RABIAMMAL AHAMED MAIDEEN COLLEGE

FOR WOMEN, THIRUVARUR

TEAM ID: NM2023TMID13515

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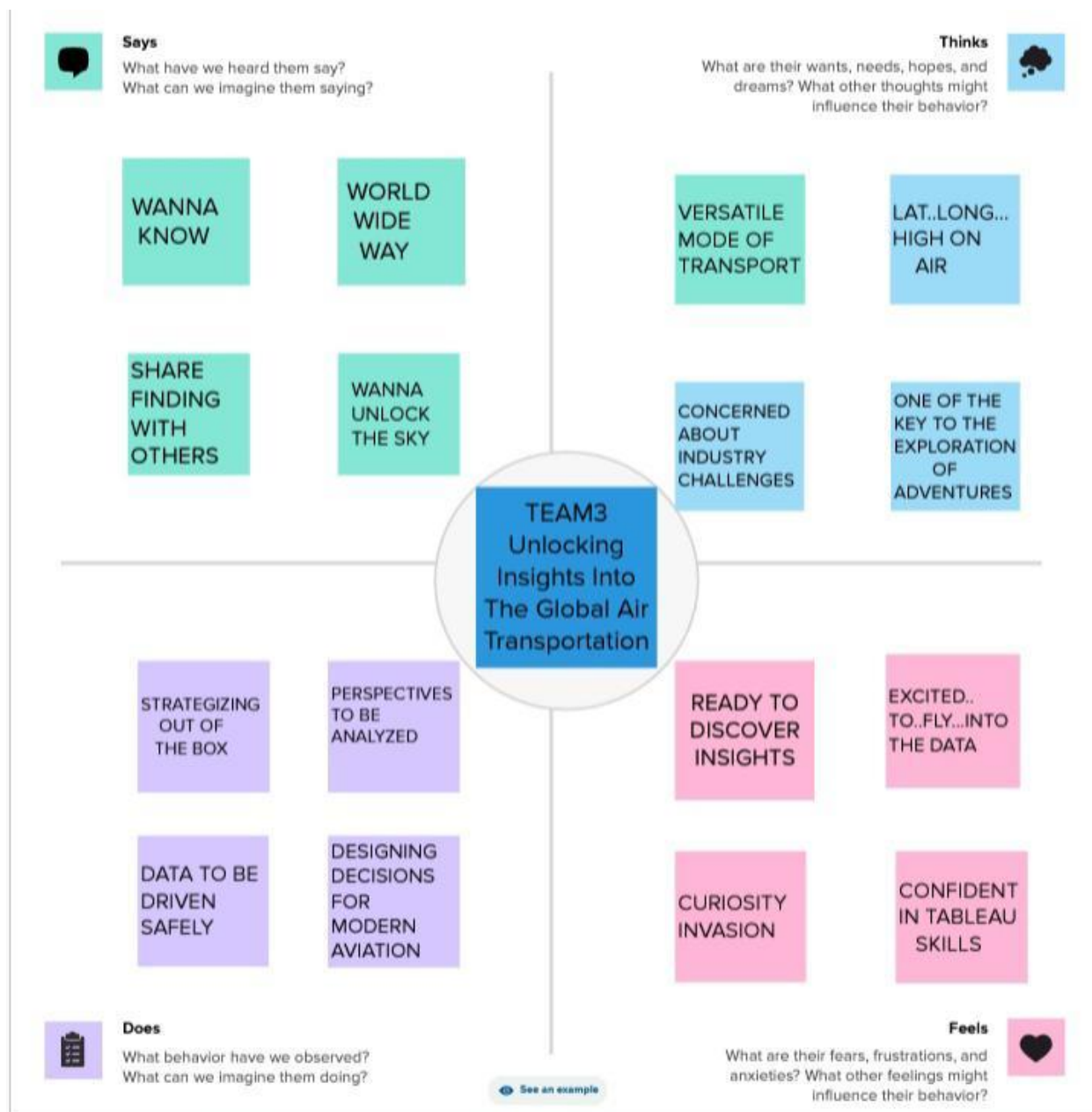S.KEERTHANA

PROJECT TITLE: GLOBAL AIR TRANSPORTATION

NETWORK

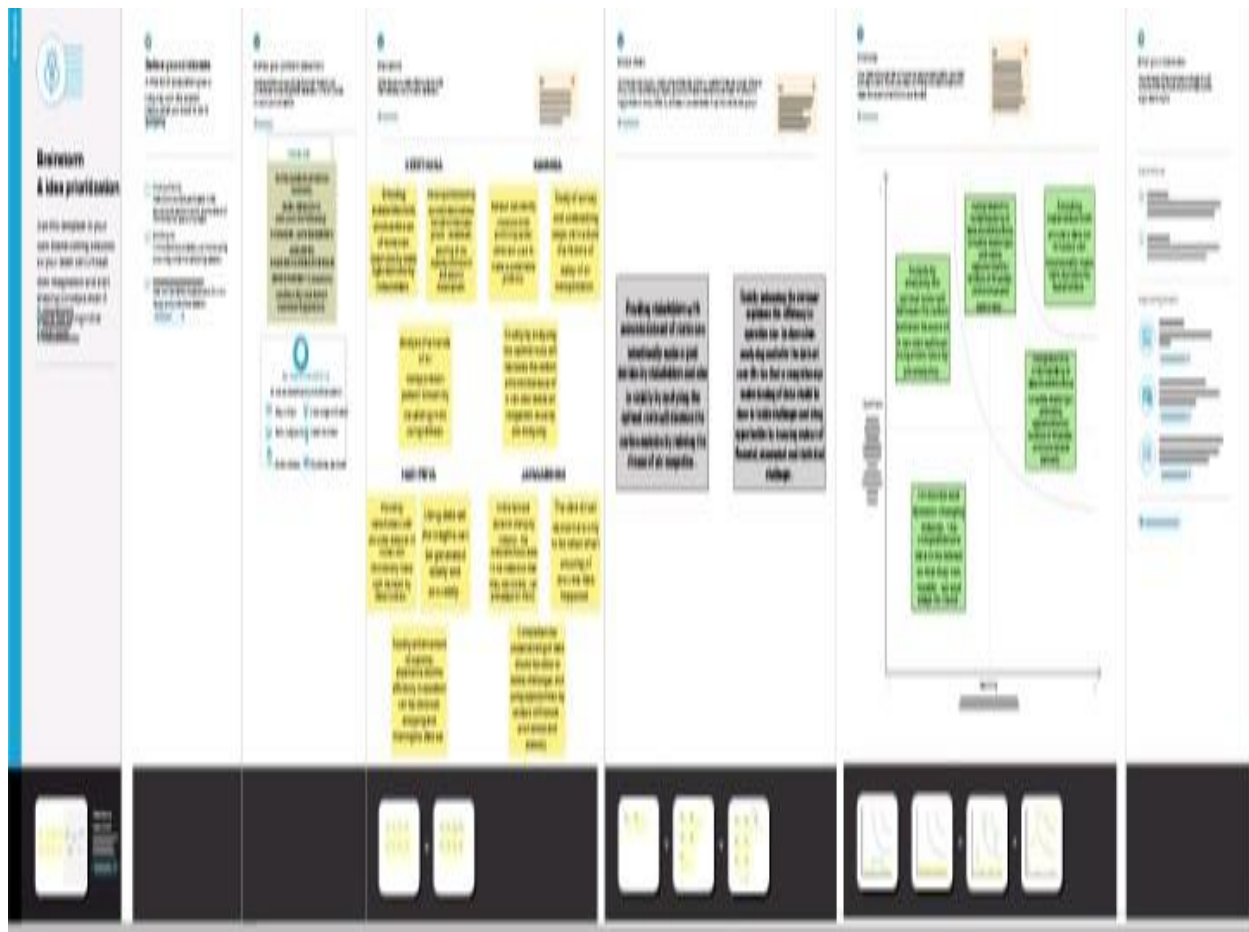# Global Air Transportation Network

## Introduction

This Global Air Transportation Network dataset is a comprehensive collection of information on airports, airlines and their routes. It contains information such as names, cities, countries, codes (IATA and ICAO) longitudes, latitudes and altitudes of airports across the world with detailed time zone and daylight saving time data.

Additionally, this includes information about airlines including their IDs, name aliases, IATA and ICAO codes, call signs country of origin and active/inactive status. Similarly, it also covers route details such as airline sources to destination airports along with essential details like codeshare stakeholder 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 comprehensive detail into air transportation networks from around the globe.
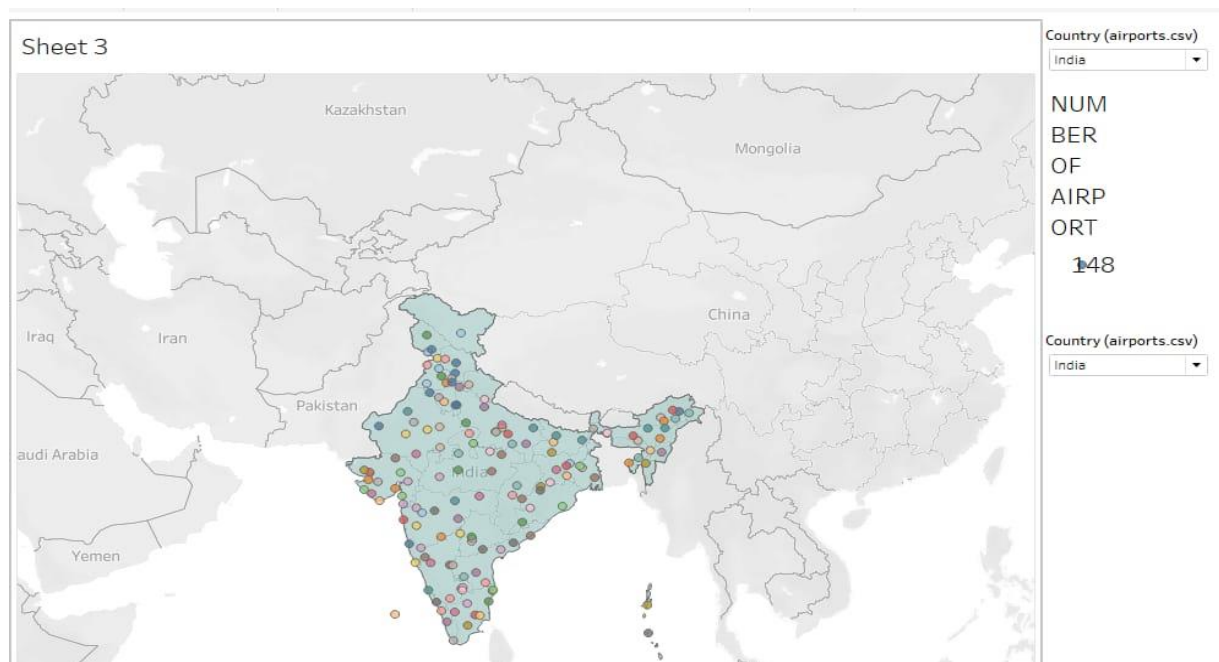
## Empathy Map

**Says**

What have we heard them say?
What can we imagine them saying?

**Thinks**

What are their wants, needs, hopes, and dreams? What other thoughts might influence their behavior?

WANNA KNOW

WORLD WIDE WAY

VERSATILE MODE OF TRANSPORT

LAT..LONG... HIGH ON AIR

SHARE FINDING WITH OTHERS

WANNA UNLOCK THE SKY

CONCERNED ABOUT INDUSTRY CHALLENGES

ONE OF THE KEY TO THE EXPLORATION OF ADVENTURES

**TEAM3**
Unlocking Insights Into The Global Air Transportation

STRATEGIZING OUT OF THE BOX

PERSPECTIVES TO BE ANALYZED

READY TO DISCOVER INSIGHTS

EXCITED.. TO..FLY...INTO THE DATA

DATA TO BE DRIVEN SAFELY

DESIGNING DECISIONS FOR MODERN AVIATION

CURIOSITY INVASION

CONFIDENT IN TABLEAU SKILLS

**Does**

What behavior have we observed?
What can we imagine them doing?

See an example

**Feels**

What are their fears, frustrations, and anxieties? What other feelings might influence their behavior?

# Ideation & Brainstorming Map

# Result:

Dashboard 1

# Dashboard 2

## AIRLINES WITHIN A COUNTRY

| Airline ID | Name | Icao | Callsign | |
|---|---|---|---|---|
| 15 | Abelag Aviation | AAB | ABG | ■ |
| 271 | Allied Command Europe (.. | ALF | ACEFORCE | ■ |
| 538 | ASL | XXX | Null | ■ |
| 634 | Airventure | RVE | AIRVENTURE | ■ |
| 1346 | Belgian Air Force | BAF | BELGIAN AIRFORCE | ■ |
| 1373 | Belgian Army | AYB | BELGIAN ARMY | ■ |
| 1428 | Belgavia | BLG | BELGAVIA | ■ |
| 1515 | Brussels International Air.. | BXI | XENIA | ■ |
| 1531 | Brussels Airlines | DAT | BEE-LINE | ■ |
| 1551 | Belgian Navy | NYB | BELGIAN NAVY | ■ |
| 2235 | Eurocontrol | EUC | Null | ■ |
| 2252 | European Air Transport | BCS | EUROTRANS | ■ |
| 2431 | Flying Service | FYG | FLYING GROUP | ■ |
| 2528 | Gendarmerie Belge | GDB | BELGIAN GENERMERIE | ■ |
| 2800 | International Air Carrier A.. | ITC | Null | ■ |
| 3032 | Jetairfly | JAF | BEAUTY | ■ |
| 3821 | Ostend Air College | OCO | AIR COLLEGE | ■ |
| 4445 | SITA | SIT | Null | ■ |
| 4734 | Sky Service | SKS | SKY SERVICE | ■ |
| 4873 | TNT Airways | TAY | QUALITY | ■ |
| 4896 | Thomas Cook Airlines | TCW | THOMAS COOK | ■ |
| 5169 | Thalys | Null | Null | ■ |
| 5333 | Virgin Express | VEX | VIRGIN EXPRESS | ■ |
| 5383 | VLM Airlines | VLM | RUBENS | ■ |
| 6002 | TUI Airlines Belgium | TUB | BEAUTY | ■ |
| 10224 | Zz | \N | Null | ■ |

**Country**
Belgium ▼

**Active**
■ N
■ Y

### number of airports

| index no. | Name (airports.csv) | City |
|---|---|---|
| 1 | Adampur Airport | Adampur |
| 2 | Agartala Airport | Agartala |

# Dashboard 3

## Airports at Highest Altitude in World

| Name (airports.csv) | City |
|---|---|
| 9 de Maio - Teixeira d.. | Teixeira de Freitas |
| (Duplicate) Playa Sa.. | Playa Samara |
| [Duplicate] Giebelsta.. | Giebelstadt |
| [Duplicate] Illertisse.. | Not Specified |
| A 511 Airport | Pyongtaek |
| A Coruña Airport | La Coruna |
| Aachen-Merzbrück Ai.. | Aachen |
| Aalborg Airport | Aalborg |
| Aalen-Heidenheim/El.. | Aalen-heidenheim |
| Aappilattoq (Kujalle.. | Aappilattoq |
| Aappilattoq (Qaasuit.. | Aappilattoq |
| Aarhus Airport | Aarhus |
| Aarhus Seaplne Term.. | Aarhus |
| Aasiaat Airport | Aasiaat |
| Aba Tenna Dejazmac.. | Dire Dawa |
| Abaco I Walker C Air.. | Walker's Cay |
| Abadan Airport | Abadan |
| Abaiang Airport | Abaiang Atoll |
| Abakan Airport | Abakan |
| Abbeville | Abbeville |
| Abbotsford Airport | Abbotsford |
| Abdul Rachman Sale.. | Malang |
| Abeche Airport | Abeche |
| Abeid Amani Karume .. | Zanzibar |
| Abel Santamaria Air.. | Santa Clara |
| Abemama Atoll Airpo | Abemama |

### number of airports

| index no. | Name (airports.csv) | City |
|---|---|---|
| 1 | Adampur Airport | Adampur |
| 2 | Agartala Airport | Agartala |

**Country (airports.csv)**
India ▼

# Dashboard 4

## NUMBER OF FLIGHTS FROM AIRPORT

Sourc... ⇊

| | |
|---|---|
| DFW | 1,37,47,328 |
| ORD | 1,97,91,422 |
| PHL | 89,11,754 |
| MIA | 1,07,17,074 |
| CLT | 86,15,265 |
| LHR | 1,17,48,113 |
| DUS | 61,33,207 |
| PHX | 90,43,382 |
| LAX | 1,56,23,750 |
| DCA | 55,34,476 |
| MUC | 1,21,21,272 |
| JFK | 1,10,10,385 |
| TXL | 40,02,924 |
| ATH | 49,35,129 |
| PMI | 91,98,857 |
| BOM | 44,52,549 |
| HAM | 35,99,113 |
| STR | 28,76,938 |
| DEL | 52,51,359 |
| CGN | 21,22,437 |
| SEA | 41,86,330 |
| FRA | 1,63,77,961 |
| HER | 34,56,587 |
| NUE | 11,09,468 |
| LGA | 43,00,471 |
| SKG | 20,67,993 |
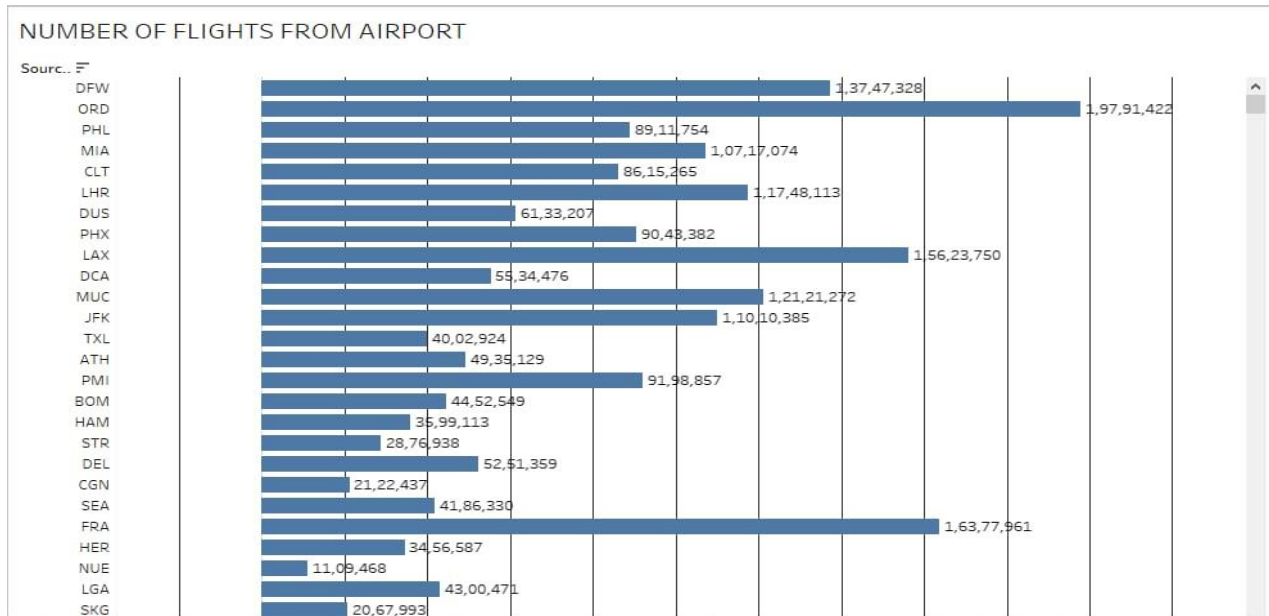
## Story

### Story 1

| | | | | | |
|---|---|---|---|---|---|
| World Map Showing Countries with Details of Airports. | Number of Airports in the country. | Table showing Airports which are at a highest altitude in the world | Table showing Airports which are higher altitude in the world. | Table showing list of all airlines within the country. | Bar Graph showing Number of Flights |

Country (airports.csv)
India

## World Map Showing Details Of All Airports
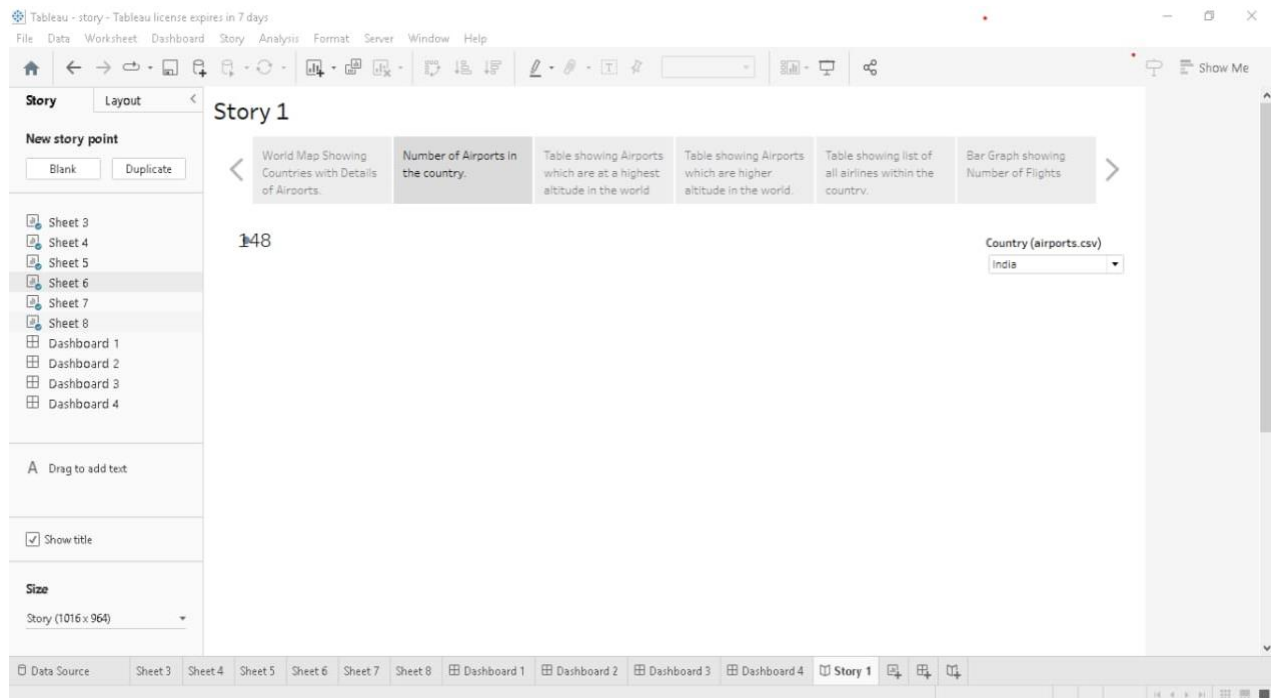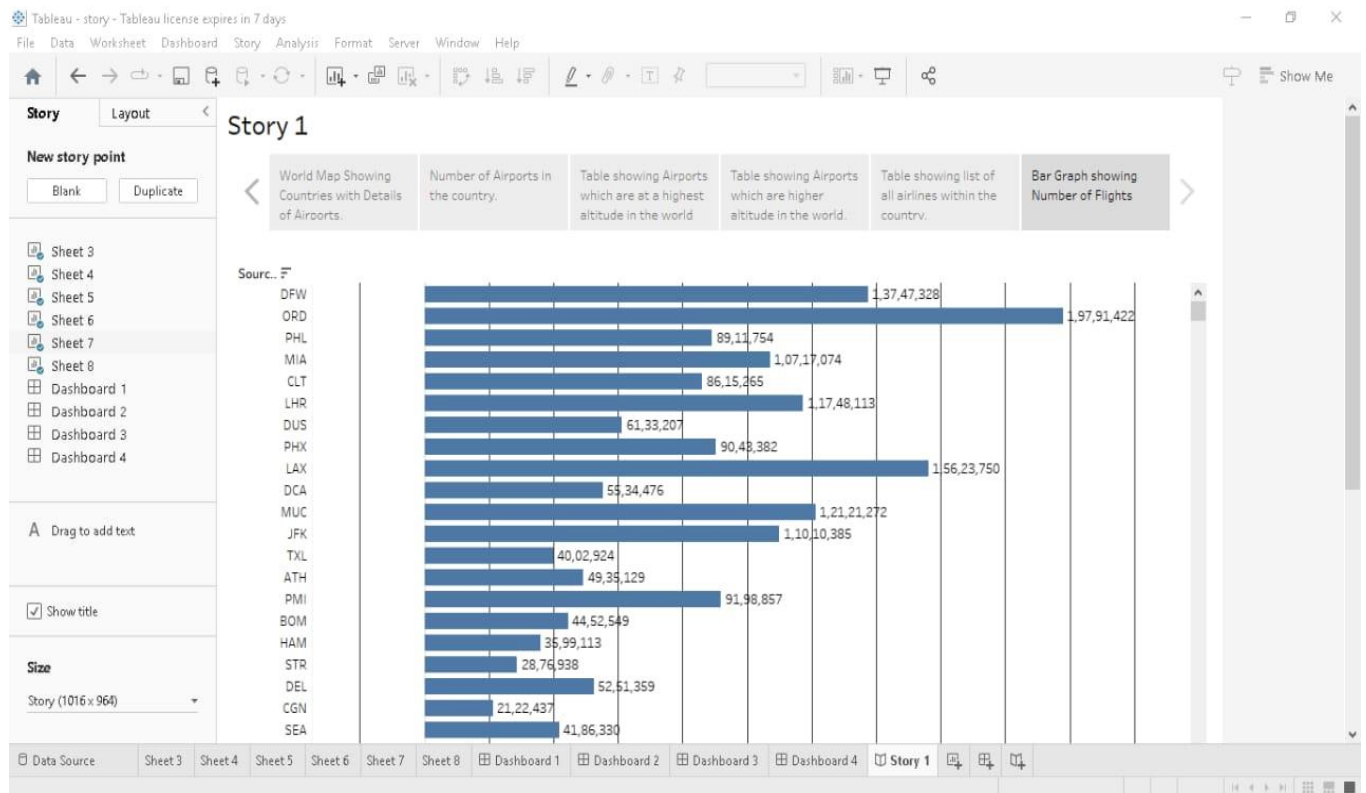
## Airports Within A Country
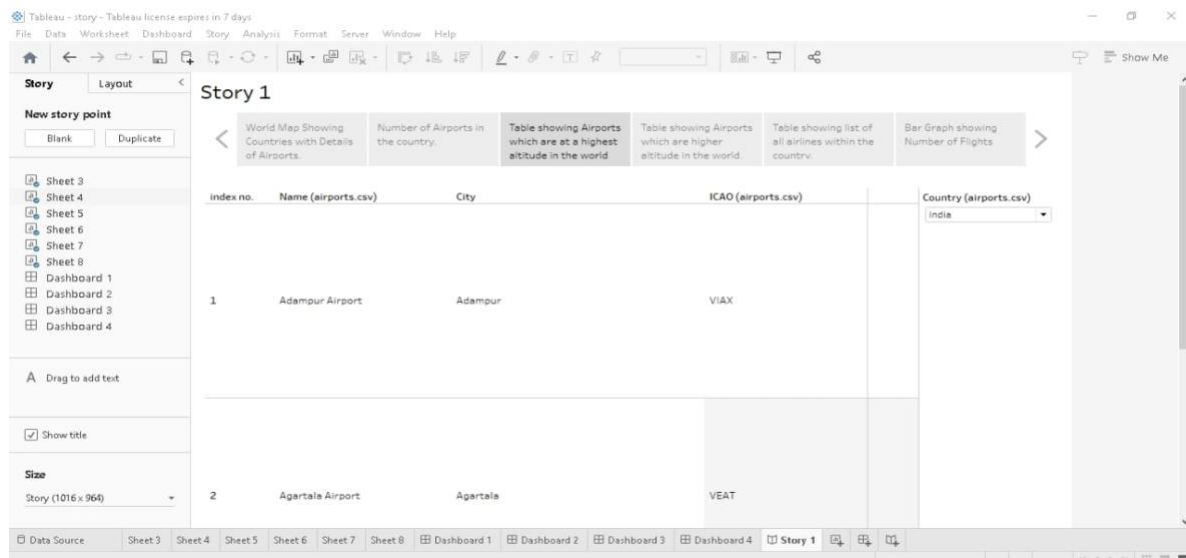


## Number Of Airports Within A country A
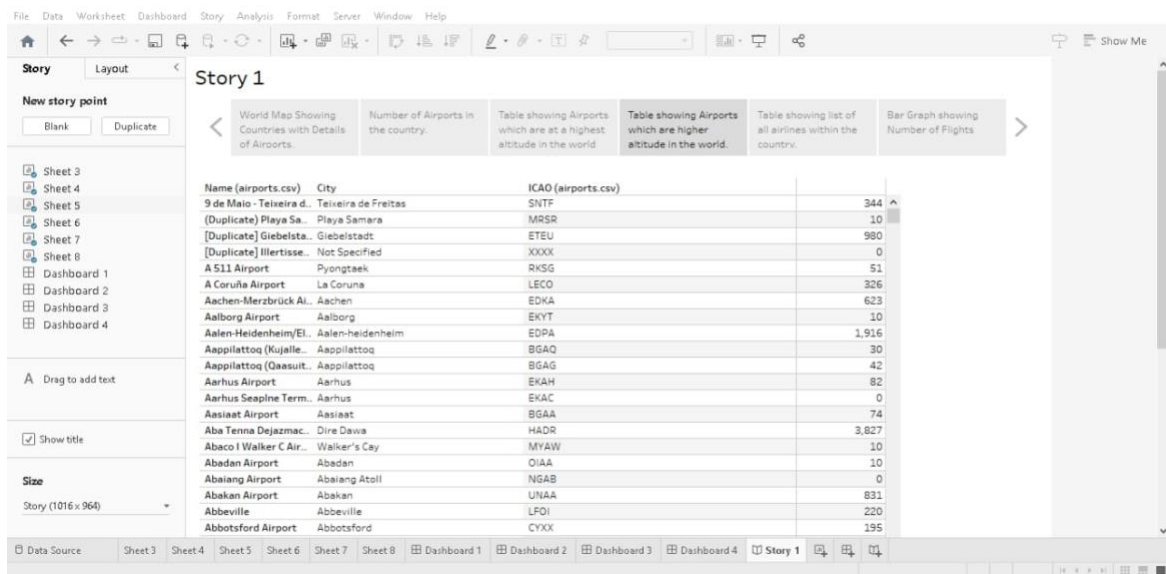
Airports At Higher Altitude In The World
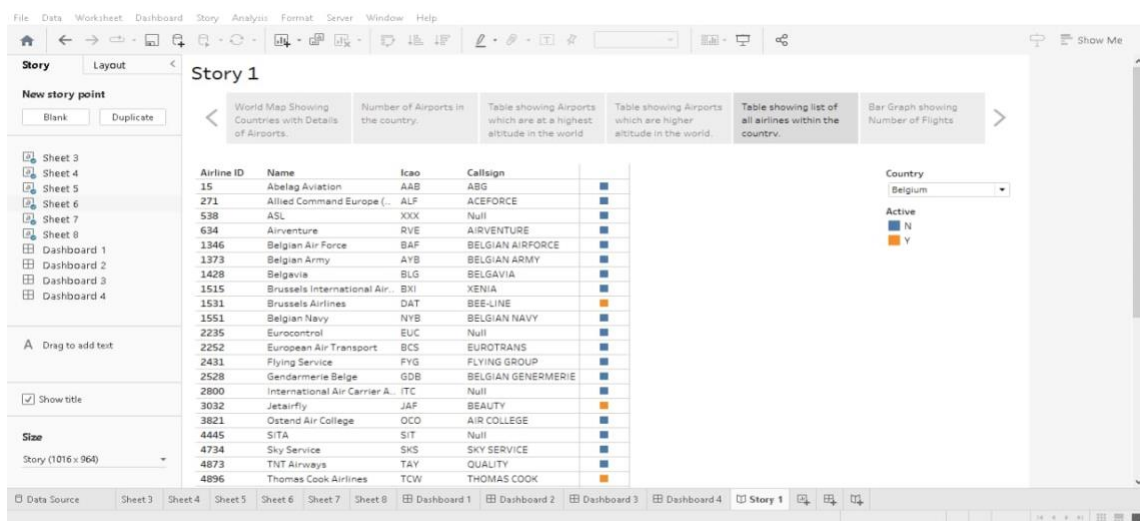


Airlines Within A Country

Number Of Flights From Airports

**Tableau can offer several advantages and disadvantages, as outlined below Unlocking insights into the global air transportation network using:**

## Advantages:

1)Data visualization: Tableau is renowned for its powerful data visualization capabilities. It allows you to create interactive and information dashboards that make complex data relates to air transportation easy to understand visualization can include route maps, passenger trends, and more.

2) Real-time-Analysis: Tableau can connect to various data sources, enabling real-time or near-real-time analysis of air transportation data. This is valuable for tracking live flights, delays, or  disruption.

3) Customization: Tableau offers a high degree of Customization, allowing you to tailor your visualization to specific needs.  You can create custom calculations, filters and parameters to address unique questions about the air transportation network.

## Disadvantages:

1) Complexity: While tableau is a Powerful tool,  it can be complex for beginners of these without a background in data analysis learning the tool may require training and expertise.

2) Data Quality: The quality of the insights you obtain is highly dependent on the quality inaccurate, the insights generated may be unreliable.

## Application

    *Flights Route Analysis

    *Passenger Trends

    *Flights Delays and disruption

    *Airport Performance

*Capacity Planning

*Demand Fore casting

*Environmental Impact Analysis

*Market Research and Competitive Analysis

*Regulatory Compliance

*Customer Experience

*EMERGENCY Response and contingency Planning

*Cost Management

*Market Expansion

*Economic Impact Assessment

## CONCLUSION:

 In conclusion the Global Transportation Network dataset offers a comprehensive and meticulously compiled resources for analyzing the worldwide aviation industry.  It encompasses extensive data on airports, airlines, and routes, including location details, codes , time zones, and aircraft information.  This dataset is a valuable tool for researches, analysis, and professionals to gain in sights in to global aviation trends, connectivity, and operational histories of airlines.  It can aid in marketing informed decisions related to air transportation route planning, and understanding the impact of time zones and daylight saving time on travel.  This dataset reflect the collaborative effort of research worldwide, making it an essential resources for these studying and working in the field of aviation and transportation.


## Future Scope

*Real-time Data Integration.

*Expanded Aircraft Details

*Environmental Impact Metrics

*Historical Route Data

*User-friendly Interface

*Mobile App Integration

*Crowdsourcing for Updates.