

Data chosen:Flight Delays

Insight 1:

The following dashboard shows the distribution of delays in flights. It consists of two visualizations where the first visualization shows the distribution of delays in airlines (both departure and arrival delay) and the second visualization shows the distribution of delays of airports (arrival delay). As we can see from the first visualization that almost all the airlines have greater arrival delays than departure delays, which is logical as the departure delays are mostly due to late arrival, security reasons, etc. One important thing to note is Alaska Airlines has negative arrival delay which means it arrives before schedule time on average.

Design choices: Earlier I had done two different visualizations for the arrival and departure delays of airlines but then when I combined these two together it looked much organized. Also while choosing colors I made use of tableau color blind palette. I edited the tooltip for highlighting the name of the airline.

The link to dashboard is:

<https://public.tableau.com/profile/mushrifah.hasan#!/vizhome/udacitytableauproject/Dashboard2>

Insight 2:

The following dashboard shows the causes of delays in flights. It shows which part of flight causes most delays and then shows a line graph showing the variation of these causes by time of year. We can see that Airline delay is the reason for most delays and Security Delay is least of all reasons. Also we can infer that Airline delay and Late Aircraft Delay follow each other very closely and Security Delay maintains a uniform trend of values through variations of delays throughout the year.

Design choices: I have initially just included the first visualization then I decided why not show the variations of these delays by time of year so I did that and also for colors I made use of tableau color blind palette. Also when I was first trying to do the line graph it was not showing the name of month then when I changed it to date it was showing the name of month which looked more better for understanding.

The link to dashboard is:

<https://public.tableau.com/profile/mushrifah.hasan#!/vizhome/udacitytableauproject/Dashboard3>

Insight 3:

The following dashboard shows the cancel records of flights. It shows that which airline has the worst cancel record and what is the reason of the cancel. The first visualization shows tree map showing the different airlines with total no. of cancelled flights and percentage cancelled. The second visualization shows a bubble chart showing different reasons for cancellation with main reason being weather. One important thing I notice is that even though some airlines may have higher no. of cancelled flights but the percentage will let us know the correct result since we are also considering the total no. of flights i.e. in the following data we have highest no. of cancelled flights for "Southwest Airlines" but the percentage is higher of "American Eagle Airlines".

Design choices: Initially I have just made a bar chart showing the distribution of cancelled flights in different airlines but then I decided to show the percentage of cancelled flights so I then used a tree map for it and also included the tooltip showing the total no. of flights for better understanding. Also while choosing colors I made use of Tableau color blind palette. In the data given the reasons for cancel were given as A, B, C and I came to know about the actual meaning of those from the given webpage: <https://www.kaggle.com/usdot/flight-delays/discussion/35193>.

The link to dashboard is:

<https://public.tableau.com/profile/mushrifah.hasan#!/vizhome/udacitytableauproject/Dashboard4>

External resources:

1. For almost all other questions I got my answers from Tableau knowledge base: <https://www.tableau.com/support/knowledgebase>
2. For checking whether my dashboards are color blindness friendly I read this article: <https://www.tableau.com/about/blog/2016/4/examining-data-viz-rules-dont-use-red-green-together-53463>