Chapter 4
A Roadmap for the Postpandemic Aviation Industry

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Abstract With the global economy coming to a standstill during the COVID-19 pandemic, the aviation industry has suffered as one of the main industries. Because of the quarantine and the closure of borders, many of the travellers have cancelled their flights, which made a shocking effect on airlines. The purpose of this study is to examine the roadmap of the aviation industry after COVID-19 on the basis of the reports prepared by the International Air Transport Association (IATA) and the International Civil Aviation Organization (ICAO). While examining the economic impacts of the COVID-19 epidemic on the aviation industry through the global paid Revenue Passenger-Kilometer (RPK) flown, the incidence of COVID-19, regional improvements and income in US Dollars, ICAO made evaluations according to the number of flying passengers. The research reveals the economic and technical difficulties caused by the COVID-19 outbreak in the aviation industry through descriptive and comparative analysis from secondary sources.

Keywords COVID-19 · IATA · ICAO · Aviation industry

4.1 Introduction

The susceptibility of the aviation sector to certain past epidemics and illnesses like SARS in 2003, avian flu (H5N1) in 2006 and swine flu (H1N1) in 2009 has been clearly observed. However, the impact of COVID-19 on the aviation industry has been unparalleled compared to its predecessors, affecting factors such as passenger traffic, air cargo demand, airport workforce and revenue. On March 11, 2020, 102,116 commercial flights were in the air when the World Health Organization

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proclaimed COVID-19 to be a pandemic. The number of flights dropped below 100,000 over the next 3 days, with March 14 seeing the fastest decrease. At the end of March, just under 40,000 aircraft were observed. The number of flights continued to drop in April, reaching its lowest point on April 26 with 24,049 aircraft. From May to the middle of June 2020, a remarkably slow rise was noticed. The maximum number of aircraft was 60,046 on July 3, 2020. On December 18, 2020, it was getting close to the 2018 level. Recovery stalled, though, due to concerns about a new COVID-19 variant and the travel limitations and uncertainties brought on by the second and third waves (Dube et al., 2021). Along the successful implementation of vaccination studies throughout the world in the following period, the aviation industry gained rapid momentum in reaching its previous figures.

The data demonstrates that the outbreak significantly and adversely affects flight numbers over time. ICAO, which has members from 190 nations, and IATA, which represents 290 airlines across 120 countries, have presented their data, forecasts and scenarios in detail by their reports. Forty-five percent of the tourists travelling around the world prefers the airline for transportation to the destination. Tourism-related air travel has the effect of creating 15.5 million jobs (direct, indirect, incentivised), accounting for more than US$300 billion of world GDP (ICAO, 2011).

4.2 Literature Review

As a commerce, industrial and collaboration vehicle, the aviation sector is crucial to the development of the world economy. Prior to 2020, the tourism industry saw pre-COVID-19 growth that was mostly fuelled by the expansion of the aviation sector and air connectivity. Positive economic spillovers from the aviation value chain are seen in various areas of the economy. Therefore, a healthy aviation industry often improves a country's or region's economic prospects. Because of this reason, there is a global concern for the health and welfare of the aviation sector (Alsumairi & Tsui, 2017).

There is a tremendous demand to learn how aviation enterprises fared during recovery given that COVID-19 impacted many elements of people's lives, including those working in aviation tourism. Understanding some of the technologically driven innovations, accomplishments and difficulties of the new normal is also necessary. These insights are crucial for policy, effective responses and upcoming pandemic lessons. This study was conceptualised with this context in mind. This study aims to analyse the new opportunities that have arisen as a result of the new normal following a severe burn (Sun et al., 2022).

IATA is an international trade association that only airline companies can join. It was founded in Havana, Cuba, on April 19, 1945, to provide safe, secure and affordable air transportation. In the outset, there were only 57 members from 31 countries, but as of today, there are more than 290 members from 120 different nations (IATA, 2022a). The following criteria are used to decide IATA's goals: fostering air trade, promoting secure, efficient and affordable air travel for the advantage of all world

citizens and tackling issues that are connected to these goals (IATA, 2022b). COVID-19 has proven to be the biggest shock hit aviation since the Second World War. Global Revenue Passenger-Kilometer (RPK) collapsed by 66% in 2020. Global Revenue Passenger-Kilometer (RPK) assessment from 2019 to April 2021 was not as optimistic as forecasts made in December 2020 due to delayed market reopening in vaccination and governments unwillingness to take risks. In December 2020, 51% improvement is expected for 2021 compared to 2019, while the expected improvement in April 2021 is 43%. State's aid has tried to keep the airlines afloat. A total of 173 billion dollars of aid has been provided from states all over the world (IATA, 2022a). Air travel recovery has slowed, but the global economy has grown stronger. The strengthening of the global economy increased air cargo, but it had no effect on air travel. An improvement was observed in domestic flights, but this recovery did not occur in all world markets. While China and Russia fully recovered in domestic flights, this improvement was extremely limited in the USA and Australia. In January 2019, year-over-year growth in domestic flights was around 10% in Russia, 18% in China, 5% in the USA and 0% in Australia in terms of passenger kilometres flown. In China, the first origin of COVID-19, the decline was around −90% in March 2020. Other countries experienced this decline in the months that followed. In May 2020, Russia shrank by −85%, the USA −98% and Russia −98% in domestic flights. In September 2020, the fastest recovery took place in Russia with 2.7%. China was one of the countries with the best recovery with −2.8%. The USA was able to reach −65% and Australia 89.3%. The expected estimated improvement in revenues through 2024 was 12 trillion RPK (IATA, 2022c). However, new estimates remain around nine trillion. In the April 2021 report, the January 2020 estimates were returned. When these reports were published, it was thought that these estimates would be further reduced in the next report, as the Omicron version had not yet appeared on the scene (IATA, 2022b).

In 2020, the second wave of air travel hit many developed country markets. In Europe, which was most affected by the second wave, new closure restrictions began to be implemented. According to the 7-day averages, while the number of new COVID-19 cases was 0 in Europe, the USA and other world countries on February 15; on October 15, 2020, China reset the number of new cases, the USA reached 8000 and other countries reached 16,000 cases. Europe took the lead in this ranking with 25,000 new cases. To equate with revenues, expenses need to be reduced. 2021 revenues decreased by −50% compared to pre-crisis expectations. Airline industry revenues were around US$90 billion in cargo revenues and around US$700 billion in passenger revenues in 2016, while cargo revenue exceeded US$100 billion in 2020. However, passenger revenue has decreased to 450 billion US dollars, while it is estimated to reach 900 billion US dollars without COVID-19. Commercial loss in the aviation industry was expected to be reduced to US$38 billion in net profit by 2021 (IATA, 2021). That estimate was after the projected loss of US$118 billion in 2020 and still was exceeding the amount from the Global Economic Crisis in 2008. In 2008, the decline in the Global Economic Crisis was around −25 billion USD. In 2020, with COVID-19, this amount has dwindled to about −110 billion US dollars. Along the recovery in 2021, it reached the level of

−40 billion USD. It was predicted that the airline industry would go into a cash surplus towards the end of 2021. Although the improvement of the vaccine support will be felt in this half, the first half was still difficult. Cash loss in the industry in the second quarter of 2020 was −50 billion USD. In the fourth quarter of 2021, it was predicted that it would increase by approximately US$ 1 billion. However, this did not happen (IATA, 2022a).

By the way, it was estimated that some airlines would run out of cash before the vaccine support was completed. This corresponded to a period of approximately 8.5 months. Some of them are Flybe (UK), Trans State Airlines (USA), Compass Airlines (USA), Virgin Australia (Australia), Avianca (Colombia), Atlas Global (Turkey) and Onur Airlines (Turkey) (Dickinson, 2020). According to the International Air Transport Association (IATA), both local and foreign markets will see significant growth in October 2021, extending the air travel industry's recovery (IATA, 2022b). Willie Walsh, the director general of IATA, also issued a warning that the industry's recovery could be jeopardised by travel restrictions imposed by governments against WHO's (World Health Organization) advise. Sadly, the government's responses to the Omicron variant's emergence are endangering the world link that took too long to reestablish. The WHO has publicly stated that blanket travel restrictions will not stop global spillover and will severely burden people's lives and livelihoods, but the appearance of the Omicron variant has caused many governments to panic, once again restricting or outright banning freedom of movement RPK (IATA, 2022c). According to IATA's 2022 report, international air travel has entered the recovery process. International air traffic started to recover rapidly, especially in the middle of 2021. On the other hand, some domestic markets entered the recession period. Governments have lifted restrictions for short trips and leisure travel. Thus, there was a rapid demand for international travel. Domestic RPKs, on the other hand, initially followed a stagnant course due to new virus outbreaks in Asia, where the fastest recovery was experienced. According to this report, while Domestic RPK decreased by −80% in April 2020, this decrease decreased to −25.8% in April 2022. International RPK, on the other hand, decreased by −98% in April 2020, while this rate decreased to −43.4% in April 2022. The overall RPK decline of the industry was −95% in April 2020, compared to −37.2% in April 2022. In domestic RPKs, the Russian market was expected to be above the 2019 level due to both government incentives and the impact of the Ukraine War. In China, there was an improvement following the Delta and Omicron variants. The recovery in the USA was stable but extremely slow. In all other regions, fluctuations in domestic RPKs continue despite the reduction of COVID-19 pressure. International RPKs were the loosening of border policies in the world. While other regions have seen a slow recovery, Asia Pacific has experienced a more marginal recovery in international air travel RPK, thanks to cautious travellers and strict government policies. The best RPK recovery in 2022 occurred in North America and Europe. The North American RPK decline, which reached −100% in June 2020, decreased to −30% in March 2022. On the other hand, while European RPCs decreased at the same rate on the same dates, the recovery in March 2022 declined

to −40%. We see that the slowest improvement here is in the Asia Pacific region with −80% in March 2022 (IATA, 2022c).

The desire of people to travel with airlines has continued during the pandemic. This desire was most observed in the USA and European markets. It is seen that there has been a significant increase in ticket sales as the governments eased the restrictions. Even the postpandemic economic crisis and the Ukraine-Russia war could not affect the speed of this increase. Ticket reservations in the USA, which decreased to −92% in January 2021, improved up to −10% in March 2022, and European ticket reservations improved by −30% (IATA, 2022c). Airline and cargo revenues increased in 2021. However, airline revenues failed to catch up with the 2019 data and even lagged far behind. On the contrary, air cargo revenues increased considerably during this period. Air cargo revenues increased by 75% in 2021 compared to 2019 revenues. However, due to the 60% decrease in airline passenger revenues, total revenue in all revenues remained below 57% compared to 2019 revenues. Net after-tax losses across the industry fell from $138 billion in 2020 to $52 billion in 2021, driven by increases in passenger volume and robust aviation cargo, according to IATA's October 2021 estimates (IATA, 2022c). IATA anticipates further loss reductions in 2022 as the rebound continues. The effect of inflation on demand, the COVID-19 outbreaks in China, and the general slowdown in economic activity will all have a negative impact on airline financials; it is obvious. However, some airlines are anticipated to turn a profit in 2022, particularly those with sizable domestic marketplaces and open borders (IATA, 2022c). IATA has unveiled a strategy to assist governments in making data-driven decisions that would allow for the safe reopening of their borders. IATA recommended governments to pay close attention to the following three areas: COVID-19 measurements corresponding to risk levels with ongoing review process, digital solutions to handle healthcare credentials and simplified health protocols which are all included. Furthermore, Walsh argued that countries needed to address the grave disparity in vaccination rates that is resulting in the rich world providing booster shots while less than 10% of the African continent is fully immunised (IATA, 2021).

Fifty-two nations that had ratified the Chicago Agreement established the International Civil Aviation Organization (ICAO) on April 4, 1947, based on Article 43 of the United Nations charter (December 7, 1944). It was approved as the official aviation organisation of the UN in October of that same year. Being a UN member and having UN approval is the primary requirement for membership in this organisation. ICAO has 190 members as of now. Their goal is to meet the needs of the global community for safe, dependable, effective and affordable air transportation by supporting the development of airlines, airports and air navigation facilities for civil aviation, ensuring the safe and orderly growth of international civil aviation and promoting the design and operation of aircraft for peaceful purposes (ICAO, 2021a). ICAO has prepared two highly detailed reports on the COVID-19's economic effects on civil aviation on November 5, 2021, and February 1, 2022: world passenger traffic has declined in an unprecedented way in history during the pandemic. In the comparison made from 1945 to 2022, there was an overall decrease of

−60% in passenger traffic in 2020 compared to 2019 and a decrease of −49% in the 2019–2022 comparison. At the end of 2022, this decrease is expected to be between −25% and −30% compared to 2019. Compared to the oil crisis of 1972, the Iran-Iraq War of 1982, the Gulf Crisis of 1991, the Asian Crisis of 1997, the 9/11 Attack of 2001, the SARS of 2004 and the Financial Crisis of 2010, the COVID-19 has been revealed how big the effect of is.

While the total number of passengers reached 4,500,000 at the beginning of 2019, it decreased to 1,800,000 passengers in the first half of 2021. In the second half, it experienced a slow recovery with worldwide vaccination applications and reached 2,300,000 passengers. The ICAO report estimated 3,500,000 for recovery by year-end. While the number of domestic passengers was around 2,700,000 in the same period, it decreased to 1,400,000 in the first half of 2021, reached 1,700,000 in the second half and is predicted to reach 2,200,000 at the end of 2022. The number of passengers travelling in international lines decreased from 1,800,000 to 400,000. The least improvement took place in international lines, around 500,000 continued. However, by the end of 2022, this figure is predicted to rise to 1,000,000. The COVID-19's impact (approximate actual outcomes) on global scheduled passenger traffic for 2020 is as follows in comparison to 2019 levels: Airlines are offering 50% savings on all available seats. There have been 2.703 million fewer passengers overall (a 60% decline). The airlines' gross operating income from passengers decreased by almost 372 billion US dollars.

COVID-19's effect on global scheduled passenger traffic for 2022 (approximate actual outcomes) in comparison to 2019 levels is as follows: seats offered by airlines decreased by 19% to 22% overall. Passenger number decreased by 1134 to 1367 million (between −25% and −30%). The airline's loss of gross passenger operational income is approximately US$187 billion to US$218 billion. Every year since 2019, international passenger traffic has decreased in all regions. While there was 59% domestic and 41% international passenger traffic in 2019 all over the world, in 2020 these figures increased to 74% on domestic lines, 26% on international lines and 77% on domestic lines and 23% international lines in 2021. In 2021, more than half of international traffic was in the European region. International passengers in Europe, which was 857 million in 2019, decreased to 225 million in 2020 and reached 281 million again in 2021. With these figures, Europe has 46% of the world's international passengers in 2019 and 56% in 2021. The ICAO bulletin re-emphasised the importance of a "globally coordinated approach" and the importance of countries "advancing on the principles of solidarity and equality to reduce disease transmission and facilitate the recovery of international travel and the global economy" (ICAO, 2021b).

The aviation industry has never before had such a broad impact on the world. Many airlines are currently experiencing financial difficulties. Qatar Airways, Emirates, Delta Air Lines, American Airlines, Southwest Airlines, United Airlines, China Southern and China Eastern Airlines, Ryanair, EasyJet, Lufthansa and Turkish Airlines are among the principal airline firms in the world that have been impacted. These airlines are both low-cost and national carriers, and the COVID-19

pandemic had an impact on the whole aviation sector. According to the projection, the COVID-19 pandemic was going to cause these international airlines to lose billions in income (Deveci et al., 2022).

Airlines' route networks and fleets were altered by the epidemic as they came to terms with the so-called "new normal" or a new reality. The disruption brought on by COVID-19 created fresh chaos and order, which airlines and other tourism businesses had to deal with, as was expected and theorised in the early days of the pandemic (Dube, 2022). This study aims to investigate the effects, chances for recovery and difficulties that the aviation sector has as it struggles to recover from the effects of COVID-19. The study is important because it describes the path taken and provides insights into the course that this important economic engine will take in the future.

4.3 Research Methodology

Based on the studies released by IATA and ICAO, the aim of this study is to investigate the expectations for the aviation industry's future following COVID-19. This study's research data were gathered using the document analysis method. This method entails the examination and analysis of already-existing records and documents (Bowen, 2009). By reducing the researcher's uncertainties about the issue, document analysis aids in better understanding the topic and information discovery (Merriam, 2009). The key characteristics of document analysis can be summed up as gaining in-depth knowledge about the background of the research issue, examining changes that took place through time and gathering hints to arrive at objective results (Kozak, 2014). The documents examined in the research consist of the 2021 and 2022 reports of the COVID-19 period by ICAO and IATA. The research question sought to be answered within the scope of these reviews can be expressed as follows: What are the expectations for the future of the aviation industry after COVID-19?

By descriptive and comparative analysis of secondary sources, the research illuminates the economic and technological challenges brought on by the COVID-19 outbreak in the aviation industry. Via IATA and ICAO reports, this study tracked the COVID-19 epidemic's consequences and the worldwide aviation industry's losses as well as its subsequent recovery. The facts in the reports have demonstrated to us that the impact of the epidemic on the global aviation business has been significant and that there have been significant revenue losses ever since the travel restriction measures were put in place.

4.4 Results and Discussions

Via IATA and ICAO reports, this study tracked the COVID-19 epidemic's consequences and the worldwide aviation industry's losses as well as its subsequent recovery. The facts in the reports have demonstrated to us that the impact of the epidemic on the global aviation business has been significant and that there have been significant revenue losses ever since the travel restriction measures were put in place. With the exception of China, which took a different course, the recovery process began in other regions in June 2020. Markets are expected to respond favourably to fast testing rather than quarantining passengers upon arrival, which will lead to a rebound in international air travel. Worldwide limits on long-term travel have put the sector in a precarious position. The cost of financing and restarting has gone up because a few airlines had their ratings reduced. Cost-effective financing by both private and governmental entities is required as a response plan to assure sustainability. Startup airlines have the potential to set the bar for sustainability in the aviation sector by utilising cutting-edge technology. It would be reasonable for governments and international organisations to create regulations that provide these airlines with fresh incentives to assist their sustainability efforts. Another important goal for policy development is to ensure fair competition between airlines. A leading example is the recurring airport slot exemption for current airlines. Such a decision may be reasonable for a while, but it should not become a permanent wildcard to thwart new entrants. Accordingly, policymakers need to find a better balance between ensuring the survival of existing airlines and ensuring the competitiveness of startups. Finally, the threat of an airline startup fraud leads to the need to develop policies to protect passengers, aviation stakeholders and investors from the influence of such companies. The airline industry is capital intensive and requires sufficient cash flow to survive. Ensuring fair competition among airlines is a key objective for policy development. The ongoing exemption of current airlines from airport slot fees is a prime example. For a while, such a choice might make sense, but it should not be used as a constant wildcard to exclude new competitors. Hence, policymakers must strike a better balance between protecting the viability of current airlines and preserving startups' competitiveness. Finally, the possibility of an airline startup scam necessitates the creation of regulations shielding travellers, aviation stakeholders and investors from the power of such businesses. The airline sector demands a lot of capital and needs enough cash flow to survive. Zhang et al. (2022) claim that post-COVID-19 Airlines have implemented aggressive promotions with steep discounts in an effort to create a speedy cash flow and hasten the recovery of traffic.

The harshest effects of the pandemic were felt in 2020. Recovery began that year in the second half of the year, continued in 2021 and picked up speed in 2022. The aviation industry is getting closer to the levels seen in 2019, which serve as a baseline for the aviation industry on which the impact of COVID-19 is based, according to the evidence, which demonstrates that significant recovery progress has been seen. Because of the sustained reduction in traffic recovery teethers, aircraft were

parked and not earning as much money. This had a negative impact on the value chain of the aviation industry and made recovery more difficult. Some airlines, airport businesses and personnel of other aviation entities had to undergo sustainability changes as a result of the prolonged financial burns (Dube, 2022).

4.5 Conclusions

However, the pandemic has given aviation a second chance based on improved operational effectiveness and technical advancement. For most routes, the most effective alternative for achieving efficiency and environmental sustainability continues to be new, fuel-efficient medium- to narrow-body aircraft. As a result, the industry had to keep getting rid of ageing, inefficient aeroplanes that were costly to both the environment and the economy. This calls for funds to enable the industry to adopt sustainability in line with the Sustainable Development Goals (SDGs), especially climate action and sustainable energy (SDG 7, SDG 13). The aviation sector should not exploit this circumstance as a justification to back out of prior commitments to a sustainable aviation future (Dube et al., 2021). The implementation of various health and safety regulations needs to be coordinated globally. Airports, health authorities and non-governmental organisations all play a part in attaining this goal by calming consumer anxieties and concerns while stabilising the business. Airlines must update their reservation and cancellation procedures to provide customers more flexibility because they may need to make last-minute modifications to their itineraries for a sustainable growth path. Since most visitors worry about being quarantined at their destination, industry clarity regarding restrictions in various locations is essential. In this regard, all airports that collaborate closely with governmental and medical authorities require the ability to conduct dependable fast screening tests at least 24 hours or fewer before to the departure of passengers. In order to implement biosecurity precautions in relation to COVID-19, airports could be required to obtain a biosecurity certificate. The successful implementation of biosecurity measures at various levels is essential to the tourism sector. Nonetheless, any measures that focus on the health and safety of passengers between the starting point and the final destination and such measures, including physical segregation measures throughout the voyage, are likely to be well received by the passenger. After COVID-19, airline firms have a variety of options. The opportunities listed by Sun et al. (2022) are as follows. Startups have historically favoured low-cost operations, according to related study literature. Furthermore, of particular relevance may be low-cost long-distance transportation services for customers taking connecting flights. Also, certain airline businesses are focusing on sustainable development and green aviation while taking into account the preferences of youthful customers. Comparative prospects for airlines in various industries may exist in the near future. Future business models with tremendous potential include virtual aviation. After all, a lot of major corporations in the twenty-first century operate successfully without having a physical presence. Uber does not actually own the

vehicles it uses, Facebook was first established around an ecosystem without creating any of its own content and Airbnb offers rooms that are actually held by other people. These businesses excel because of their shrewd and technologically advanced service offerings. Perhaps some airlines will experience similar developments in the future. For instance, China Eastern Airlines has introduced a programme that allows customers an infinite amount of free weekend excursions, which is unusual both globally and in the Chinese airline industry. Unfortunately, there is not enough information available to say whether such a promotion is successful in enhancing airlines' cash flow, especially in light of potential strategic responses from significant rivals and adjustments in consumer travel habits following the epidemic.

IATA has certain initiatives planned to guarantee the long-term viability of aviation revenues. The first of these is the government's decision to promote economic growth while also prioritising the evaluation of the economy as a whole despite large tax collections. Hence, aviation taxes must be reasonable and equitable. Instead of implementing carbon and green levies that are reflected on traveller tickets, IATA encourages nations to invest in SAF (sustainable air fuel). The new regulations include the whole airline industry, but because of the regulations' high yearly turnover requirement, it is possible that just the five largest airline groups will be subject to them. The threshold, however, might decrease by 50% by 2030, bringing more airlines under the regulations, particularly when airlines recover following the implementation of the amended regulations in 2023 (IATA, 2022c).

In 2021, airline schedules have to be rearranged because to restrictions on air travel and the epidemic. IATA and airline companies demanded that the 80–20-slot rule, which was previously in use, not be reinstated while there is still uncertainty surrounding the pandemic. The Worldwide Airport Slot Board (WASB) has recommended methods that take into account the international aspect of airline networks and exposure to dynamic market conditions, such as how the closure of one end of a route has a considerable impact on the other end. In spite of this, the UK government announced a 70% consumption rate with no options for the summer of 2022, whereas the European Commission accepted a rate of 64%. The majority of other regulators have continued to use the WASB. Slot Allocation During COVID Recovery, a white paper co-authored by IATA and the Aviation Studies Institute at Singapore University of Technology and Design, focused on ASEAN in March 2021. The analysis comes to the conclusion that "the option to return a number of spots in the pre-season while keeping future rights to the same slots" is the most helpful policy established by governments around the world. This gave other airlines more access opportunities, clarified the situation for airport planners and stopped carriers from flying needlessly. The WASB's recommendations for upcoming seasons reflect the same idea. WASB provides a balance between pandemic impact and demand recovery based on best practices. Assistance with slots is crucial in markets with stringent travel restrictions. Some markets are seeing pressure on the slot system as a result of rising demand that has outpaced airlines' ability to rapidly resume operations. Flight cancellations and major operational issues at airports are frequently brought on by a staffing shortage due to security-related issues.

To relieve pressure on the airport, Schiphol Airport asked airlines to halt bookings in May 2022. Such requests must be approved well in advance in order to modify slots with the least amount of inconvenience to customers. It is also crucial that under the current minimum slot usage regulations, airlines who are unable to use their slots due to cancellations beyond their control are not penalised. The recent blockade of Russian airspace following that nation's invasion of Ukraine has added another layer of complexity surrounding the slot system. Carriers must be as flexible as possible in order to rearrange slots at airports with coordinated slot availability due to the substantial and continuous disruption to schedules. IATA is collaborating with WWACG (Worldwide Airport Coordinators Group) to guarantee that calendar modifications and information may be provided as soon as possible between aviation stakeholders and passengers (IATA, 2022c).

Inadequate response to Omicron variant, which emerged in late November 2021, has forced several governments to move hastily, including increased testing and quarantine procedures, border restrictions and new border closures. Notwithstanding the World Health Organization's (WHO) emphatic comments that such severe measures are useless and possibly dangerous, these remedies were executed with little coordination or forewarning. The International Air Transport Association (IATA) advised states to "leverage the experience of the past two years to transition to a coordinated, data-driven approach that discovers safe alternatives to border closure and quarantine". Travel limitations, he continued, "are not a sustainable method to regulate COVID variations". It soon became apparent that rigorous confinement measures were in fact ineffectual against Omicron due to the variant's extraordinary transmissibility. London School of Hygiene and Tropical Medicine Professor David Heymann stated: "Travel restrictions put in place after Omicron's discovery had little effect on its propagation. This is due to the fact that it was already widespread when it was discovered" (IATA, 2022c).

Pre-take-off testing criteria were also found to be ineffective in halting or even slowing the spread of the Omicron form, according to research done by Oxera and Edge Health for IATA and ACI Europe. However, Professor Heymann noted that since vaccination offers effective protection against dangerous outcomes, travel precautions are becoming less and less important in nations with high immunisation rates. In this regard, many nations have started to treat COVID-19 as an endemic illness and have given individuals more control over risk assessment and risk management. Government policy has changed from rigorous person-based measures to loosening regulations once acceptable population protection levels have been reached, with the goal of returning from Omicron and returning to regular Omicron and vaccines. IATA asks governments to standardise border controls as more nations adopt this strategy in order to restore the pre-pandemic travel environment. Consideration should be given to Oxera and Edge Health study, which found that the test had no appreciable impact on the virus' propagation variants. Moreover, contact tracing, particularly the common long and complex forms of passenger finding (PLFs), calls for an interdisciplinary and comprehensive approach. Not just the border should be considered a line of defence. There is no use in completing a PLF for travellers travelling to a domestic destination if contact tracing is not available.

The same reasoning holds true for other health records, such as immunisation records. Beyond lowering border controls, restoring the passenger experience that airlines are accustomed to providing is necessary. The familiar experience ought to back to normal as well. Particularly, mask rules should be loosened to accommodate the home setting. Passengers and staff should be free to choose whether or not to wear masks when travelling. Making masks required in restaurants, public spaces for culture and sports and even in airports where they are not is illogical. Facing forward with fortitude and readiness as the industry's recovery gains steam, it is crucial to assess the lessons learnt and make sure the sector is resistant to future SARS-COV2 virus variations. Because it is anticipated that global epidemics will grow more frequent, governments and international organisations also need to be much more prepared for medical emergencies. Digital tools have the ability to improve contactless travel, transform identity management and strengthen the capacity of foreign travel in times of health emergencies. IATA will work with ICAO, WHO and other stakeholders until 2022 and beyond to make sure that everyone is adequately prepared for the next global health event and for a quicker, more reliable response than during the COVID-19 epidemic. This will be the focus of IATA's entry at the ICAO assembly, which will take place from September 27, to October 7, 2022 (IATA, 2022c).

Airlines are now manually verifying travel and health documentation, especially for international travel, as a result of the government's COVID-19 travel restrictions. Many of the automated and contactless procedures that travellers benefited from prior to the pandemic have been suspended as a result of this. Many airlines have implemented back-office procedures that enable passengers to produce their documents prior to their flight as traffic starts to pick up. In order to cut down on the number of consumer contacts during the travel process, several automated processes could now be restarted. The past 2 years have shown the necessity of putting automated solutions in place to prevent delays and traffic jams at airports. In order to give travellers the faster experience they deserve, IATA is working with industry stakeholders to expedite work on the One ID programme. Passengers will be able to move from the curb to the door using a single biometric travel token, such as a face, fingerprint or iris scan, and their information will be provided directly to governments without the use of an airline intermediary thanks to Single ID, which is assisting the aviation industry in making this transition. Airlines are fervent advocates for One ID. The focus right now is on making sure that laws are in place to support the idea of paperless travel. Passengers will experience smoother and more comfortable travel processes thanks to a single identification, and important government resources will be used more efficiently. It will advance passenger self-service, boost airport productivity and reduce costs for stakeholders – all of which are essential as the sector recovers from the COVID-19 pandemic (IATA, 2022c).

This study suggests switching to an integrated transportation and tour agency for airline firms who solely make money from passenger transportation and risk going out of business if this income is disrupted. When flying is not an option for getting the passengers where they need to go, it is expected that the airline firm will participate in the planning of other tourism activities including lodging, dining and

entertainment. Thinking like quarantine and vaccination precautions for health reasons, the transition to a single global measurement system is necessary. A common digital health ID for each passenger should be provided, and it should be updated often. Before taking off, passengers must show this digital health ID.

Governments were asked by IATA (2021) to pay close attention to three crucial areas: streamlined health protocols, digital solutions to manage healthcare credentials and COVID-19 measures appropriate with risk levels with ongoing review process. In order to prevent disease transmission and promote the recovery of international travel and the global economy, the ICAO (2021) bulletin reemphasised the significance of a "globally coordinated strategy" and the importance of nations "advance on the ideals of solidarity and equality".

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