Project - Build Data Dashboards

(US Census Demographic Data)

Insight 1 – How is the Standard of Living distributed across the states, and could the size of the state based on the population affect the standard of living?

Link

https://public.tableau.com/profile/courage.ekoh#!/vizhome/Project3-Insight1_1/Story1?publish=yes

Summary

By utilizing a bubble chart, the distribution of the average standard of living (Generally measured in GDP per Cap or Income per cap) could be seen across the state. On a general overview, there seems to be an even distribution of wealth across the various states of the country. However, comparing states like the District of Columbia and Puerto Rico, the difference is huge.

Could the Total Population in the state affect the standard of living since states like Columbia and Rhode Island with small sizes have better standard of living? To answer that a scatter plot was generated and clustered into two groups.

- Group 1: (Alaska, Delaware, District of Columbia and 13 other), Have Total Population less than 2.1 million
- Group 2: Other States with Population more than 2.1 million.

A careful examination revealed that the states with lesser population tend to match up with more populated states, with District of Columbia having a living condition far better than the rest of the states though with a smaller population.

A Further study based on the employment rate (a calculated field based on the ratio of the Employed to the Total Population in a given state) revealed that states in Group 1 as stated above have higher employment rate which could have influenced their living condition.

Design

Simple charts like the bubble chart was utilized to show size difference, scatter plot to show relationship in a distribution and a bar chart to show the employment rate difference. Single colours were utilized to avoid distractions and in cases where two colours were needed as in the groupings, colours appealing to the colour blind was selected. Since the visual in a single worksheet used in the insight occupies a large space, a story is used in the presentation.

Resources: N/A

Insight 2 – What can be said about the poverty distribution across the Country and what could be the driving force of the poverty rate in these regions?

Link

https://public.tableau.com/profile/courage.ekoh#!/vizhome/Project3-Insight2_0/Dashboard1?publish=yes

Summary

A map showing the poverty spread across different states in the US was generated based on colour intensity difference. It appears that as we move down towards the costal borders, the average poverty level increases, though not absolutely. Also looking at what may be responsible for the poverty rise in any state, a relationship between the average poverty level and average self-employed, unemployed and work-at-home population was plotted. The visuals reveal, though weakly, an increase self-employment as well as working-at-home tends to reduce the average poverty level. Unemployment on the other hand increases the average poverty level.

Design

Simplicity is the driver of this design. Multiple colouring which could suggest business in the visualization was avoided. An additional trendline was added to the scatter plot in order to make the relationships obvious.

Resources: N/A

Insight 3 – Which states have the best transportation?

Link

https://public.tableau.com/profile/courage.ekoh#!/vizhome/Project3-Insight3_0/Story2?publish=yes

Summary

To answer this a box and whisker plot was first generated to see the spread of the mean commute times across the counties of each state and perhaps the presence of outliers that could affect summary statistics. From the box and whisker plots, a significant number of states reveal outliers in the distribution of mean commute times, hence the median of the commute time was utilized to aggregate the mean commute time across counties for each state. A line plot was used to show the trend of the average commute time across the states and using commute time as a metric for this evaluation, Alaska shows a better transportation system that the other states with an average commute time of 8.80 mins while New Jersey lags behind all others with average commute time of 30.70 mins.

Design

Since the clusters generated by the mean commute time for each county was sort of much reducing visibility, a bright orange, which is both captivating and visually appealing to the colour blind, was used. A box and whisker plot was also used as it seems to be an effective tool for showing outliers among large clusters. A line Chart was also used to show the trend in the average commute times as it makes increasing average commute time obvious. Also as similar to insight 1, since the visual in a single worksheet used in the insight occupies a large space, a story is used in the presentation.

Resources: N/A