First Question:

How the distribution of average flight delays is affected by factors like, origin/destination airport, day of the week and airline of the flight?

Link:

https://public.tableau.com/views/Dashboard_16461060815130/Dashboard1?:language=en-US&:display_count=n&:origin=viz_share_link

Design:

I wanted to see how the avg total delay is distributed over different states for different airlines and different routes so I choose to use a map with filters that will allow me to choose between different routes and different airlines. I used a mono color to indicate the level of delay compared to neighboring states, the darker the higher

Summary:

We can see based on all data that United Airlines has the highest average delay but if we choose a single weekday other than Tuesday and Wednesday that this will no longer be the case. Also, if we choose a specific combination of origin/destination airport the distribution of avg delays and delay factors will be different.

Resources:

Different Types of Flight Delays - Sheffield School of Aeronautics

Taxiing - Wikipedia

Converting time from 0700 to 07:00 & VBA

Excel formula: Get day name from date | Exceljet

Remove Formula but keep the data in Excel (2 Really Simple Ways) - YouTube

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Second Question:

Does the avg Distance of an airline affect their delay factor?

Link:

https://public.tableau.com/views/Airlinesdelaydistributionwithgrouping/Dashboard1?:language=en-US&:display_count=n&:origin=viz_share_link

Design:

I wanted to see the relation between the avg travel distance of each airline and the avg total delay of that airline and although I could have just used a bar plot I also wanted to check distribution of these groups over the states that's why I used a dashboard with both a map and a bar plot to show the order of airlines within each group (over/ under 1K distance) and the distribution over the states for that group.

Summary:

The dashboard shows that the highest avg total delay in airlines group with avg distance under 1K (218.6) is lower than that's for group with avg distance over 1K (250.2). It also shows that airlines with avg distance over 1k have flights in a smaller number of states than other airlines.

Resources:

NAN

Third Question:

How the avg delays are changed over the four quarters>

Link:

https://public.tableau.com/views/DelaysoverQuarters/Changeofdelaysoverthequarters?:language=en-US&publish=yes&:display_count=n&:origin=viz_share_link

Design:

Here I wanted to see the timeline of the avg delays over each quarter, so I used a line plot.

Summary:

We can see that in both first & third quarters the avg delays ended up being lower than their values at the start of the quarter while in second & fourth quarters it ended up being higher.

Resources:

NaN.

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Fourth Question:

What is the biggest reason for flight cancellation and whether it's the same for all airlines?

Link:

https://public.tableau.com/views/Cancelationreasonsdistribution/Dashboard1?:language=en-US&:display_count=n&:origin=viz_share_link

Design:

Here I wanted to see the order of cancellation reasons and which state is affected the most by that reason so I used a histogram to show the order and a map to show the effect of that reason on the states. I used a single color with darkness of that color being an indication of the number of cancellations in that state due to that reason.

Summary:

It turns out that Weather is the biggest reason for flights cancellation but that is not always the case for some airlines.

Resources:

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