Exploring Insights From Synthetic Airline Data Analysis With Qlik

The **Introduction** to the project involves in airline industry which relies heavily on data to make important decisions that improve efficiency and customer satisfaction.

This project, "**Exploring Insights from Synthetic Airline Data Analysis with Qlik**" uses the data analysis tool Qlik to examine **synthetic (fake but realistic)** airline data.

The **goal** of this project is to show how Qlik can help airlines find valuable insights in their data. By **analyzing** data on flight performance, passenger information, and financial figures, we can uncover trends and patterns that airlines can use to make better decisions.

Using synthetic data allows us to explore these insights without worrying about privacy issues. Through this project, we will demonstrate how Qlik's powerful tools can help airlines operate more **efficiently** and **improve** their services.

The **Purpose** of this **project** is to demonstrate how Qlik, a powerful data analysis tool, can be used to analyze airline data to find valuable insights. By using synthetic airline data, we can achieve the following:

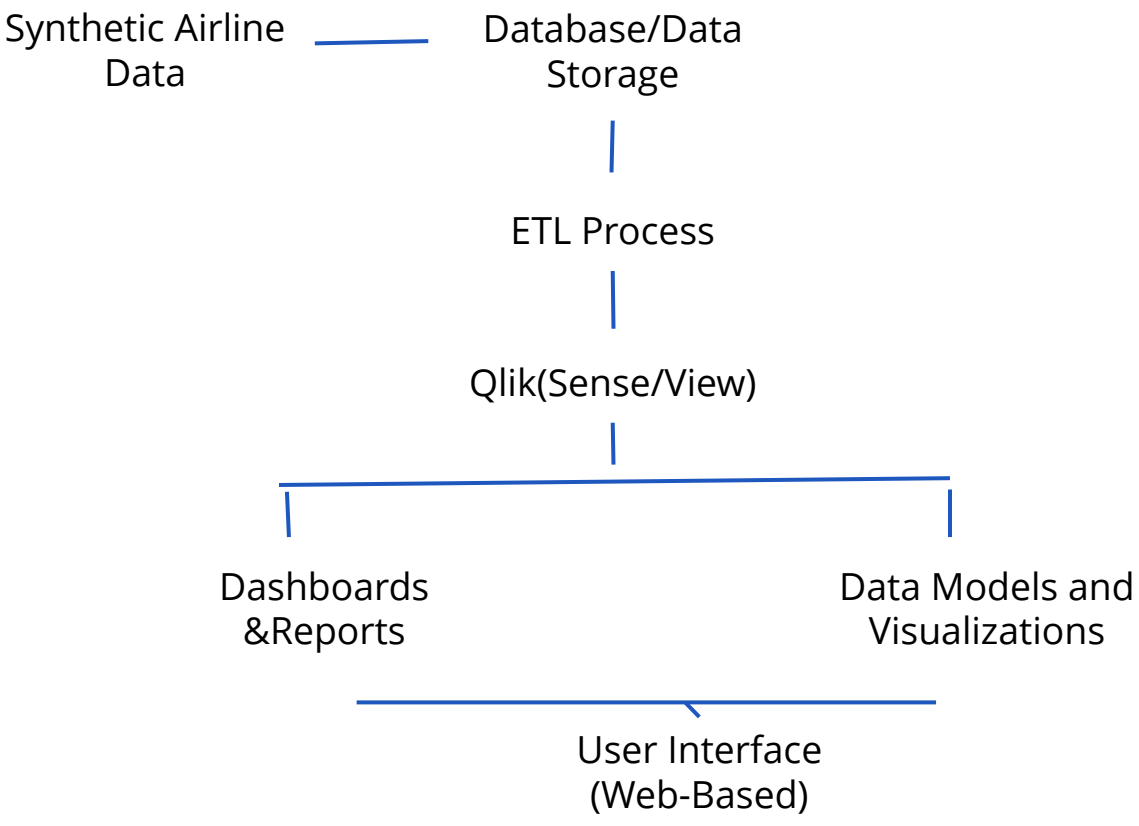
1. ***Identify Trends and Patterns***: Discover trends in flight performance, passenger demographics, and financial metrics.

2. ***Improve Decision-Making***: Help airlines make informed decisions to enhance operational efficiency and customer satisfaction.

3. ***Optimize Operations***: Find ways to optimize flight routes, schedules, and resource allocation.

4. ***Enhance Service Quality***: Provide insights that can lead to improved service quality and better passenger experiences.

The **Technical Architecture** of the project **"Exploring Insights from Synthetic Airline Data Analysis with Qlik"** involves several key components and processes. Below is a high-level overview of the architecture:



The **Business problem** addressed by this project is the need for airlines to optimize their operations, enhance customer satisfaction, maximize revenue, and ensure safety and compliance.

By leveraging Qlik to analyze synthetic airline data, the project aims to uncover actionable insights that can help airlines improve flight scheduling, resource allocation, service quality, pricing strategies, and regulatory adherence, ultimately leading to more efficient and profitable operations.

The **Business Requirements** for this project include the ability to efficiently collect and store synthetic airline data, integrate this data into a robust analytics platform like Qlik, and create interactive **dashboards and reports**.

These tools should provide insights into operational efficiency, customer preferences, revenue

management, and compliance with safety regulations. Additionally, the solution must ensure data security and allow for user-friendly access to these insights, enabling stakeholders to make data-driven decisions that enhance overall airline performance and profitability

The **Literature Survey** for the project "Exploring Insights from Synthetic Airline Data Analysis with Qlik" involves examining existing research on the application of data analytics in the airline industry, with a specific focus on the use of Qlik for data visualization and analysis.

It includes reviewing case studies and scholarly articles that detail how synthetic data can be used to simulate real-world scenarios, the benefits of using Qlik for uncovering actionable insights, and the impact of data-driven decision-making on operational efficiency, customer satisfaction, and revenue optimization.

This review helps to identify established methodologies, best practices, and potential challenges, providing a comprehensive background for the project's implementation.

Data collection involves systematically gathering and measuring information about specific variables of interest. This structured process enables researchers to address their research questions, validate hypotheses, assess outcomes, and derive meaningful insights from the collected data. Essentially, it's about methodically collecting data in a way that allows for analysis and interpretation to draw conclusions and make informed decisions.

Below is the **link** for Dataset - Link

Connecting data with Qlik Sense is like plugging into a vast library of information. You can link Qlik Sense to various sources like databases, spreadsheets, or even online services, allowing you to bring all your data together in one place.

Once connected, Qlik Sense helps you make sense of this data through interactive charts and graphs, making complex information easy to understand. It's like having a magic wand that turns raw data into

actionable insights, empowering you to make smarter decisions and drive your business forward.

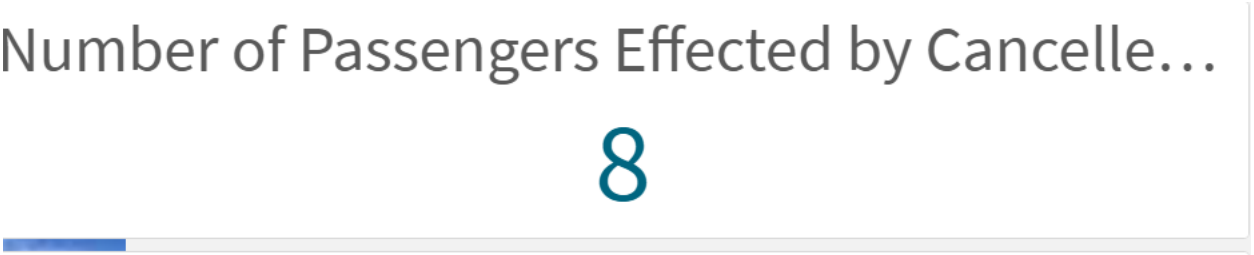
Getting the data ready for **visualization** means getting it all polished up and ready to shine. First, we scrub away any dirt—removing stuff that doesn't matter or filling in any gaps.

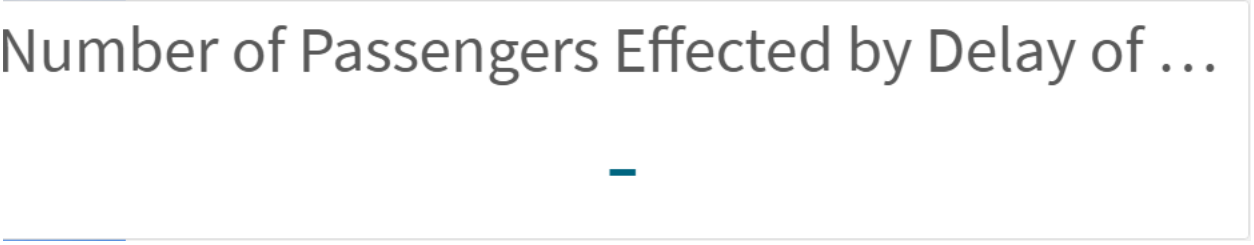
Then, we reshape it into a form that's easy on the eyes, like putting together puzzle pieces. Next, we start exploring, looking for any interesting shapes or colors that catch our attention. If we want to zoom in on something specific, we can filter out the noise and focus on what matters most.

Once our data is spick and span, we make sure it's all set to play nicely with our visualization tools, double-checking for accuracy and completeness. With everything in tip-top shape, we're ready to dive into visualization and uncover all the juicy insights waiting to be discovered.

By using the below **link** you can see the **Dashboards**

https://workdrive.zohoexternal.com/writer/open/irhu2d38539ae00ae4514ae8a90f733ff6cef/bookmarks/ij8t4jo21eb9

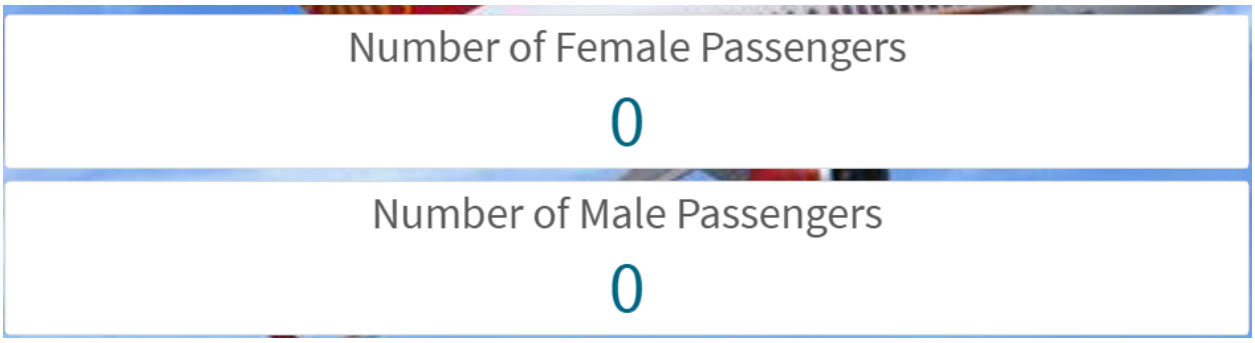




click here to know more about visualizations

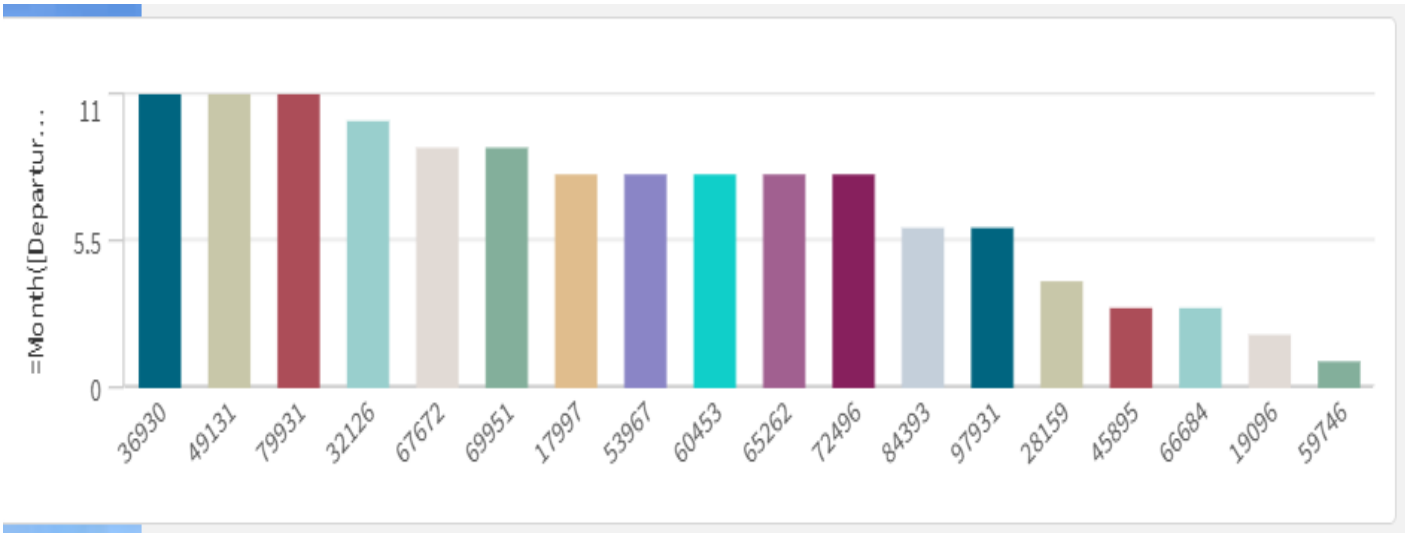
Visualizing data is like painting a picture with numbers. Instead of staring at rows and columns of data, we transform it into colorful charts, graphs, and maps that tell a story.

The aim? To make complicated data simple to grasp. With these visual aids, patterns and trends pop out, making it a breeze to spot what's important. It's like turning a tangled web of information into a clear, beautiful landscape that anyone can navigate with ease.



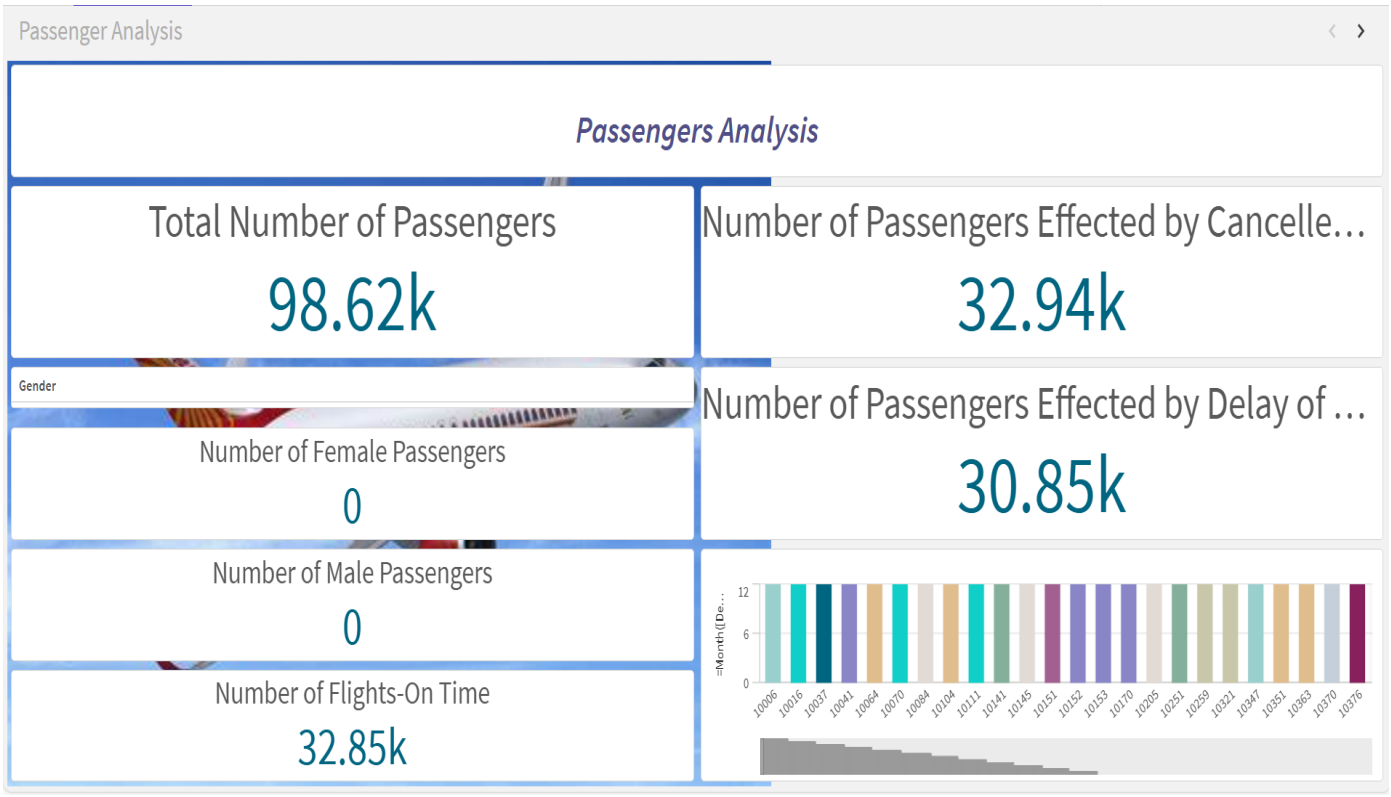
Number of Flights-On Time

6



Think of a **Dashboard** as your personal control center for data. It's like a dashboard in a car, but instead of showing speed and fuel levels, it displays important information and metrics in a clear and organized layout.

Whether it's in business, finance, manufacturing, or healthcare, dashboards help you keep your finger on the pulse of what's happening. They're like a customized toolkit, designed to track performance, monitor metrics, and present data visually, so you can steer your efforts in the right direction with ease.


Passenger Analysis
Passengers Analysis
Total Number of Passengers
98.62k
Number of Passengers Effected by Cancelle...
32.94k
Gender
Number of Female Passengers
0
Number of Passengers Effected by Delay of ...
30.85k
Number of Male Passengers
0
Number of Flights-On Time
32.85k
12
6
0
10006
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10070
10084
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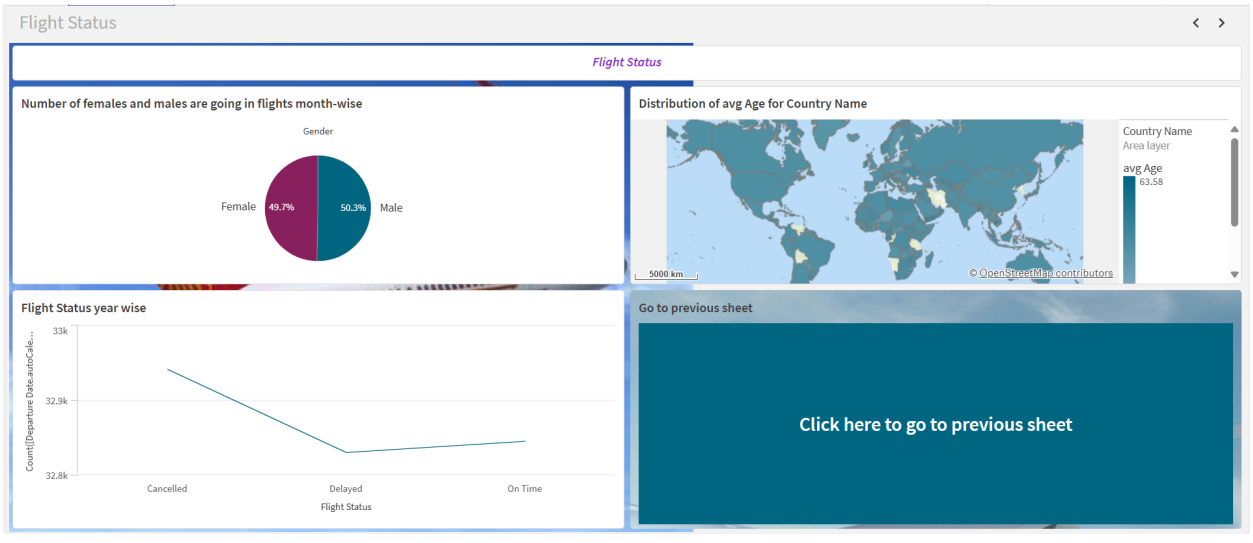
Flight Status
Flight Status
Number of females and males are going in flights month-wise
Gender
Female
49.7%
50.3%
Male
Distribution of avg Age for Country Name
Country Name
Area layer
avg Age
63.58
5000 km
© OpenStreetMap contributors
Flight Status year wise
33k
32.9k
32.8k
Cancelled
Delayed
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Flight Status
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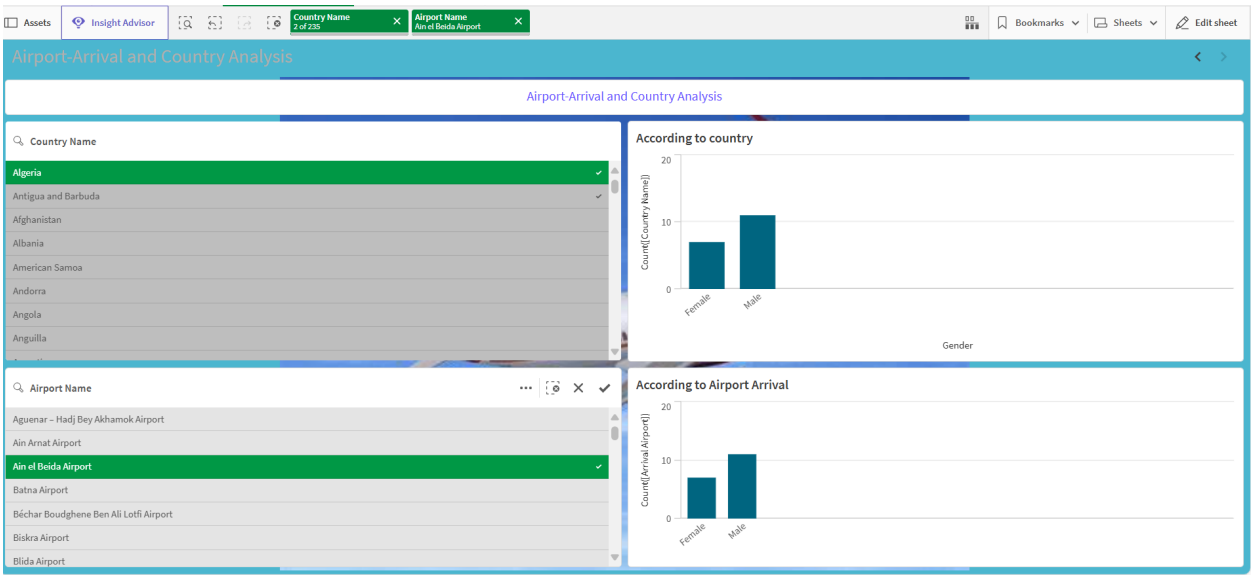
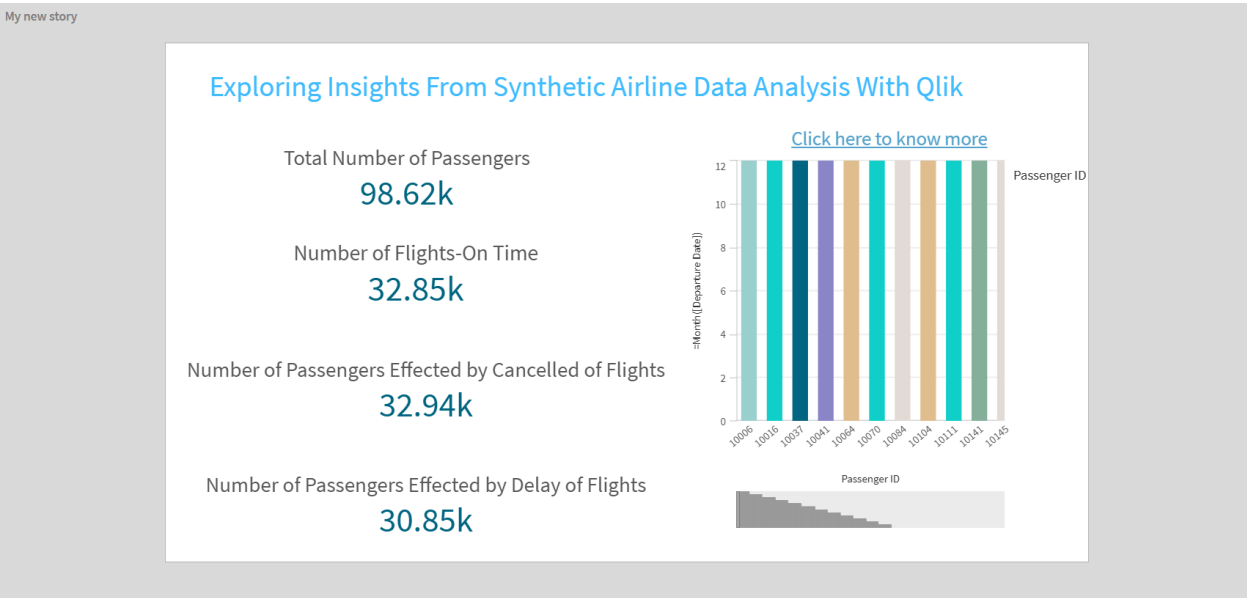
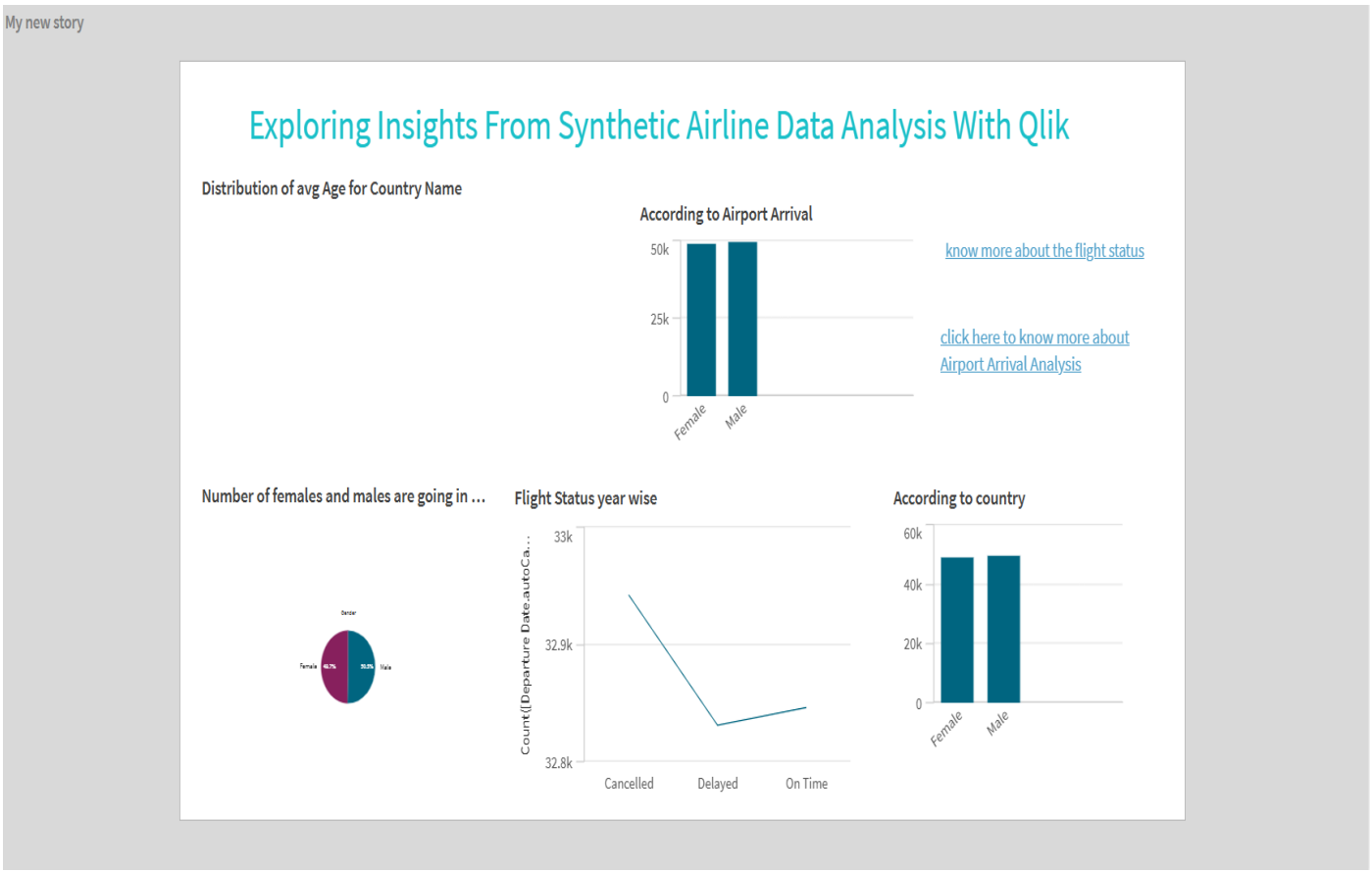


Imagine a data **Story** as a journey through information, designed to captivate and enlighten. It starts with an introduction, like setting the scene in a storybook, giving context to what's about to unfold. Then, there's the body, where the data takes center stage, presented in a logical and organized manner, guiding you through the analysis step by step.

Finally, just like the satisfying ending of a tale, the conclusion wraps everything up neatly, summarizing the main points and leaving you with a clear understanding of what it all means.

And just like stories come in different forms—books, movies, even podcasts—data stories can be shared through reports, presentations, interactive visuals, and more, ensuring that everyone can find their preferred way to dive into the narrative of data.

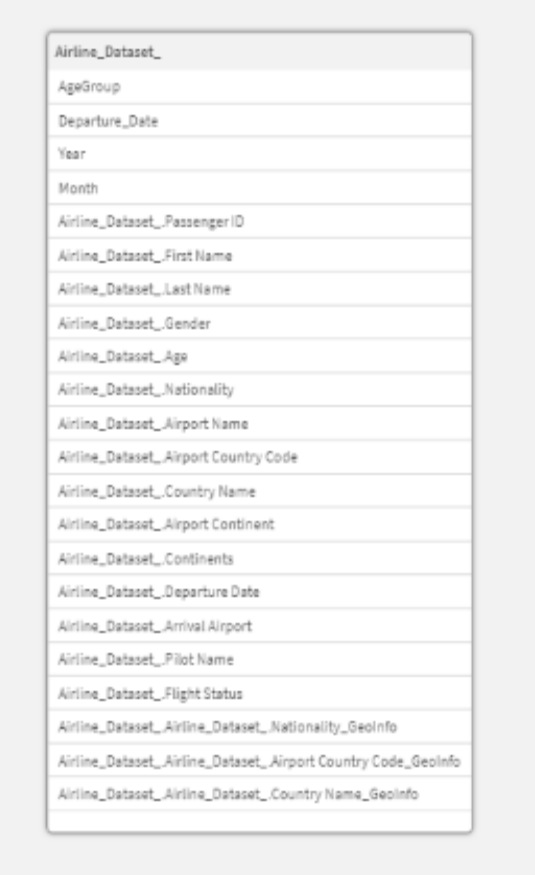




Amount of Data Loaded simply tells you how much data has been brought into a system, like pouring water into a glass. It's about knowing the size or volume of the data that's been successfully handled and stored, ready to be worked with.

Whether it's imported into a software,

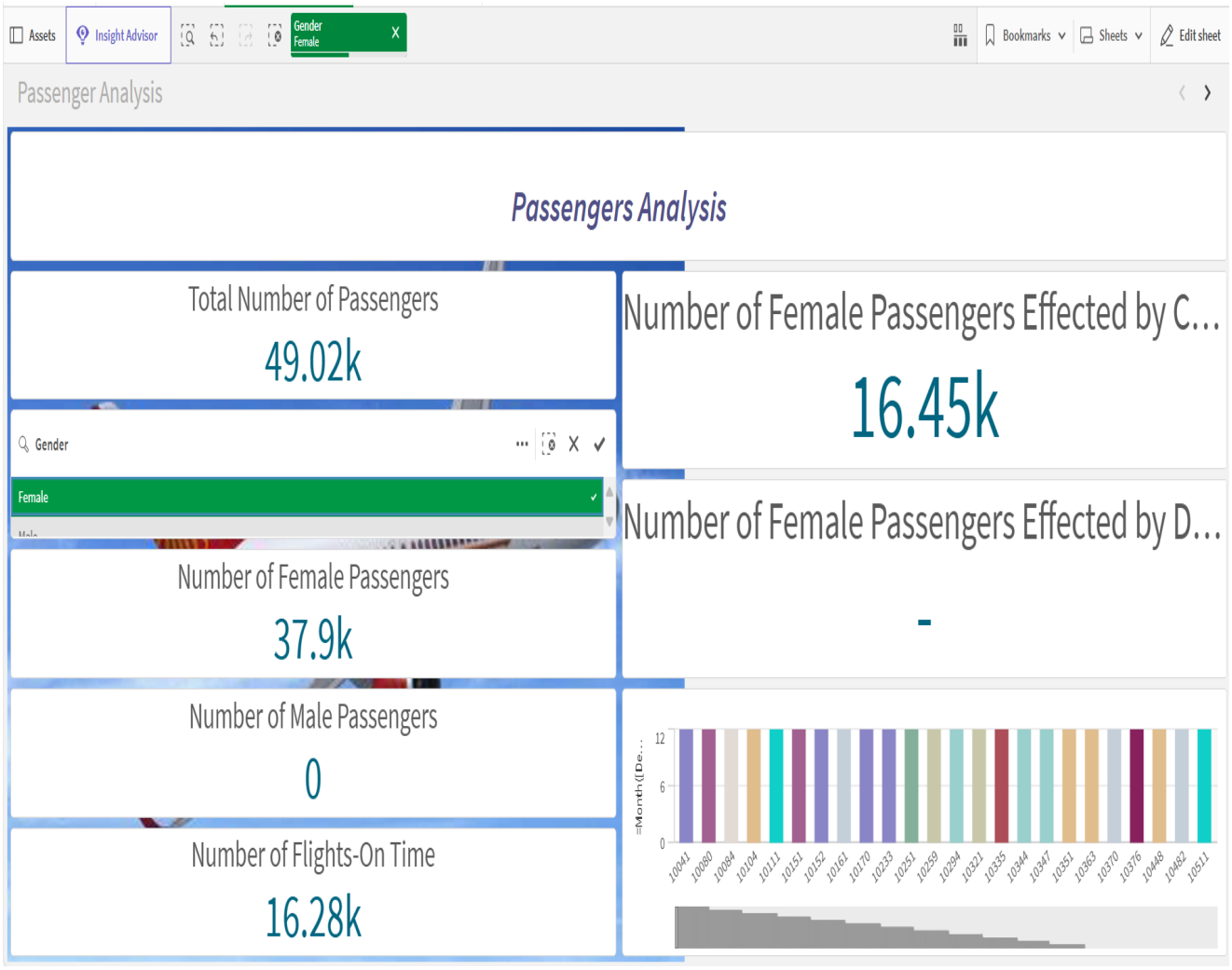
stored in a database, or processed in some other way, this metric gives you a clear picture of the data that's available for analysis, manipulation, or any other use within the system.



Utilization of Filters is about how filters are used to sift through data, much like sorting through a pile of papers to find what you need. Filters help pinpoint

specific pieces of information by applying certain rules or conditions.

Think of it like using a sieve to separate grains from sand; filters narrow down the data, focusing only on what meets the criteria you've set. Whether it's in a software, system, or data process, filters help streamline the data analysis process by zooming in on the most relevant information, making it easier to find what you're looking for.


Assets
Insight Advisor
Gender
Female
Bookmarks
Sheets
Edit sheet
Passenger Analysis
Passengers Analysis
Total Number of Passengers
49.02k
Number of Female Passengers Effected by C...
16.45k
Gender
Female
Number of Female Passengers Effected by D...
-
Number of Female Passengers
37.9k
Number of Male Passengers
0
Number of Flights-On Time
16.28k
12
6
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10041
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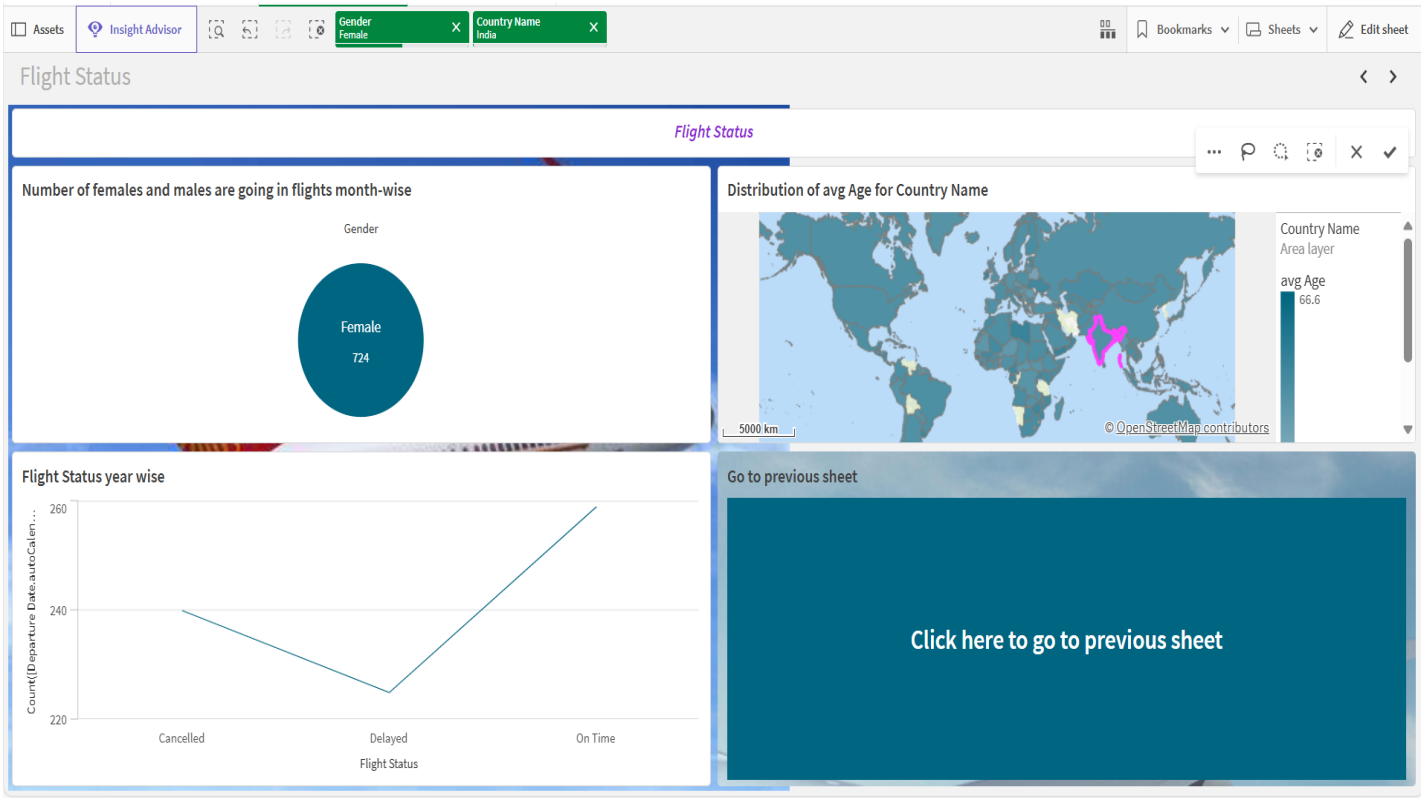
Assets
Insight Advisor
Gender
Female
Country Name
India
Bookmarks
Sheets
Edit sheet
Flight Status
Flight Status
Number of females and males are going in flights month-wise
Gender
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Distribution of avg Age for Country Name
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Area layer
avg Age
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5000 km
© OpenStreetMap contributors
Flight Status year wise
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220
Cancelled
Delayed
On Time
Flight Status
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