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# THE PERSPECTIVES OF THE AIR TRANSPORT MARKET IN TURKEY DURING COVID-19 PANDEMIC

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**Abstract**
In this study, the situation of the Turkish aviation industry during COVID-19 was examined. Turkish aviation industry entered a rapid growth phase in the 21st century, great developments were achieved in aviation with the investments made, and the share received from the world aviation industry grew day by day. However, this growth has been hit hard by the emerging COVID-19 pandemic. There have been great losses in passenger and freight transport. It is considered that the compensation of these losses will take a long time. In addition, in this study, the steps taken by the aviation authority and aviation companies to prevent the pandemic and to reduce its effects for the COVID-19 pandemic were evaluated.

***Keywords:*** *civil aviation, air transport, air transport market, air traffic, passenger traffic, cargo traffic.*
***JEl Codes:*** *M10, R10, R41, R42.*

## Introduction

At the end of the twentieth century, the world economy gained rapid momentum with the technological developments and advances in transport and communication technologies which made the world a smaller place. The contribution of air transportation, which is the driving force of the transportation sector, in this development is extremely important. In this context, air transportation has made significant contributions to the world and regional economy. However, the COVID-19 pandemic, which emerged in the city of Wuhan, China in 2019 (Zhu et al. 2020), adversely affected global and regional economies. Border closures, travel bans, and wide-scale lockdown measures caused by COVID-19 pandemic bring many sectors and companies to a standstill, especially the aviation and tourism sectors (ICAO, 2022). In this study, it will be tried to reveal the pre COVID-19 situation of the aviation sector in Turkey and the sectoral damages caused by the COVID-19 pandemic. In this context, reports published by international and national aviation authorities and academic studies published by academicians were examined using the literature review method, which is one of the qualitative research methods. In the first section, the identified studies on international and Turkish aviation sector were explained in detail. In the second part, the changes in the Turkish aviation sector during the pandemic and the support packages implemented by the Turkish government for aviation enterprises were examined. In the last part, in the light of the findings obtained, evaluations and suggestions for the future of the Turkish aviation industry were given.

## Case analysis

Due to the emergence of the COVID-19 pandemic and its rapid spread to the world, many countries have started to take measures against the pandemic. Despite all the precautions taken, the first confirmed case in

Turkey was announced on 11 March, incidentally the same day that WHO announced that the SARS-CoV-2 outbreak was a pandemic (WHO, 2020:10). In response to first cases, Turkey first stopped flights to China, and then international flights to other countries, respectively. During this period, only rescue flights were organized for citizens who were caught by the pandemic in other countries and who wanted to return to Turkey from their countries.

The aviation sector has a special importance among other transportation modes, with its primary application area of technological developments and its leading role in the production of new technologies (SHGM, 2019). In addition, governments attach great importance to aviation sectors' sustainability due to its economic size and contribution to the country's economy. For this reason, the sustainability and security of the aviation industry is of great importance for aviation businesses and governments. The most important agenda items of civil aviation after the pandemic were post-pandemic normalization efforts, reopening of flights, reducing the measures taken within the scope of the epidemic, and legislation studies for crisis environments (SHGM, 2020).

The economic and social effects of the COVID-19 pandemic have been one of the most important areas of study for academics since the first time the pandemic emerged. In this context, various studies carried out on the examination of the damage caused by the COVID-19 pandemic to the aviation sector in Turkey and at the international level. Example of several recent studies are as follows: Albers & Rundshagen (2020) analyzed airline reactions to the COVID-19 crisis in 2020. They used the typical crisis response strategies such as persevering, retrenchment, innovating, and exit. Czerny et al. (2020) examined the Chinese aviation market where the pandemic started and hit hard. Forsyth et al. (2020) analyzed the price responses of European airports to a demand collapse. While some of the studies focus on the effects of COVID-19 pandemic on aviation sector (Maneenon & Kotcharin, 2020; Sun et al. 2020), other studies focus on the future of aviation sector (Serrano & Kazda, 2020; Linden, 2021). There are also studies on the effects of COVID-19 pandemic on Turkish aviation sector. Most of these studies focus on the effects of COVID-19 on aviation sector (Annaç Göv & Erbay, 2021; Deveci et al., 2022; Orhan & Tırman, 2020), while the others focus on aviation organizations and their reaction to the pandemic (Sucu, 2021). There are also studies which focus on the organizational behaviors of aviation employees during pandemic (Özkan, 2021; Ulutürk, 2021; Arğın, 2022).

International aviation authorities, which closely follow the aviation industry, have been keeping an eye on the pandemic since the first moment. They have started to publish their reports on the progress of the pandemic and its sectoral damage and future expectations. The report, published in 2022 by ICAO, one of the most important authorities in the regulation of aviation activities, in which the damage caused by the COVID-19 pandemic to the aviation industry is examined, clearly reveals the severity of the situation. First, according to this report, the COVID-19 pandemic has done more damage than the sum of all the crisis environments that have hit the aviation industry. This report also reveals that global passenger traffic fell drastically by %60 in 2020, %49 in 2021 and %28 to %33 fell is expected for 2022 (see Figure 1). Although the decline in global passenger traffic has decreased recently, it is estimated that the recovery of the aviation sector will take a long time to return to its prosperous old days.

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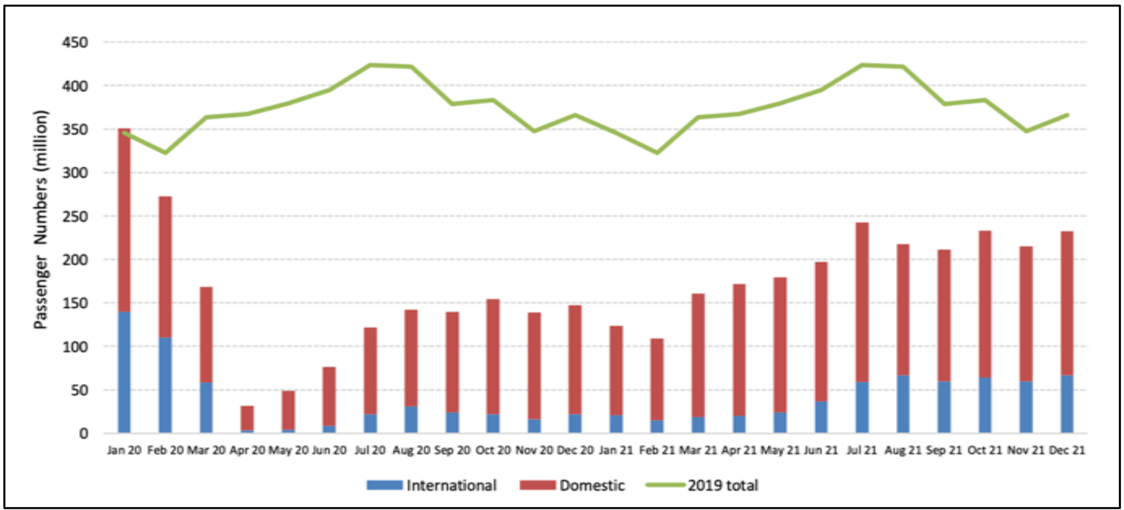


**Figure 1. Monthly Passenger Numbers in 2020-21 vs. 2019**

Due to massive reductions in aircraft flights and passenger numbers, airline financial losses are estimated to reach USD 370 billion, with Asia/Pacific accounting the biggest losses by 32%, followed by Europe (27%) and North America (24%) (WTO, 2021). Measures implemented all around the world to prevent the spread of the COVID-19 pandemic such as border closures, wide-scale lockdowns and travel restrictions caused the biggest lost to the aviation industry in April. Total passengers' number had fallen %92 from 2019 levels. Although there was a recovery in the aviation sector in the summer months after the initial shock was over, this recovery was short-lived due to the new variants of the virus which emerged in summer 2020 (Figure 2).

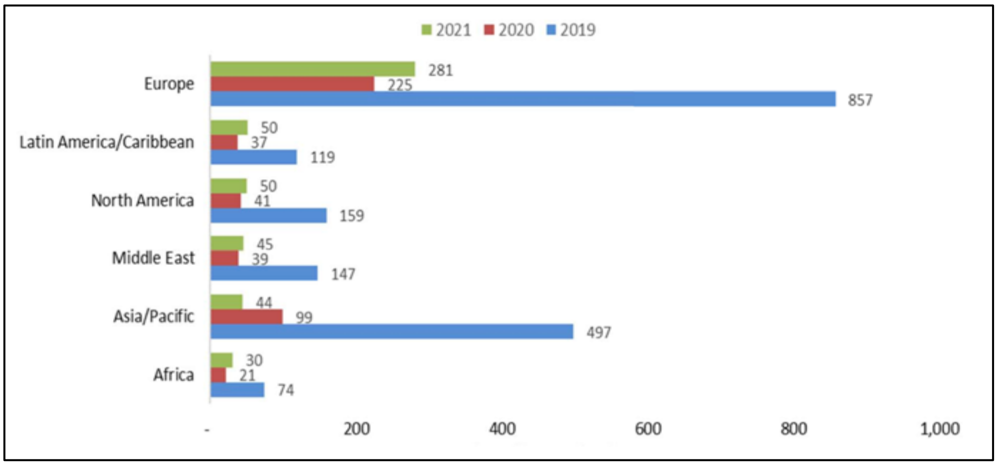


**Figure 2. Number of International Passengers by Region (million)**

**Aviation Market in Turkey.** The Turkish aviation industry was maintained under the monopoly of the Turkish Aeronautical Association until the 1980s due to restrictive government policies. The sector entered a new era with the liberalization movements in the 1980s and the Civil Aviation Law No. 2920, enacted in 1983 (Meriç, 2021:1705). After this date, while the government pressure on the aviation sector decreased, the share of the private sector in Turkish aviation increased (Gerede & Orhan, 2015:109). With the permission of private airline companies to operate on domestic routes in 2003, airline transportation has become a more competitive market, prices have been reduced and the quality of services offered has started to increase (Bakır et al, 2017). The development of the Turkish aviation industry gained momentum after this date.

The investment steps taken towards aviation in Turkey in the recent period are remarkable. Especially the construction of the third airport in Istanbul attracts great attention. With this investment, it is aimed to improve the share of Turkish aviation companies in transatlantic flights made from international airports such as Paris, Munich, Amsterdam, and London and to reveal the aviation potential of Turkey. Even though it has not reached its full capacity as of now, Istanbul airport is showing a rapid development and has quickly attracted the attention of international aviation enterprises. Istanbul airport is selected as the second-best airport in the world, after Changi Airport, with 91.17 points in the "World's Best Awards 2021" survey, which Airports are evaluated in terms of accessibility, check-in, security, food and beverage areas, shopping, and design, prepared by the world-famous New York-based Travel + Leisure magazine (Brady, 2021).

The Turkish aviation sector has a strong sectoral structure that is growing day by day. After Altasjet declaring his bankruptcy in June 2021, due to the COVİD-19 pandemic crisis environment, as of 2021, Turkey has 10 aviation companies who has 554 actively working aircraft. According to the figures of 2019, the Turkish aviation sector was organizing flights to 56 destinations on domestic lines and 328 destinations on international lines (DHMİ, 2019:12). When general aviation sector is examined, it is seen that Turkey experienced a constant grow rate. For example, Total aircraft operated by Turkish aviation companies grow from 349 to 554 within ten years and consequently total seat capacity grow from 56.638 to 105.336 (DHMI, 2020). Total cargo capacity is also experienced a constant grow rate and reached from 1.1 million kg to 2.4 million kg between 2010 and 2020. The total number of passengers carried by aviation sector grow from 102 thousand in 2010 to 208 thousand in 2019 (See Table 2). But the degrease in the total passenger traffic from 208 thousand to 81 thousand in 2020 clearly shows the devastating effect of pandemic. One strange point of Table 2 is the increase in the cargo capacity of Turkish aviation companies. Freight forwarding was like a lifeboat for the aviation companies during the pandemic because of the increase in demand and aviation enterprises focus on cargo transportation whose passenger transport has come to a standstill.

**Table 2. Aviation Sector Overview in Turkey 2010-2020 (DHMI, 2020)**

| | Aircraft Numbers | Seat Capacity | Cargo Capacity (Kg) | Total Passenger Traffic |
|---|---|---|---|---|
| **2010** | 349 | 56.638 | 1.118.933 | 102.800.392 |
| **2011** | 346 | 55.662 | 1.136.866 | 117.620.469 |
| **2012** | 370 | 65.208 | 1.264.513 | 130.351.620 |
| **2013** | 385 | 66.639 | 1.639.130 | 149.430.421 |
| **2014** | 422 | 76.297 | 1.349.875 | 165.720.234 |
| **2015** | 489 | 90.259 | 1.759.600 | 181.074.531 |
| **2016** | 540 | 100.365 | 1.821.600 | 173.743.537 |
| **2017** | 517 | 97.500 | 1.866.450 | 193.031.746 |
| **2018** | 515 | 97.351 | 2.194.450 | 210.498.164 |
| **2019** | 546 | 103.763 | 2.296.450 | 208.373.696 |
| **2020** | 554 | 105.336 | 2.453.450 | 81.657.070 |

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**COVID-19 Effect on Aviation Market in Turkey.** The damage caused by the COVID-19 pandemic to the aviation industry can be seen most clearly in the statistical data. For this reason, the figures of passenger numbers (Figure 3), Aircraft traffic numbers (Figure 4) and Cargo traffic numbers (Figure 5) showing the development process of the Turkish aviation industry in the last ten years and the effects of COVID-19 pandemic are given below.

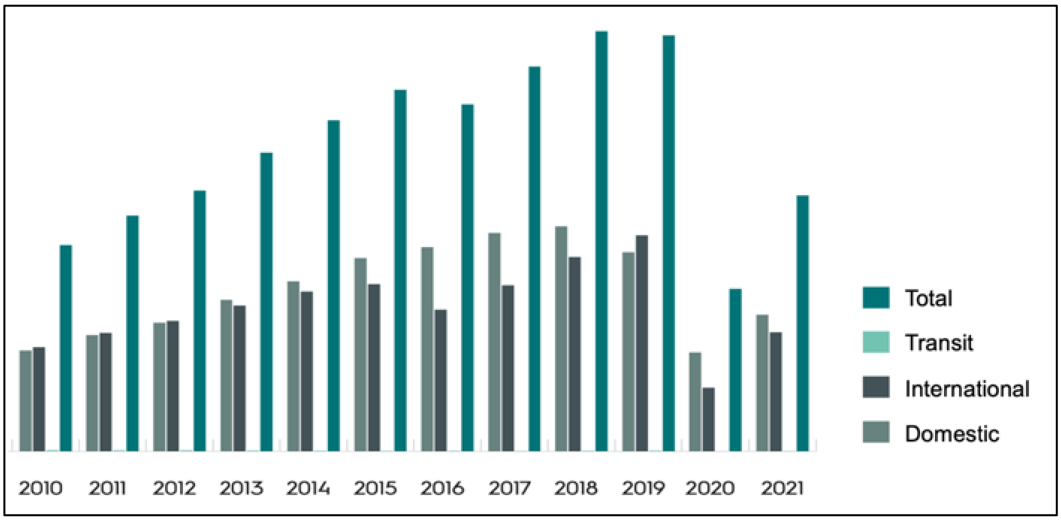


**Figure 3. 2010-2021 Transit, Domestic and International Passenger Traffic in Turkey (SHGM, 2021)**

Passenger traffic numbers in Turkey are given in Figure 3. If the Figure 3 is generally evaluated, Turkey's passenger traffic grows gradually until 2019. It is also clear that as seen in the aviation industry all over the world, Turkish aviation sector is also hit hard by the pandemic in 2020. As of the end of 2020, the total number of passengers was 81.6 million. The number of domestic passengers is 50.4% compared to the previous year; On the other hand, the number of international passengers decreased by 70.5%. Despite the recovery of the first shock and the safety and hygiene measures taken, there is a slight improvement in the figures for 2021; but the ongoing uncertainty in the pandemic and the possibilities of new variants of the pandemic delay the recovery of the sector. By the end of 2021, the total number of passengers was 128.6 million. The number of domestic passengers is 38.1% compared to the previous year; the number of international passengers increased by 87.2%. In the recovery process, it is seen that the number of domestic passengers progressed faster than the number of international passengers. The reason for this is that while countries, that have implemented the necessary pandemic precautions, can reduce the restrictions on domestic flights, but they have to wait for all other countries to complete their pandemic measures and vaccination processes to activate their international flights.

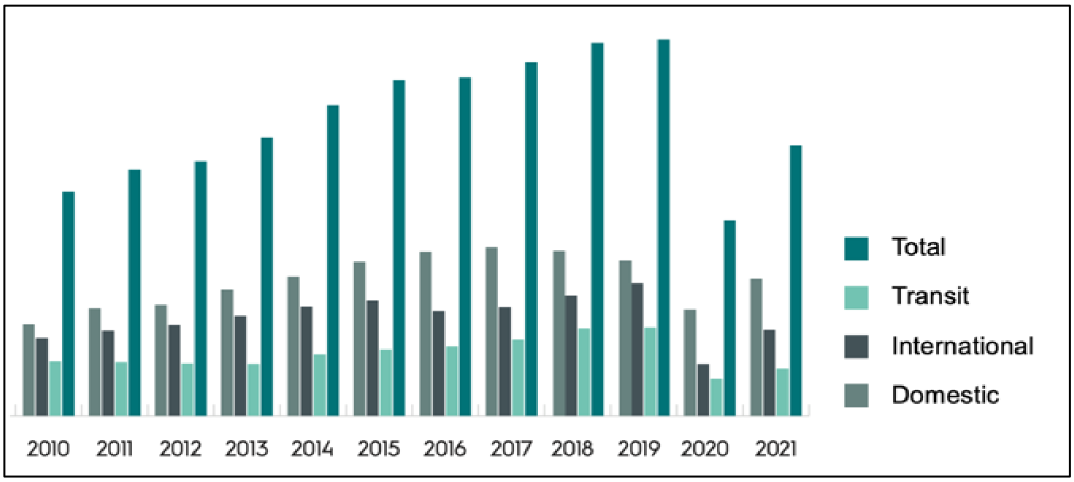


**Figure 4. 2010-2021 Aircraft Traffic in Turkey (SHGM, 2021)**

Another indicator showing the development speed of the Turkish aviation industry is the number of aircraft traffic. When Figure 4 is examined in detail, the development experienced in national and international traffic in the last ten years can be clearly seen. In addition, the damage caused by the pandemic to the aviation industry in 2020 and 2021 is clearly visible. As of the end of 2020, the total air traffic was 1 million. Domestic air traffic is 31.5% compared to the previous year; International flight traffic decreased by 60.8% and Transit aircraft traffic decreased by 57.9%. As a result of the acceleration of vaccination studies and the relaxation of applied restrictions, a recovery was observed in aircraft traffic figures in 2021. By the end of 2021, the total air traffic has approached 1.5 million. Domestic air traffic is 29.4% compared to the previous year; international flight traffic increased by 65.5% and transit aircraft traffic increased by 26.9%. After the normalization steps taken in Turkey in June 2020, improvements were observed in airspace movements, but air traffic still could not recover significantly. Nevertheless, compared to the decline in Europe, Turkey has drawn a stable graph and managed to keep the traffic loss stable after the summer period (Hopancı et al, 2021:452).

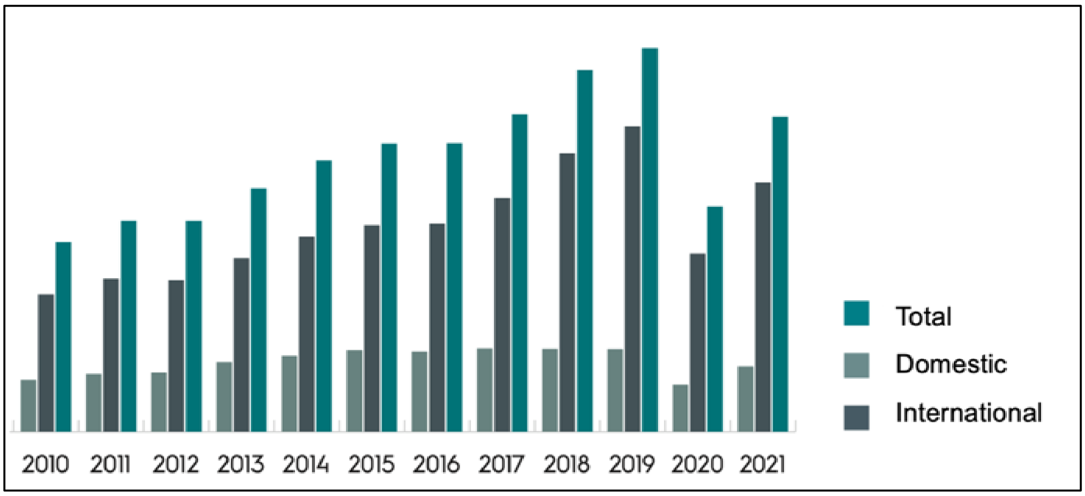


**Figure 5. 2010-2021 Cargo Traffic in Turkey (SHGM, 2021)**

In the first year of the pandemic, there was less decline in cargo traffic compared to passenger traffic both in domestic and international flights. As of the end of 2020, the total freight traffic was 2.4 million tons. Domestic freight traffic is 39.8% compared to

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the previous year; international freight traffic, on the other hand, decreased by 41.6% (SHGM, 2021). After overcoming the initial shock, cargo transportation, which entered a faster recovery period compared to other airline transportation areas (passenger and aircraft traffic), became the lifeboat of aviation enterprises. Although the applied travel bans restricted passenger transportation for a while, there was an increase in cargo transportation. The first reason for this is increased demand. There has been an outburst in demand as people, who are unable to travel due to restrictions, try to meet their needs through online applications and sales platforms. In addition, aviation enterprises, who cannot carry passengers, have tried to reduce their operating losses by focusing on cargo transportation instead of keeping their aircrafts on the ground. This has led to an increase in the amount of cargo carried during the pandemic period. By the end of 2021, the total freight traffic approached 3.4 million tons. Domestic freight traffic is 39.8% compared to the previous year; international freight traffic increased by 33.6% (SHGM, 2021).

**Support Packages for Turkish Aviation Companies.** In this environment of uncertainty, states have implemented regulations for aviation enterprises, which have difficulties in coping with the pandemic process, in order to prevent the aviation industry and other sectors connected to the aviation industry, and the state economies from going to the point of no return. These regulations appear as direct financial aids, debt suspensions, support for employee wages and tax reductions. As most of the countries did during the pandemic, Turkish government have also implemented support packages for aviation companies. As a first step Turkish government decreased the Value Added Tax rate from 18% to 1% for domestic air transportation. The second step on aviation sector support packages included part-time employment allowance. As a final step, deferral of tax and payments of aviation companies were implemented. These are tax and social security premium payment deferral, deferral of payment of 2020-Q1 unpaid invoices relating to rentals at airports, deferral of payment of 2019 and older invoices relating to rentals at airports (OECD, 2021). Even though all the measures are taken, and support packages are prepared for aviation companies, Atlasjet declared its bankruptcy in June 2021, due to their depts and COVİD-19 pandemic crisis. The economic crisis environment, caused by the measures taken to prevent COVİD-19 pandemic as travel restrictions and lockdowns, made it impossible for the company to pay its depts (SHGM, 2021).

## Conclusions

It clear that COVID-19 pandemic severely affected all aspect of social and economic life. Figures related to COVID-19 effect on aviation industry, published by aviation authorities, also shows the devastating effect of COVID-19 pandemic on aviation industry. Especially the huge degrease in passenger traffic and aircraft departures in March and April 2020 due to travel bans, reached at enormous levels compared to previous crises environments that aviation industry had faced. It has become impossible for some aviation companies to survive without the support provided by the governments.

It is expected that the recovery of airline companies will take a few more years considering the variants of pandemic are still active and virus is still having a potential to create a new variant. For this reason, aviation companies are taking it slow to recover their potential capacity of flight. But it can be said that at this recovery process domestic flights would take the lead. Domestic flights are reaching their potential capacity because when the country official believe that they have taken the possible measure against the virus within the country they rapidly lift the travel bans on domestic flights. After that short-haul international flight are started to operate with the countries who took the measures against virus. At the end aviation companies will reach its potential capacity after all the other countries also take the required measures against the pandemic.

It is also clear that cargo transportation was one of the very important revenue sources of aviation companies during COVID-19 pandemic and still protects its value. Aviation companies who are restricted to carry passengers during COVID-19 pandemic discovered the importance of cargo transportation and change their passenger capacity to cargo capacity. By doing it, they continued to earn income and compensate the companies' expenditures.

The analysis of Turkish national air transportation has shown that the share of Turkey in the volume of passenger traffic has been significantly improving over the last 10 years. But this grow rate has been disturbed by the COVID-19 pandemic. Considering the findings of this research, it can be said that Turkey has a big potential on aviation with its geographic location and has desire to improve its aviation capacity with its investments in aviation. But Turkey also hit hard by COVİD-19 pandemic and needs time to recover its aviation capacity.

There are lessons learn from the pandemic and should be kept in mind for future crisis environments. In this context, first, service diversification of aviation enterprises should be considered to ensure the economic stability of aviation enterprises. It is evaluated that the effects of the crisis can be reduced by carrying out international, domestic and cargo transportation activities together in a crisis environment that affects a sector, by the operation of other sectors. When evaluated from the point of view of the states, the creation of joint funds to support the companies that will be exposed to the crisis environment will be beneficial in overcoming the crisis environments.

Considering the importance of aviation businesses in global and state economies, it is considered that experiencing a new COVID-19 like environment will endanger the sustainability of the industry. In this context, it is evaluated that the experiences gained during the COVID-19 pandemic process will help to be prepared for the next crisis environments. For this reason, transferring the experiences gained in this process to institutional memories is important within the scope of being prepared for crisis environments that may occur in the future.

Finally, our flight experiences will not be the same as before COVID-19 pandemic. With the restart of the domestic and international flights, there will be important changes such as security and hygiene precautions. Some applications such as remote working and digitalization, which were implemented during the pandemic period, are expected to continue after the pandemic due to the convenience and economy it provides. But the main power that would lead us to overcome this crisis would be the integration and cooperation of airline companies, airport operating companies and civil aviation authorities by increased usage of the technology. Future studies, to be conducted on effects of COVID-19 pandemic on aviation sector, could focus on the company's survival strategies, their crisis management strategies, and the change they experienced.

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