Tableau Data Visualization Project

Summary

H1B visa and green card are primary avenues for non-US citizens who have been authorized to work in specialty occupations the United States. This data visualization project aims to answer some key trends regarding the data-related job market for non-US citizens. Using the salaries data from Duke University, this project investigates the relevance of job titles and the number of applications, work states distribution, wages distribution, and finally the nationalities of most H1B and green card recipients.

Links

First Version:
https://public.tableau.com/profile/freena.wang#!/vizhome/Project_209/Story1

Final Version:
https://public.tableau.com/profile/freena.wang#!/vizhome/UdacityTableauProjectFinal/UdacityTableauProjectFinal

Design

Design principles:

- Basic Format: Since this project needs to convey too much information that the dashboard hardly covered. I choose to use a Tableau story format to present as a whole story.

- Theme Color: Make the main color tone as purple instead of the blue or gray to make this visualization explanatory in nature and at the same time be appealing.

Charts Types:

It includes various chart types, such as bar chart, bubble chart, boxplot, and map.

- Boxplot: For better understanding the whole picture of how salaries varied by job titles. I use the boxplots to indicate the distribution of the wages (median, mean, quartiles, whiskers, outliers and trend lines) by different job titles.

- Maps: The work states in the US and the nationalities of applicants both involve answering spatial questions. Thus, I select the maps to present them.

- The animation in Map: In particular, there's a trend of rising jobs for non-US citizens in recent years. To show which states provide more jobs and changes over time, I use the interactive map in Dashboard 2 to enhance the understanding of the data.

Specially Designed：

- Create advanced Highlight Action in Dashboard 2: Link the Work State between the "Work States Sheet" and "US Map States Sheet" by using "Hover" to trigger the action.

- Create advanced Filter Action ("Filter to just this title") in Dashboard 3, which is trigged by "Click".

Design Changes After Feedback:

- Accept the Feedback and change the map one into Choropleth maps (filled maps) to avoid the confusion of state and city.
- Accept the Feedback and split the first dashboard into two and add a brief description on Page 1.
- Accept the Feedback and adjust the color of Mark sessions in map 2.
- Reverse the angle of y label in Dashboard 3 (2009-2010-2011-2012-2013-2014-2015).
- Optimize the titles, fonts, and layout styles for the story.

Feedback

Feedback 1 (from Udacity DAND Google Groups)

- "Instead of a bubble on the states, it would be better to depict a choropleth map. The bubbles make me think that it is the data for a city in the state and not for the state itself."

Feedback 2 (from my friend)

- The first page of the story (Dashboard 2) seems covered too much information and charts, and thus space is a bit tight compared to other following pages."
- "The color of Mark sessions in the last map is not that good."

Resources

1. Udacity Tableau Lectures
2. Tableau Official Tutorials (basic & advance)
3. Excel to MySQL: Analytic Techniques for Business by Duke University