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Governance And Policy Responses to Covid-19 In Aviation: An IGO and NGO Perspective

Havacılıkta Covid-19'a Karşı Yönetişim ve Politika Yaklaşımları: Uluslararası Otoriteler ve Sivil Toplum Kuruluşları Perspektifi

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Abstract

Throughout the history of the aviation industry, solutions have been developed to advance the process in its environment by developing it technologically, legally, and administratively. However, the industry has had to struggle and adapt to uncertainties, changes, and negativities in its external environment. Although these rarely have positive effects on the sector, they mostly have negative effects. While pandemics are one of them, Covid-19 will undoubtedly remain one of the most symbolic. The aviation industry is struggling with all of its stakeholders to keep the industry alive, both on its own and together. While various academic studies have been carried out in terms of airlines, airports, and passengers, a limited number of studies have been conducted from the perspective of authorities, institutions, and organizations. This study investigated internal and external measures, including governance of the Covid-19 process. Therefore, studies of Intergovernmental Organizations (IGOs) and non-governmental organizations (NGOs) have been compiled. These studies, which were proposed during the Covid-19 process, were evaluated, and solutions were offered for the sustainability and future of aviation.

Keywords: Covid-19, Air Transportation, NGO, IGO, Pandemic

Öz

Havacılık sektörü tarihi boyunca teknolojik, yasal ve idari olarak gelişerek çevresindeki süreci ilerletmek için çözümler üretmiştir. Diğer yandan da dış çevresindeki belirsizliklere, değişimlere ve olumsuzluklara karşı mücadele etmek ve uyum sağlamak zorunda kalmıştır. Bunların nadiren sektöre olumlu yansımaları olsa da çoğunlukla olumsuz etkileri olduğu bilinmektedir. 2020 yılı itibariyle tüm dünyanın gündemine tekrar dahil olan salgın hastalıklar da bunlardan biridir. Yakın geçmişte çeşitli düzeylerde salgın hastalıklar riski olsa da tüm dünyanın ortak kaygısı haline gelen Koronavirüs (Covid-19) şüphesiz en sembolik olanlardan biri olarak kalacaktır. Havacılık sektörü tüm paydaşlarıyla hem bireysel hem de örgütlenerek sektörü ayakta tutmak için mücadele ettiği bir dönemle yüzleşmek zorunda kalmıştır. Bu konuyla ilgili olarak havayolları, havalimanları ve yolcular açısından çeşitli akademik çalışmaların da yapıldığı bilinmektedir. Ancak otoriteler, kurum ve kuruluşlar perspektifinden sınırlı sayıda çalışma ortaya konmuştur. Bu çalışma ile de akademideki bu eksikliği gidermek amaçlanmıştır. Çalışmada, Covid-19 sürecinin yönetişimi de dâhil olmak üzere iç ve dış tedbirler incelenmiştir. Bu anlamda Uluslararası Otoriteler ve Sivil Toplum Kuruluşlarının Covid-19 sürecinde yapmış olduğu çalışmalar derlenmiştir. Covid-19 sürecinde ortaya konan bu çalışmalar değerlendirilerek havacılığın sürdürülebilirliği ve geleceği için çözüm önerileri sunulmuştur.

Anahtar Kelimeler: Covid-19, Hava Taşımacılığı, Uluslararası Otoriteler, Sivil Toplum Kuruluşları, Pandemi

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Introduction

The year 2020 is one of the most striking years in recent history. The main reason for this is that the entire world meets one common agenda point: Covid-19. Pandemic diseases have existed in various periods of human history, becoming much more effective in the last century with improved transportation opportunities. It seems that the increasing desire of people to respond to these opportunities is an indicator that pandemics will appear as a problem in the future (Tatem et al., 2012). The transportation sector has a high impact on the spread of several diseases. Looking to the past, unfortunately, air transportation is one of the main actors of transmission of influenza and severe acute respiratory syndrome (SARS) disease, so considering and taking precautions is a vital issue to prevent, control, or monitor the present and future pandemics (Tatem et al, 2012). Similarly, at the beginning of the pandemic, air transport also played a central role in the spread of the coronavirus (Sun et al., 2020). As in the past, today, and even in the future, with the help of air transportation, people who can easily move around the world will be the main factors in the spread of these pandemics.

Since the 1920s, people have been aware of the risk of spreading pandemics by air transport, but have not taken any action for a long time. The first attempt was made with the First International Congress Sanitary Aviation in 1929, followed by the First International Sanitary Convention for Aerial Navigation in 1933. New rules and regulations have been established for aircraft and airports in the face of potential diseases, such as cholera, smallpox, yellow fever, plague, and typhus (Budd, Bell, and Warren, 2011). Following this congress, the second one was held in Madrid in 1933, the third in Brussels in 1935 and a similar one in Paris in 1938, and as a result of all these conferences, a cooperation was established to discuss and research many infectious diseases, especially Cholera (ICAO, 2021). Beside these, "Guide to Hygiene and Sanitation in Aviation" signed by the International Civil Aviation Organization (ICAO) and World Health Organization (WHO) in 1960, is one of the most symbolic agreements regarding aviation and pandemic awareness. With this guide, which has been updated since then, standards for protecting passengers and employees from pandemics have been established for all aviation stakeholders (ICAO, 2021).

The Covid -19 (Coronavirus Disease) has severe economic, social, and political consequences for the aviation sector as well as many other industries. From the beginning of the pandemic, it was observed that the initial reaction was for airlines to suspend passenger flights. Although practically all passenger flights have been grounded, freight and first-aid flights, often known as country rescue flights, have continued (Kilic et al., 2021). The SARS outbreak, which resulted in annual reductions (revenue passenger kilometers (RPKs) by 8% and USD 6 billion revenues for Asia/Pacific airlines), was recovered in six months. In March 2020, at the very beginning of the pandemic, the impact of Covid-19 surpassed the 2003 SARS outbreak, and it was obvious that the recovery path of Covid-19 would be very different from that of SARS (ICAO, 2022). The Covid-19 pandemic has resulted in an extended period of instability, making the future unclear (Kim and Sohn, 2022). Governments have been trying to cope with the devastating social and economic effects of pandemics. Short and long-term policies are being developed to eliminate the pandemic with the least damage and to get rid of its negative effects. However, the effects

of diseases on every part of society make it impossible to formulate policies without community contribution (Huang, 2020). Therefore, policies created by public institutions should be supported, fed, and directed by non-governmental organizations (Kulczyński et al., 2017; Watterson, 2020).

The Air travel has an inherent cross-border nature and demands legal obligations between countries. Unlike many other industries, which grew nationally first and subsequently spread to other nations, the civil aviation industry has always been globalized in nature. Safe and secure air navigation and international air transportation require standardized equipment, infrastructure, and operating procedures. The ICAO, established after World War II, is a specialized organization of the United Nations (UN) responsible for the global regulation of international civil aviation safety, security, communications, and technical aspects. (Kuyucak & Vasigh, 2012). In addition to the ICAO and national authorities, other regional or international organizations, such as the European Aviation Safety Agency (EASA), regulate civil aviation. Furthermore, some other associations, such as the International Air Transport Association (IATA), which represents the member airlines and Airports Council International (ACI), are very impactful, especially regarding commercial issues in air transport. The influence of Intergovernmental Organizations (IGOs) and Non-Governmental Organizations (NGOs) on the technical and economic regulation of international air transport is extremely high. Therefore, in air transportation, which is one of the sectors most affected by Covid -19, we assume that IGOs and NGOs also have a profound direct effect on the normalization processes of the sector.
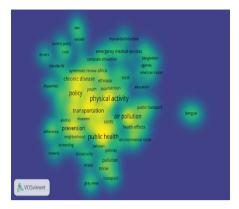
In this sense, the following questions inevitably emerge.

•   What has been the response of NGOs and IGOs in the aviation industry to the pandemic?

•   How much impact did the reactions they put forth and the policies they proposed have on the industry during the pandemic?

In this study, we examine in depth the fight of intergovernmental and non-governmental organizations against Covid -19 in the air transport sector. By examining the policies proposed by these organizations, we focus on new policy proposals that may favor air transport.

Literature Review

It is a fact that the transportation sector and transportation modes have had an undeniable effect on the spread of pandemics throughout the history of the world. Especially with the Covid -19 pandemic, research and news revealing the positive/negative effects of the transportation sector have come to light. This relationship has become an increasingly important subject of academic research. To reveal this and to highlight the academically examined aspect of the relationship between the transportation sector and pandemic diseases, a study was conducted in the Scopus database containing the words "transport" and "disease", and 14246 studies were listed. While approximately 11,000 of these studies cover 60 years in the pre- Covid -19 period, approximately 3000 studies were revealed in the post- Covid -19 period in 2 years.
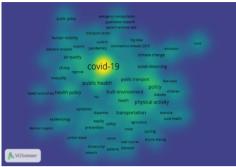
Figure 1. Keyword Density in Academic Studies Before and After Covid -19

To narrow the academic studies in the context of our research, the "policy" keyword was added to increase the number of studies in the pre- Covid -19 period to 742; post-Covid -19 period studies were narrowed down to 458. These studies were visualized comparatively with Vosviewer software in the context of "author keyword co-occurrence, " as described above. The open spaces and large-volume words in the figure indicate the density of the keywords used. Accordingly, while there were different intensities in the keywords of the studies in the pre- Covid -19 period, the focus of the post-2019 studies on Covid -19 was Covid -19. In all of these studies, the density of the words "policy, public health and transportation" draws attention.

Various extraordinary conditions have been experienced in aviation history and have profoundly damaged the sector. Various pandemic diseases have affected the aviation sector as well as around the world, but none of them have had a devastating effect in such a short time as Covid -19. While it is a new threat globally, it has been the subject of many academic studies in a short time owing to the magnitude of its impact.

While air transport was an important activity in terms of the transportation and tourism industries as well as the global supply chain, there was a dilemma about whether to continue its activities during Covid -19. On the one hand, the supply and distribution of medical supplies, and the return of citizens abroad to their homeland; on the other hand, it was clear that their activities should be stopped in terms of control of the pandemic. At this point, both governments and international authorities, especially the ICAO, have come under economic, social, and legal pressures (Macilree and Duval, 2020).

The impact of Covid 19 on the aviation industry was felt by many stakeholders, and the industry in general suffered. Airports are undoubtedly among the most injured. It is stated that airports should take more careful financial steps to ensure their sustainability in the present and post Covid -19, and operationally, the ability to create terminals that are less crowded and suitable for social distancing are important factors for the future (Serrano and Kazda, 2020). In addition to this, airports utilize two advantages: first, airports take the first step in terms of "biosecurity" with their role as a control mechanism, they can check passengers' situations by using thermal technology and verbal questionnaires, and second, they can play a role as a sensor and can ensure minimization of general risk (Warren, Bell and Budd, 2010).

Although international aviation authorities have declared that the risk of in-flight transmission of Covid -19 is low, the primary factor in the spread of the pandemic worldwide is air transport. It is also known that if a high rate of vaccination cannot be achieved, there is a small risk of the continuation of sphere spread (Sotomayor-Castillo et al., 2020). However, it is still in demand according to a study on passenger behavior and intention in the Covid -19 pandemic, airlines should do more to turn health and safety, such as the distribution of hygienic medical materials, free of charge kits, mandatory masks, and the use of educational videos (Sotomayor-Castillo et al, 2020).

Certainly, passenger behavior will not be the same, as it applies to the entire transport sector in general. Taking this into account, becoming more prepared for similar scenarios invites many individuals or institutions, from industry officials to governments and authorities, to take action (Subramanya and Kermanshachi, 2020). According to aviation experts, the situations that the sector may face after Covid -19 are shrinkage of the aviation sector, government support may affect competition, new entries to the market in the face of the losses of large carriers, the share of regional airlines may increase, low-cost carriers (LCCs) may experience changes in their target markets, and secondary airports will experience more losses.. It has been summarized that the habituation to the method can reduce business travel and the general fear that comes with the pandemic can also affect leisure travel (Suau-Sanchez et al, 2020).

With Covid -19 having an unprecedented impact, many factors are projected to change operationally and financially in the aviation sector. In parallel, state support for financially struggling airlines is also prominent, and it is crucial to evaluate whether this support will not harm competition but whether it can have a leverage effect for the sector (Abate et al., 2020). During this period, airlines were not able to make network and fleet changes at the desired level owing to various restrictions, but governments started to lift travel restrictions with the vaccine, a step that would bring the sector to the expected level in a shorter time (Deveci et al., 2022). However, at the same time, as the effects of the pandemic wane, the question of whether everything should continue as if it had never happened should also be discussed. To assess the "possibilities" of the post-Covid 19 aviation sector, the sector needs an acceptable degree of transformation; these should be radical changes such as reducing long-distance lines, reducing the use of older aircraft, increasing environmental awareness, and considering financial sustainability (Gössling, 2020).

While efforts to normalize continue, it can also be said that Covid -19 has created an opportunity to make a radical change in the industry. Important recommendations will be for the aviation industry to abandon operationally and environmentally inefficient aircraft and routes, start offering passengers greater flexibility in options such as booking-cancellation, and implement biosecurity practices to protect the health of everyone during and before the flight (Dube et al., 2020). In addition, because covid 19 is a struggle for all , it is stated that the sector and its stakeholders do not have a valid action plan against unusual (disaster, pandemic, etc.) uncertainties and should consider this a priority (Dube et al., 2020).

While Covid-19 undoubtedly created a shock effect on the aviation industry, it was also a symbolic event that revealed how unprepared the industry was for the pandemic and

similar uncertainties. Despite similar situations that may occur after this experience, it is emphasized that the managers should determine a return or recovery strategy, a common strategy language should be developed and standardized for all aviation stakeholders, strategies should be updated with constant vigilance, and real-time adaptation to future transformations should be ensured (Linden, 2021). As of 2023, while the effects of the pandemic in the demanding sector have lost their strength at the international level, it is certain that the expected recovery has not yet been achieved with various effects, such as forcing some of them, fuel costs, and the Russia-Ukraine crisis. At these points, the approaches of NGOs and IGOs will make a difference to ensure the sustainability of international aviation and restore high access to its former power (Dube, 2022).

Response of Governments, Organizations and Authorities

The aviation sector has struggled with various crises and extraordinary developments throughout its history, suffered various injuries and losses, but continued to develop and grow. Unfortunately, its experiences over a period of 120 years since 1903, which is considered the beginning of modern aviation history, did not provide an advantage against Covid-19, which it had to face in 2020. Covid-19, with its economic and psychological factors, has caused great damage in the aviation industry as well as in the whole world, and continues to cause wounds. In addition, the start of the measures taken to combat the pandemic in the aviation sector is also proof of the risk faced by the aviation community (Macit and Macit, 2020). Although it is not one of the main indicators that accelerates the transmission of pandemics threatening public health, it is known that air transport has a great impact on the spread of SARS in 2002, H1N1 in 2009, and MERS in 2012. (Kulczyński et al, 2017). In addition, to prevent or reduce the risk of spreading, all aviation actors, such as airlines, manufacturers, authorities, and professionals, have to take joint action and create awareness of possibilities and precautions (Kulczyński et al., 2017). To close all these wounds and minimize risk, all actors from the smallest stakeholders to the largest authorities show various reflexes. In this section, all the reflexes shown by the sector players and authorities have been compiled. These will be examined under two headings: internal precautions (reflexes of countries and local institutions) and external measures and sanctions (Governance of IGOs and NGOs).

Internal Precautions

It has been reported that various organizations representing or independent of states are effective in the aviation industry and engage in various activities regarding the Covid-19 process. In addition, independent of IGOs and NGOs, countries and institutions (airlines, airports, etc.) started to take measures when the seriousness of the pandemic was being realized. In the first days of the Covid-19 pandemic, due to the lack of sufficient information despite growing concern about the virus, the responsibility for preventing the spread of the virus was taken by airlines and airports (Davies, 2020). With the increase in awareness and concern about Covid-19, all countries and governments had to apply various restrictions, and the temporary closure of air transportation was a common method. Concordantly, the first step is a pioneering example, as it was applied in China. The Civil Aviation Administration of China (CAAC) stopped all operations from/to Wuhan and informed airline companies for Wuhan International Airports to cancel or reduce operations that ensured "zero departure" (Toczauer, 2020).

In the first days of 2020, the first measures that airlines and airports started to take against coronavirus – probably not thought to have such a devastating effect – were summarized on a continental basis on the Time Magazines Website[1], and it was stated that optional and simple measures specific to almost all flights with China–mainly from/to Wuhan–were taken in many countries from Singapore in Asia to the United Kingdom in Europe. Following this, as the threat dimension of the Covid-19 pandemic increased, countries had to make their own move away from organizations. Although these moves vary by country and region, they are mainly stated as travel restrictions (Figure 5) and mandatory health measures (Figure 6). For example, the American aviation authority FAA published health guidance in February 2020 for aviation staff who will crew reciprocal flights with China. In March, he declared that he could impose quarantine or travel restrictions on passengers in all operations across the country (FAA, 2021). In addition to the sanctions imposed by the states, the airlines and airports of these states have begun to take extra measures. For example, according to a study that compiled the responses of airlines in Europe against Covid-19, it is seen that important steps were taken throughout the process, as summarized below (Albers and Rundshagen, 2020; 5):

- All European airlines grounded their fleets, and steps were taken towards downsizing strategies (such as layoffs).

- Although many airlines have decided to reduce their fleets, many have canceled new aircraft orders.

- Some airlines receive or request government support.

- Some airlines penetrate new markets to turn the crisis into an opportunity, whereas others stop their operations and declare bankruptcy.

In addition to these developments, the aviation industry had to take responsibility for combating the pandemic worldwide while dealing with its troubles. Air cargo carriers play a significant role in the supply chain processes of medical goods, such as masks and disinfectants, in the early stage of the pandemic. For example, only Qatar Airways carried medical supplies equal to 500 fully loaded B777s during this period (AviationBenefits, 2020). In addition to the internal measures put forward by some countries and institutions, it was clear that the aviation industry needed more international warnings and precautions.

In the first half of 2021, there was a revival in the air transport sector with the widespread distribution and use of vaccines. In addition to the measures taken and implemented in 2020 (mask, distance, ventilation, etc.), airline companies and airports continue to implement PCR testing requirements, vaccine registration card/ID, and biosecurity practices.

External Measures and Sanctions

In this section, external measures are evaluated under the main headings of NGOs and IGOs. Non-governmental organizations (NGOs) can be defined as non-state, non-profit, and voluntary membership organizations, while intergovernmental organizations (IGOs) are organizations that have priority and are often the only state as members are established by official agreements and have international legal status (Steffek, 2013). While it is known that NGOs have an impact on airlines and airports on various issues,

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1   https://time.com/5769509/airlines-airports-china-coronavirus-screenings/

especially environmental factors such as emissions and noise, they are also included in various development plans for the aviation sector (Knudsen, 2002). Accordingly, apart from the legal sanctions imposed by IGOs, it is also possible that NGOs have a say in many issues in the aviation industry. In the case of Covid-19, the approaches of IGOs and NGOs have been evaluated separately under the following headings:

Intergovernmental Organizations (IGOs)

The evaluation began with IGOs, considering that it is more appropriate to provide legal or compulsory applications prelusively. IGOs can be defined as organizations that have been formed because of various agreements, meet regularly, and whose members are the state and its organizations. The World Trade Organization and United Nations (UN) are the best-known examples (Ingram et al., 2005). In terms of the aviation industry, ICAO, which operates under the United Nations, and bilateral air traffic agreements between countries with each other are examples that can be shown as IGO. ICAO was established as a result of the Chicago Conference signed in 1944, and acts as an intergovernmental organization of the aviation industry, which is supported and managed by national governments (ICAO, 2021). In addition, the European Aviation Safety Agency (EASA) is considered an IGO because of its role as a regional integration institution (Runov, 2014). On the other hand, bilateral air traffic agreements – first concluded between France and Germany in 1913 – form a regulatory system for the provision of commercial air services between their territories and, in most cases, beyond (Fifth Freedom of the Air) made by aviation authorities between the two states (Dempsey, 2017). Within the scope of the Covid-19 outbreak, since worldwide measures are taken into consideration rather than measures between countries, activities and governances of ICAO and EASA have been followed and compiled, as shown in the table below.

Table 1
Governance of IGOs' on a Monthly Based

DATE	NGO	SUMMARY	STATEMENT*
January 20	ICAO	Information	✈ Providing information to all states
	EASA	Information	✈ They suggest encouraging aviation personnel to manage on board and detect infected patients.
February 20	ICAO	State Support	✈ Call for state support to control the pandemic, ✈ Membership and support call for CAPSCA (Collaborative Arrangement for the Prevention and Management of Public Health Events in Civil Aviation) ✈ Effective collaboration and coordination with all stakeholders,
	EASA	Advice	✈ They published a safety bulletin for practical precautions that can be taken to reduce the risk of the spread of the virus to operators and their crews.

DATE	NGO	SUMMARY	STATEMENT*
March 20	ICAO	Urging	✈ Reviewing emergencies in air traffic services and avoiding unnecessary restrictions, ✈ Meticulous implementation of the guidelines published in all operations, ✈ Notifying the implemented measures to ICAO,
	EASA	Directive	✈ It has issued a safety directive as the first operational measure across Europe to control the spread of the virus.
April 20	ICAO	Measures	✈ Notifying any differences regarding licensing and certification, ✈ Sharing all kinds of information regarding the measures taken, ✈ To facilitate the flights organized for the return of passengers to their homeland,
	EASA	Information	✈ Following the demands from the industry, an update on cabin ventilation systems was published.
May 20	ICAO	Guidance	✈ Practices to protect flight crews' health in cargo operations and, ✈ Guidelines for the transport of infected human remains by air
	EASA	Guideline	✈ It has introduced auxiliary directives to restore aviation activities for all operators
Jun 20	ICAO	Guidance	✈ Council Aviation Recovery Task Force (CART) report ✈ Guidance document on the use of air transport in the public health threat process ✈ Bulletin: Updating to guidance about flight corridors
	EASA	Guideline	✈ The Aviation Health Safety Protocol has been published for all passengers and personnel for the COVID-19 period
July 20	ICAO	Guidance	✈ Implementation Package (iPack): standardized guidance for public health ✈ Data screen is published to show operational impact
	EASA	Information	✈ Published a service bulletin for ground handling operators and airport representatives
August 20	ICAO	Outlook Report	✈ Stakeholders' mitigation measures
	EASA	Information	✈ Solution of the airworthiness problems of aircraft returning to flight during the post-pandemic normalization process
September 20	ICAO	Analysis	✈ Economic impacts on civil aviation ✈ Website is launched about questions and answers (Q&A) by all stakeholders' aspect, ✈ Website about global COVID-19 airport status and data
	EASA	Information	✈ An up-to-date platform has been established to follow the changing health measures for all European countries.
October 20	ICAO	System	✈ COVID-19 Contingency Related Differences (CCRD) system to use capturing differences about applications
	EASA	Webinar	✈ Online seminar plans have been shared to prevent the spread of the pandemic and to create an atmosphere of trust in general
November 20	ICAO	Manual	✈ Published a manual named "Testing and Cross-border Risk Management Measures" developed by CAPSCA. ✈ Announced an update of CART's, which was previously published for the normalization of air transport.
	EASA	Guidelines	✈ Published two guidelines on air operations and flight crew during the ongoing pandemic process

DATE	NGO	SUMMARY	STATEMENT*
December 20	ICAO	Conference	✈ Organized a global aviation security symposium. ✈ A high-level conference call has been made for February 2021.
	EASA	Guidelines	✈ Published 2 guidelines about cargo tracking for the transport of COVID-19 vaccines and COVID-19 Testing and Quarantine of Air Travelers with ECDC.

*The table above has been created by compiling and summarizing the documents published on the websites of the relevant institutions by the authors.

To summarize the table given above, the ICAO and EASA followed a path from warning and awareness steps towards sanctions for the Covid-19 pandemic in the first quarter of 2020. In the second quarter, suggestions were made to protect aviation personnel from ongoing travel all over the world, albeit a little. During the summer period, recommendations for standard procedures and control practices for ongoing and increasing travel have come to the fore. In the last quarter, in addition to the training and meetings organized in the name of global awareness, documents regarding vaccine transportation were prepared. For a more in-depth look, the documents that comprise the table were analyzed qualitatively using the MAXQDA software. In the analysis, the word clouds created from the ICAO documents (Figure 2) and EASA documents (Figure 3) are as follows.

Figure 2. Word clouds of ICAO documents

In the word cloud created as a result of the analysis of ICAO documents, the words aviation, Covid-19, health, guidance, states, implementation, aircraft, team, measures, and the public come to the fore. It is known that the ICAO provides health guidance to states for all areas of the aviation industry during the Covid-19 pandemic, and the word cloud has revealed the essence of the documents. It is also understood from the word cloud that many of the ICAO's recommendations are for aircraft and crew. However, it was concluded that such concepts as support, recommendations, and cargo remained in the background. It is remarkable that the concept of policy is not included in the word cloud.

Figure 3. Word clouds of EASA documents

In the word cloud created as a result of the analysis of EASA documents, it is seen that the words aircraft, cargo, European, passenger, cabin, cleaning, disinfection, agency, quidance, and aviation come to the fore. The EASA Pandemic focused on regulations for passenger and cargo transportation and provided guidance on aircraft, cabin cleaning, and disinfection. As can be understood from the word cloud, the subject of cargo has taken a significant place in the EASA documents. The words policy and support were not found in the word cloud. It avoided the EASA's recommendations on policymaking and how to support the industry.

The most common words in the documents published by both organizations were aviation, aircraft, and guidance. It can be said that IGO's has undertaken a guidance mission during the pandemic.

In addition to the word clouds above, all relevant ICAO and EASA documents are examined in the context of the "policy." The documents show that the EASA has not made any significant contribution to the context of the policy during the Covid-19 process. The ICAO's move towards a decrease in passengers in the first half of 2020 saw some general and standard safety warnings for flight crews introduced. In addition, it has been observed that some factors have been noted in the pandemic management process regarding the importance of the national policies of regional health authorities in the healthy progress of the process. As of the second half of 2020, the Council Aviation Recovery Task Force (CART) report and its "Take-off: Guidance for Air Travel through the Covid-19 Public Health Crisis' document, are the first internationally guided documents and compliance with them, would be useful. Based on these documents, there are suggestions that local and regional authorities can manage the process with extra measures if they wish. In this process, the ICAO has announced that it will continue to develop standards for health-related processes globally in coordination with the World Health Organization WHO.

The year 2020 has been stated as being the worst year in the history of air transport by international aviation authorities because of the sharp decline in demand (RPK: Revenue Passenger Kilometers) for passenger transport[2]. For this reason, the table above was

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2   https://www.iata.org/en/pressroom/pr/2021-02-03-02/

prepared to summarize the actions in 2020, the worst year ever. Both authorities (the ICAO and the WHO) inevitably had to continue to share information periodically in 2021 as of 2020. However, as 2020 is a critical year for the existence and sustainability of the commercial air transport sector, it was thought that it would be more appropriate to tabulate the data for that year. As summarized in the table above, although the knowledge and awareness of the relevant authorities about the Covid-19 pandemic increased in 2020, their reactions have generally been shaped according to instant situations. As of 2021, all the information learned during the pandemic process is shared with relevant stakeholders in a more compact, accessible, and understandable way. In this sense, by creating a website, the ICAO gathered all the information, documents, and documents related to the Covid-19 process in a single place, and shared them with the public. The EASA also shared information and documents related to the website[3] it created in a very similar way from a single place. Authorities continue to share up-to-date information and data from relevant websites[4].

Non-Governmental Organizations (NGOs)

In addition to organizations representing countries, organizations are independent of states representing certain professional groups or specific areas in the aviation sector. To express the most general and inclusive definition, NGOs are expected to be completely or largely independent from the state, operate for various purposes, and have a voice in various fields whose primary purpose is not commercial activities (Willetts, 2010). In the aviation sector, the concept of an NGO is used from professional employees' associations in the national sense to commercial aviation enterprise unions, which can be evaluated in a wide range of organizations such as the International Air Transport Association (IATA) and Airports Council International (ACI), which lead the aviation industry.

The following definition, which was updated in 1950 in Article 71 of the Charter of the United Nations, can be given as an example as a basis for this wide spectrum, "*Any international organization which is not created by intergovernmental agreement shall be considered as a non-governmental organization for the purposes of these arrangements*" (Lindblom, 2005).

Table 2
Brief Governance of NGOs on a Monthly Based

DATE	NGO'S	STATEMENT*
January 20	IATA ACI	✈ Information: They state that developments are followed meticulously, and members will often receive the most up-to-date information. ✈ Advisory: To establish standards and procedures to manage the process with the least risk and to ensure that airports communicate effectively with the relevant authorities.
February 20	IATA	✈ Information: They published a dashboard that conveys details about Covid-19 of all countries around the world.
March 20	ACI	✈ Advisory: By updating the report published in January 2020, ACI calls for much stronger cooperation among airports, airlines, and authorities on the severity of the pandemic.

3   https://www.icao.int/covid/Pages/default.aspx

4   https://www.easa.europa.eu/easa-COVID-19-resources

DATE	NGO'S	STATEMENT*
April 20	IATA ACI	✈ Advisory: They conveys the current situation regarding the medical developments emphasized to facilitate the resumption of aviation. ✈ Advice: It has published an operational practice manual consisting of a series of recommendations to manage Covid-19 at airports.
May 20	IATA	✈ Roadmap: published a document on biosecurity measures with a view to normalization in aviation.
Jun 20	IATA	✈ Information: published a platform of travel regulations / restrictions for all regions around the world.
July 20	IATA	✈ Updating: shared information on possible scenarios by publishing an up-to-date forecast for global passenger numbers.
August 20	IATA ACI	✈ Advisory: Medical strategies are presented for normalization during the pandemic process. ✈ Advisory: published an update on the impact of the global pandemic on airports.
September 20	IATA ACI	✈ Call: issued a call to stakeholders to prepare for distribution processes following vaccination studies. ✈ Announcement: they have started work on the "Airport Health Measures Audit" program to accelerate and support the return of airports to normal.
October 20	IATA	✈ Information: they provide information with helpful visuals and videos for travel during the ongoing pandemic process.
November 20	IATA ACI	✈ Information: They published an economic assessment of the industry's current visibility and future. ✈ Program: it has been introduced to improve aviation security and save airports worldwide, as a partner with ICAO.
December 20	IATA ACI	✈ Information: They published an economic assessment for all Europe Country during Covid-19. ✈ Analyze: They published an analysis revealing the impact of Covid-19 on the airport industry.

*The table above has been created by compiling and summarizing the documents published on the websites of the relevant institutions by the authors.

In the table that conveys the status of NGOs, it is seen that the IATA and ACI follow recognition, understanding, and acceptance processes similar to IGOs. Subsequently, information and updates regarding the situations encountered by the sector and what needs to be done for normalization come to the fore. Similarly, in summer, standard measures have been proposed to contain the pandemic globally. The economic and operational effects of Covid-19 were analyzed in the last months of the year.

As shown in the table on IGOs, the table above includes information on 2020, when the pandemic was the most destructive and effective. As of 2021, the relevant authorities have continued their sharing on the subject. During this period[5], the IATA compiles the information obtained throughout 2020 and provides a wide range of free information for passengers from mask use to travel restrictions by 2021, similar to IGOs. It also provides reference information for all stakeholders regarding the travel process and operational management during the pandemic. The ACI also provides a guidance document in which businesses provide best practice examples of the process of resumption in the short term and recovery in the long term, and for businesses to pass this process as strongly as possible[6]. In addition, as with other authorities, the ACI prepared a website and opened

5   https://www.iata.org/en/programs/COVID-19-resources-guidelines/

6   (https://store.aci.aero/product/aviation-operations-during-COVID-19-business-restart-and-recovery-version-1/).

access to all information and documents regarding the Covid-19 process for airports directly[7].

Discussion and Policy Recommendations

With the Covid-19 pandemic, different experiences, governance, and policies have been involved in the pandemic management of the world, from governments to international authorities. Some countries and regions want to manage the pandemic control process with softer measures, whereas others have opted for a much tougher and more precise method. In general terms, it has been seen that many positive and negative experiences were obtained, and governments and authorities that we could analyze correctly had a relatively successful pandemic control process. One such example is the South Korean government. With their experience gained from their failures in the MERS pandemic, it has sought to organize common governance and policy with all stakeholders, especially with the voluntary support of citizens, and has become one of the countries that managed and attracted attention during the pandemic (Moon, 2020).

Recently, when facing an unprecedented global health threat, it is obvious that there have been deficiencies in global health governance. Despite its role as a central authority, the WHO has been found to have insufficient power and resources to respond effectively in a global emergency; thus, there has been a tendency towards a nationalist response rather than a global unity throughout the world. At this point, it is predicted that hard times may come if the world does not choose a global cooperation model by moving away from the understanding of "my country first" in the face of other unexpected global threats that the world may encounter in the future, along with the teachings of Covid-19 (Gostin, Moon, and Meier, 2020).

While the coronavirus has necessarily provided a good opportunity for policy change or renewal for the transportation sector in general, organisations have tended to accelerate their pre-pandemic policies rather than adopt radical action globally because of the stress placed on them by the government and authorities (Marsden and Docherty, 2021). In addition, the number of academic studies examining these and similar situations throughout the transportation sector has increased. One of the current examples is the PASS (P: Prepare–Protect–Provide; A: Avoid–Adjust; S: Shift–Share; S: Substitute–Stop) approach inspired by the railway transport policies in Japan and applied to all modes of transport by generalization proposed for Covid-19 and possible future pandemics (Zhang, 2020).

In the continuation of these examples, when looking at the aviation sector, it can be said that the number of similar studies in practice (sector) and theory (academia) is quite small or scattered. The focus of IGOs and NGOs during the Covid-19 pandemic process has been on the health of people using air transport, minimizing the risk of transmission, the safety of airlines and airports, and the effects of Covid-19. Since the beginning of the pandemic, efforts have been made to manage the crisis created by Covid-19. Airline and airport precautions, restrictions, and the provision of significant information have been very effective in process management. Although IGOs have revealed the effects of the pandemic on the aviation sector, their strategy proposals for aviation enterprises have

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7   https://aci.aero/advocacy/health/COVID-19/

been quite limited. Although it has been emphasized that support should be given to the aviation sector, especially government support, there is no suggestion as to which methods and how long this support should be provided. In addition, the greatest strength of IGOs is to establish intergovernmental cooperation in a way that can protect the interests of each member. For this reason, it was possible to harmonize the temporal changes between countries in terms of travel restrictions so that controlled travel could be sustainable on certain routes, especially without disrupting the supply chain. With more than 192 members, the ICAO managed the green corridor creation processes of the countries. To solve the significant restriction in air traffic, especially in the closed European airspace, countries with controlled cases could be brought to the fore in air transportation.

Many studies have shown that coronaviruses have various mutations and different effects. For this reason, IGOs will need to make plans for the future based on the experiences they have gained in the process. In this context;

- To mediate the provision of a participatory and collaborative management between countries.

- To determine support strategies for the aviation sector for governments.

- Identifying the impact and directing support for all areas of the aviation industry.

- To contribute to the necessary legal regulations in the new normal process.

- To identify the risks posed by non-member countries for air transport during the pandemic.

- To develop processes that will increase the readiness of all aviation enterprises, especially countries, to all biological risks.

- To conduct studies to prevent supply chain disruptions due to possible pauses in air transportation.

- To be able to work for governments to adopt and standardize the same practices

- To organize a conference that will emphasize the importance of Covid-19 in the history of aviation, leave a mark, and ensure the unification of national studies and signing decisions as a convention may be policies that should be focused on in the future.

When evaluated by NGOs, important consultancy services were provided during the pandemic. Guidelines were created for airports and airlines. In general, the focus is on the risk of the medical transmission of a disease. This situation is a common aspect of IGOs. They attempted to determine the effects of Covid-19 on NGOs. However, NGOs have limited strategies for eliminating general business-oriented problems. Since the IATA and ACI are direct members of airports and airlines, they are expected to provide effective strategic advice to businesses. Airlines and airport operators need to find solutions to the crises they have experienced by being affected by the pandemic and ensure the management of the sectoral recovery process. In this context;

- Strengthen businesses by encouraging intensive cooperation among member businesses.

- Ensure the recovery of airport operators by planning the densities of airports in a way that temporarily reduces competition.

- Ensure the recovery of airlines by planning airline flight networks in a way that temporarily reduces competition.

- Ensure standardization in the fight against Covid-19 disease of member enterprises (use of disinfection materials with the same content and cleaning time, etc.).

- Evaluate the pandemic period as a digital adaptation process for airlines and airports.

- Policies, such as evaluating the pandemic process (airlines updating canceled aircraft orders for sustainability) can be implemented to establish sustainability policies.

In addition to the various recommendations given above, unfortunately, it should not be overlooked that there are some threats that aviation stakeholders should pay attention to and the importance of measures to address them. During the pandemic period, various fraud and forgery allegations regarding the tests required before flights came to light. As a precautionary measure, it should be taken into consideration that a global health verification system may be important, and the benefits of developing it with the cooperation and leadership of NGOs and IGOs and technology should be supported (Wandelt et al. 2023).

Conclusion

Considering the disruptive effect of Covid-19, it is estimated that the losses caused by the pandemic were higher than the total effect of the 9/11 attacks in 2001, the global financial crisis in 2008, and the volcanic eruption in Iceland in 2010. The main reason for the decrease in revenues in the sector is the anxiety and suspicion that the pandemic will increase among passengers (Mehta, 2020).

In addition to the restrictions and warnings of NGOs and IGO, the changing behavior of passengers due to the pandemic has been another serious negative reason for airlines and airports. With all these factors coming together, it has become difficult for aviation enterprises to ensure sustainability. With the aviation industry trying to survive the devastating effect of Covid-19, the first known serious bankruptcy report came from the British airline FLYBE, which was also prominent with controversial government support news (Fortune, 2020). Subsequently, many aviation enterprises had to fight various financial and operational crises. At this point, various questions have been raised regarding the principle of equality in a competitive environment. While Covid-19 has had a significant impact on all stakeholders in the sector, in dealing with financial crises, governments also consider the criticism that support is mostly provided to state-owned stakeholders, which is important for the financial sustainability of aviation and its stakeholders (Sun et al., 2022a).

It is noteworthy that a study compiled and summarized the consequences of restrictions imposed by NGOs, IGOs, and governments worldwide. According to the study, it was stated that the restrictions, together with the anti-contamination medical measures (masks, disinfectant, hygiene, etc.), would only produce a moderately meaningful result; otherwise, they would have a modest effect, and it was also revealed that despite the restrictions, many passengers travel without the virus detected (Chinazzi et al., 2020). This reveals the main aim of this study.

The approaches of IGOs and NGOs in the Covid-19 process, and the aviation industry are very important in terms of the sustainability of the aviation industry and the protection of public health against similar threats. In this sense, it would be a good strategy for all stakeholders in the industry to analyze the Covid-19 process well and use this data to prepare future scenarios. Although the measures and recommendations put forward by IGOs and NGOs throughout 2020 and in the first half of 2021 are "well-intentioned" steps to protect human health and restore the aviation industry, the industry can always respond to such uncertainties in the long run. It is vital to make strategic plans in which they will be able to show reactions. However, at this point, it is important that the sector's memory and reactions against such situations are not instantaneous or situational, but strategically applicable. In a related study, the Ebola and Covid periods were compared, and it was stated that the aviation industry developed instant or situational reactions and strategies in both events, and it was seen that it forgot the relevant experiences until the next crisis, and it was predicted that it could forget. For this reason, it is important for policymakers to keep contingency plans ready and constantly update them (Aşçı et al., 2022).

To ensure the sustainability of the aviation industry, it should be one of the first goals of the managers in the industry to prepare various scenarios in which the duties and responsibilities of all stakeholders, from airlines to airports and from governments to authorities, are determined in general terms by using the processes and data learned from Covid-19 cumulatively along with previous pandemics. Despite the many negative situations experienced during the pandemic, lessons will be learned and are expected to be learned. In addition, the pandemic will reveal various opportunities. While it is known that entry into the market in the aviation industry in the traditional sense is difficult and rigid, it should not be ignored that this may soften during the pandemic and that new initiatives may be a chance for the sustainability and transformation of the sector (Sun et al., 2022b). Another important lesson to be learned from the pandemic is the need to protect financial buffer reserves between the consequences of possible disasters/pandemics and the need for chambers. In this regard, perhaps the involvement of local governments or international structures with a recommendation or a community throughout its duration creates positive momentum (Dube, 2022).

This study had several limitations. Efforts were made to collect up-to-date information during the study period, but since there were frequent changes in that period, there may have been various deficiencies.

Since the study was carried out through academic studies and websites of relevant institutions, it may be beneficial to support it with expert opinions or the perceptions and thoughts of users/passengers. In future studies, developing the theoretical knowledge and secondary data set forth in this study by supporting it with current quantitative data and revealing the 'human (employee and passenger)' perspective in the sector will enable us to obtain more important results. In addition, although the Covid-19 pandemic seems to be over as of 2023, there is still information pollution about the sub-types of Covid and the possibilities of another possible pandemic from various parts of the world. In this case, it is important for policymakers to understand and implement that it is a signal to take steps towards possible unexpected situations in the future and to continue the work.

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