Flight Delays and Cancellations Insights

Insight 1 (States by Count of Airports)

- https://public.tableau.com/profile/najlaa.shariefi#!/vizhome/Project4-NajlaaShariefi/StatesByCountofAirports
- Summary: From the Map, we can see how the airports are distributed across the United States. TX has the greatest number of airports (24 airports). CA comes in the second place with 22 airports. However, 9 states are having the fewest number of airports with only 1 airport each.
- Design:
    - I chose the map to present my insight because it is a great way to display the distribution of airports across the geographic data (the states).
    - I used the Blue-Orange palette in the map, since it is the best colour palette for the audiences that are sensitive to colour blindness.
- Resources: N/A

Insight 2 (Flight Cancellations by Airline)

- https://public.tableau.com/profile/najlaa.shariefi#!/vizhome/Project4-NajlaaShariefi/FlightCancellationsByAirline
- Summary: From the Scatter Plot, we can see the relationship between Total number of Flights and the number of Cancellations for each Airline operating in the United States. A tool tip is added to show the flight cancellations percentage associated with each Airline. The different levels of Airlines performance, in terms of avoiding flight cancellations, are clearly presented through the visualization. A good performance exists when the total number of flights of a particular airline is high while the number of cancellations is low, resulting in low Cancellations Percentage. In the other hand, a bad airlines performance exists when the total number of flights is low while the number of cancelled flights is high, resulting in high Cancellations Percentage. As a simple rule: The Airlines located above the Trend Line are the worst in terms of Percentage of Flight Cancellations and vice versa. From the visualization it appears that:
    - American Eagle Airlines Inc. has the worst performance among all the Airlines operating in the US, because it has the highest percentage of cancelled flights with around %5 of cancellations (723 cancelled flights out of a total of 14,149 flights).
    - The best Airlines performance, in terms of avoiding flight cancellations, was Hawaiian Airlines Inc. with only %0.224 cancelled flights (8 cancellations among its 3,565 flights on 2015).
    - It is worth mentioning that Delta Airlines Inc., which had the second highest number of total flights (41,516 flights) on 2015, is taking the third best place when it comes to the percentages of cancelled flights with only about %0.5 cancellations(only 194 cancelled flights).

- Design:
    - I chose the scatter plot to present my insight, since it is an effective way to show the relationship between two sets of quantitative data (Total number of flights and the number of cancellations).
    - Adding a Tooltip that presents the Flight Cancellations Percentage associated with each Airline, will surly give the audience a clear overall view of the different levels of Airlines performances in terms of Flight Cancellations.
- Resources: N/A
- **Important Note : Please use Mozilla Firefox to view the visualization ,if the numbers on the Tooltip is shown in Arabic Numbers.**

Insight 3

- https://public.tableau.com/profile/najlaa.shariefi#!/vizhome/Project4-NajlaaShariefi/Dashboard1
- Summary: The dashboard contains two visualizations: a Map and a Side-by-Side Bars.
    - From the map, we can see "in which states do most of flight cancellations occurred". It appears that the most cancellations happened in TX and IL with a total of 668 and 563 cancelled flights, respectively. It also shows that VI, GU, DE and AS does not have any cancelled flights during 2015.
    - The side-by-side bars present flight cancellations (by Quarter) for the Top 5 states, in terms of total number of flight cancellations.
        - TX had the highest number of cancelled flights during the first and second Quarters of 2015.
        - The greatest number of cancellations during the third Quarter of the given year occurred in IL followed by CA(with a difference of 1 cancelled flight).
        - However, during the fourth Quarter of 2015,IL took the lead (again), in terms of cancelled flights, with a total of 108 cancellations.
    - Note: Choosing “All” from the filter’s drop-down menu, will allow the viewer to get an overall impression of the occurrences of flight cancellations (by state) across the US (using the map). It will also enable the audience to get a clear comparison of the different performances of the Top 5 states, in terms of the number of cancellations, through the 4 Quarters of 2015.
- Design:
    - I used a dashboard to present this insight, because it allows the audiences to view multiple aspects of my insight, all in the same visual environment.
    - I selected the map, since it is an efficient way to display the number of flight cancellations across the geographic data (the 52 states).
    - I used the Blue-Orange palette in the map, because it is the best colour palette for the audiences that are sensitive to colour blindness.
    - I chose the side-by-side bars to be a part of my dashboard, because the length is one of the most effective methods for showing quantitative data.
    - I avoided using different bright colours for the bars, since the bright colours distract the audiences from concentrating on the important aspects presented on the dashboard.

- Providing “Quarter” filter with an ability to choose multiple values, will allow the audience to view the number of cancellations during a single, multiple or all the Quarters (the entire year of 2015) and the data associated with that.
- Adding a Tooltip that presents both number of airports the total number of flights in each State, will surly give the audience an apparent overall view for the states, in terms of cancellations.

- Resources: N/A