VISUALIZATION 1

TOTAL AIRLINE DELAY

Link:

https://public.tableau.com/profile/charmi.chokshi#!/vizhome/TotalAirlineDelay/TotalAirlineDelay

Summary:

This visualization answers- **Which airlines have the worst delays?**

This is one of the very important questions while choosing for any flight from any airline. If the delay timings are high, chances are high that we may reach late to the destination or one should not book the joint flight.

I have joined the flights and airlines file, created calculated field which sums up departure delay and arrival delay as total delay and created packed bubble visualization. When we hover over this we can see the details like full name of the airline, total time in minutes this airline's flight has been delayed from the dataset.

We can make out from the worksheet that Southwest Airlines Co. has highest time delay of 931,259 minutes and Hawaiian Airlines Inc. has lowest of 7,082 minutes of delay.

Design:

Firstly, I thought of implementing this visualization in a Pie Chart but I remembered from classroom session that we should use pie chart only when we have around 5-6 categories, since here we have 14 different airlines names, I dropped this idea.

I could have used Horizontal Bars to represent the question but then thought of Packed Bubbles via which one can easily get the idea of total minutes any airline's flight has delayed from the size of the bubble and can hover over it for the exact number which is much more explanatory than bar graph.

Resources:

https://onlinehelp.tableau.com/current/pro/desktop/en-us/calculations_calculatedfields_create.htm

VISUALIZATION 2

WHAT CAUSES DELAYS PER MONTH PER AIRLINE?

Link:
https://public.tableau.com/profile/charmi.chokshi#!/vizhome/Whatcausesdelayspermonthandairline/FlightDelayminsCauseperMonthAirline

Summary:

This visualization answers- how much delay is generated by each reason for any airline in every month?

To analyze what are the reasons per month any flight is getting delayed each month is an essential point in increasing the productivity of any airline and decrease delays.

I have joined the flights and airlines file and have created stacked bar chart using multiple matures. Here, months and measures name (late aircraft delay, security delay, airline delay, air system delay, and weather delay) are chosen as columns and the value of measures are rows. One can select the airline and month of which they want to see the total delay of flights of each reason like late aircraft, security, weather etc. according to the dataset.

We can see from the visualization that, "Late Aircraft Delays" is the reason behind maximum flight delays in each month except September month and "Security delays" causes least time delay. It is fascinating to know that provided dataset of 2015 does not have any data for month of October.

Design:

At first glance having so many columns in a single visualization can confuse someone. But there were 11 months and 5 different reasons for every flight to be delayed so the complexity is present and we have to deal with it. To make it easier to analyze, I have created filters. From the right side of the worksheet, one can chose particular month and airline to see its total delay in minutes of each reason by hovering over the visualization.

Resources:

https://onlinehelp.tableau.com/current/pro/desktop/en-us/formatting_editaxes.htm

VISUALIZATION 3

Link:

https://public.tableau.com/profile/charmi.chokshi#!/vizhome/arivaldeparturedelay/Arrival-DepartureDelayperMonthAirline

Summary:

This visualization answers- **What are the average arrival and departure delays? (Based on flight number and airline)**

Using this dashboard, one can easily get idea about the average delay time in departure and arrival of a flight based on its number and airline choosing from the filter.

There is a possibility of same flight number present in different airlines, that's why I have created a filter to select airline as well. From the visualization, we can analyze that when the flight number is 2516 and the airline is America Airlines Inc., Avg. Departure delay in month of December is 24 min and arrival delay is 19.5 min which is huge as compare to other months. One possible reason behind this delay can be the high rush of passengers in this month in US airlines due to Christmas and New Year vacation!

Design:

First of all I thought to create an overlapping line graphs of scheduled departure time and actual departure time and same for the arrival but as these time delays are very near to each other it was difficult to visualize it easily. So, I thought to create one using bar graphs using discrete values of moths in the form of a dashboard.

Resources:

N/A

Acknowledgement:

All the visualizations are based on US domestic flights operated by large air carriers in 2015 - Kaggle dataset. (https://www.kaggle.com/usdot/flight-delays/data#flights.csv)