Current aviation challenges and opportunities

Editorials

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Abstract

The Covid-19 pandemic has hampered the airline industry for a longer period of time than anticipated. After the sector began to recover in 2021, new waves of the virus and new travel restrictions prevented expansion. Despite new scars, this year global air transportation experienced delayed but sustained recovery. In the first months of 2022, global passenger traffic (RPK) recovered to 50% of pre-pandemic levels, but intercontinental traffic has a long way to go. Even beyond the massive disruptions caused by Covid-19, the air industry is poised for significant change. Threats for new pandemics, supply chain issues, staff shortages, decline in business travel, worries about global economy and geopolitical instability, are only a few points of concern. In addition, climate change policies regulatory updates, and technology advancements will likely lead to changes in the manner in which the industry conducts its business.

Covid and other pandemics:

Covid-19 pandemic created havoc in the travel industry. After two years of strict travel restrictions and lockdowns, the coronavirus had loosened its grip on international travel. The majority of nations had abandoned testing and quarantine requirements, with only a handful still imposing entry restrictions. However, China's "zero COVID" policy has led to an uneven industry recovery, with Asia-Pacific passenger demand significantly lower than the rest of the world. Everyone is eager to put the Covid-19 pandemic behind them, but new variants like Omicron demonstrated that the virus remains highly contagious and unpredictable. Even though the majority of governments have stated that lockdowns are no longer necessary, there is still concern that a new variant could usher in the return of travel restrictions. The rapid spread of the coronavirus highlighted the interconnectedness of our contemporary world. It is highly possible that contagious disease outbreaks will continue to occur, and, as a recent report published in The Lancet concluded, "the world remains dangerously unprepared for the next pandemic threat."

Supply chain issues:

Two years of lockdowns, travel restrictions, and consumer behavior shifts have slowed delivery times and clogged supply chains. The resulting supply chain issues have impacted virtually all business sectors, including aviation. In some cases, airlines, suppliers, and maintenance, repair, and overhaul (MRO) companies have been forced to reevaluate their supply chain strategies as a result of a shortage of vital aviation parts and global logistical difficulties. Several smaller suppliers of engine components have gone bankrupt during the recession, and others have shifted to producing components for other industries, which has a disproportionately negative impact on engine manufacturers. In addition, there are shortages of wire components, electronics, and raw materials such as aluminum and titanium. Used parts are also more difficult to obtain, posing issues for the aftermarket. There are valid concerns that the industry's supply chain issues will halt or even reverse its faster-than-anticipated recovery.

Labor shortages:

Although air travel has begun to return to pre-pandemic levels, there has also come a steady increase in flight cancellations due to labor shortages. This includes pilots, mechanics, air traffic controllers, and ground crews, among others. This is both a result of airlines reducing their workforces in response to the pandemic and sick leave rates higher than in the past, causing operational difficulties. After approximately 1.3 million airline industry jobs were lost in 2020, what was once considered a problem of the future is now a reality. This is not simply a matter of raw numbers, however. Many of those who were laid off were senior employees who were offered buyouts. When they left their positions, they took with them a wealth of valuable experience. Young people are not clamoring for aviation jobs for a number of reasons. Increased competition for workers from other industries, relatively low pay and inadequate benefits, and the 24-hour nature of the job are cited the most significant obstacles. Hiring staff has become a crucial aspect of restoring aircraft frequency. However, it takes time to recruit tomorrow's workforce, despite the efforts of airlines. The most effective solution to this problem is to expand the talent pipelines that bring in these workers.

Geopolitical instability:

Before air industry pulls itself together from the pandemic crisis, the Russia’s invasion of Ukraine in February 2022 created additional turbulence. The airspace above both nations was closed, and Russian carriers were prohibited from entering the airspace of a number of Western nations. As a result of the economic sanctions imposed on Russia, numerous Western aerospace companies ceased operations there. While these actions hampered Russian aerospace companies, the sanctions have a reciprocal effect. Even though Russian titanium has not been specifically sanctioned, the threat to the supply may compel Western companies to seek alternative sources. Due to the closure of airspaces and disruptions in the supply of spare parts for freighters, the grounding of Russian carriers such as Airbridge cargo (approximately 20 freighters) reduces global capacity. Moreover, avoiding Russian airspace causes longer flights and detours on East-West routes.

IATA estimates that the massive size of the Russian airspace avoidance impacts approximately 10% of total passenger kilometers. This will reduce trip efficiency and increase fuel costs, resulting in higher ticket prices and additional capacity deployment. The war in Ukraine will temper the pace of recovery in 2022. The impact on U.S.-based airlines will likely be less severe than that on European airlines, and the impact on low-cost carriers will be less than that on traditional intercontinental carriers.

Global economy:

Air travel is closely linked to economic growth, with an income elasticity of demand that has remained consistently a bit over one for the past thirty years. The latest Global Economic Prospects report, published by the World Bank in June 2022, predicted that global growth would slow to 2.9% this year and remain at that level through 2024. There are, therefore, additional headwinds facing the industry, including rising interest rates, rising fuel prices, the impact of inflation, and fears of a recession, all of which are likely to reduce future travel demand. As a result of inflation and rising interest rates, however, it appears that current loan margins and lease rate factors are mispriced, putting additional pressure on airlines experiencing a period of declining demand and affecting cash flows required to cover debt service costs. There is also a strong possibility that governments may not bail out airlines again. The estimated $225 billion that governments around the world provided to airlines during the first year of the COVID-19 crisis prevented bankruptcies and saved tens of thousands of jobs. However, government bailouts were not devoid of controversy. Taxpayers, politicians, and the media may find it difficult to reconcile the enormous aid packages with the ongoing travel problems. If the need arises again, however, the government may tighten its purse strings considerably.

Climate-change policies:

During the pandemic, there was a significant decline in jet traffic, but this is only a temporary alleviation to environmental concerns.

Since air travel is a significant contributor to climate change, a resolution was passed by IATA member airlines at the 77th IATA Annual General Meeting in Boston, USA, on 4 October 2021, committing them to achieving net-zero carbon emissions from their operations by 2050. Achieving this goal will require a combination of maximum elimination of emissions at the source, offsetting and carbon capture technologies. The plan advocates for using Sustainable Aviation Fuel (SAF) and redeveloping old technology by creating better engines, modeling more aerodynamic planes, and employing technology that ensures planes travel as quickly as possible while leaving the smallest possible carbon footprint. Furthermore, aviation fuel and engines are evolving, with the industry evaluating hydrogen, creating biofuels, and inventing new cleaner mixtures. Likewise, the concept of electric airplanes is widely popular. Finally, the industry is reimagining its daily operations in an effort to reduce flight duration, shorten routes, and become more sustainable overall. The process will be lengthy, but the industry has already made tremendous progress.

Fuel efficiency:

Fuel efficiency gains more and more importance not only for environmental reasons but also as a major contributor to airline's financial efficiency. Since nearly three decades ago, the availability and cost of aviation fuel have remained one of the most significant economic factors affecting the airline industry. Alternative fuels have not had a significant impact; consequently, maintaining fuel efficiency is one of the aviation industry's primary challenges. Jet fuel prices put financial pressure on airlines and travelers. According to the latest IATA's jet fuel price monitor, global prices in December 2022 were about 50 percent higher than in December 2021. This rise is largely due to the sanctions on Russian oil and gas put in place as a response to the war in Ukraine. Given that fuel can account for as much as 40 percent of annual expenditures, this is obviously a concerning development for airlines. The degree to which airlines are affected depends on their fuel hedging strategies.

In general, low-cost carriers hedge rates more frequently than traditional carriers, implying that the impact for 2022 will be mitigated. Typically, traditional carriers accept more risk on the fuel side, resulting in lower hedging costs. This indicates that higher kerosene prices have a greater impact on them. It's also bad news for travelers, who must pay higher ticket prices to offset the increased cost of jet fuel. Domestic flights in the United States are 33 percent more expensive than they were a year ago, and passengers in Asia and Europe are also facing steep price increases. The worst may be yet to come for passengers, as it often takes months for airline fares to catch up with fuel price increases. If jet fuel and airline ticket prices continue to rise, travelers will have yet another powerful disincentive to fly.

Narrowbody aircraft:

Fuel efficiency pressures and delimited demand of international travel has created a historic imbalance between single-aisle and twin-aisle aircraft production. In the first quarter of 2022, twin-aisle deliveries and backlogs accounted for only 30 percent of the global aircraft market, the lowest market share since the beginning of the widebody era in the early 1970s. According to Aviation Week, twin-aisle orders have completely collapsed, with only 54 twin-aisles among the 1,416 net new jetliner orders for Airbus and Boeing in 2021. On the other side, demand for narrowbodies has skyrocketed forcing Airbus to increase its production of the A320 family of aircraft over the next three years, eventually cranking out 75 of the single-aisle aircraft per month by 2025. The post-pandemic world's dynamics make it necessary for airlines to reevaluate their business models and strategies. It is possible that air networks will be smaller than anticipated, and that traffic volumes will remain volatile. With fewer business travelers, smaller aircraft may become more popular. This will further benefit single-aisle aircraft, which are more versatile and simpler to load. Some airlines may consider altering their seat configuration to include fewer business class seats and more economy plus seats.

Air cargo:

The pandemic highlighted the need for adaptability and a quick alternative in the event of unforeseen circumstances. Airlines, logistics players and container liners rush to set up freighter fleets. Air freight is more expensive, but it maintains the flexibility of supply chains. After a strong double-digit rebound in 2021, market growth will significantly decelerate this year as world trade levels off and e-commerce growth normalizes. Capacity constraints on the freight side have prompted numerous expansion initiatives among airlines, logistics service providers, and surprisingly, shipping companies. Emirates, Qantas, and Air Canada intend to expand their fleets by adding freighters and converting passenger jets beginning in 2024. On the logistics side, Amazon, DHL, UPS, as well as K+N and container liners CMA CGM, Maersk, and possibly MSC, are expanding and establishing (chartered) freighter fleets, and airlines are also reevaluating their cargo operations.

Luxury travel:

Opportunities have emerged not only for the airfreight sector, but also for private jet aviation. Amongst travel restrictions, limited flight frequencies and increased bureaucracy, having control over your own schedule and time is one of the greatest advantages of private travel. Private flights allowed travelers to avoid the crowds that are present at large airport terminals and on commercial flights. There are private terminals for private flights with fewer passengers and minimal interaction with airport personnel, security, and crew. Moreover, private aviation passengers have immediate access to regional and executive airports closer to home, resulting in shorter transfer times and no lines. Chartering gives access to a range of aircraft and a tailored-made flying experience. Luxury private charters can be a cost-effective solution for an occasional user such as business executives and wealthy travelers.

The role of regulatory authorities:

All the above factors accelerate the pace of change in air transportation, posing challenges not only to airlines but to airports, regulators and governments, too. Reduced traffic levels will make it difficult for airports to cover the costs of recent investments, leading to an increase in fees at the worst possible time. National regulators will need to carefully consider how to address this issue while preserving investor confidence and mitigating the rise. Moreover, if there is a single priority shared by every airline in the world, it is the safety and security of their passengers, crew, and the general public, despite workforce challenges and all the other issues facing the airline industry. In addition to regulating the industry, regulators should be swift and efficient in their oversight of how companies can implement improvements. Over-regulation can be just as hazardous as insufficient regulation.

Conclusion:

2022 ends with the feeling that the worst period in aviation history has now passed and the industry got through the Covid-19 pandemic better than expected. Despite what appears to be a never-ending stream of bad news, the aviation industry is responding to its numerous challenges with technological innovations that would have taken much longer to develop and implement otherwise. While additional bankruptcies may be inevitable, there is optimism that airlines that have survived the past few years have streamlined their operations and will be able to capitalize on rising passenger numbers and new industry opportunities in the medium to long term.