

# Aviation Sector: Study and Analysis of Post-Pandemic Impacts

*Setor Aéreo: Estudo e Análise dos Impactos da Pós-Pandemia*  
*Sector aéreo: estudio y análisis de los impactos tras la pandemia*

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**Abstract:** Abstract Around the world, we find challenges in air transportation during the Covid-19 pandemic, which also applies to Brazil, which suffered greatly from its economic and social losses, impacting tourism and more. This crisis highlighted significant difficulties even in passenger trust, and reversing the situation required substantial work in logistics, from cargo to remote air services. This decision served as an impetus for changes in the need to vary the processes previously used, thereby increasing passenger trust who feel safe and supported.

**Keywords:** *Pandemic. Coronavirus. Modes. Air Transport.*

**Resumo:** No mundo inteiro encontramos desafios no transporte aéreo durante a pandemia de Covid-19, o que se refere também ao Brasil, que sofreu muito com suas perdas econômicas e sociais, que também abalou o turismo etc. Essa crise apontou grandes dificuldades até mesmo na confiança de passageiros e reverter a situação gerou um grande trabalho em sua logística desde as cargas até as aéreas remotas. Esta decisão foi o estímulo para mudanças na necessidade de variar os processos antes utilizados, aumento assim a confiança dos passageiros que se sentem protegidos e amparados.

**Palavras-chave:** *Pandemia. Coronavírus. Modais. Transporte Aéreo.*

**Resumen:** En todo el mundo encontramos desafíos en el transporte aéreo durante la pandemia de Covid-19, lo que también se refiere a Brasil, que sufrió mucho con sus pérdidas económicas y sociales, lo que también afectó al turismo, etc. Esta crisis puso de manifiesto grandes dificultades incluso en la confianza de los pasajeros y revertir la situación generó un gran trabajo en su logística, desde lá cargas hasta los vuelos remotos. Esta decisión fue el estímulo para introducir cambios en la necesidad de variar los procesos utilizados anteriormente, aumentando así la confianza de los pasajeros, que se sienten protegidos y respaldados.

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## 1. INTRODUCTION

The COVID-19 pandemic had a major impact on the aviation sector, which connects people around the world in their social and business environments, helping drive the global economy and facilitating worldwide trade. However, with the arrival of the pandemic, everything that had been centralized was shaken, as lockdowns prevented passengers from leaving their homes, whether for a simple grocery purchase or a trip for leisure, work, or medical necessity, etc., since staying at home brought despair even to those who flew to their destinations, according to research in newspapers and magazines from 2019 to 2020.

According to the World Health Organization (Vessoni, 2021), the pandemic brought with it the greatest fear ever faced within and outside the aviation sector. The losses were significant, as takeoffs were almost eliminated, only being undertaken by those who were necessarily required to undergo extensive preparation and health tests to prove they were not infected, so as not to put at risk those who were also needed on board, nor the recipients of their cargo, whatever it might be. The momentary fear was so great that no one imagined the leap they would later achieve.

The drop in passenger numbers led to a significant wage reduction during this period, which led some companies to go bankrupt. In Brazil, government measures disrupted daily life by suggesting that the entire population stay at home, closing sectoral borders between states, preventing the circulation of people across all modes of transport, including air travel and separating families, friends, etc. (Vessoni, 2021).

## 2. THEORETICAL FRAMEWORK

The role of airlines is to meet all the needs of the population, bridging gaps between distant regions, crossing countries and oceans and serving their passengers and companies that request their services through the airspace.

When the pandemic was announced in mid-2019-2020, the goal was to eliminate the unknown virus through control measures, in addition to protective equipment such as gloves, masks, hand sanitizer, soap, etc., and yet, after the first case emerged, airlines struggled with the strain, forcing them to seek innovations for their own protection.

Countries, according to their needs and conditions, began to restrict themselves, and the need for aviation became more urgent than ever, prompting desperate searches for solutions. After the first case in Brazil in March 2020, the spread of COVID-19 grew rapidly. International aviation associations have established rules and regulations, each with its own safety protocols, that are necessary for the recovery of the national economy, since Brazil has always been second in the construction of functional airports, with almost 100 international airports (according to IATA – International Air Transport Association). (Association), Embraer is also the third-largest aircraft manufacturer in the world, with aircraft seating fewer than 200, which is extremely important for Brazil.

## 2.1 Unexpected measures in the history of aviation

With the spread of the novel coronavirus, in its mild cases such as fever, cough, and difficulty breathing, there has been a significant increase in severe and very severe cases, such as severe pneumonia, acute respiratory distress syndrome, aseptic conditions progressing to respiratory arrest, and even death, with enormous impacts on the field of biomedicine and epidemics. The impact has grown in both the economy and mortality rates.

The emergency the pandemic presented to aviation was global, comparable to the Second World War, which lasted almost ten years, or even to the attack on the Twin Towers in 2001, with unexpected aggravating factors that required an immediate reformulation of its protocols and decisions.

Aviation was severely impacted by restrictions and travel cancellations of all kinds. In response, airlines, with their new emergency protocols for special travel, were able to control internal spread and slowly resume their routines through vaccination, which the companies themselves carried in their controlled cargo. After all, it wasn't possible to completely prevent this, as lives depended on it.

The recovery following mass vaccination brought hope, albeit slowly and reluctantly in some countries, as noted in publications by the USP magazine.

Understandably, the Unified Health System (SUS) has a vast reach among people living in hostile places. A variation of active search and strategies was necessary for the new protocol to be activated, even though the variable of available beds and intensive care units was more concentrated in large cities, where there is also a greater economic possibility, which is responsible for social inequality at the federal level in the fight against the pandemic.

As Oliveira (2020, p. 03) states,

As you may have noticed during the Covid-19 pandemic, countless pieces of misinformation were shared, including in speeches by political leaders, leading hospitals in various countries to treat hundreds of poisoning cases from substances promoted as miraculous cures in digital environments.

These unexpected events led to the mobilization of the Oswaldo Cruz surveillance secretariat, among others, which were necessary to address the situation. It was a task that involved all political bodies and departments to organize the issue, where, in the first months of confronting the pandemic (February and March 2020), an important role was played through the mobilization for the organization of the epidemiological surveillance system under the coordination of the Health Surveillance Secretariat and with the participation of the Oswaldo Cruz Foundation (an entity linked to the Ministry of Health).

## 2.2 Assistance through various modes of transport during the pandemic

Amid the chaos of border closures and restrictions imposed by government leaders, the need for hospital supplies, the transportation of doctors and nurses to inaccessible locations, and the race against time were almost

insurmountable. People needed oxygen to survive, and shipments of organs for transplant and stem cells could not lose their value, as lives awaited them, and such speed could only be achieved through aviation. Soon, the "solidarity plane" program, created by the LATAM Airlines Group, was adopted, uniting a group of professionals who volunteered to fly for the benefit of South American countries: Brazil, Chile, Colombia, Ecuador, Argentina, and Peru, also extending to an unprecedented mission from China. In Ecuador, there was significant progress in supplies and medications; overall, the process transported almost 500 healthcare workers in a single trip to begin meeting demand, with the return trip carrying critically ill and incapacitated patients. The first shipment, which took over 60 hours to arrive, came from China and included masks, ventilators, and medical supplies. This became the essential means of transport for all of Latin America, providing continuous service and transferring an average of 4,000 patients, along with approximately 90 tons of supplies and healthcare personnel.

The statement from the Head of Sustainability at LATA Airlines Group, Francisca Arias, says in her testimony that "The Solidarity Plane is active throughout the year and today, more than ever," since it supports the regions that have experienced the greatest health crisis in the world, transporting over 400 tons of medical supplies, rapid COVID-19 tests, mechanical ventilators, medicines, among other things, prudently benefiting the aforementioned countries.

This flow initiated a new journey of emergency work, amidst the transition in the search for a cure. At this point in the pandemic, spending was no longer the first level of shortfall. Still, it was beginning to surpass it, as the stay-at-home restrictions triggered a surge in panic buying, leading to a global increase in sales of all kinds of necessities. This led to a widespread return to aviation, as the whole world learned to meet its needs without leaving home, even if it meant traveling from the other side of the world. This aided economic growth and brought hope to companies that had to reorganize and adapt, thus generating innovation in spending and sales. Where there had been cuts, a new beginning emerged, and within their homes, entire families felt supported by the help that arrived by air.

### 3. METHOD

The purpose of this study is to analyze some aspects of the impacts on the aviation sector after the COVID-19 pandemic, which had major repercussions, as this sector was responsible for connecting people around the world in their social and business environments, thereby facilitating a growing global economy.

The methods used to carry out this research include the collection of documents and testimonies from analyses of digital magazines, newspapers, books and media writings, to create a broad understanding of the topic addressed.

The research provided a broad understanding of the cross-sectional parameters studied, allowing for open interpretation of the details presented, given that the

situation we all experienced is recent and what we know is what we have lived through.

#### 4. RESULTS AND DISCUSSION

In a short period during the pandemic, passenger numbers fell by more than airlines had predicted, potentially by half, resulting in millions fewer people than expected.

The cost-benefit ratio of a flight was then undergoing steep declines, and the fixed costs caused aviation to lose its monopoly, since a halt to aviation also paralyzes a country's logistics as a whole. It is necessary to quote Embraer CEO Paulo Cesar de Souza e Silva, who stated that "air transport is an inducer of economic development, and when the sector stops, it puts a chain of economic development at risk." The CEO's specification is linked to the air transport sector. He also states that "a country with a more developed aviation sector recovers faster," citing the USA and some European countries in this dialogue, while also mentioning China, where air transport is growing.

Therefore, with the resumption of aviation, recovery began, and although slow, flights became routine again. Domestic travel during the quarantine began to be restored, due to the individual needs of each person, which, with the help of protection protocols, gradually brought balance, since national locations, after vaccination, gradually became more considerate and liberal for those who were there within the necessary norms, where safety measures were still mandatory, but with some solidarity conditions.

We must understand that passenger well-being still caused turbulence during boarding, but that understanding was always evident.

The pandemic brought about appreciation for employees who had previously gone unnoticed by passengers and humanized those who didn't accept being contradicted. Reservation policies became a priority, and care for one's own health, from the crew to the flight attendants, encompassing everyone, was measured by its protective influence.

There was also growth in more efficient and sustainable modes of transport during the pandemic, as the renewed protocols required a different safety model from those already in place. This made the investment necessary and agile, transforming flying machines into true sources of natural balance, using sustainable raw materials and natural biofuels, which also increased operational efficiency and long-haul flight strategies, making them less risky.

#### 5. FINAL CONSIDERATIONS

The COVID-19 pandemic in Brazil has caused immeasurable difficulties and severe economic hardship for all of us, leading to declines in tourism and the broader economy. The global crisis is worsening, increasing the risk of contagion and slowing growth.

Airlines were forced to innovate and reinvent themselves, supporting the global market and driving economic growth, bringing Brazil back to a level of national and international flights through panic buying and the transportation of workers and supplies needed to meet quarantine demands.

We know that we still have a lot to change, including protocols for domestic flights and for transporting patients with comorbidities that pose a risk of contagion-related fatalities, as in the COVID-19 pandemic. Although this is not the only risk, as we know, there are numerous threats of contamination, such as smallpox, Ebola, and influenza. Adaptations to safety measures and flight efficiency are necessary to demonstrate equity in approach and greater inclusion. These are significant measures that the post-pandemic evolution can bring to passengers of various modes of transport, and a hope for constant and strengthening innovation.

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