

UNLOCKING INSIGHTS INTO THE GLOBAL AIR TRANSPORTATION NETWORK WITH TABLEAU

TEAM LEADER : R.MAHADEVI

TEAM MEMBERS : R.KOWSHIKA

P.MAHALAKHSMI

R.MOHANAPRIYA

K.MONIKA

1.INTRODUCTION

1.1 OVERVIEW

The global air transportation network data set is a comprehensive collection of information on airports, airlines and their routes. It contains information such as names, countries, codes (IATA) and (ICAO) longitudes altitudes of airports across the world with sources is detailed time zone and daylight saving time data. Additionally, this includes information about airlines including their IDs, name aliases, IATA and ICAO codes, source country of origin and line status.

Similarly, it also covers route details such as airline sources to destination airports along with essential details like codes share stake holder if any stops required during this journey along with the type of aircraft being used for that particular journey this dataset has been compiled through meticulous labor by researchers all over the world to give you a detail into air transportation networks from around the globe.

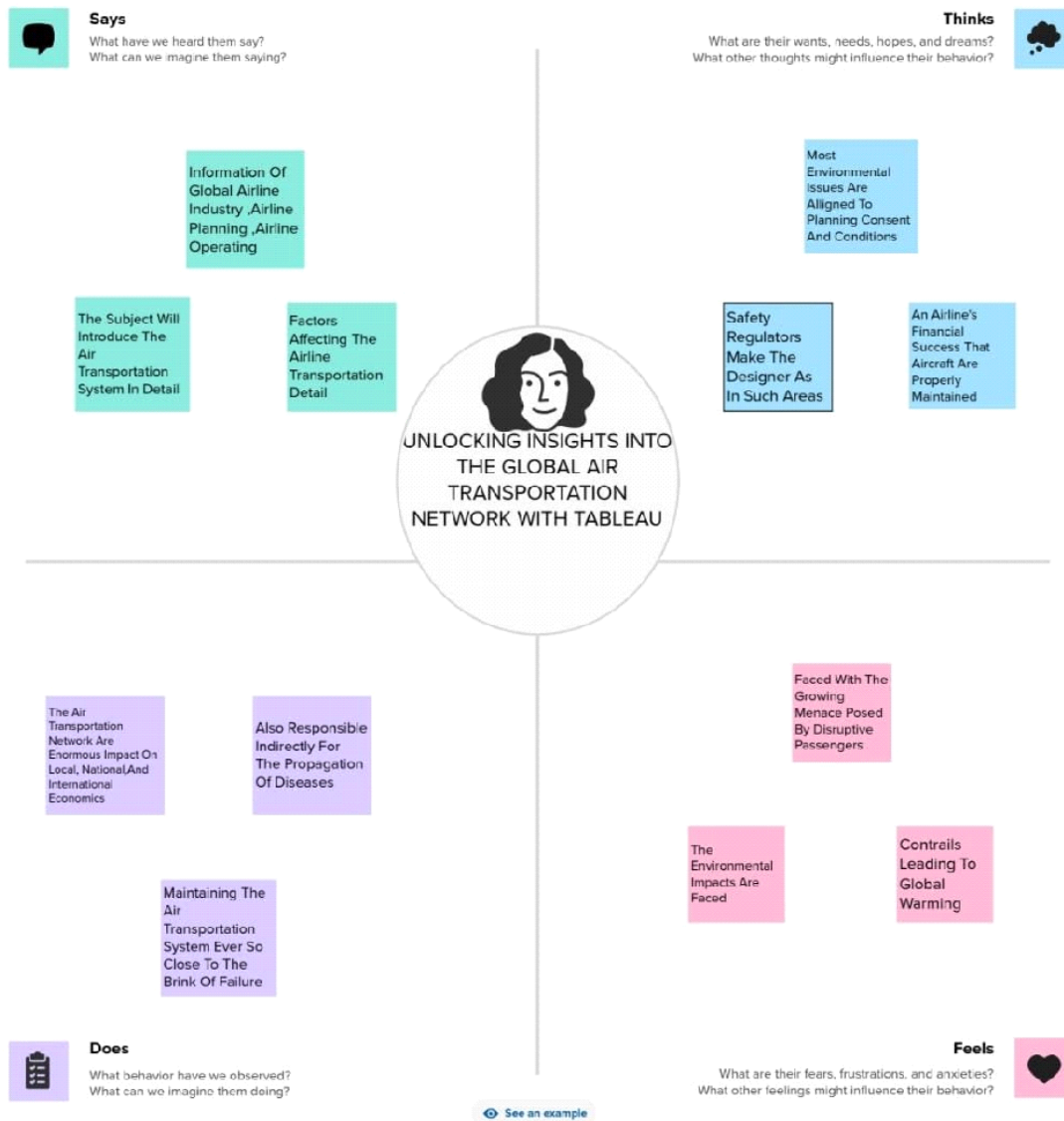
1.2 PURPOSE

The air transport network is a key infrastructure asset. It is the only worldwide passenger and cargo transportation network, providing an essential link between individual countries and the wider global economy. Air creates significant value for passenger and freight users.

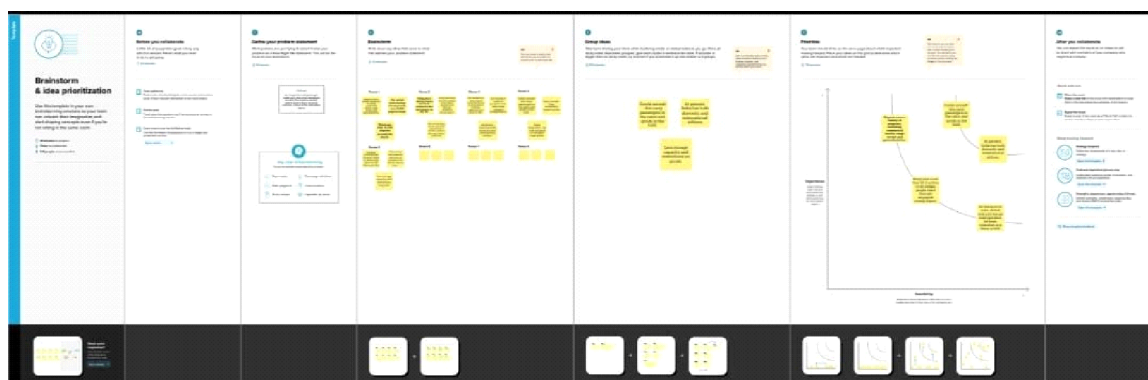
Air transport allows people from different countries to cross international boundaries travel other countries for personal, business, medical and tourism purposes.

2.PROBLEM DEFINITION & DESIGN THINKING

2.1 EMPATHY MAP



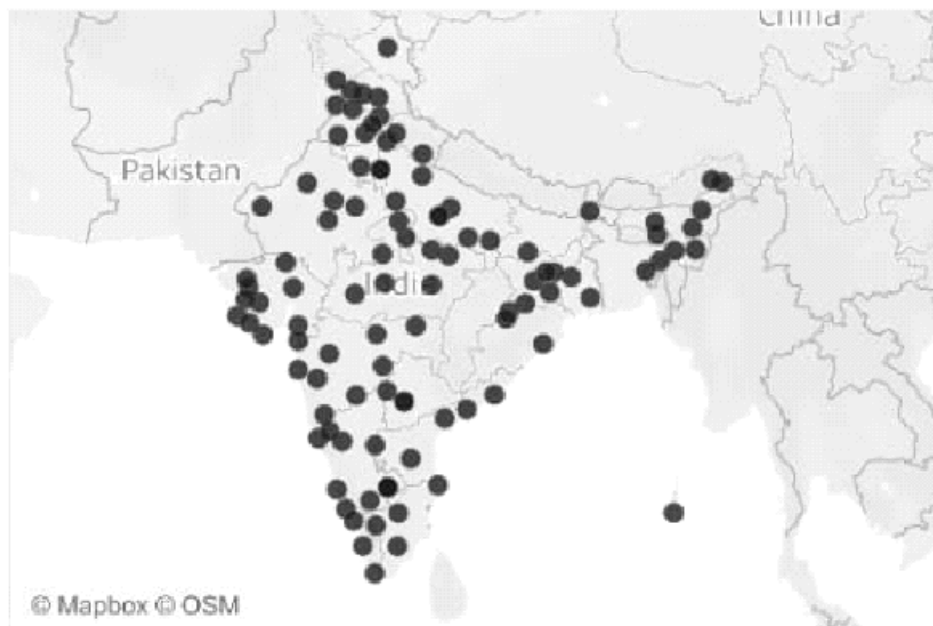
2.2 IDEATION & BRAINSTORMING MAP



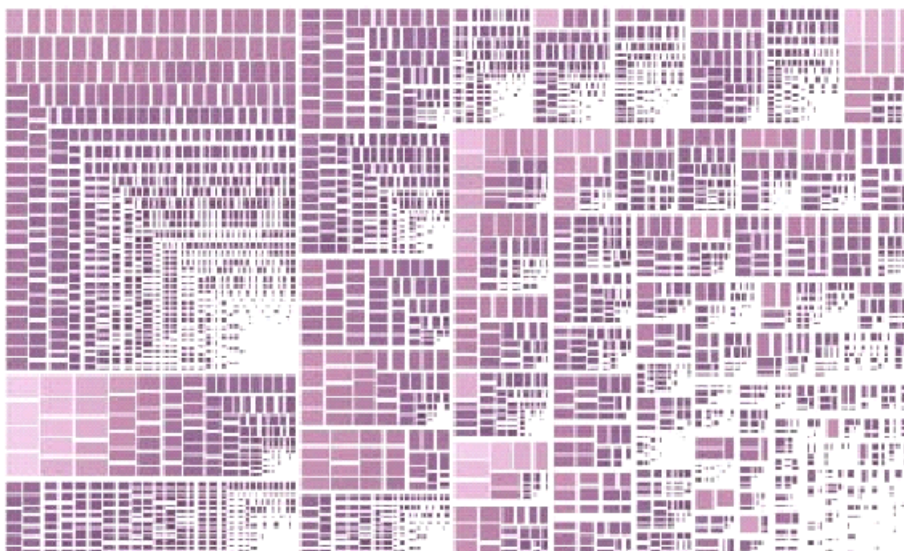
3. RESULT

DASHBOARD 1

DETAILS OF ALL AIRPORTS WITHIN A COUNTRY



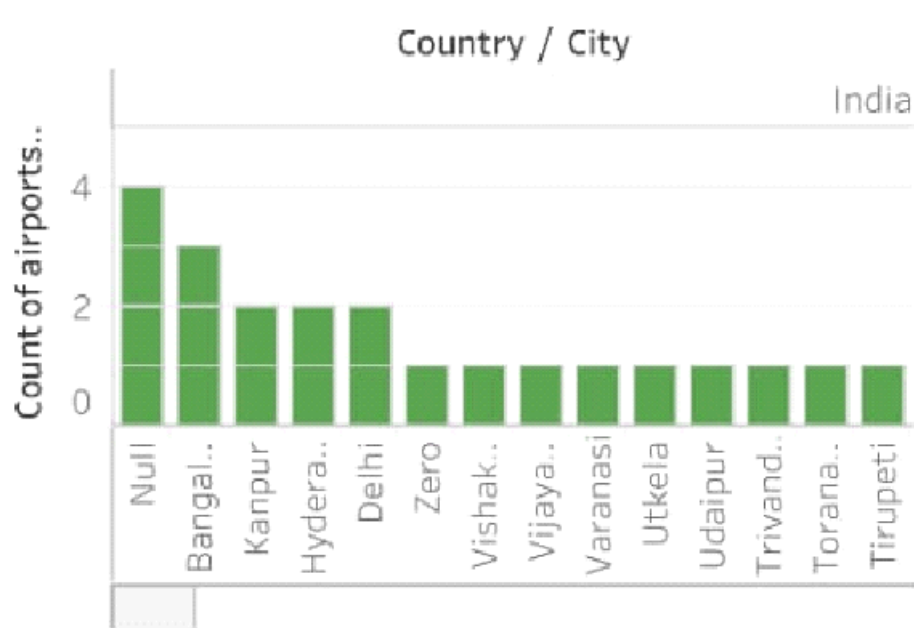
AIRPORTS AT HIGHER ALTITUDE IN THE WORLD



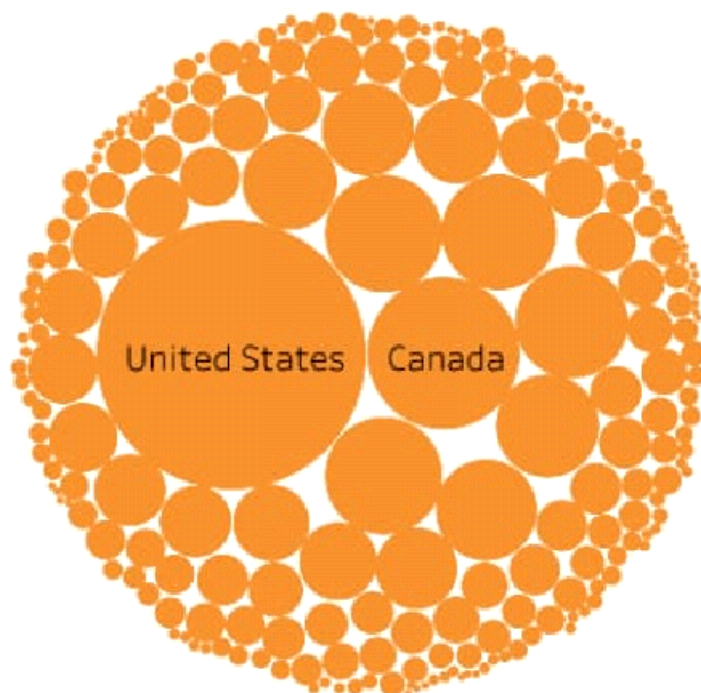
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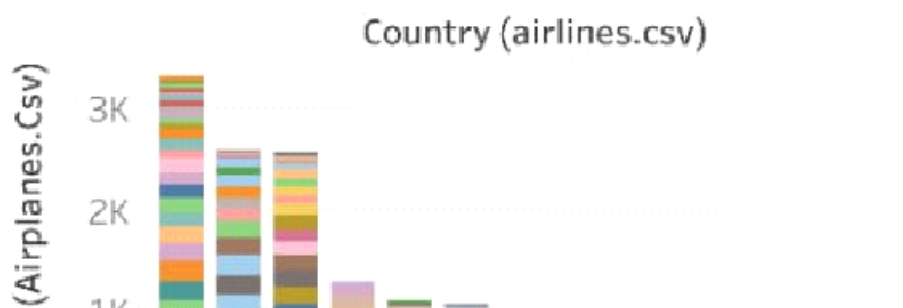
NUMBER OF AIRPORTS WITHIN THE COUNTRY



AIRLINES WITHIN A COUNTRY



NUMBER OF FLIGHTS FROM AIRPORTS

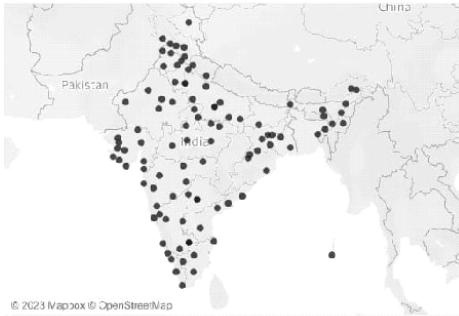


GLOBAL AIR TRANSPORTATION NETWORK

The world Map about
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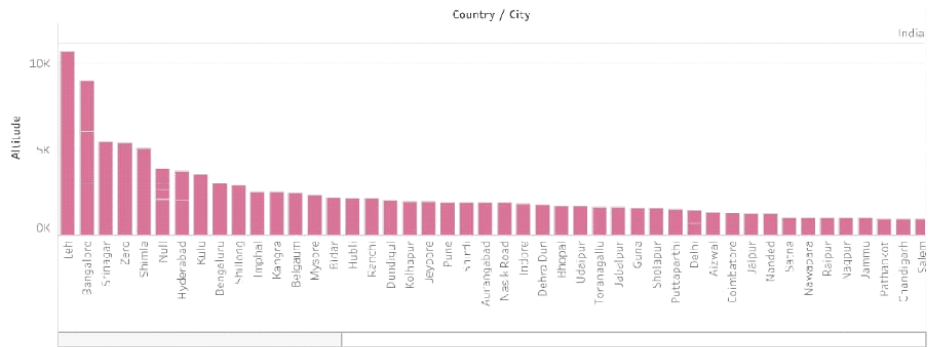
DETAILS OF ALL AIRPORTS WITHIN A COUNTRY



AIRPORTS AT HIGHER ALTITUDE IN THE WORLD



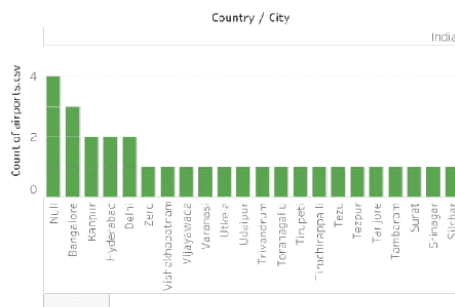
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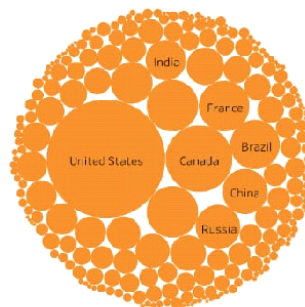
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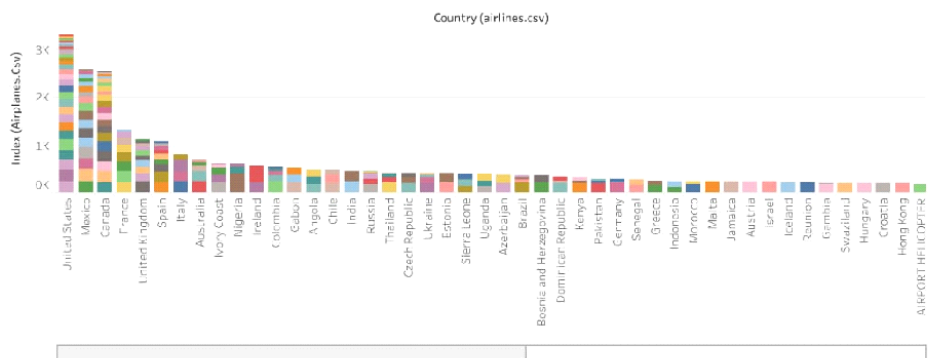
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NUMBER OF AIRPORTS WITHIN THE COUNTRY

AIRLINES WITHIN A COUNTRY



NUMBER OF FLIGHTS FROM AIRPORTS



ADVANTAGES :

Fast and efficient travel: Air transportation allows for swift travel across long distances, reducing travel times significantly compared to other modes of transportation.

Economic growth: Air transportation plays a vital role in the global economy by facilitating international trade, business travel, and tourism. It can boost economic growth and create employment opportunities in various sectors.

Accessibility to remote areas: Air transportation can provide access to remote locations that are otherwise difficult to reach by land or sea. This can be particularly beneficial for emergency response, aid delivery, and development initiatives.

DISADVANTAGES :

Environmental impact: Air transport is a significant source of greenhouse gas emissions, contributing to climate change. Aircraft noise pollution and the construction of expansive airports can also have adverse impacts on local ecosystems and communities.

Cost: Air travel can be expensive compared to other modes of transportation, making it less accessible for certain demographics, particularly for long-haul travel.

Limited capacity: Airports and airspace congestion can limit the number of flights that can operate efficiently, leading to delays and inefficiencies in the system.

APPLICATIONS :

Passenger travel: The primary application of the air transportation network is for passenger travel. It enables individuals to reach their destinations quickly and efficiently, connecting countries, continents, and cities around the world. Whether it's for business or leisure purposes, air travel offers a convenient mode of transportation for millions of people daily.

International trade: The air transportation network plays a critical role in facilitating global trade. It allows for the quick and efficient transportation of goods and products across long distances. High-value and time-sensitive cargo, such as perishable items, pharmaceuticals, and electronics, rely on air freight services to reach their destinations rapidly.

Tourism and hospitality: The global air transportation network supports the tourism and hospitality industry by connecting travelers to various destinations worldwide. It allows people to explore different cultures, visit famous landmarks, experience new environments, and enjoy leisure activities. This network helps to promote tourism and boost local economies.

Emergency response and humanitarian aid: During times of crisis or natural disasters, the air transportation network is vital for emergency response and the swift delivery of humanitarian aid. It ensures that supplies, medical equipment, personnel, and support reach affected areas promptly, facilitating disaster relief efforts.

Scientific research and exploration: The air transportation network is crucial for scientific research and exploration, particularly in remote areas or locations difficult to access by land. Researchers and scientists rely on air travel to reach remote research sites, conduct fieldwork, transport equipment, and collaborate with colleagues globally.

Military and defense: Air transportation plays a crucial role in military and defense operations. It enables the rapid deployment of troops, equipment, and supplies to various parts of the world. The global air transportation network facilitates strategic airlift, troop movements,

peacekeeping missions, and logistical support for armed forces.

Cargo logistics and supply chain management: Air transportation supports global logistics and supply chain management by facilitating the efficient movement of goods and products. Industries such as retail, manufacturing, e-commerce, and pharmaceuticals rely on air cargo services for timely and reliable delivery of their goods to markets worldwide.

CONCLUSION :

In conclusion, the global air transportation network is a critical and complex system that connects people, goods, and ideas across the globe. It serves as a catalyst for economic growth, cultural exchange, and global connectivity. The network enables fast and efficient travel, fostering tourism, business relationships, and international trade. While there are challenges associated with the air transportation network, such as environmental concerns, capacity limitations, and security considerations, ongoing advancements in technology, sustainable practices, and regulations are being implemented to mitigate these issues.

FUTURE SCOPE :

The future scope of the global air transportation network is filled with exciting possibilities. Advancements in sustainable aviation, such as alternative fuels and electric aircraft, promise to reduce environmental impact and carbon emissions.

Technology will play a crucial role, with the integration of artificial intelligence, automation, and data analytics enhancing efficiency and safety. Improved infrastructure, including modernized airports and air traffic management systems, will optimize capacity and reduce congestion. Additionally, the concept of urban air mobility and autonomous flying taxis may revolutionize urban transportation.