



SenseTM

Exploring Insights From Synthetic Airline Data Analysis With Qlik

Prepared by
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Qlik Virtual Internship in Business Analytics



SenseTM

Project Title : Exploring Insights From Synthetic Airline Data Analysis With Qlik.

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Exploring Insights From Synthetic Airline Data Analysis With Qlik



The project "Exploring Insights from Synthetic Airline Data Analysis with Qlik" involves utilizing synthetic airline data to derive valuable insights using Qlik, a business intelligence and data visualization tool.

Scenario 1: Revenue Optimization

In this project, the synthetic airline data simulates various aspects of airline operations, including flight schedules, passenger demographics, ticket sales, and performance metrics. The objective is to leverage Qlik's analytical capabilities to uncover patterns, trends, and correlations within this data, aiding in decision-making processes for airlines, airports, and related stakeholders.

Scenario 2: Operational Efficiency

An airport authority aims to enhance operational efficiency by analyzing flight schedules, passenger flows, and luggage handling processes. By integrating Qlik with synthetic airline data, they can identify bottlenecks in airport operations, predict peak traffic periods, and allocate resources effectively to streamline processes and improve overall efficiency.

Scenario 3: Customer Experience Enhancement

Airlines are keen to enhance the passenger experience by understanding customer preferences, satisfaction levels, and pain points. Through sentiment analysis on customer feedback data integrated with Qlik, airlines can identify areas for improvement, personalize services, and tailor marketing campaigns to better meet customer needs, ultimately fostering loyalty and satisfaction.

Data Collection

Collect the dataset :

1. Prepare Your Dataset:

- Ensure your dataset is in a suitable format (e.g., CSV, Excel, etc.).

2. Save Your Dataset:

- Save your dataset to a location accessible by Qlik Sense. This could be your local machine, a cloud storage service, or a database.

Connect Data with Qlik Sense :

- Open Qlik Sense:

- Log in to your Qlik Sense account. If you don't have an account, you'll need to sign up for one.

- Create a New App:

- Click on the "Create New App" button.
 - Provide a name for your app and click "Create".
 - Open the newly created app by clicking "Open App".

- Add Data to Your App:

- In the app overview, click on the "Add Data" button.
 - Choose the method of data connection based on where your dataset is stored:
 - **File Upload:** If your dataset is a file (e.g., CSV, Excel), click "Data Files" and upload your file.

- Load Data:

- Once your data source is selected, Qlik Sense will prompt you to select the specific tables or sheets you want to load.
 - Select the necessary data and click "Load Data".

Data Preparation

Data Preparation for Visualization

Proper data preparation is a critical step in ensuring that your visualizations in Qlik Sense are

accurate, meaningful, and insightful. To prepare your data for visualization, follow these comprehensive steps:

Data Cleaning:

- **Remove Duplicates:** Ensure that your dataset does not contain duplicate records, as these can skew your analysis and lead to incorrect insights.
 - **Handle Missing Values:** Identify and address any missing data. This can be done by either filling in missing values using appropriate methods or excluding incomplete records from your analysis.
- Ensure your dataset is in a suitable format (e.g., CSV, Excel, SQL database, etc.).

Data Visualizations

Data Visualizations in Qlik Sense

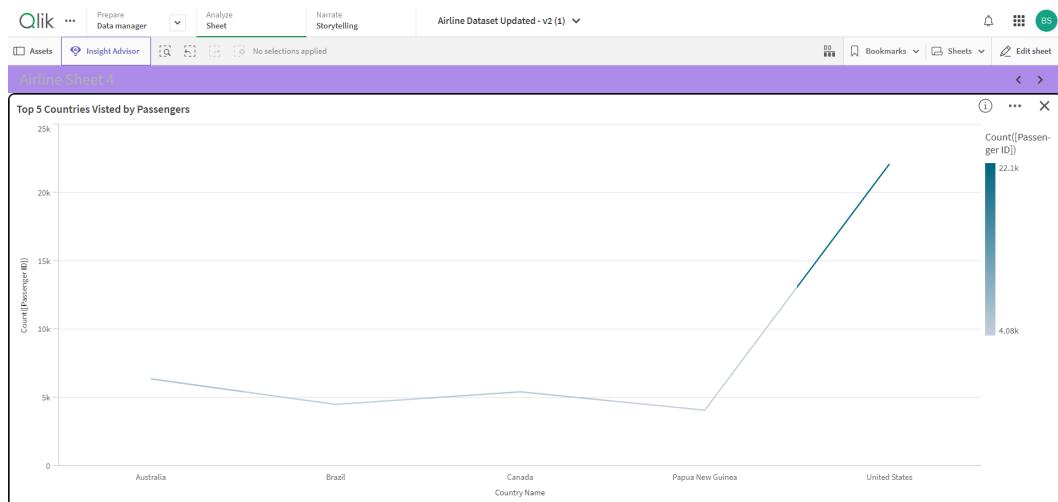
Creating effective data visualizations in Qlik Sense involves selecting the right type of chart or graph for your data and customizing it to clearly convey your insights. Here are some common types of data visualizations and their uses:

1. Bar Chart:



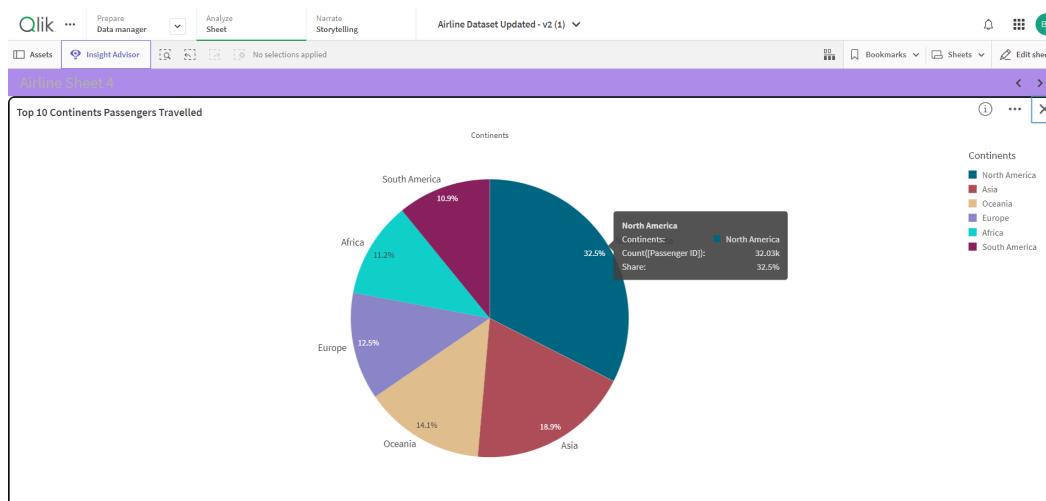
Bar Chat : Visualizing Top 5 Months where Passengers traveled the most..

2. Line Chart:



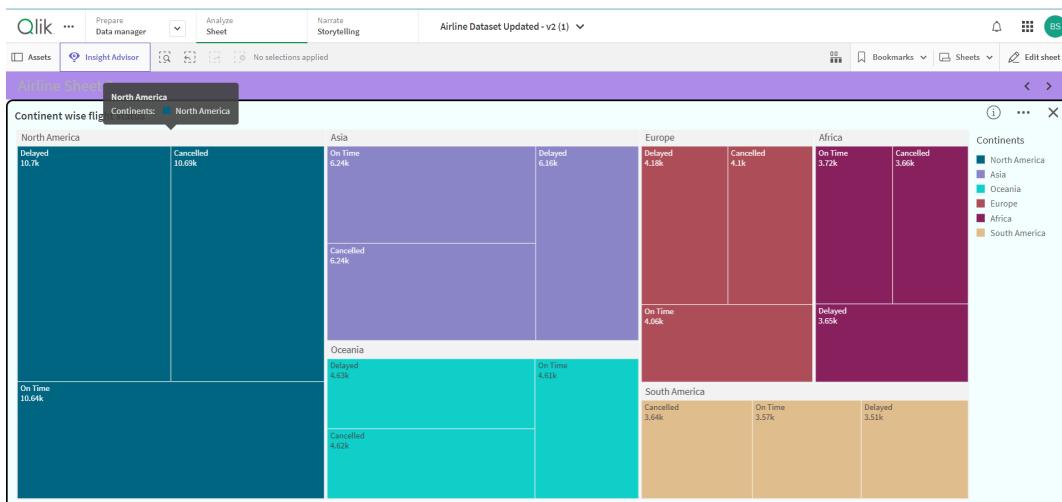
■ **Line Chart :** Visualizing the 5 countries Visited by Passengers.

3. Pie Chart:



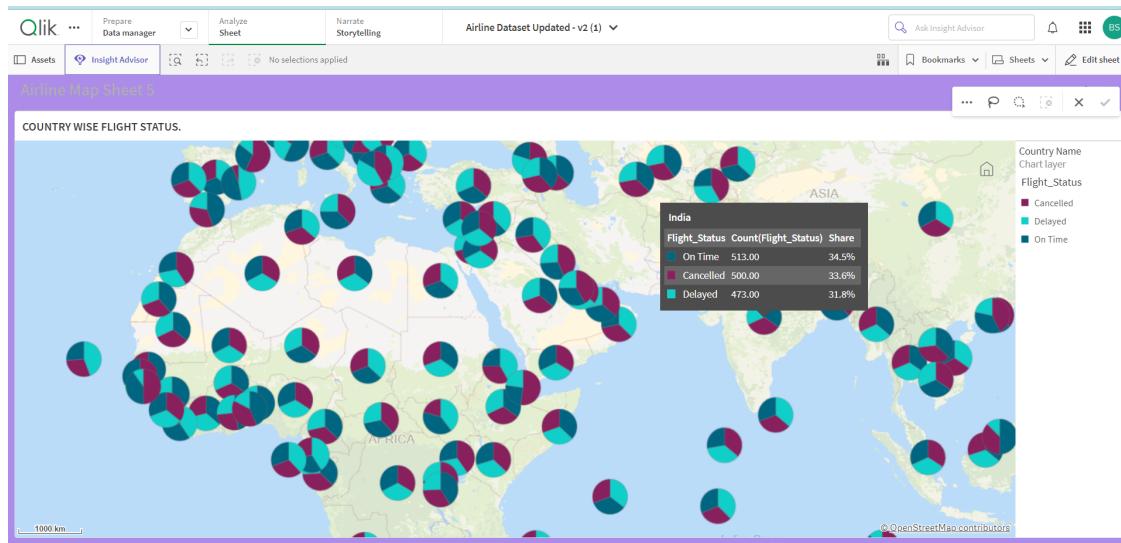
■ **Pie Chart :** Top 10 Continents Passengers Travelled.

4. Tree Map:



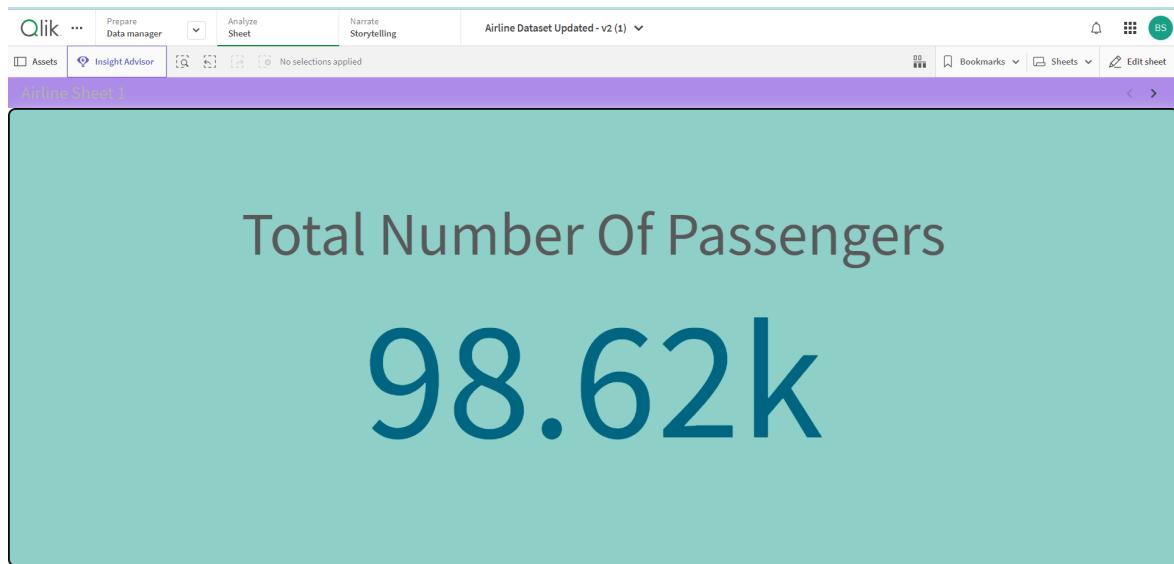
- **Tree Map:** Visualizing Continent Wise Filigth Status.

5 . Map:



- **Map :** The Map Showing the Country Wise Flight Status.

6.KPI :



- **Kpi:** Total Number Of Passengers.

Customizing Visualizations

To enhance your visualizations in Qlik Sense, consider the following customization options:

- 1. Colors and Themes:**
 - Use consistent color schemes that align with your organization's branding.
 - Utilize contrasting colors to distinguish different data series.
- 2. Labels and Tooltips:**
 - Add labels to axes, data points, and segments for better understanding.
 - Enable tooltips to provide additional information when hovering over data points.
- 3. Filters and Interactivity:**
 - Include filters to allow users to interact with the data and focus on specific subsets.
 - Enable drill-down capabilities to explore data at different levels of detail.
- 4. Annotations and References:**
 - Add annotations to highlight important data points or trends.
 - Include reference lines or bands to indicate targets, averages, or other benchmarks.
- 5. Layout and Design:**
 - Arrange visualizations in a logical and intuitive layout.
 - Use white space effectively to avoid clutter and enhance readability.

Data Visualizations in Qlik Sense

Creating effective data visualizations in Qlik Sense involves selecting the right type of chart or graph for your data and customizing it to clearly convey your insights. Here are some common types of data visualizations and their uses:

- 1. Bar Chart:**
 - **Use:** Compare values across categories.
 - **Example:** Visualize sales figures across different regions or product categories.
 - **Customization:** Add labels, adjust bar colors, and sort bars by value for clarity.
- 2. Line Chart:**
 - **Use:** Show trends over time.
 - **Example:** Track monthly revenue growth or website traffic over a year.
 - **Customization:** Include markers for data points, use different line styles, and highlight specific periods.
- 3. Pie Chart:**
 - **Use:** Display proportions of a whole.
 - **Example:** Show the market share of different companies or the distribution of expenses.
 - **Customization:** Use different colors for each segment, display percentage labels, and avoid using too many slices for better readability.
- 4. Tree Map:**
 - **Use:** Display hierarchical data with nested rectangles.

- **Example:** Represent the sales performance of various product categories and subcategories.
- **Customization:** Adjust the size of rectangles based on data values, use distinct colors for different categories, and label key segments.

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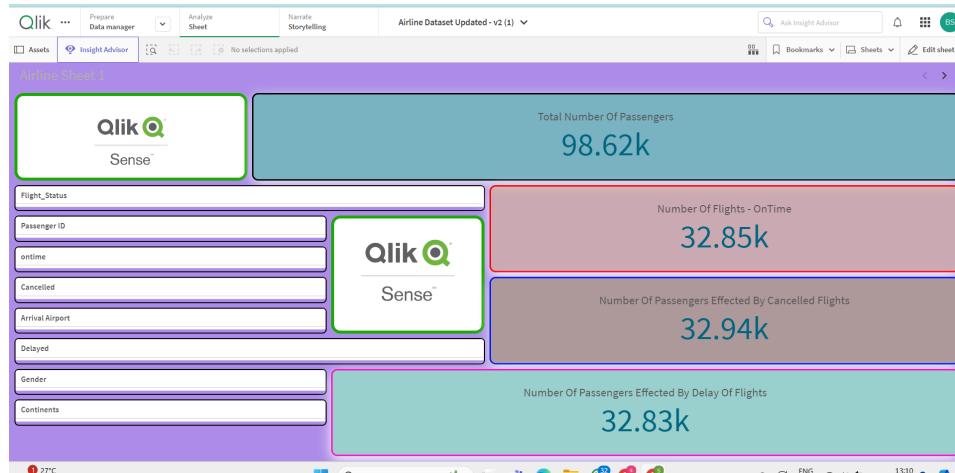
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Dashboard

► Responsive and Design of Dashboard

► The Sample Dashboard.

► Dashboard:



Screenshots

Screenshot 1:

The screenshot shows the Qlik Analytics Services hub interface. On the left, there's a sidebar with links to Home, Favorites, Catalog, Collections, Alerts, Subscriptions, and Getting started. The main area features a "Popular apps" section with three cards: "Airline Dataset Updated - v2 (1)" (updated 42 minutes ago), "Analytics" (updated May 25, 2024), and "Nutra_Green_Sales_BAStart" (updated May 25, 2024). Below this is a "My monitored charts" section which displays a bar chart icon and the message "There are no charts yet." At the bottom, a taskbar shows system icons like battery level, signal strength, and date/time (05-06-2024, 13:50).

Screenshot 2:

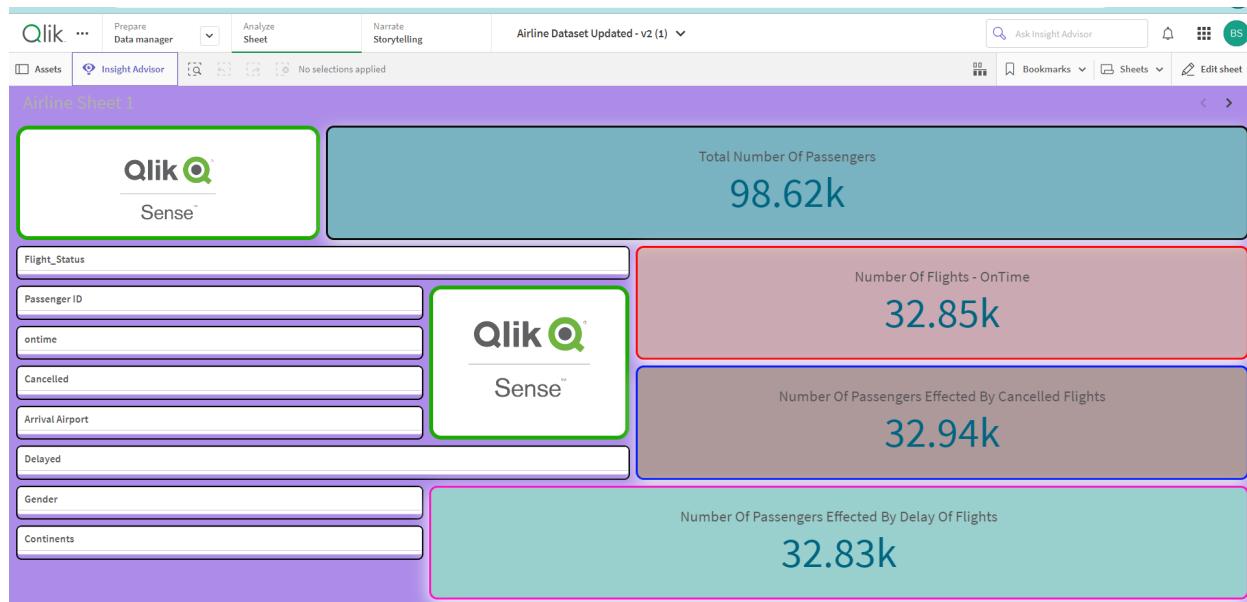
The screenshot shows the Qlik Sense editor interface. At the top, there are tabs for "Qlik ...", "Prepare Data manager", "Analyze Sheet", "Narrate Storytelling", and the current dataset "Airline Dataset Updated - v2 (1)". Below the tabs, there are buttons for "+ Add data", "Concatenate or join", "Associations", and "Load data". The main area displays a preview of the "Airline Dataset Updated - v2 (1)" data, which consists of a single row highlighted with a large circle. Below the preview is a table with the following data:

Passenger ID	First Name	Last Name	Gender	Age	Nationality	Airport Name	Airport Cou...	Country Name
165488	Dionis	Joist	Female	4	Philippines	Bremen Airport	DE	Germany
824967	Federica	Peters	Female	16	Portugal	Watson Lake Airport	CA	Canada
0a1ws9	Lammmond	Sargood	Male	59	Serbia	Kartuk Lake Seaplane Base	US	United States
0A1yQa	Arel	Beswick	Male	83	United States	Holy Cross Airport	US	United States
0A2OYI	Jack	Mitrkhin	Male	89	Turkey	Rottnest Island Airport	AU	Australia
0a5x5P	Perry	Pretsell	Male	64	Nigeria	Vallenar Airport	CL	Chile

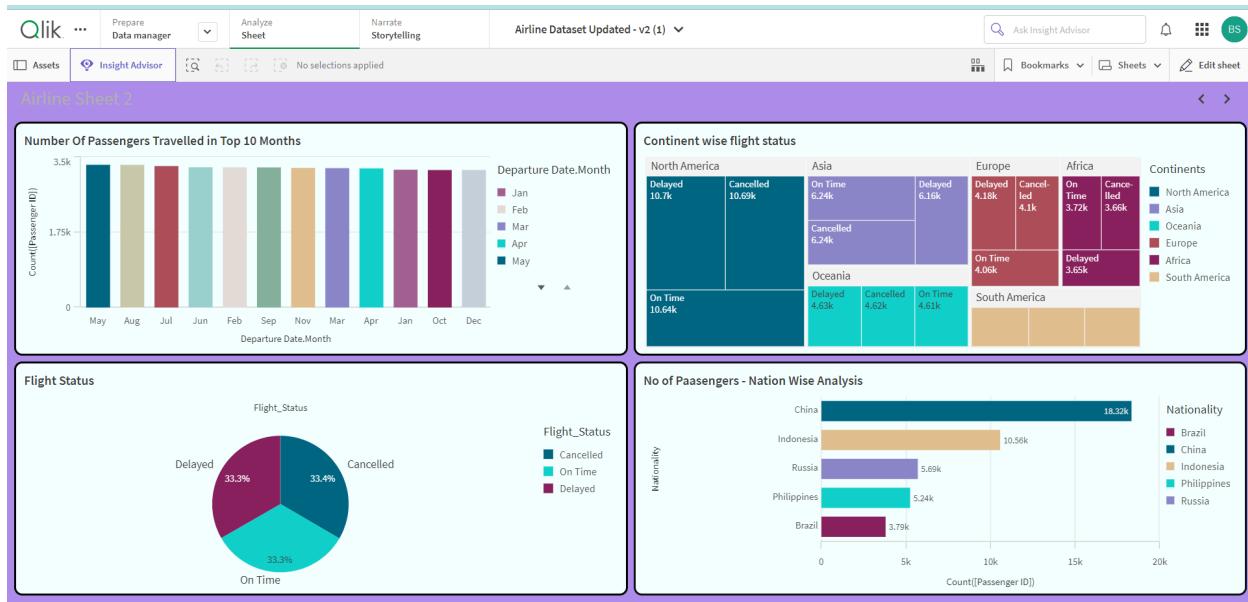
Screenshot 3:

The screenshot shows the Qlik Sense dashboard interface. At the top, there are tabs for 'Prepare Data manager', 'Analyze Sheet', and 'Narrate Storytelling'. The main title is 'Airline Dataset Updated - v2 (1)' with a note 'Data last loaded: Jun 5, 2024, 1:08 PM'. On the right, there are icons for edit and settings. Below the title, it says 'You have no public sheets' with a note 'Right-click on a sheet and select "Make public".' A section titled 'My sheets (5)' lists five sheets: 'Airline Sheet 1', 'Airline Sheet 2', 'Airline Sheet 3', 'Airline Sheet 4', and 'Airline Map Sheet 5'. There is also a 'Create new sheet' button.

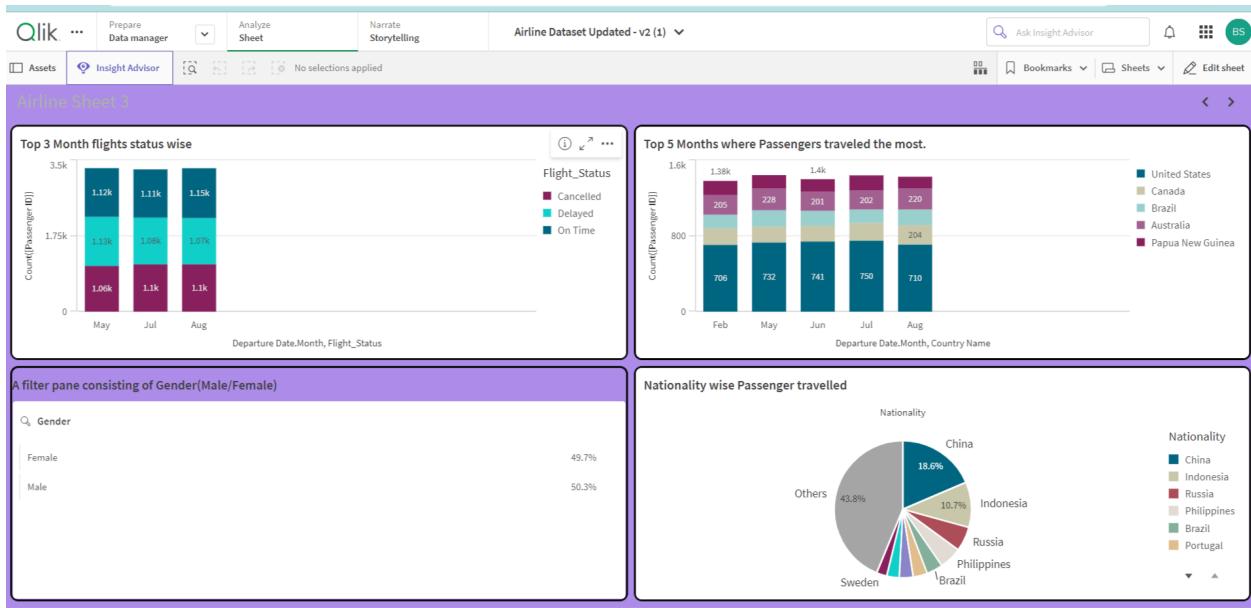
Screenshot 4:



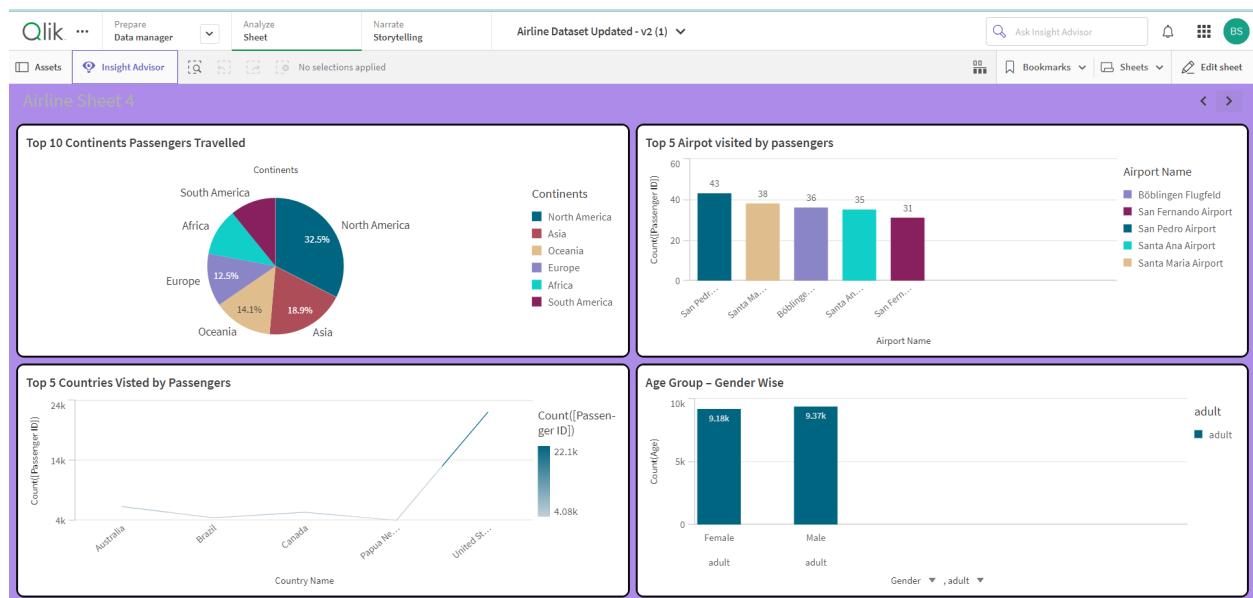
Screenshot 5:



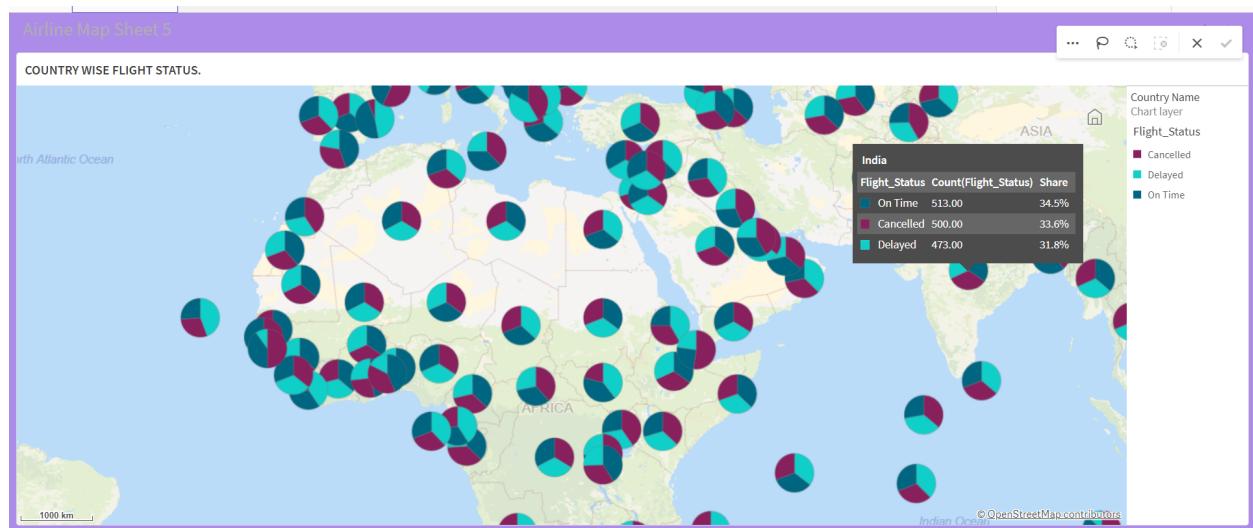
Screenshot 6:



Screenshot 7:



Screenshot 8:



Screenshot 9:

Filter:

