Analysis Of Flight Delays

Problem Statement:

Develop a Power BI dashboard to predict and analyze flight delays of 15 minutes or more at arrival airports. This dashboard aims to assist airlines, passengers, and airports in optimizing operations, resource management, and travel planning. It will visualize delay distribution, identify high-delay airports, explore distance-related impacts, examine carrier-specific delays on January 1st, and reveal patterns in departure time blocks. The dashboard will also provide insights into weekly delays, carrier scheduling variations, origin-destination delay averages, seasonal trends, the relationship between departure and arrival delays, and identify airports or carriers with high cancellation or diversion rates. These insights will distinguish this airline's performance from others.

Dataset Description:

Dataset FileName - Jan_2019_ontime.csv

- DAY_OF_MONTH: The day of the month for the flight.
- DAY_OF_WEEK: The day of the week for the flight.
- OP_UNIQUE_CARRIER: The unique carrier code for the operating carrier.
- OP_CARRIER_AIRLINE_ID: The ID for the operating carrier airline.
- OP_CARRIER: The code for the operating carrier.
- TAIL_NUM: The tail number of the aircraft used for the flight.
- OP_CARRIER_FL_NUM: The flight number assigned by the operating carrier.
- ORIGIN_AIRPORT_ID: The ID for the origin airport.
- ORIGIN_AIRPORT_SEQ_ID: A unique ID for the origin airport.
- ORIGIN: The code for the origin airport.
- DEST_AIRPORT_ID: The ID for the destination airport.
- DEST_AIRPORT_SEQ_ID: A unique ID for the destination airport.
- DEST: The code for the destination airport.
- DEP_TIME: The scheduled departure time for the flight.

- DEP_DEL15: Whether or not the flight was delayed by 15 minutes or more at departure.
- DEP_TIME_BLK: The scheduled departure time block for the flight.
- ARR_TIME: The scheduled arrival time for the flight.
- ARR_DEL15: Whether or not the flight was delayed by 15 minutes or more at arrival.
- CANCELED: Whether or not the flight was canceled.
- DIVERTED: Whether or not the flight was diverted.
- DISTANCE: The distance traveled on the flight, in miles.