

# UNLOCKING INSIGHTS INTO GLOBAL AIR TRANSPORTATION NETWORK WITH TABLEAU

## *INTRODUCTION*

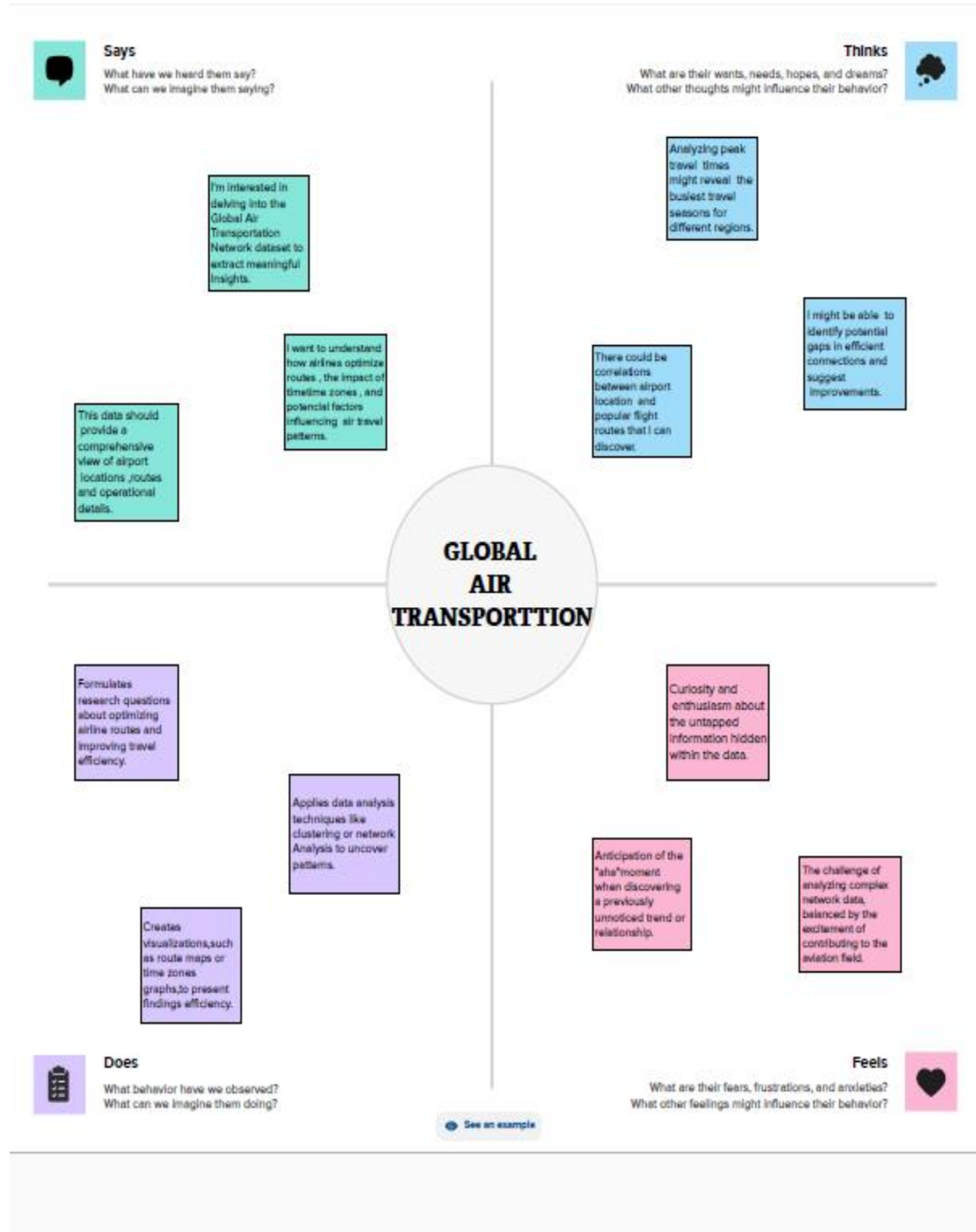
In an era of unprecedented connectivity and mobility, the global air transportation industry plays a pivotal role in connecting people, cultures, and economies. With millions of flights operating worldwide each year, this dynamic industry generates an immense amount of data that can offer invaluable insights into its operations, trends, and opportunities for improvement. Harnessing this data and transforming it into actionable insights is essential for optimizing efficiency, safety, and sustainability in the aviation sector.

Enter Tableau, a powerful data visualization and analytics tool that empowers organizations to explore, analyse, and communicate data-driven insights effectively. In this age of data-driven decision-making, Tableau has become a game-changer for professionals in various domains, including the complex and highly dynamic field of global air transportation.

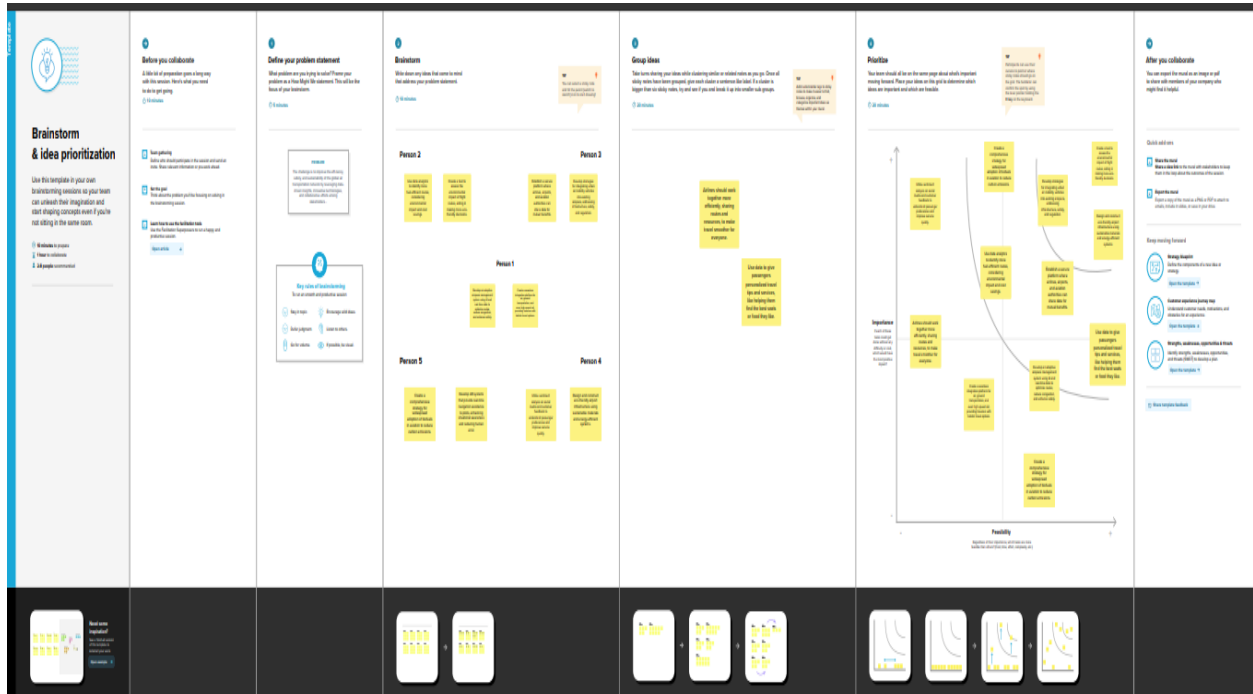
This introduction sets the stage for a journey into the realm of unlocking insights for global air transportation with Tableau. We will delve into how this cutting-edge technology is revolutionizing the aviation industry, offering a clearer perspective on flight operations, passenger experiences, safety protocols, and environmental impact. By combining the extensive data sources available in the aviation sector with Tableau's capabilities, we will explore how stakeholders, from airlines and airports to regulatory bodies and travellers, can make more informed choices to enhance the global air transportation ecosystem.

Throughout this exploration, we will showcase real-world applications, innovative dashboards, and success stories, highlighting how Tableau is transforming raw data into actionable intelligence that drives improvements and innovations in air travel. From optimizing flight schedules to enhancing passenger experiences and minimizing environmental footprints, the possibilities are limitless when we unlock insights for global air transportation with Tableau. Join us on this journey as we navigate the skies of data to bring clarity, efficiency, and innovation to the aviation industry.

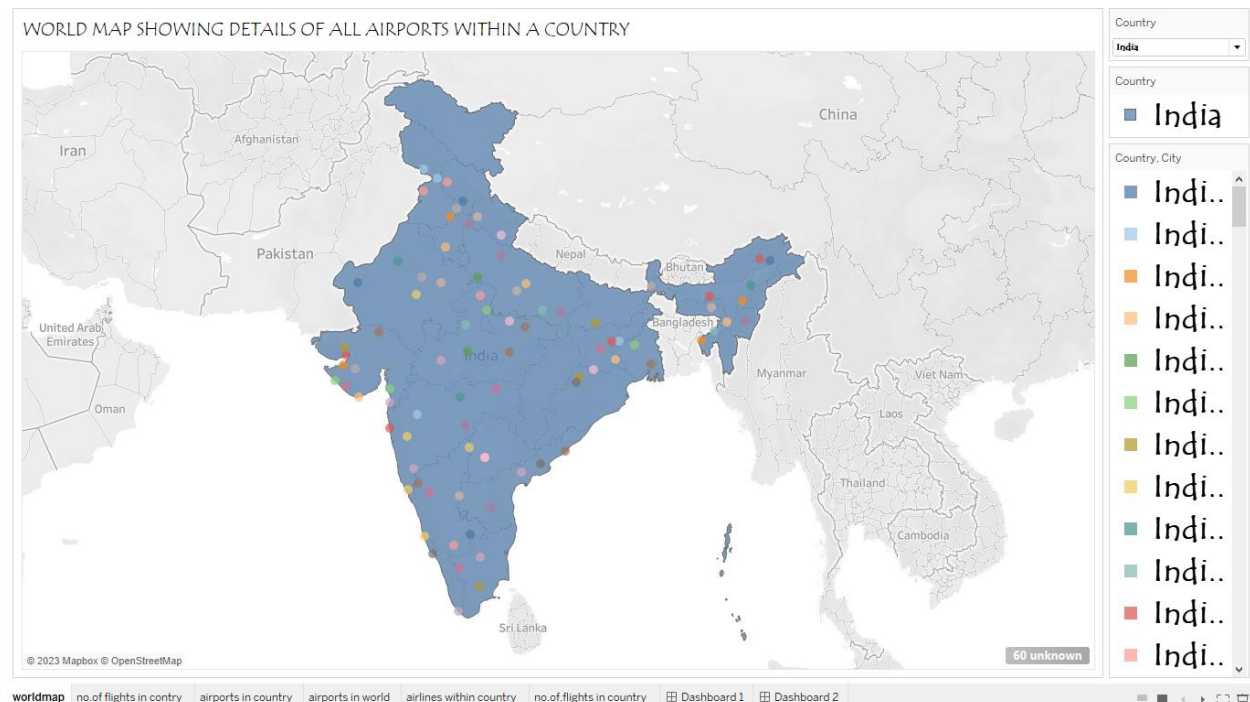
# EMPATHY MAP



# BRAINSTORMING MAP



## RESULT: GLOBAL AIRPORT DETAILS



# AIRPORTS WITHIN COUNTRY IN NUMBERS



# AIRPORTS AT HIGHER ALTITUDE WITHIN COUNTRY

AIRPORTS AT HIGHER ALTITUDE WITHIN A COUNTRY

index ..	Airport name	City	Icao	
2,836	Sardar Vallabh..	Ahmedabad	VAAH	189
2,837	Akola Airport	Akola	VAAK	999
2,838	Aurangabad Ai..	Aurangabad	VAAU	1,911
2,839	Chhatrapati Sh..	Mumbai	VABB	39
2,840	Bilaspur Airport	Bilaspur	VABI	899
2,841	Bhuj Airport	Bhuj	VABJ	268
2,842	Belgaum Airpo..	Belgaum	VABM	2,487
2,843	Vadodara Airp..	Baroda	VABO	129
2,844	Raja Bhoj Inter..	Bhopal	VABP	1,711
2,845	Bhavnagar Air..	Bhaunagar	VABV	44
2,846	Daman Airport	Daman	VADN	33
2,847	Deesa Airport	Deesa	VADS	485
2,848	Guna Airport	Guna	VAGN	1,600
2,849	Dabolim Airport	Goa	VAGO	150
2,850	Devi Ahilyabai ..	Indore	VAID	1,850
2,851	Jabalpur Airpo..	Jabalpur	VAJB	1,624
2,852	Jamnagar Airp..	Jamnagar	VAJM	69
2,853	Kandla Airport	Kandla	VAKE	96
2,854	Khajuraho Airp..	Khajuraho	VAKJ	728
2,855	Kolhapur Airpo..	Kolhapur	VAKP	1,996
2,856	Keshod Airport	Keshod	VAKS	167
2,857	Dr. Babasaheb ..	Nagpur	VANP	1,033
2,858	Nashik Airport	Nasik Road	VAOZ	1,900
2,859	Pune Airport	Pune	VAPO	1,942
2,860	Porbandar Air..	Porbandar	VAPR	23
2,861	Rajkot Airport	Rajkot	VARK	441
2,862	Raipur Airport	Raipur	VARP	1,041
2,863	Solapur Airport	Sholapur	VASL	1,584
2,864	Surat Airport	Surat	VASU	16
2,865	Maharana Prat..	Udaipur	VALI	1,684

Country  
India

worldmap no.of flights in contry airports in country airports in world airlines within country no.of flights in country Dashboard 1 Dashboard 2

# AIRPORTS AT HIGHER ALTITUDES WITHIN THE WORLD

AIRPORTS AT ALTITUDE WITHIN IN THE WORLD			
Airport name	City	Icao	
Daocheng Yading Airport	Daocheng	ZUDC	14,472
Qamdo Bangda Airport	Bangda	ZUBD	14,219
Kangding Airport	Kangding	ZUKD	14,042
Ngari Gunsa Airport	Shiquanhe	ZUAL	14,022
El Alto International A..	La Paz	SLLP	13,355
Capitan Nicolas Rojas Airport	Potosi	SLPO	12,913
Yushu Batang Airport	Yushu	ZYLS	12,816
Copacabana Airport	Copacabana	SLCC	12,591
Inca Manco Capac Internat..	Juliaca	SPJL	12,552
Golog Maqin Airport	Golog	ZLGL	12,426

worldmap

no.of flights in contry

airports in country

airports in world

airlines within country

no.of flights in country

Dashboard 1

Dashboard 2

# AIRLINES WITHIN A COUNTRY

AIRLINES WITHIN A COUNTRY				
Airline ID	Name	Icao	Callsign	
218	Air India Limited	AIC	AIRINDIA	
241	Air Sahara	RSH	SAHARA	
569	Air India Express	AXB	EXPRESS INDIA	
1026	Alliance Air	LLR	ALLIED	
1370	Blue Dart Aviation	BDA	BLUE DART	
2001	Deccan Aviation	DKN	DECCAN	
2575	Go Air	GOW	GOAIR	
2634	Gujarat Airways	GUJ	GUJARATAIR	
2850	IndiGo Airlines	IGO	IFLY	
2851	India International ..	IIL	INDIA INTER	
2852	Indian Air Force	IFC	INDIAN AIRFORCE	
2853	Indian Airlines	IAC	INDAIR	
3000	Jet Airways	JAI	JET AIRWAYS	
3142	Kingfisher Airlines	KFR	KINGFISHER	
3907	Paramount Airways	PMW	PARAWAY	
3918	Pawan Hans	PHE	PAWAN HANS	
4375	Spicejet	SEJ	SPICEJET	
13105	Air India Regional	\N	ALLIED	
13106	MDLR Airlines	\N	MDLR	
13107	Jagson Airlines	JGN	JAGSON	
13905	Skyline nepc	\N	Null	
16327	Indya Airline Group	IG1	Indya1	
16362	OCEAN AIR CARGO	IXO	Null	
16738	NEPC Airlines	\N	Null	
16901	12 North	N12	12N	
19451	Air Costa	\N	Null	
20264	Air Vistara	VTI	Null	
20286	Air Pegasus	PPL	Null	
...	...	...	...	

Active

(All)

Country

India

Active

N

Y

worldmap

no.of flights in contry

airports in country

airports in world

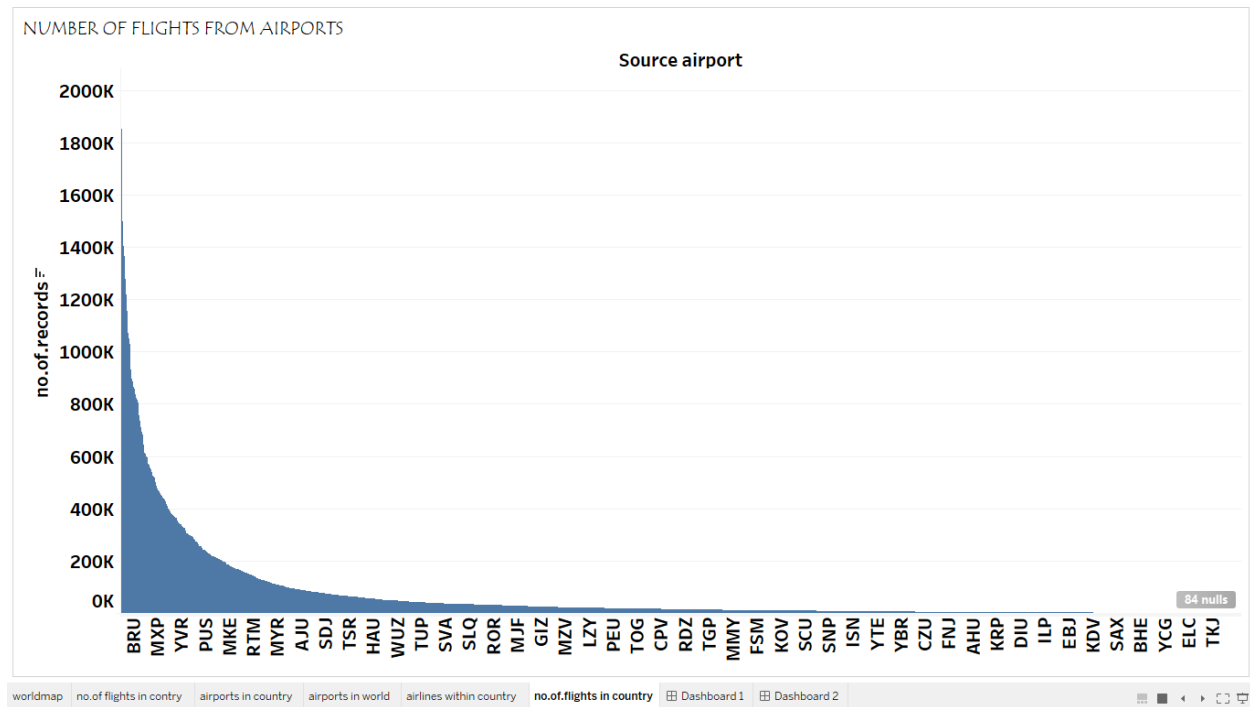
airlines within country

no.of flights in country

Dashboard 1

Dashboard 2

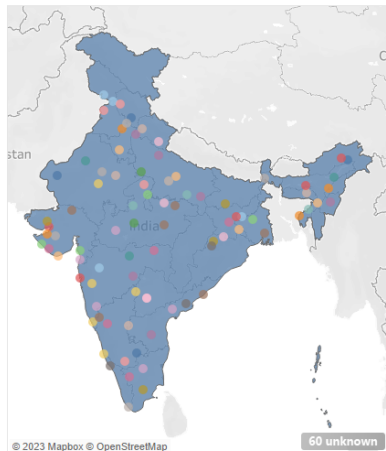
# NO.OF FLIGHTS FROM AIRPORT



# DASHBOARD-1

NUMBER OF AIRPORTS WITHIN THE COUNTRY

WORLD MAP SHOWING DETAILS OF ALL AIRPORTS WITHIN A COUNTRY



AIRPORTS AT HIGHER ALTITUDE WITHIN A COUNTRY

29

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2,864	Surat Airport	Surat	VACI	16

Country

India

Country

India

Country

India

worldmap no. of airports in country airports in country airports in world airlines within country no. of flights in country Dashboard 1 Dashboard 2 Story 1

# DASHBOARD-2

AIRLINES WITHIN A COUNTRY

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569	Air India Express	AXB	EXPRESS INDIA	
1026	Alliance Air	LLR	ALLIED	
1370	Blue Dart Aviation	BDA	BLUE DART	
2001	Deccan Aviation	DKN	DECCAN	
2575	Go Air	GOW	GOAIR	
2634	Gujarat Airways	GUJ	GUJARATAIR	
2850	IndiGo Airlines	IGO	IFLY	
2851	India International ..	IIL	INDIA INTER	
2852	Indian Air Force	IFC	INDIAN AIRFORCE	
2853	Indian Airlines	IAC	INDAIR	
3000	Jet Airways	JAI	JET AIRWAYS	
3142	Kingfisher Airlines	KFD	KINGFISHER	

Active

(All)

Country

India

Active

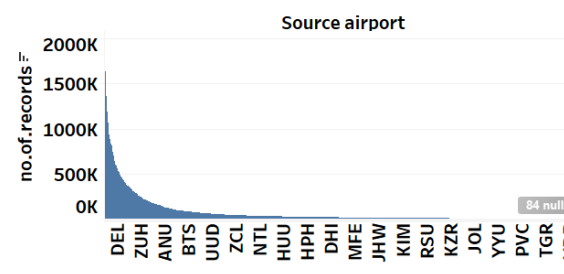
N

Y

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Copacabana Ai..	Copacabana	SLCC	12,591
Inca Manco Ca..	Juliaca	SPJL	12,552
Goloo Magin Ai..	Goloo	ZLGL	12,426

NUMBER OF FLIGHTS FROM AIRPORTS



worldmap no. of flights in country airports in country airports in world airlines within country no. of flights in country Dashboard 1 Dashboard 2

# *ADVANTAGES AND DISADVANTAGES*

## **ADVANTAGES**

1. **Economic Growth:** The aviation industry contributes significantly to the global economy. Insights can lead to better strategies for job creation, investment, and economic growth.
2. **Safety Improvements:** Analyzing air transportation data can lead to safety improvements, making air travel safer for passengers and cargo.
3. **Environmental Impact:** With insights into air transportation, we can better understand and address the environmental impacts of aviation, such as carbon emissions and noise pollution.
4. **Technological Advancements:** Understanding the aviation industry can drive technological innovations in aircraft design, air traffic management, and aviation infrastructure.
5. **Emergency Response:** Air transportation plays a crucial role in disaster relief and emergency response efforts. Insights can help optimize these operations.



## **DISADVANTAGES**

1. **Environmental Impact:** Air travel is a significant contributor to greenhouse gas emissions. Insights might reveal the extent of the environmental harm caused by aviation.
2. **Economic Volatility:** The aviation industry is susceptible to economic and geopolitical changes. Insights may expose vulnerabilities and economic risks.
3. **Security Concerns:** Deep insights into global air transportation can raise concerns about security, including the potential for terrorism and cybersecurity threats.
4. **Congestion and Delays:** Airports and airspace congestion can lead to delays. Better understanding the causes of congestion may not necessarily eliminate the problem but can highlight its complexity.
5. **Accessibility and Equity:** Not everyone has equal access to air transportation. Insights might underscore issues of accessibility and equity in global travel.

## **APPLICATIONS**

1. **Airline Operations Optimization:** Airlines can use insights to optimize routes, schedules, and fleet management, reducing costs and improving efficiency.
  2. **Air Traffic Management:** Air traffic control and management authorities can use insights to enhance airspace utilization, reduce congestion, and improve safety.
  3. **Safety Enhancements:** Airlines and aviation authorities can use data to identify safety trends and implement measures to enhance passenger and crew safety.
  4. **Aircraft Design and Engineering:** Aircraft manufacturers can apply insights to develop more fuel-efficient, quieter, and environmentally friendly aircraft.
  5. **Airport Planning and Management:** Airport authorities can use insights to plan expansions, optimize ground operations, and enhance passenger services.
  6. **Supply Chain and Cargo Logistics:** Insights can help logistics companies optimize air cargo routes and ensure efficient transportation of goods.
  7. **Economic Development:** Governments and organizations can leverage aviation insights for economic development, attracting investment and tourism.
  8. **Environmental Sustainability:** Insights can support efforts to reduce the environmental impact of aviation, such as through the development of sustainable aviation fuels.
  9. **Public Health and Disease Control:** In cases of pandemics and disease outbreaks, understanding air travel patterns can help authorities track and respond to health risks.
  10. **Security and Counterterrorism:** Intelligence and security agencies can use insights to monitor potential threats and enhance airport security.
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## **CONCLUSION**

In conclusion, unlocking insights into global air transportation offers a wealth of opportunities and challenges across various sectors. The aviation industry plays a crucial role in our interconnected world, facilitating global travel, trade, and economic growth. By harnessing data and analysis, we can optimize airline operations, enhance safety, and address environmental concerns. These insights can be valuable not only for airlines and aviation authorities but also for broader applications, including economic development, public health, security, and urban planning.

However, it's essential to acknowledge the environmental and social challenges associated with air transportation, such as its environmental impact, security concerns, and issues of equity and accessibility. Striking a balance between the advantages and disadvantages of air transportation insights is crucial for sustainable development and responsible decision-making in this vital industry.

In an increasingly data-driven world, the ability to unlock and apply insights into global air transportation is a powerful tool for improving the efficiency, safety, and sustainability of air travel while supporting broader societal and economic goals.

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## **FUTURE SCOPE**

1. **Advanced Data Analytics:** As data collection technologies and analytics tools continue to evolve, the ability to process and analyze vast amounts of aviation data will improve. This will lead to more sophisticated insights and predictions, helping airlines and authorities make better decisions.
2. **Artificial Intelligence and Machine Learning:** AI and machine learning will play a significant role in optimizing air traffic management, predicting maintenance needs for aircraft, and enhancing passenger experiences. These technologies can identify patterns, automate processes, and improve safety.
3. **Environmental Sustainability:** Given the growing concern about the environmental impact of aviation, there is a significant future scope for developing sustainable solutions. This includes the use of alternative fuels, electric and hybrid aircraft, and efforts to reduce carbon emissions in air travel.
4. **Smart Airports and Infrastructure:** Airports will become smarter, incorporating technology for streamlined passenger flows, baggage handling, and efficient ground operations. The future scope includes the development of autonomous ground vehicles, smart terminals, and energy-efficient infrastructure.
5. **Urban Air Mobility:** The concept of urban air mobility (UAM) and electric vertical take-off and landing (eVTOL) aircraft is an emerging area with vast potential. UAM could transform city transportation, reducing congestion and offering faster and more direct routes.