# Smartbridge Internship Project Report: Unveiling Airline Insights with Qlik Cloud

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# 1.INTRODUCTION:

## 1.1 OVERVIEW:

This feasibility study aimed at exploring Qlik Cloud as a cloud-based solution for data visualization in order to extract important information from airline statistics. We wanted to create interactive dashboards that would transform raw numbers into appealing graphs and help employees in the aviation sector make decisions.

## 1.2 PURPOSE:

Our primary goal was to do the following:

Identifying key performance indicators (KPIs): We identified important measures that show how well or badly an airline is doing. These could include things like on-time arrival rates for flights, types of people who use the company's services most often (known as passenger demographics).

Creating data visualizations: The next step was to take those KPIs and make them into graphs that can be quickly understood. We used charts, maps, bar graphs etc for visualizing the data.

Developing interactive dashboards: - Last thing is developing the dashboard.i have created interactive databoard that gives the information about certain details.This dashboards help to analize the data in different angles

## 1.3 TECHNICAL ARCHITECHTURE:

Project is based on following technologies:

Data Source: Airline database provided by the smartbridge platform.

Data Visualization Tool: Qlik Cloud

Development Tools: Insight Advisor,data connectors, custom objects,charts etc.

# 2. DEFINE PROBLEM:

## 2.1 SPECIFY THE BUSINESS PROBLEM:

This project addressed the main problem of understanding air travel patterns and improving passenger experience. Our goal was to identify who flew, where they came from, when their flights were etc. In addition, the study sought to establish whether

there were specific types of travellers who were highly affected by flight disruptions or inefficiencies at the airport among other things.

## 2.2 BUSINESS REQUIREMENTS:

This project focused on two key areas: passenger analysis and airport management.Understanding the passenger needs by analizing their age and intrest.Improving the passengers exprience by providing more flights not delaing flights,if there is a delay providing needs to them and improving the customer service.Airport managment is another aspect we mainly focused on no of airports country wise how well they are managing and the things they need to improve such thing can be analized by this project.

## 2.3 Literature Survey :

Research and solutions related to data visualization and its application in understanding passenger behavior within the airline industry.Passenger analysis through visulaization can give us the information about the passengers segmentation and their experience this will help to give the solutions to improve the customer service of airports.Airport information through visualization gives us how well they managing the flights and passengers.it give us the information about the thing that should be important for improvement of the quality of airport.

# 3. DATA COLLECTION:

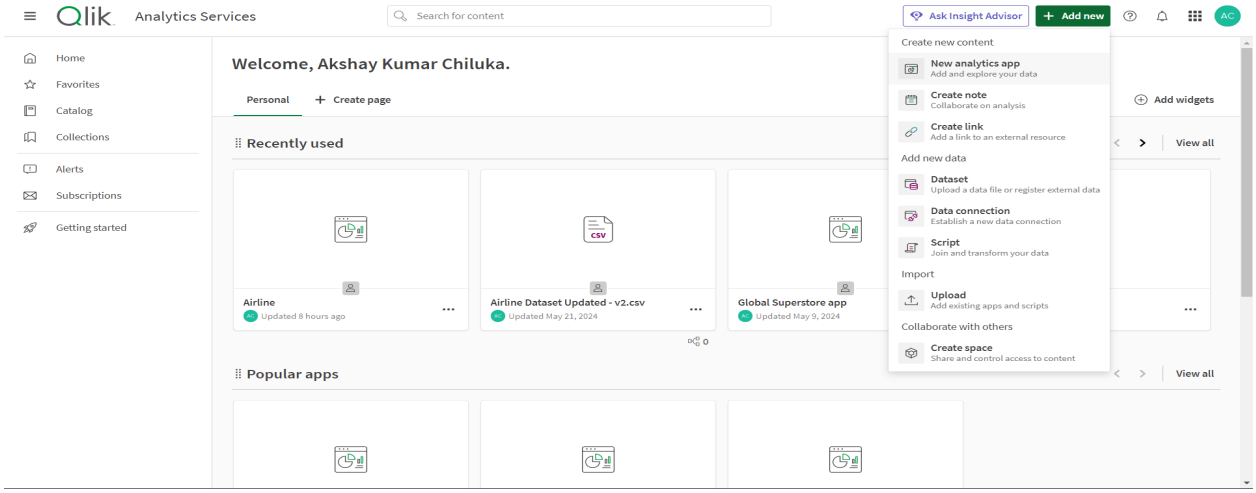
## 3.1 COLLECT THE DATASET:

The data about the airline is collected through the link provided by the smarbridge platform.the data consist of information about the passengers and airports.

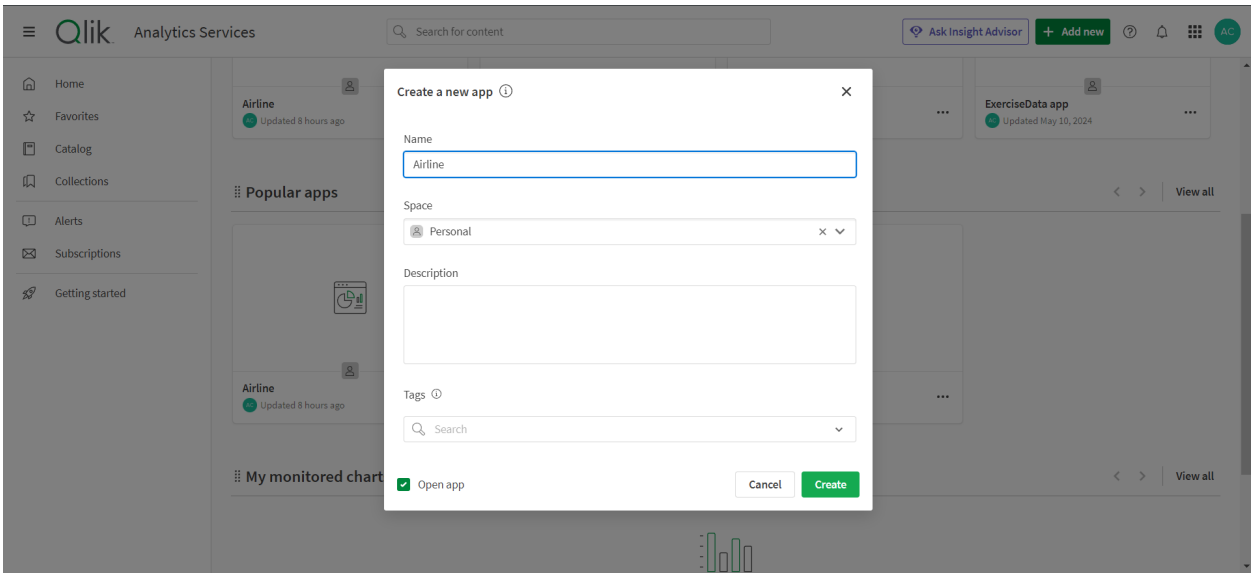
## 3.2 CONNECT DATA WITH QLIK SENSE:

To conncet the data with the qlik sense following process is followed

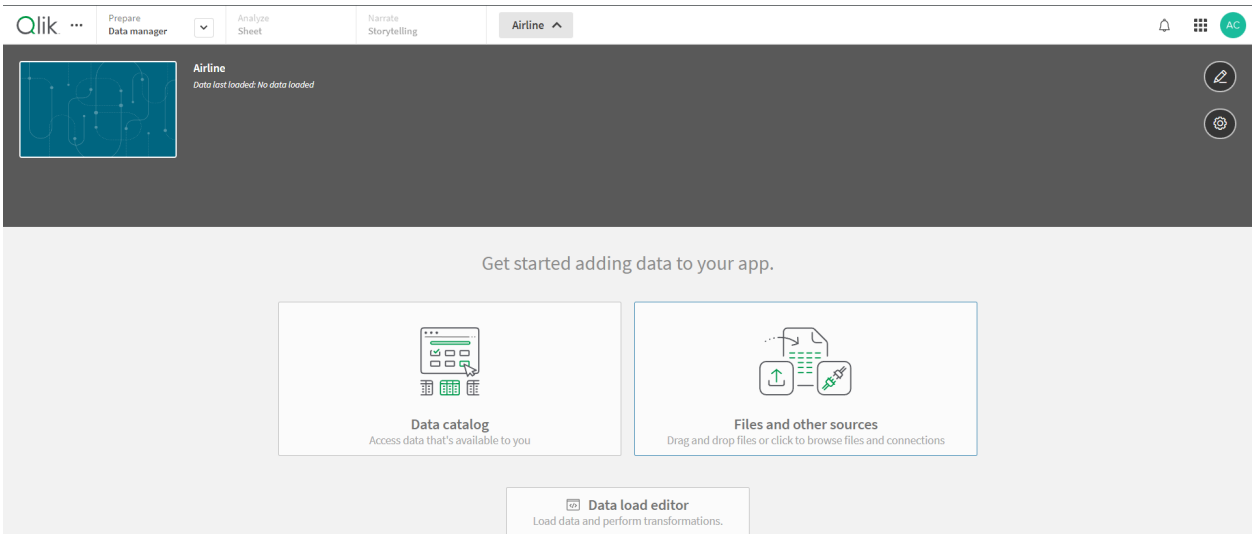
1.After login in to the qlik cloud clik on add new then click on new analytics app




2.Give the app name and click on create.




3.Add the dataset to the app by draging the  dataset from your folder and click next



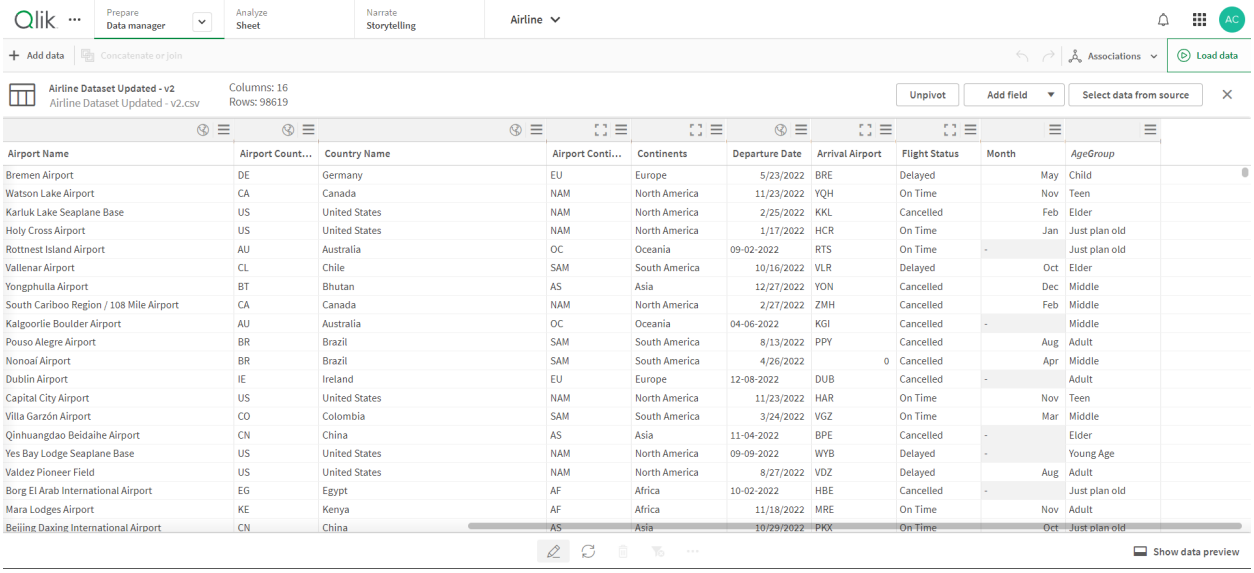

the data will be connected to the qlik cloud

# 4.DATA PREPARATION:

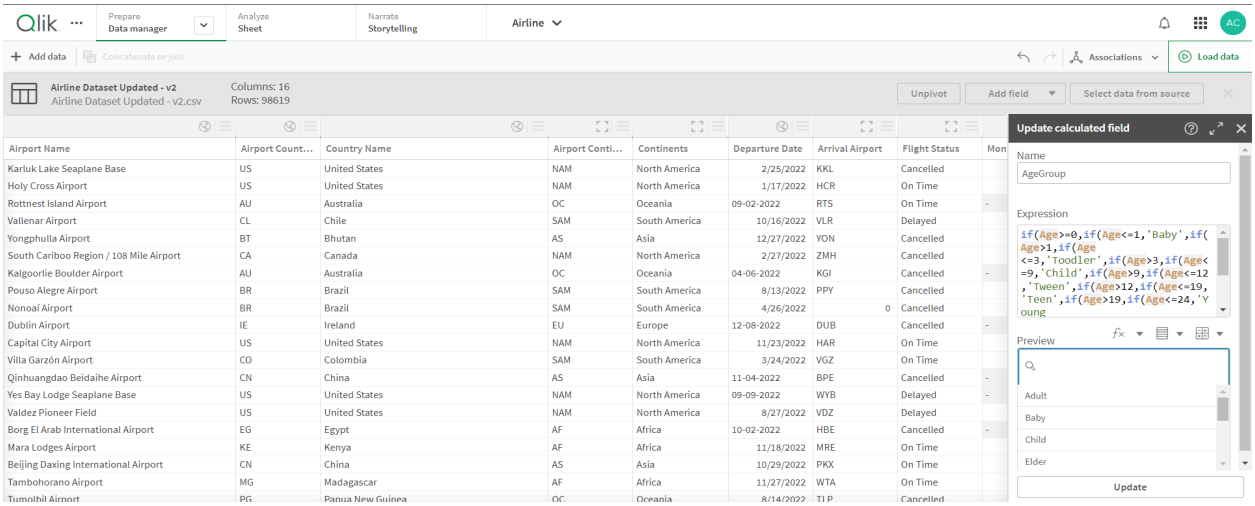
## 4.1 Prepare the data for visualization:

After connceting the data to the qlik cloud the cleaning and preprocessing of the data should be done.

Here in airline data I removed the colum called pilot name whichis not used for visualization and added new colums such as month and agegroup which is usefull for visualization.




Age group colum is based on age where the age between 0 and 1 is baby,1 and 3 is toolder,3 and 9 is Child,9 and 12 is Tween,12 and 19 is Teen,19 and 24 is Young age,24 and 39 is Adult,39 and 54 is Middle,54 and 79 is Elder and 79 above is Just plan old.



# 5.DATA VISUALIZATIONS:

## 5.1 VISUALIZATIONS:

Following are the visualization created for the airline data

No of passengers effected by cancelled flight

32.94k

No of male passengers

49.6k

No of flights on time

32.85k

Total no of passengers

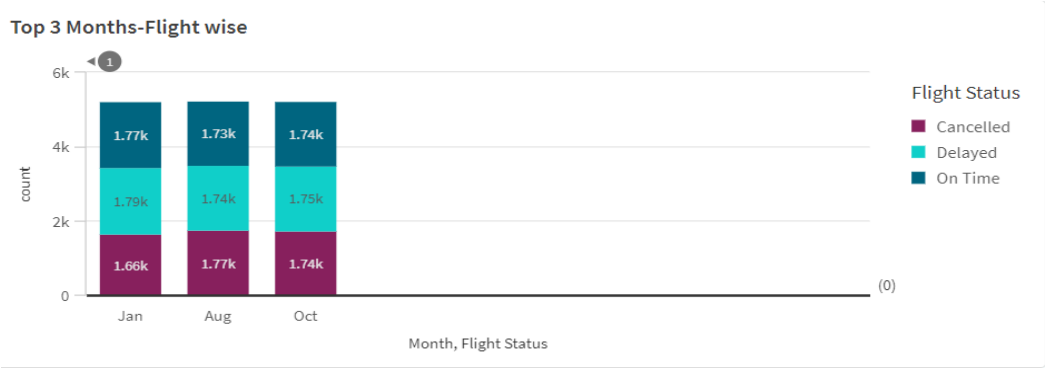
98.62k

No of female passengers

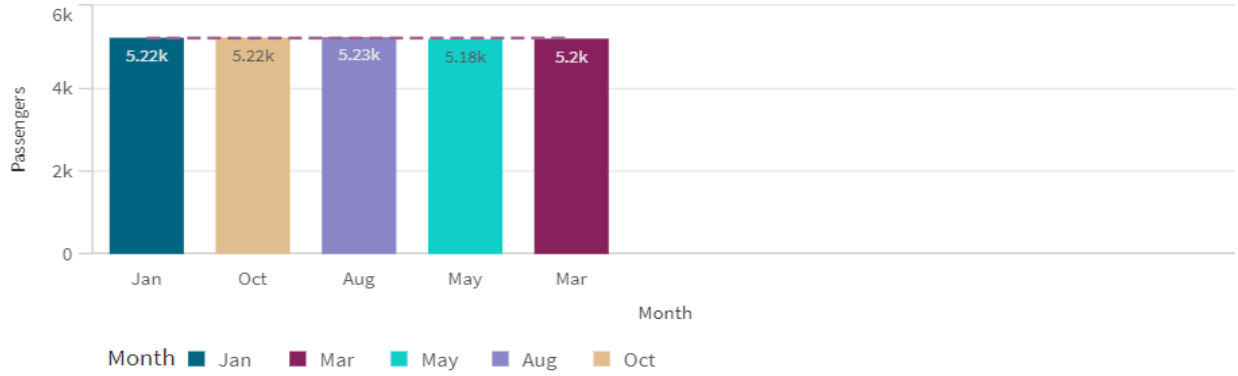
49.02k

No of passengers effected by Delay of flight

32.83k



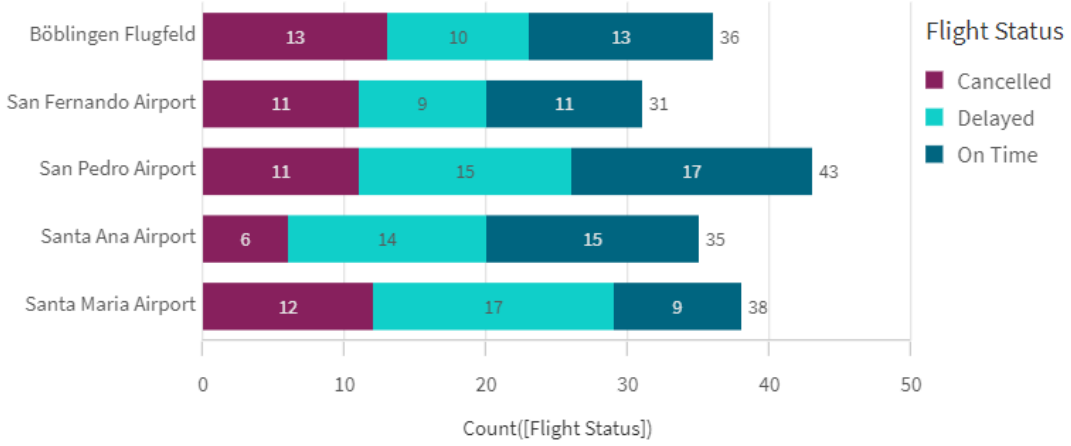
## Top 5 -Number of travelled-Month wise



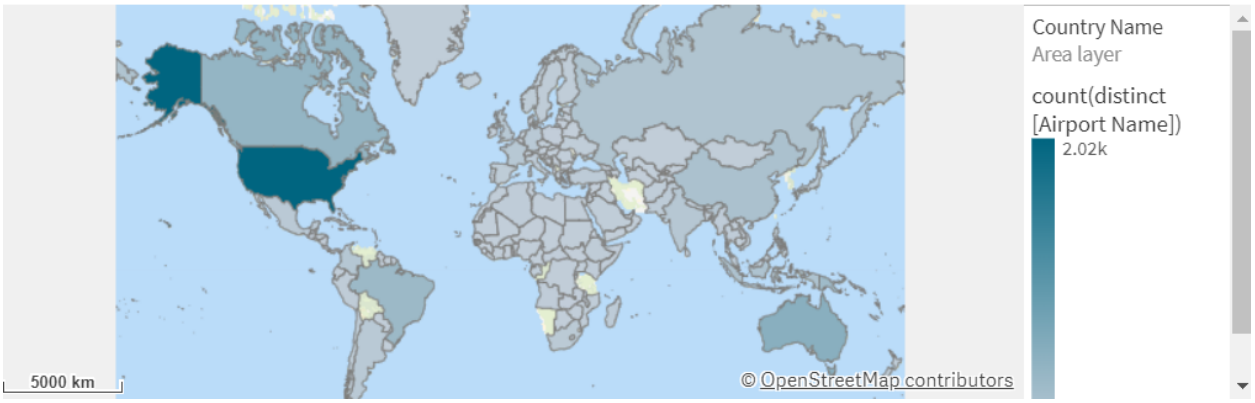

No of Airports

**9.06k**

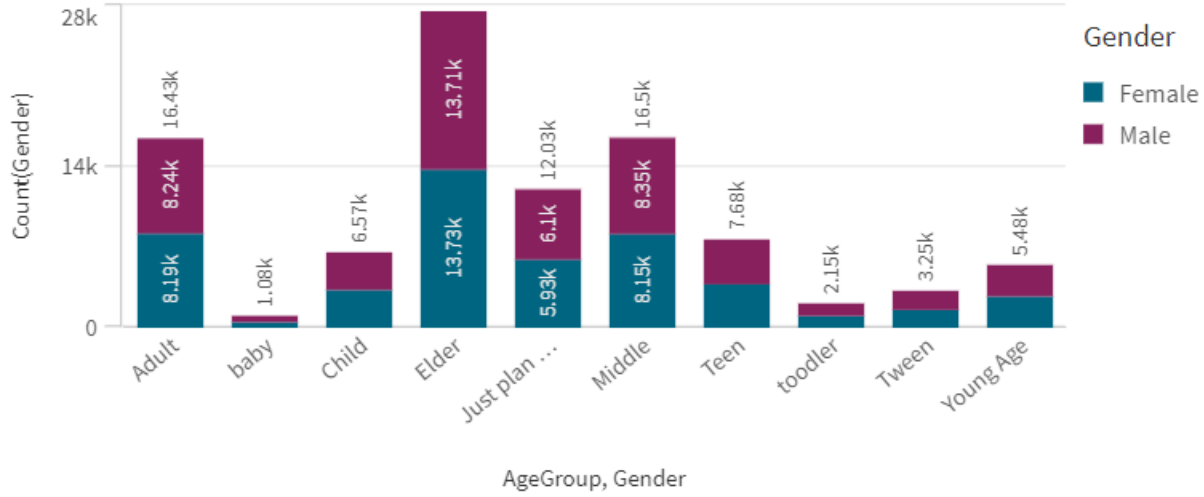
## Airport-Flight status



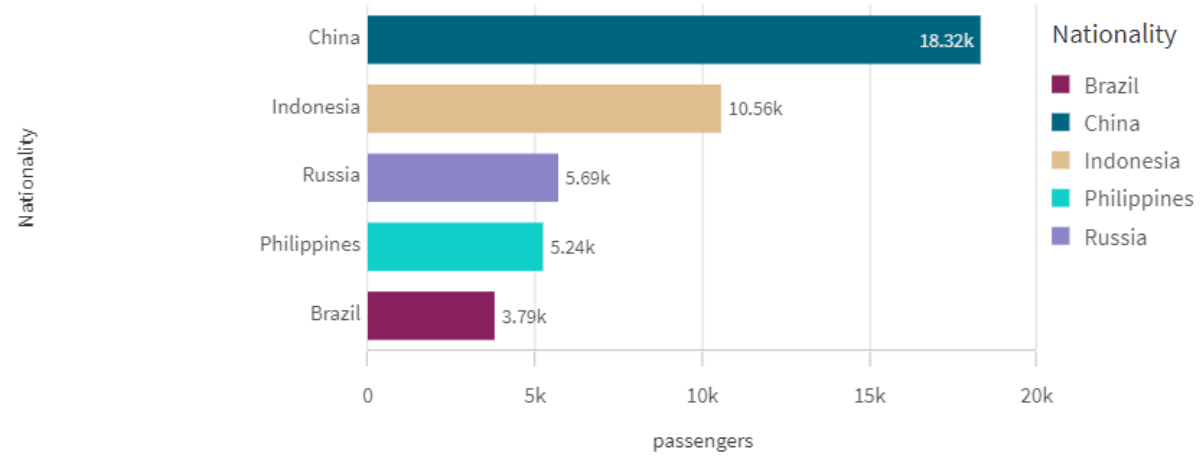
### Country Name by countDistinct Airport Name



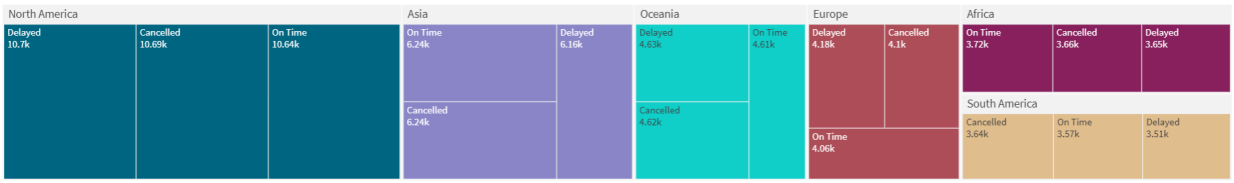

### Age group gender wise



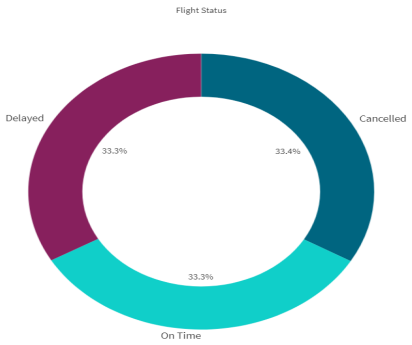

### Number of passengers-Nation wide



Continent wise Flight status




No of passenger-flight status wise



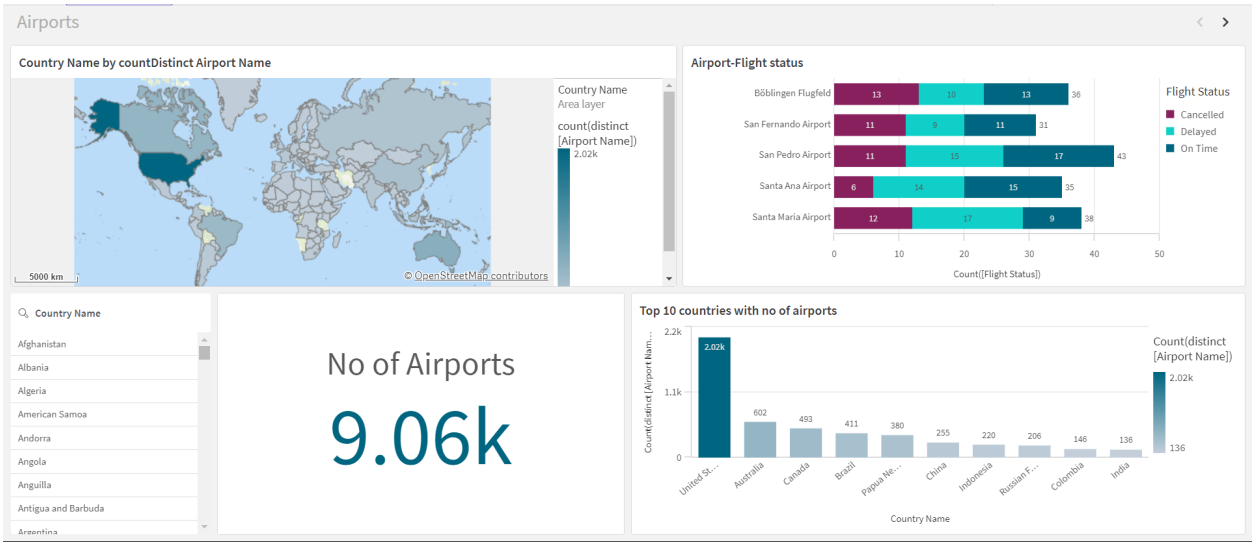


No of passengers-Nationality wise

# 6.DASHBOARD:

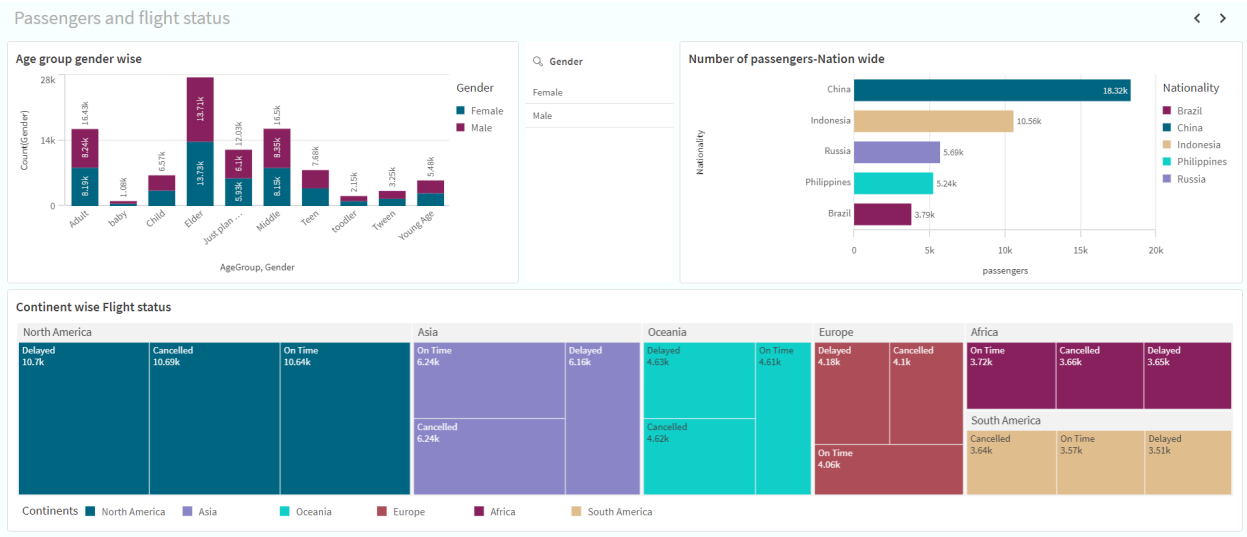
## 6.1 RESPONSIVE AND DESGIN OF DASHBOARD:

1.Airports:

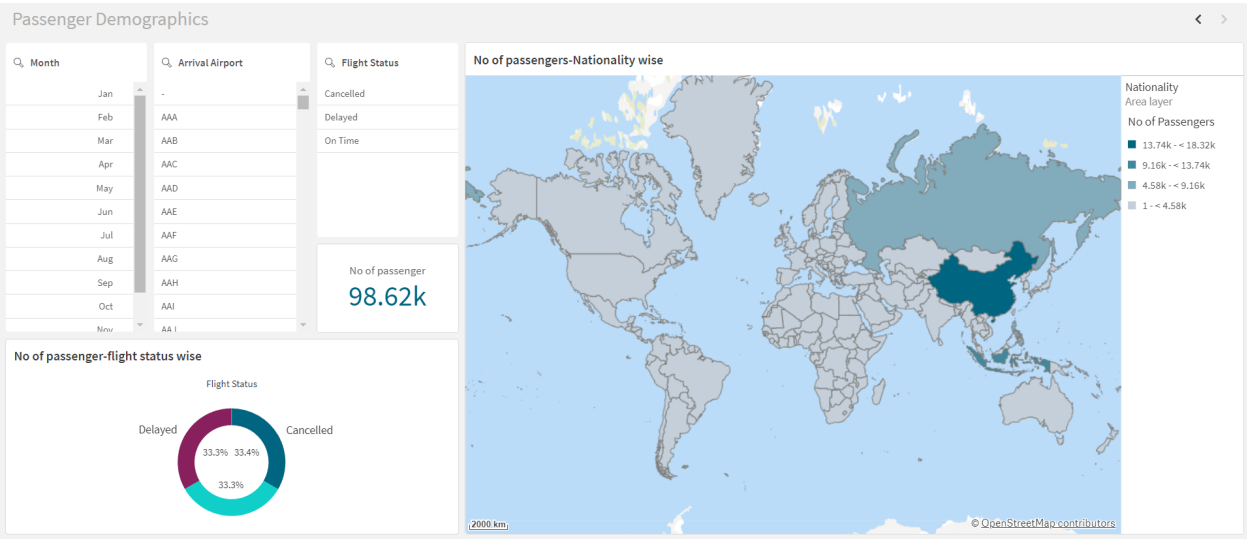



2.PASSENGERS ANALYSIS:


3.Passengers and flight status

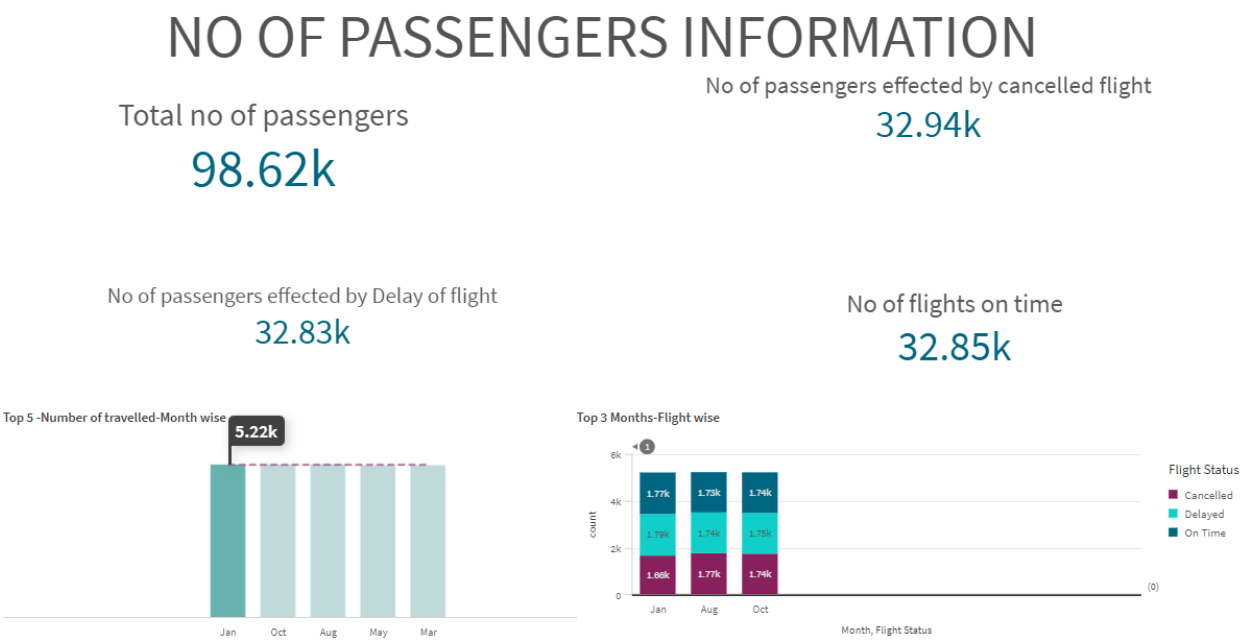



## 4.Passenger Demographics:



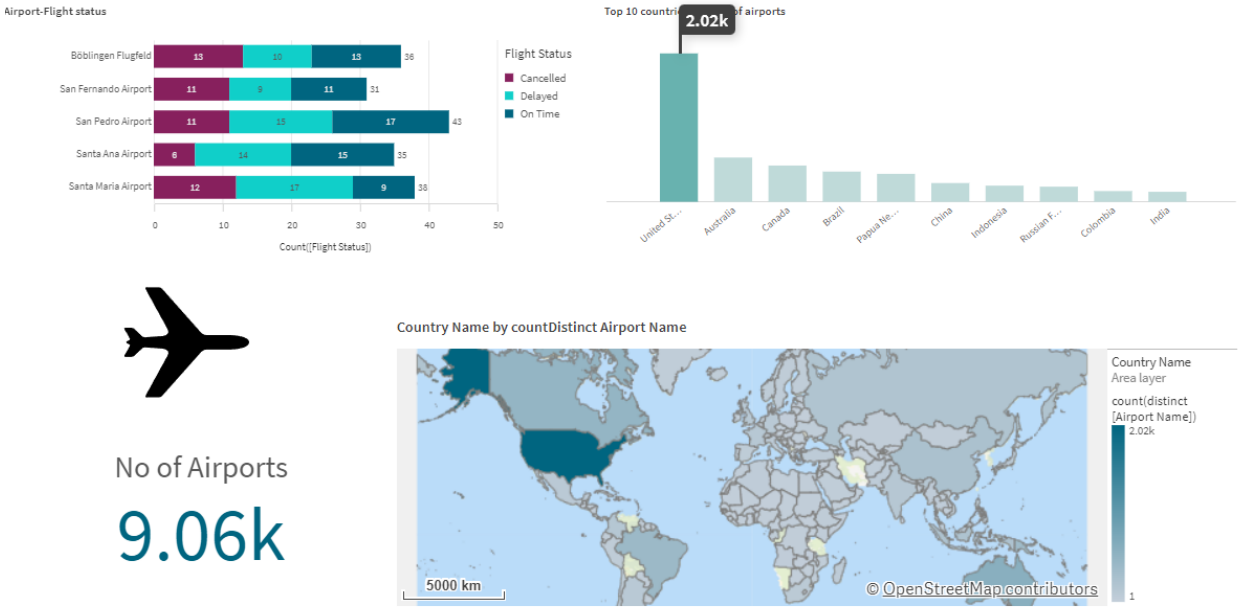
# 7.REPORT:

## 7.1 REPORT CREATION:



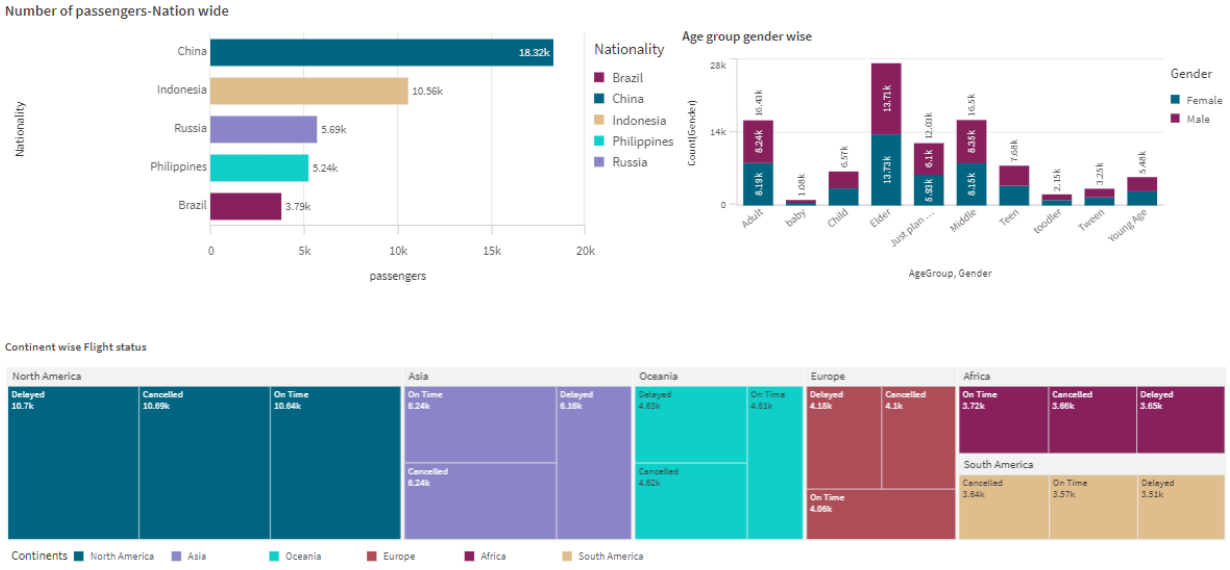

This image give us the information about the no of airports,top countries with highest no of airports,airports and there fight status information this dashboard also contain the map representation showing countries with no of airports as measure.The fliter pane , filters country name and give the information about the no of airports in a particular country

# NO OF AIRPORTS INFORMATION



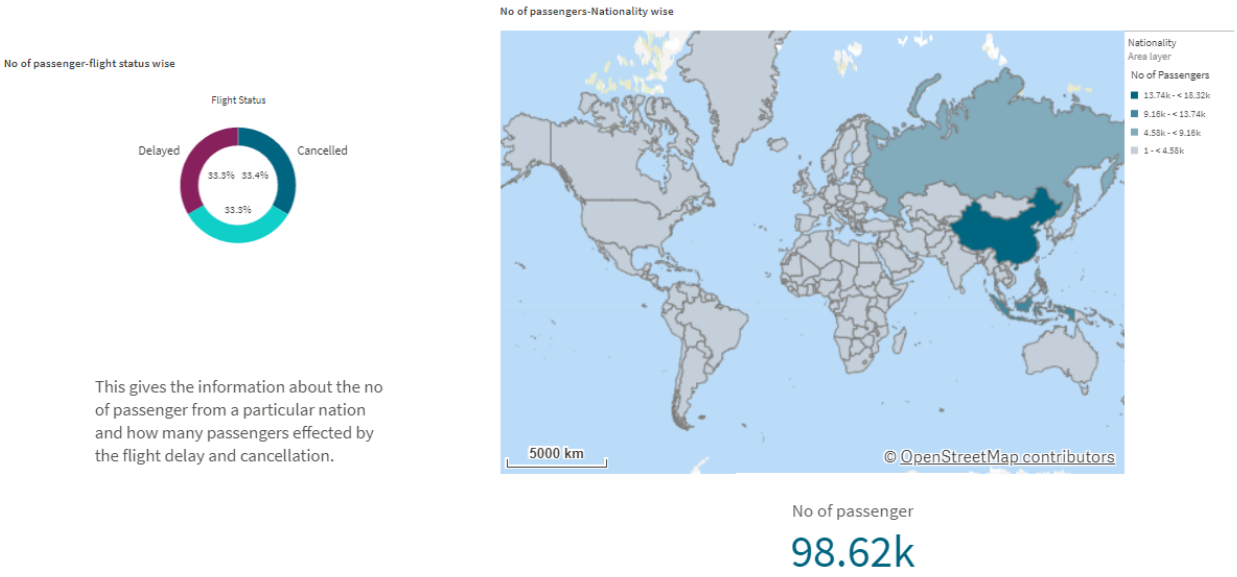

Above image gives information about the passengers and no of passengers effected by the flight status.

# PASSENGERS AND FLIGHT STATUS INFORMATION




This image gives us the information about the no of passengers country wise, it will help us to analyize the passengers and which country people shows more intrest on traveling through plane.this image also gives information about age group of passenger and their gender,no of passengers around the continent and their filght status.

## PASSENGERS NATIONALITY AND FLIGHT WISE




Map representation shows the density of passengers around the world and their flight status as a pie chart.
By above representations we can conclude that the passengers intrested to travle around the world.some of the passengers are facing issues due to delay and cancelation of flight.This may effect the experience of passengers.So airlines should improve their fights make sure no to delay the filght and cancel flights and provide good quality and expreince of flight

# 8.PERFORMENCE TESTING:

## 8.1 AMOUNT OF DATA RENDERED:

Amount of data rendered for analyzing and visualizing is 98620 rows and 16 colums

## 8.2 UTILIZATION OF DATA FILTERS:

**1.Country name:**By using country name as filter we visualize no of airports in that particular country,names of airports and flight status in that particular airport.

**2.Gender:**Acording to the gender we visualize about the passengers for that particular gender

**3.Month:**By month wise we can visualize the performace of the flights.

**4.Arrival ariport:**By using arrival ariport as filter we can see number of passengers that are travelled to that particular airport no of flights arrived and their performance.

**5.Flight status:**According to the flight status we can visualize the no of passengers affected by the flights delay and cancelation.