Project - Build Data Visualization

Population, Income, and Poverty across the US

Author Manuk Mikayelyan

- [**Link to Tableau story**](#) **– includes 3 dashboards.**

1. **Insight no.1**
   - **Link –** inside the story the first dashboard in the story.
   - **Summary –** we have created a dynamic map chart that shows the most populated states. The number of states can be changed using a dynamic filter. A tooltip appears when you hover over a state with data about the total population.

     We also used bar pyramid charts[1] to show the breakdown of the population by two factors – gender and citizenship, so you can compare the composition of each factor by state.

     Using the default of 10 on the map, we could see very clearly that the most populated states are in the eastern part of the US + with California to the west and Texas to the south.

     We have also placed a static table on the left side of the dashboard, from which we can see that in 2015 the population of the USA was more than 320 million people. In the ethnic composition of the population, the majority is white.

     We also used calculated fields to figure out two metrics: the Gender Ratio and the Share of Non-citizens.

     In general, 29.6% of the US population are not citizens of that country. From the bar pyramid, we see that the weight of non-citizens is disproportionately distributed among the states. It is higher in California.

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[1] Please take into account that I could not manage to put a legend on these graphs. Instead, I have listed each category below the charts.

The Gender Ratio shows the number of males for every female. The overall gender ratio is 0.97 and the bar pyramid also indicates that gender distribution is quite even across states.

- **Design –** a map chart is useful to compare values and show categories across geographical regions so using a map we searched for clusters of states with similar properties in the geographic locations. We used bar chat as it is useful for showing categories with corresponding numeric values, so each state name and the number of men/women and citizen/not-citizen were shown.
- **Resources**
  - Udacity and Datacamp learning platforms
  - https://www.youtube.com/watch?v=Xooj8QBJHrU

2. **Insight no.2**

- **Link –** inside the story the second dashboard in the story.
- **Summary –** we have created dynamic bar charts that show the states with the highest rate of poverty and the amount of income per capita. By default, the top 10 states are set, but this number can be changed using a dynamic filter. A tooltip appears when you hover over a bar with data about the state name and corresponding indicator.

  Using these charts, we could see that the most poverty exists in Puerto Rico, and the highest income per capita is in the District of Colombia.

- **Design –** Bar charts are one of the most common ways to present data because the human eye is very easy to analyze and compare the lengths of things rather than different angles and areas. We used bar chat, so each state name and the poverty rate, and the amount of income per capita was shown.
- **Resources -** Udacity and Datacamp learning platforms

3. **Insight no.3**

- **Link –** inside the story the third dashboard in the story.
- **Summary –** we have created a dynamic map chart that shows the distribution of poverty and income across states. A tooltip appears when you hover over a state

with data about poverty, income per capita, as well as a bar chart describing the percentage of employed in different sectors.

Using the map, we could see very clearly that poverty is higher in the southern regions of the East Coast. Also, we could see that the states with the highest standard of living are located in the northern part of the East Coast, as well as in the central and northern regions of the country.

In general, about 30.99% of the employees work as "Professionals", which includes management, business, and science sectors. Hovering over the states and using the data from the toolkit we noticed that in the states with high income per capita more people are involved in these fields. In contrast, the share of "Professionals" is lower in the states with higher poverty.

Our plot also indicates that there is a correlation between poverty and income – which means that on average the countries with higher income per capita have less poverty rates.

- **Design** – a map chart is useful to compare values and show categories across geographical regions so using a map we searched for clusters of states with similar properties in the geographic locations. We used a scatter plot as it is useful for showing a relationship between two numerical variables.
- **Resources -** Udacity and Datacamp learning platforms.