Business Analytics Nanodegree

Building data dashboard using Tableau

About the Dataset: The flight-delay dataset contains 3 excel files as follows:

- Flights.csv – this is the main file, which is used for creating insights.
- Airports.csv – contains all the details regarding the airport with IATA code, location etc. (Joined to flights on destination airport using IATA code)
- Airline.csv – contains IATA code for airlines. (Joined to flights on airline using IATA code)

Additionally, performed data-cleaning in Excel prior to creating visualisations. Few changes made include getting rid of unnecessary columns.

Visualization #1:

- **Tableau public dashboard link:** Click here

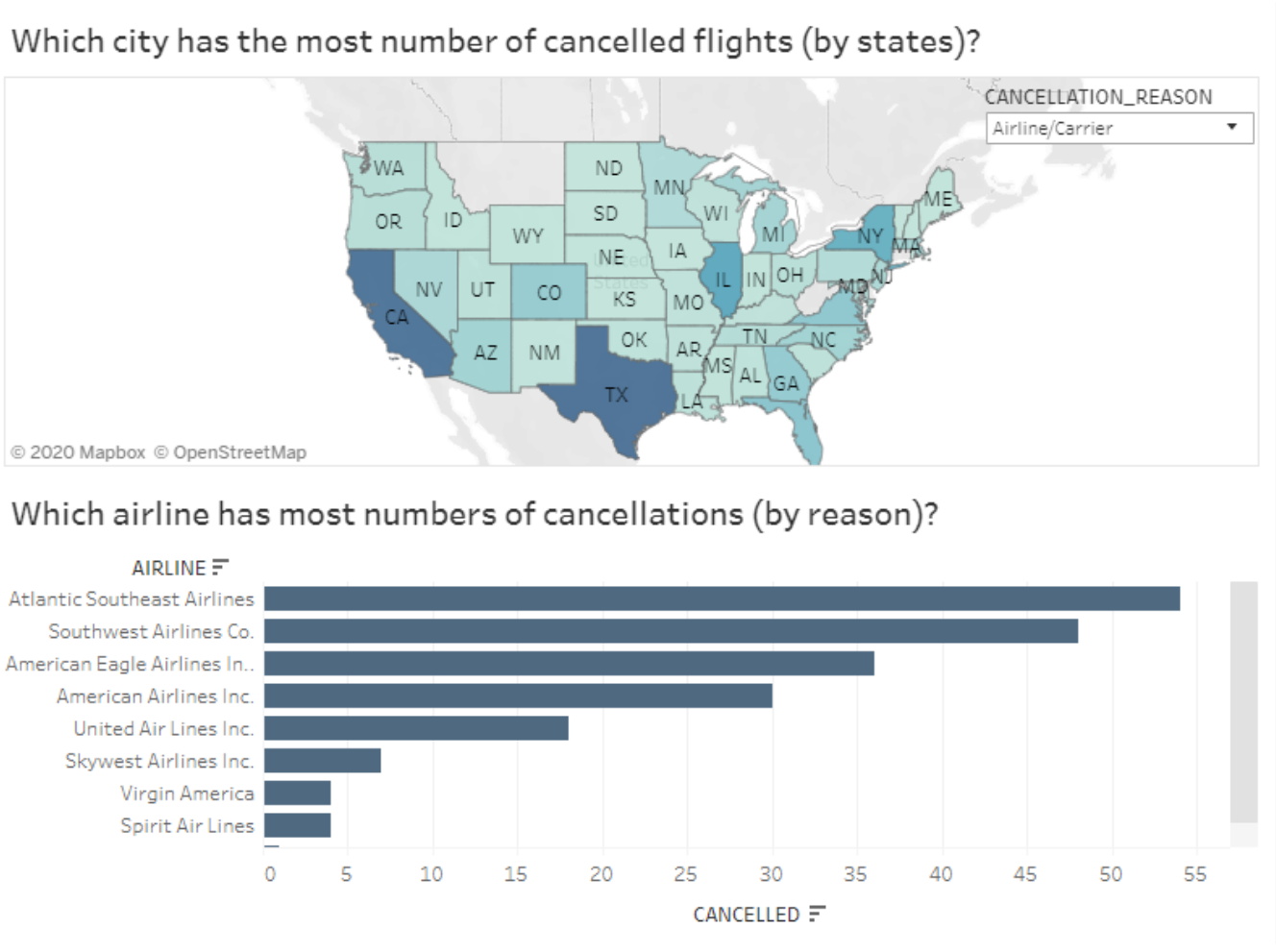
- **Summary:**

This dashboard contains two worksheets:

- First, the map chart which show the cities with most numbers of cancelled flights, can be filtered on the basis if cancellation reason.
- Second, the interactive bar chart when we select the state from map graph then it shows the numbers of cancelled flights by airline names in a state.

The cancellation reason has been categorized in 3 sections:

- Airline/Carrier
- Weather
- National Air System



- **Design**:
  - Used the action filter option in map chart to connect both the worksheets
  - Used the filter option on map chart to switch between the cancellation reason and create an insight on the basis of reason and state.

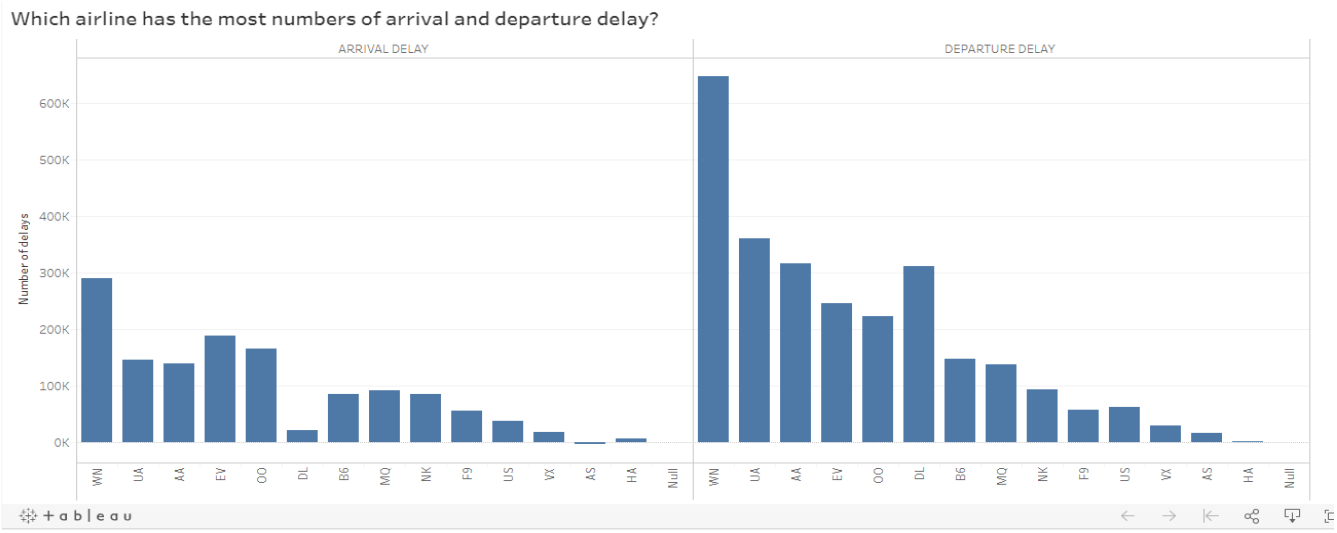
- **Resource:** N/A

- **Conclusion:**
  1. Due to the bad weather and Airline/carrier issue Texas the most number of flight cancellations
  2. Atlantic southeast airlines have a very reputation in handing the National Air System and Airline/Carrier in Texas.

Visualization #2:

Tableau public link: Click here

Summary:



From the above visualization we can clearly see arrival and departure delays made by any airline in descending order. Using the bar chart is very helpful in these kinds of scenarios.

Design:

Created two bar charts on arrival delay and departure delay side by side to get the insight.

X-Axis has airline names and Y-axis has time delay.

Conclusion:

After using the proper sorting and labelling, the followings can be concluded:

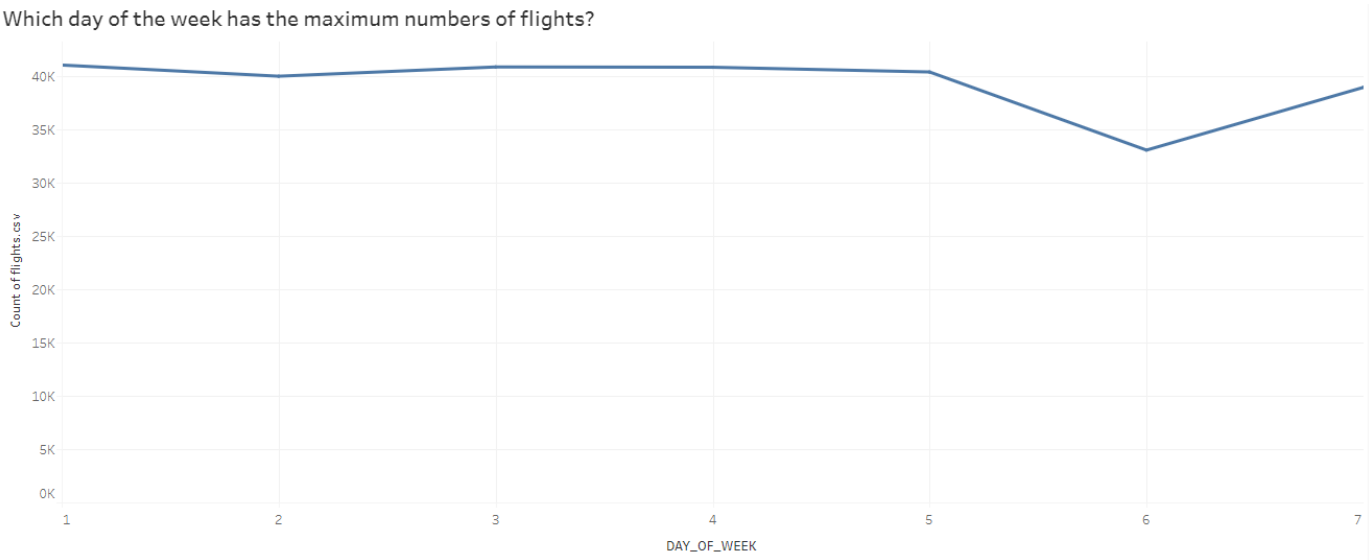
1. Southwest Airlines Co. has a very bad reputation in both arrival and departure time delay.
2. Delta Air Lines Inc. has managed to minimize its arrival delay but still struggling to minimize the departure delay.

Resources: N/A

Visualization #3:

Tableau public link: Click here

Summary:



From the above visualization we trying to find the trend during the weekdays and weekends. Using a line graph can be very helpful in these kinds of scenarios.

Design: Plotted Days_of_week on column shelf and Count(flights.csv) on row shelf.

Conclusion:

After using the proper sorting and labelling, the following(s) can be concluded:

1. There is no specific trend on weekdays or weekends, however there is a less demand of flight has been noticed on Saturday.

Resources: N/A