Assignment 2

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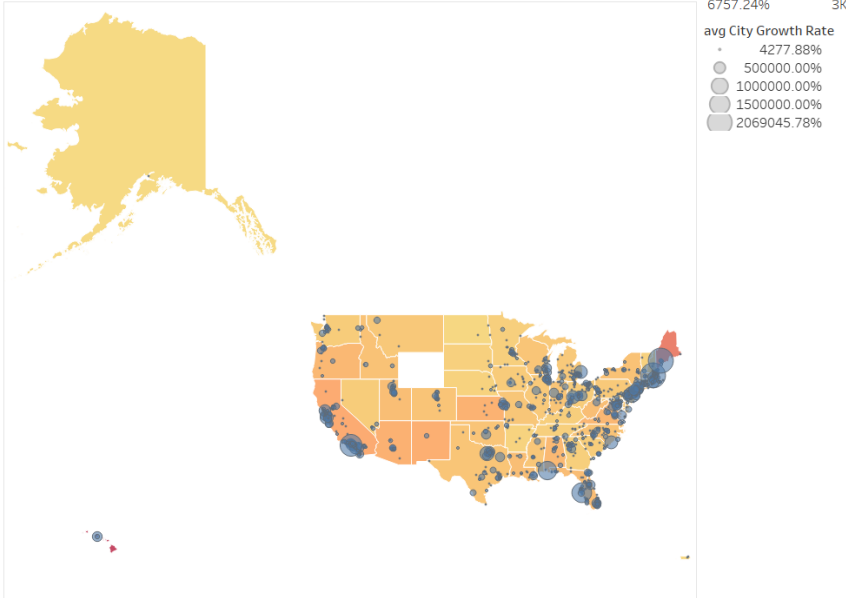# Question 1: Which areas in the US have companies with the highest growth rate?

Question 1

avg State Growth Rate
6757.24%   3K

avg City Growth Rate
·   4277.88%
○   500000.00%
○   1000000.00%
○   1500000.00%
○   2069045.78%

I would like to discuss the question in two aspects.

Areas by state

The different colors shown in the map represent the average growth rate of different states.
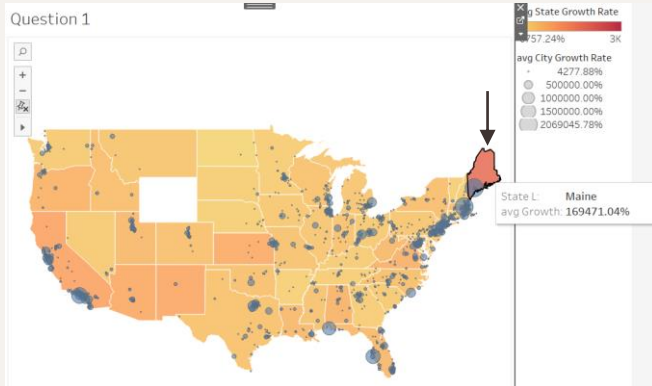
Areas by city

The different size of circles shown in the map are based on the average growth rate of the city.
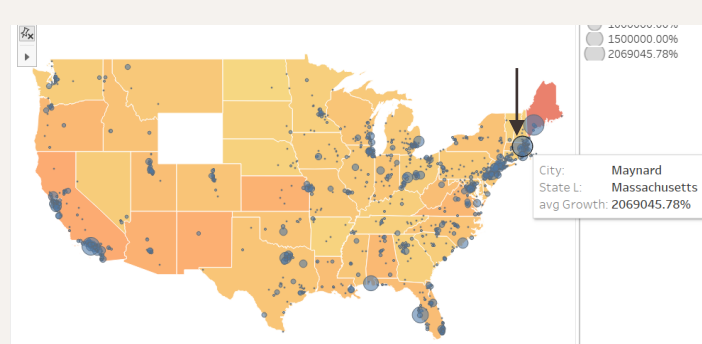
Why I selected this visualization design?

(Take the mainland of United States for example)

By state

As we can see on the map, Maine has the darkest color in the mainland of United States. As a result , we can easily know that Maine has the highest average of growth rate among the states due to the significant color.
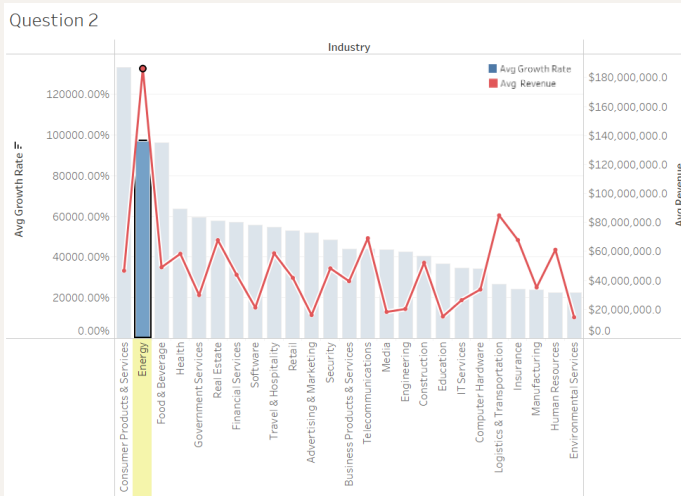
By city

We could simply find the areas that have big circles in the mainland of United States at the first sight. Also, we can zoom in and check for the details of the city's name and the number of the average growth rate.

This visualization can show two different kinds of view and let reader decide to see the problem in different kind of perspective.

Question 2: How do the revenues and growth rates of different industries differ?

The chart shows a dual axis representation, the y-axis on the left is the average growth rate, while the y-axis on the right is the average revenue.
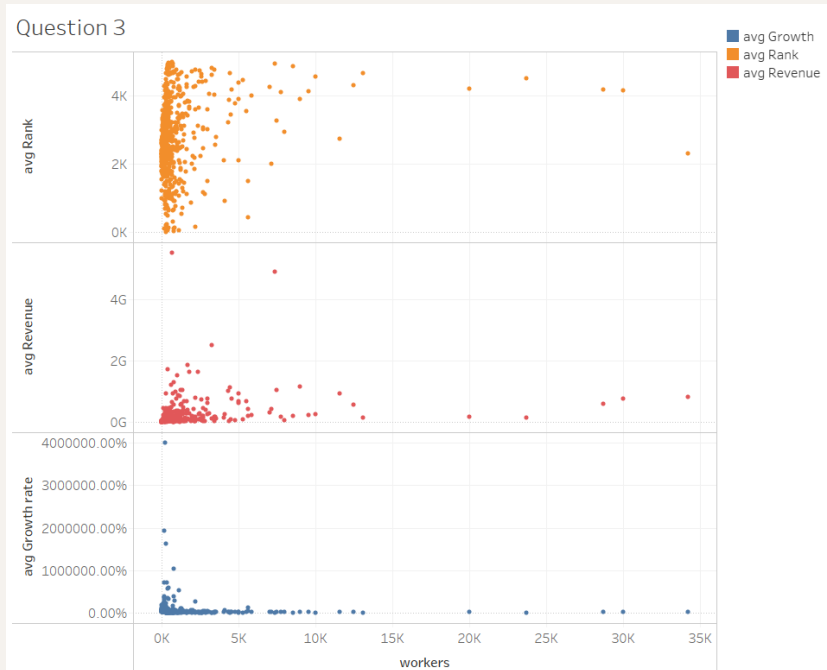
Furthermore, the industry is sorted by the average growth rate.

Why I selected this visualization design?

Using the bar chart to represent the average growth rate and the line to show the average revenue can help readers notice the trend between the industries. Moreover, we can select the industry that we are interested about. Take the energy industry for example, the chart shows that it has the highest average revenue, and its average growth rate is ranked second place in the dataset.

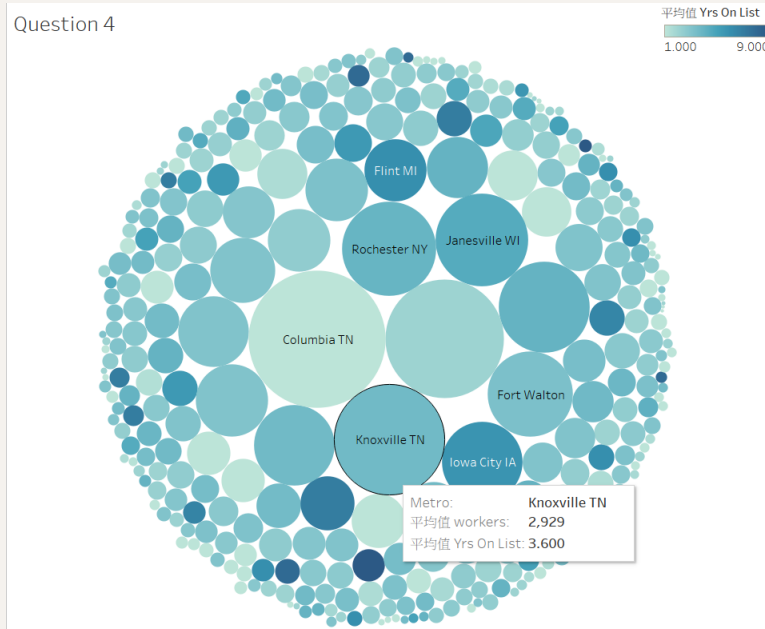# Question 3: How do company size relate to ranking, revenue, and growth?

The workers' amounts represent company size.

This chart shows that based on the different workers' amounts, the average growth rate, the average revenue and the average rank have a different distribution for us to discuss. For example, we can note that as the company size grows, the lower it ranks. In contrast, the smaller company size shows that it has wider ranges for ranking, revenue and growth rate.

Why I selected this visualization design?

I use dot plot to increase the data density. Also, because we don't have every value of each worker's variable, so it is not appropriate to use line chart.

Question 4: Which metros have both bigger company size and longer years on list?
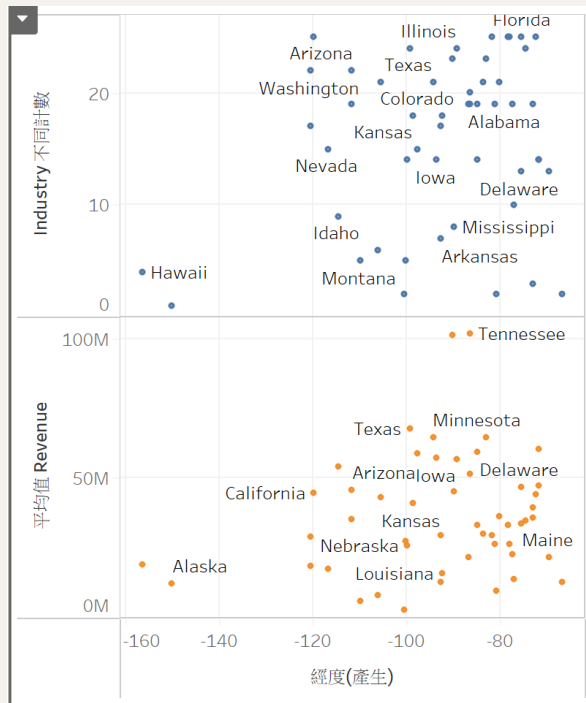

The workers' amounts represent company size.

The bigger the circle is, the more average worker is from the metro. While the darker the color is, the longer the average year on list is. We can see that Knoxville TN has both big circle and darker color compared with other metros. Thus, it is a possible answer to the question.

Why I selected this visualization design?

Humans are sensitive to size and color, so it is a simple visualization for them to find the answer to the question.

Question 5: How do the average revenue and the variety of industry based on the longitude differ?

The x-axis represents longitude, and the y-axis shows the average revenue and the count of different industry of the state. We can see that in the east side of America (Tennessee) has higher average revenue. The west side, Hawaii and Alaska have fewer average revenue and numbers of different industry.

Why I selected this visualization design?

I want to let readers compare the distribution of the two variables that based on longitude easily, so I chose to use dot chart with two rows to present.

Critique of Tableau

As a user of both Tableau and Power B.I, I want to say that...

1. Tableau's user interface is harder to understand.

It's my personal opinion that Tableau's UI is harder to understand and get used to it, compared with Power B.I.

2. Tableau provides basic visualization tools.

Tableau provides basic visualization tools such as maps, bar charts, tree maps... and so on. However, Power B.I provides kits online and can expand them easily.

3. Tableau can map locations easily.

It amazed me when I figured out that Tableau can map the locations of the U.S.A based on the dataset so that I didn't have to do it manually.

References

Tableau - Intro to Maps for Data Visualization
https://www.youtube.com/watch?v=fHe0jFgVPJU

Tableau - Heat Maps
https://www.youtube.com/watch?v=VVH0l1qytAg

Tableau in Two Minutes - A Dual Axis Chart with Two Measures on One Axis
https://www.youtube.com/watch?v=RZoPARaIwcw