Project Title

Airline Data Management and Analysis Using Power BI

Problem Statement:

The airline industry operates with numerous complexities, requiring effective data management and insights into flight schedules, passenger details, and ticketing systems. This project aims to analyze airline operations for improving efficiency and customer satisfaction.

Datasets Used:

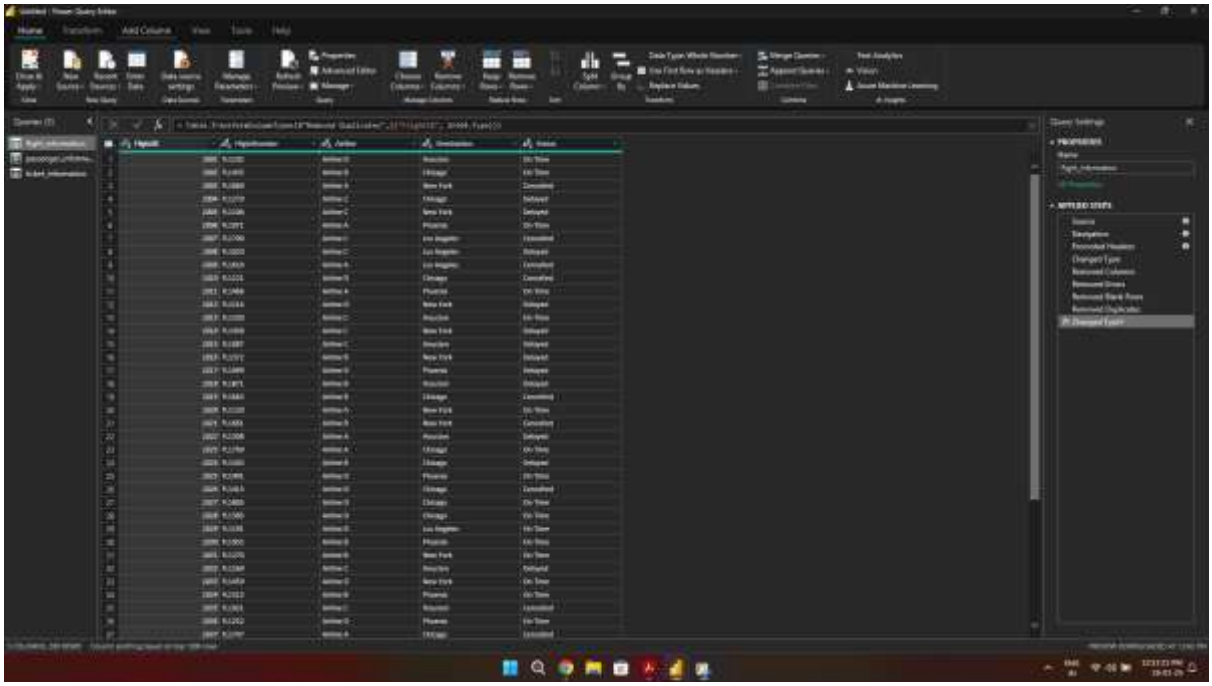
1. **Flight Information:** Includes FlightID, FlightNumber, Airline, Destination, and Status.
2. **Passenger Information:** Includes PassengerID, FlightID, and SeatNumber.
3. **Ticket Information:** Includes TicketID, FlightID, and BookingStatus.

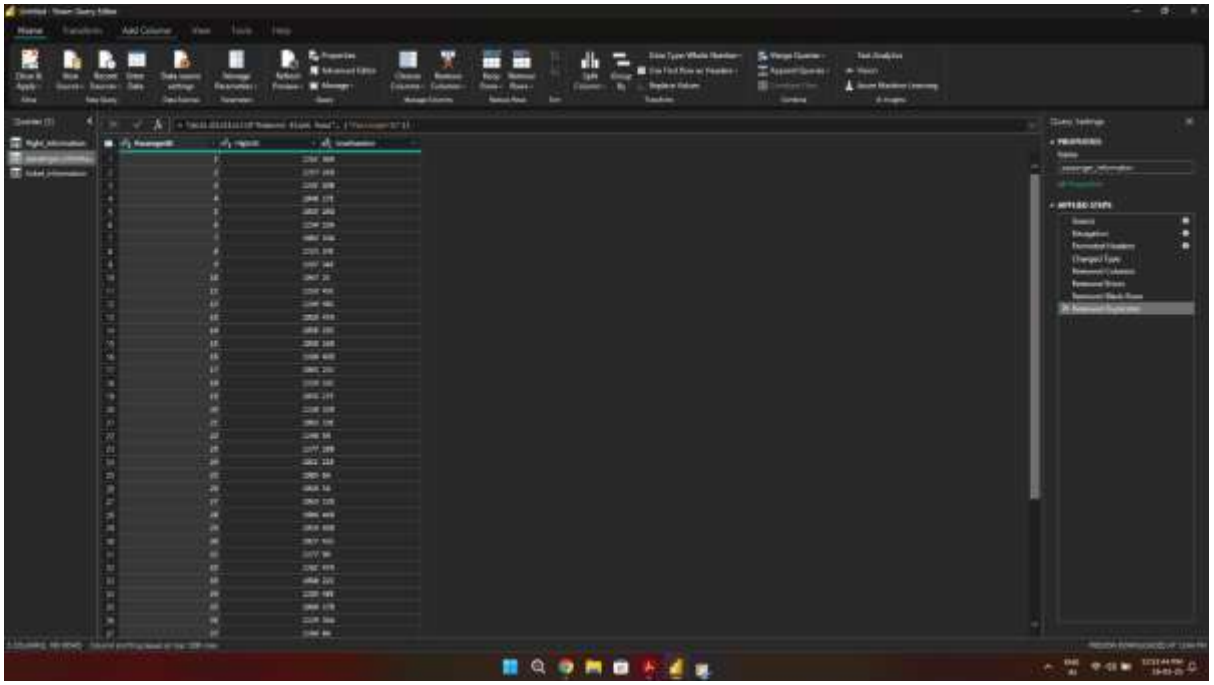
Objective:

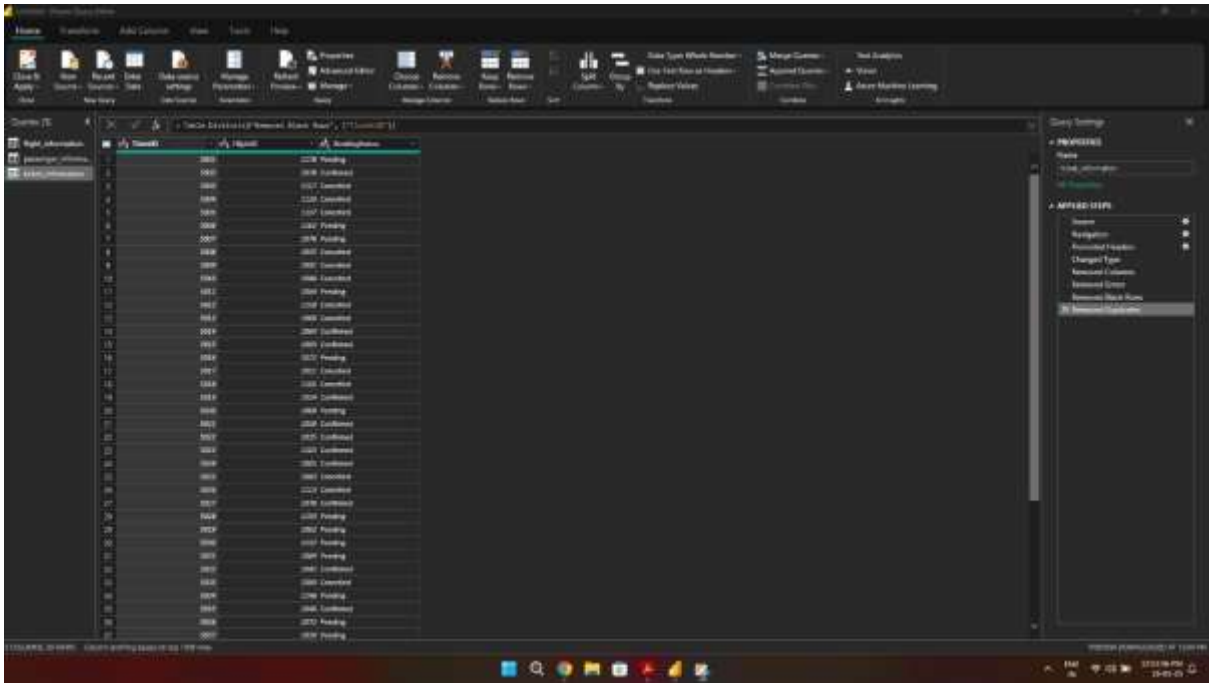
To analyze and visualize airline data for operational insights, passenger management, and ticket booking trends using Power BI.

Tasks

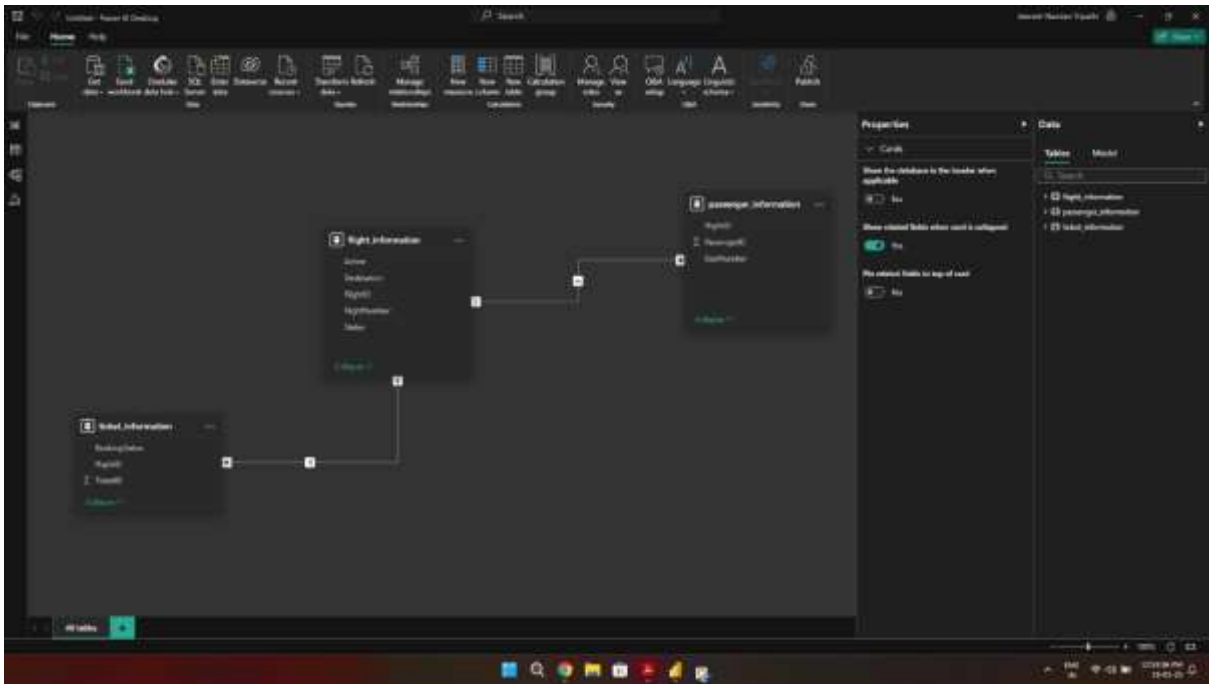
1. **Data Preparation and Cleaning**



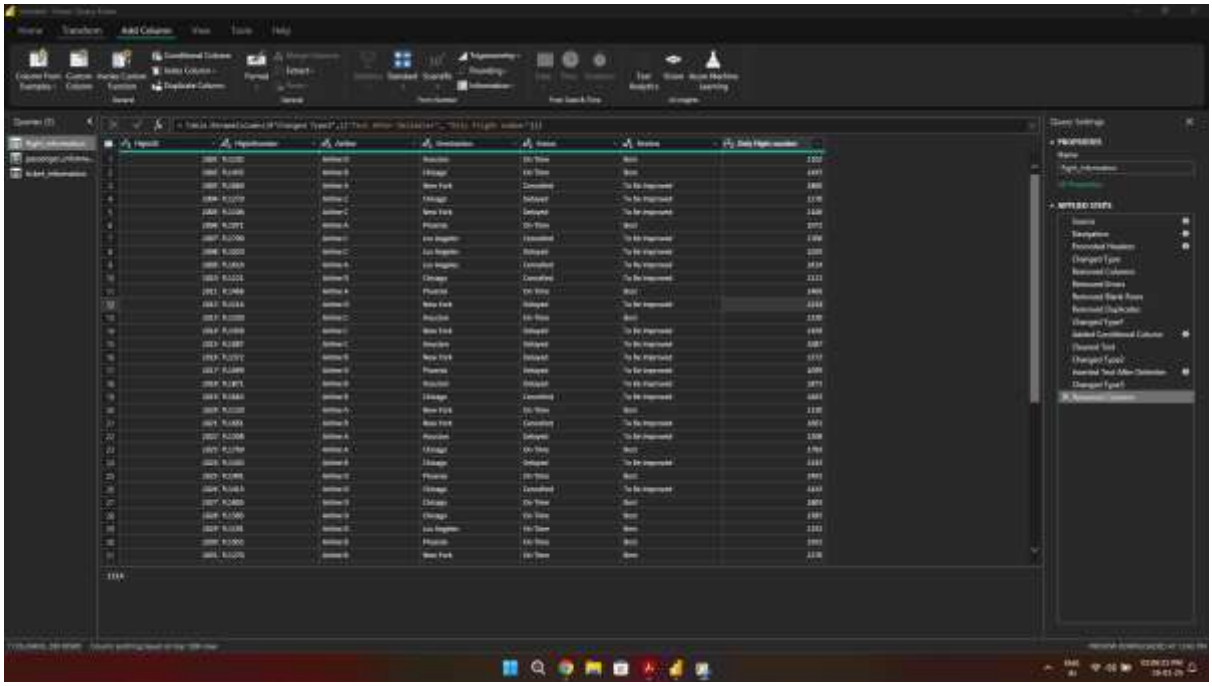




2. Data Modeling



3. Enhanced Data Insights

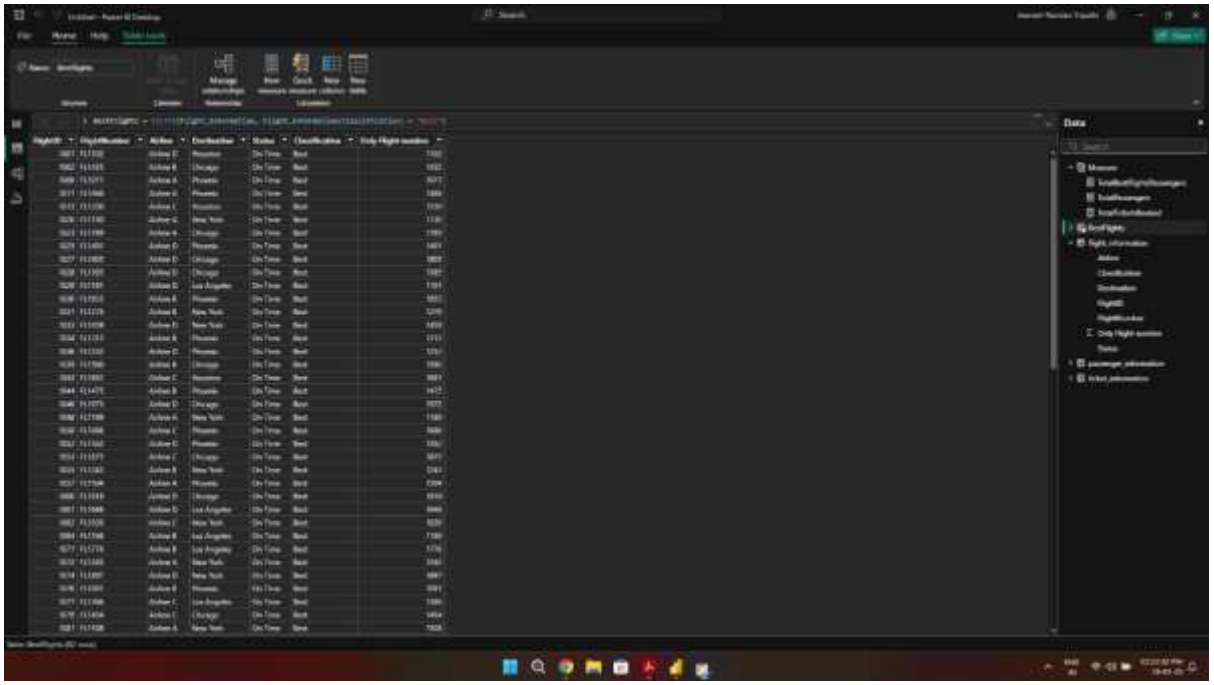


4. Calculations Using DAX.

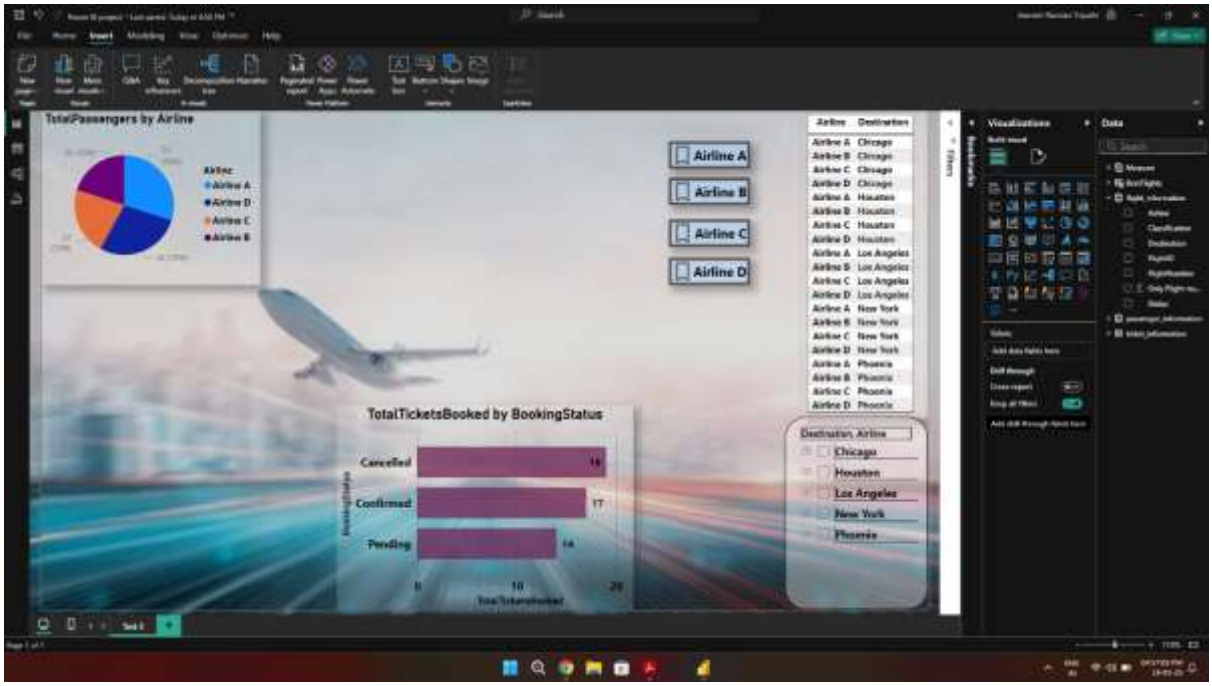
TotalPassengers = COUNT(Passenger_Information[PassengerID])

TotalTicketsBooked = COUNT(Ticket_Information[TicketID])

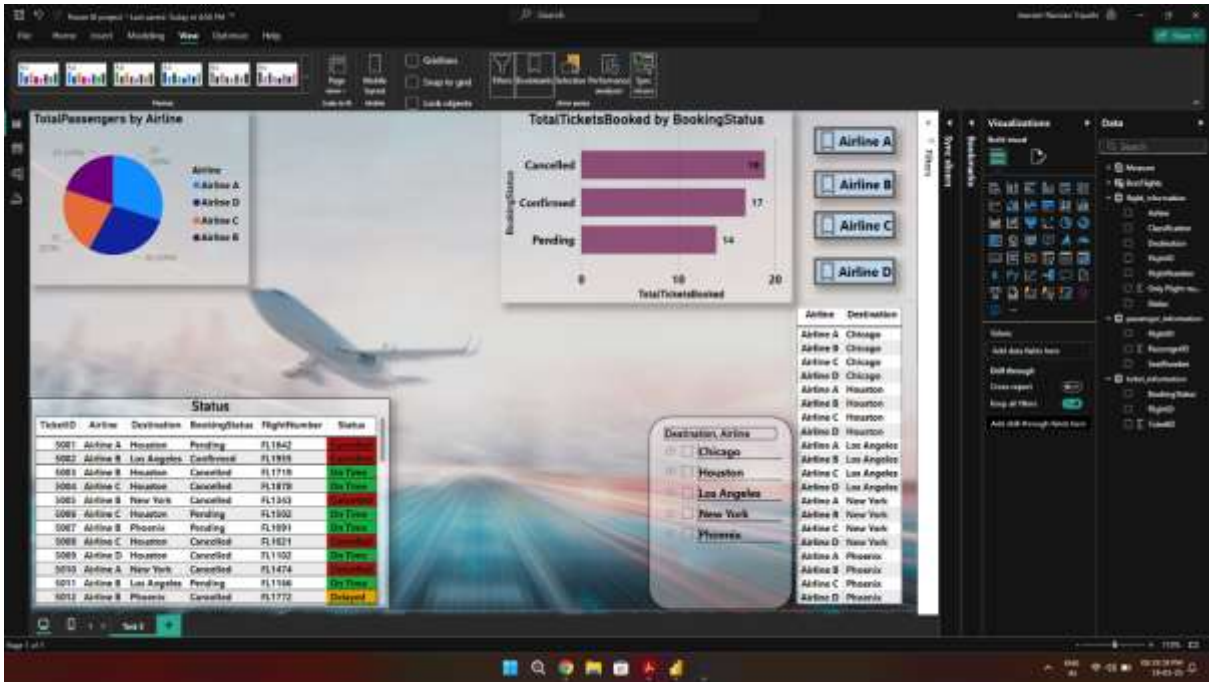
BestFlights = FILTER(Flight_Information, Flight_Information[Classification] = "Best")

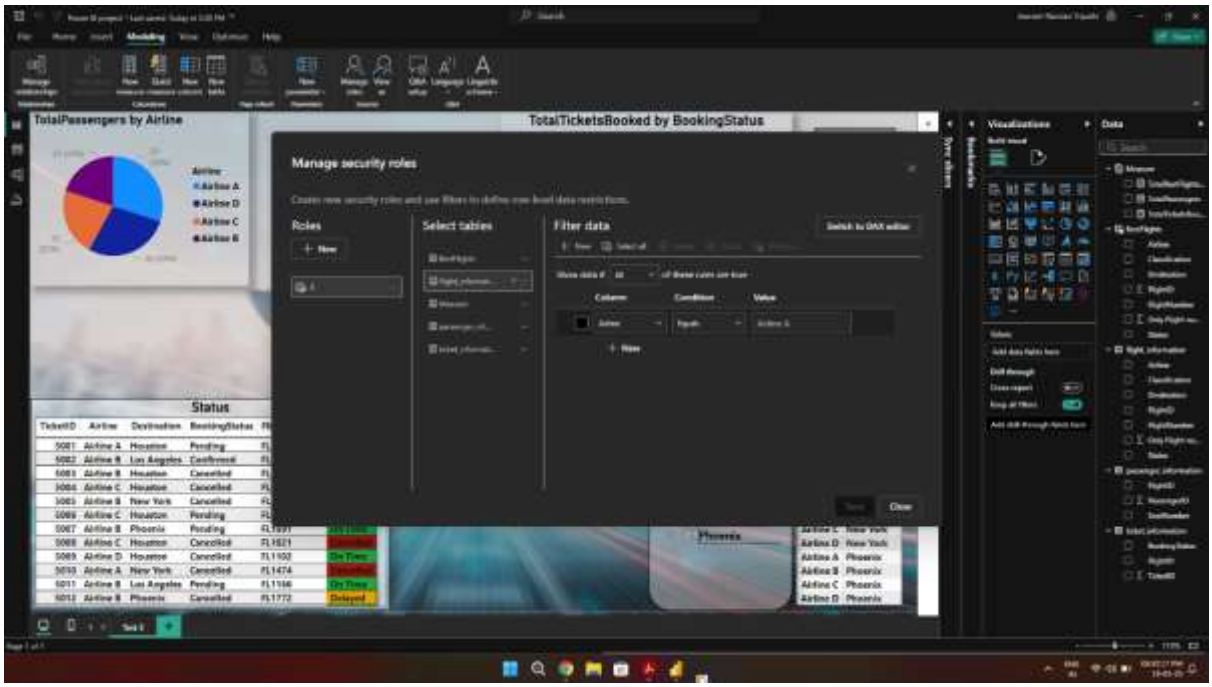


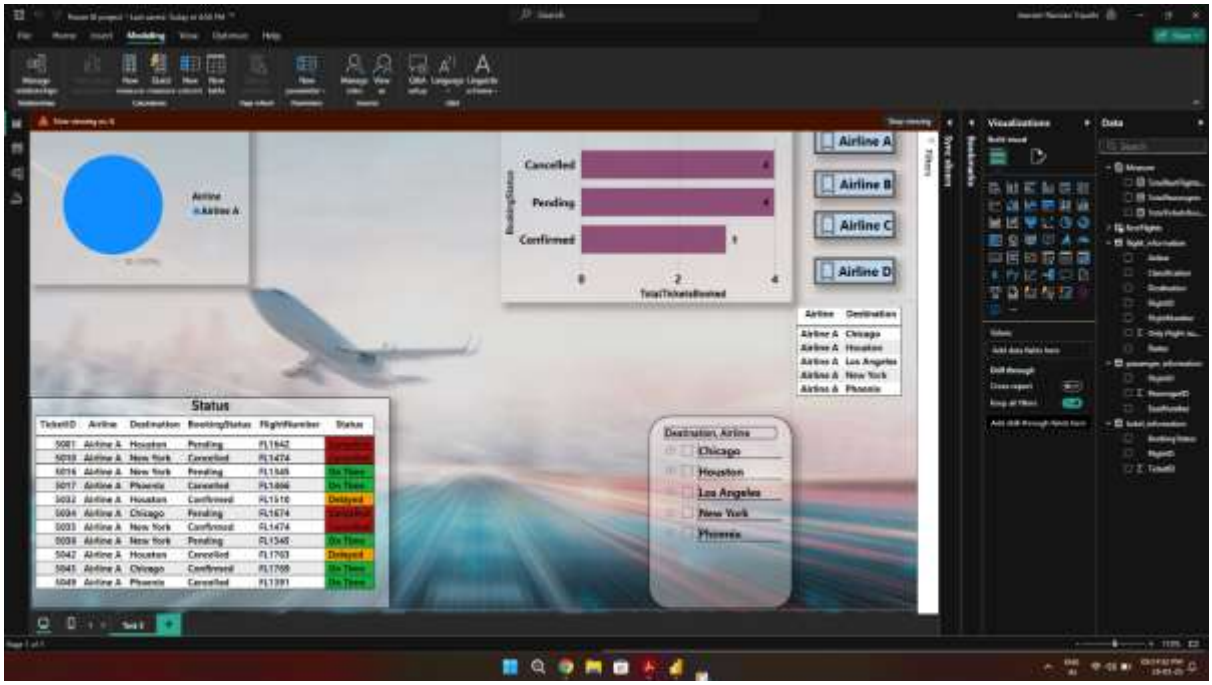
5. Visualization and Interactive Features

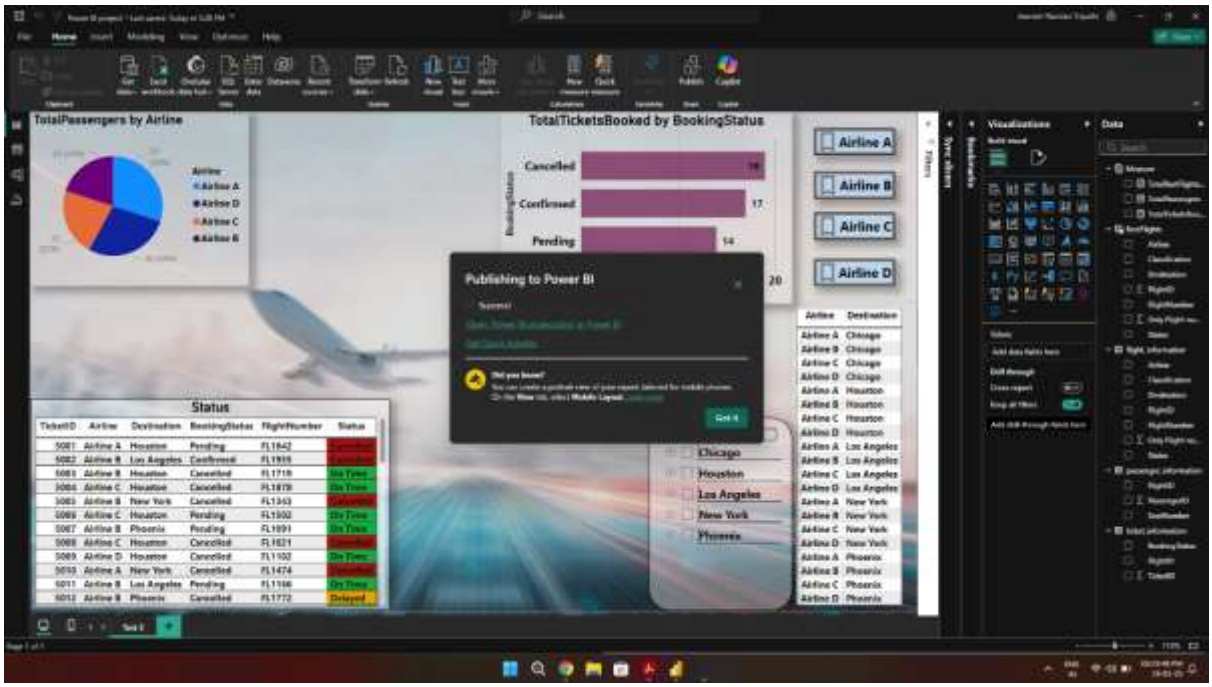


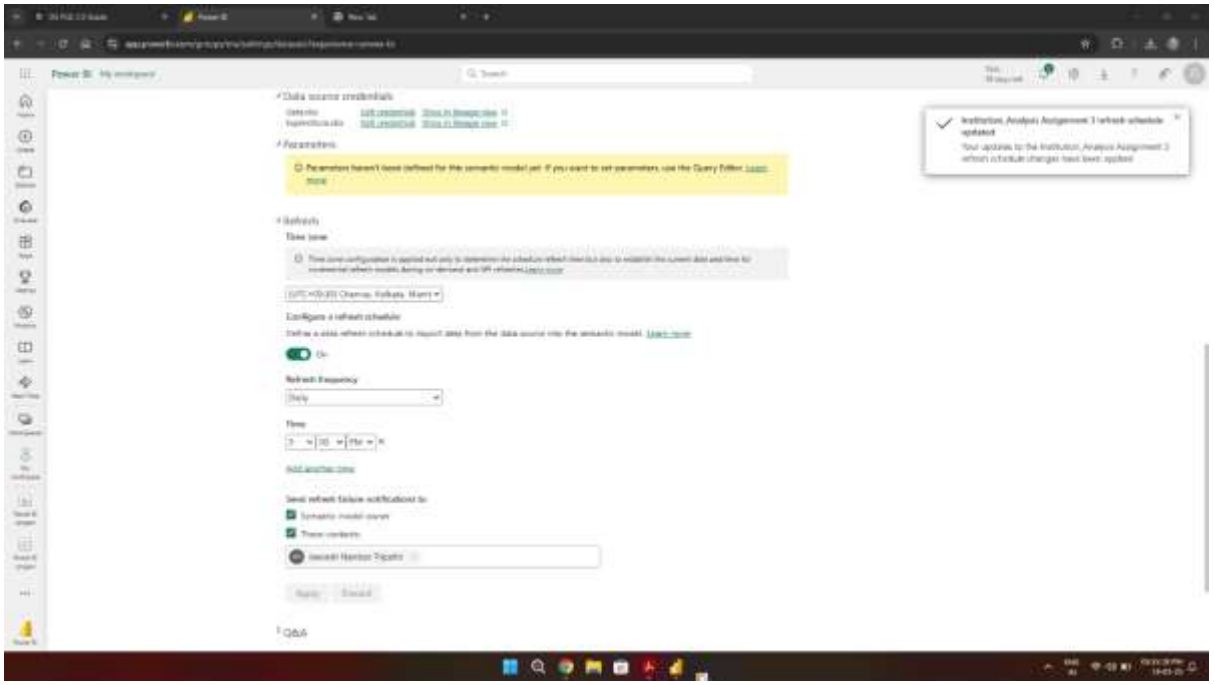
6. Final Dashboard and Power BI Service






Airline
Airline A
Cancelled
Pending
Confirmed
BookingStatus
TotalTicketsBooked
0
2
4
Airline A
Airline B
Airline C
Airline D
Airline Destination
Airline A Chicago
Airline A Houston
Airline A Los Angeles
Airline A New York
Airline A Phoenix
Status
TicketID Airline Destination BookingStatus FlightNumber Status
5081 Airline A Houston Pending FL1942 Cancelled
5019 Airline A New York Cancelled FL1474 Cancelled
5016 Airline A New York Pending FL1565 On Time
5017 Airline A Phoenix Cancelled FL1466 On Time
5032 Airline A Houston Confirmed FL1510 Delayed
5034 Airline A Chicago Pending FL1674 Cancelled
5033 Airline A New York Confirmed FL1474 Cancelled
5038 Airline A New York Pending FL1565 On Time
5042 Airline A Houston Cancelled FL1703 Delayed
5045 Airline A Chicago Confirmed FL1705 On Time
5049 Airline A Phoenix Cancelled FL1391 On Time
Destination, Airline
Chicago
Houston
Los Angeles
New York
Phoenix
Visualizations
Data


TotalPassengers by Airline
Airline
Airline A
Airline D
Airline C
Airline B
TotalTicketsBooked by BookingStatus
Cancelled
Confirmed
Pending
BookingStatus
17
20
Publishing to Power BI
Got it
Airline A
Airline B
Airline C
Airline D
Airline Destination
Status
TicketID Airline Destination BookingStatus FlightNumber Status
5081 Airline A Houston Pending FL1942 Cancelled
5082 Airline B Los Angeles Confirmed FL1919 Delayed
5083 Airline B Houston Cancelled FL1718 On Time
5086 Airline C Houston Cancelled FL1878 On Time
5085 Airline B New York Cancelled FL1363 Cancelled
5089 Airline C Houston Pending FL1932 On Time
5087 Airline B Phoenix Pending FL1893 On Time
5088 Airline C Houston Cancelled FL1821 Cancelled
5085 Airline D Houston Cancelled FL1102 On Time
5093 Airline A New York Cancelled FL1474 Cancelled
5011 Airline B Los Angeles Pending FL1566 On Time
5012 Airline B Phoenix Cancelled FL1772 Delayed
Chicago
Houston
Los Angeles
New York
Phoenix
Visualizations
Data



Video Link –

https://drive.google.com/file/d/1aJlh_OztYJxczRY5v9h7jr1Rd7rXPsk6/view?usp=sharing