sustainability. In addition to aiding in the fight against climate change, the transition to greener energy will enhance air quality and lessen the negative effects of flying.

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