

CIS576 – HW2 Submission

by Laurette Hamlin

Scatterplot Comparison – NSF Awards for 2012

Excel Example:

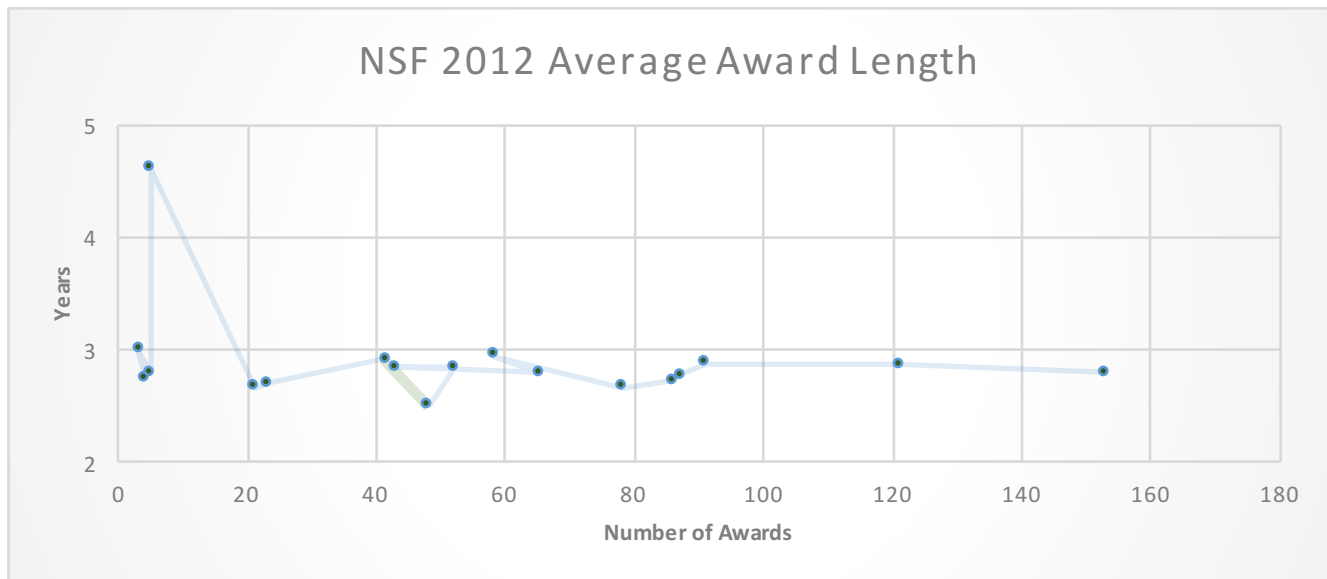
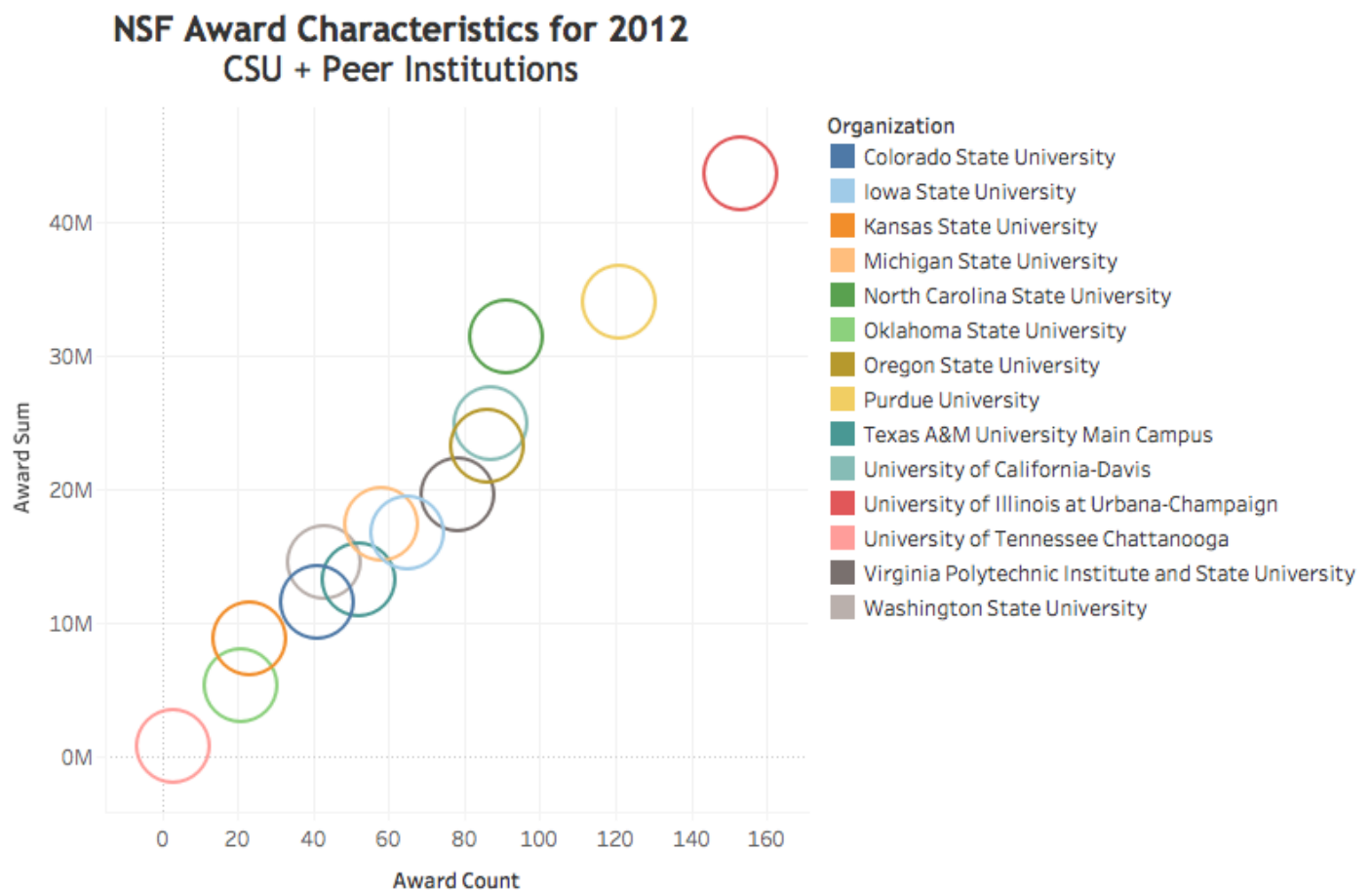


Tableau Example:



Sum of Award Count vs. sum of Award Sum. Color shows details about Organization. Details are shown for Organization. The data is filtered on Award Year, which ranges from 2012 to 2012. The view is filtered on Organization, which keeps 14 of 1,571 members.

R (ggplot2) Example:



Bubble Chart Comparison – NSF Awards for 2012

Excel Example:

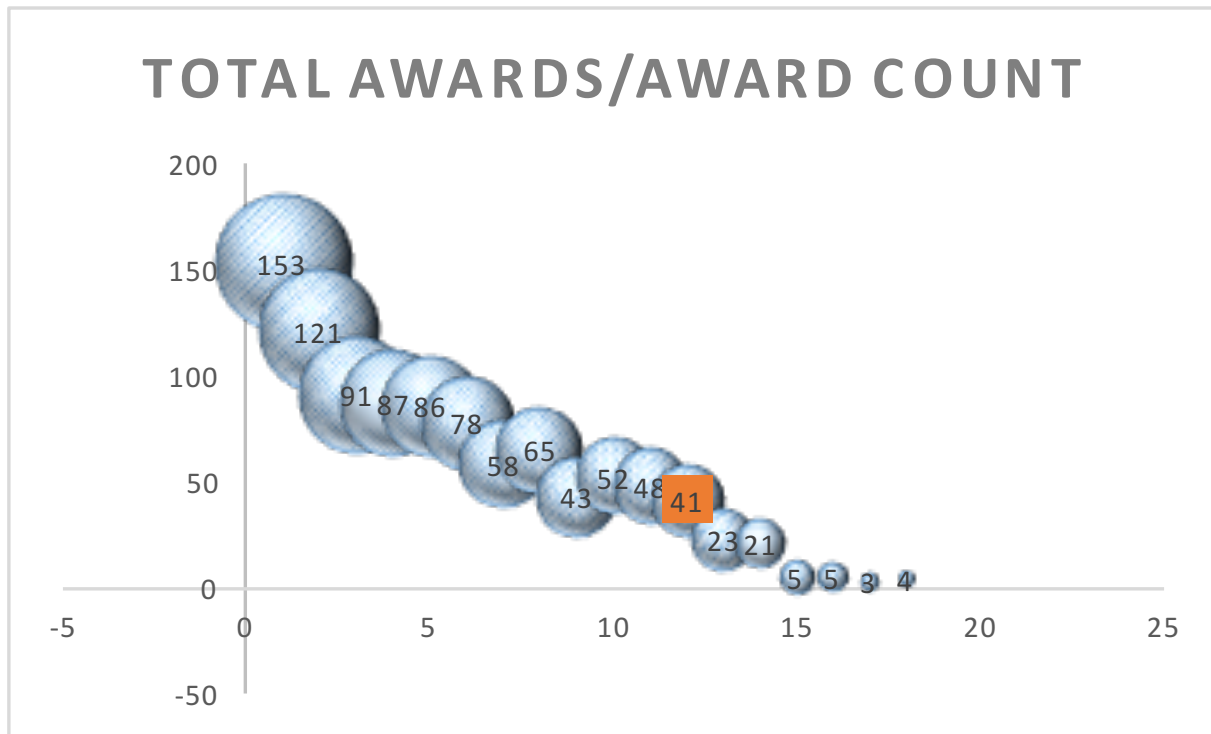
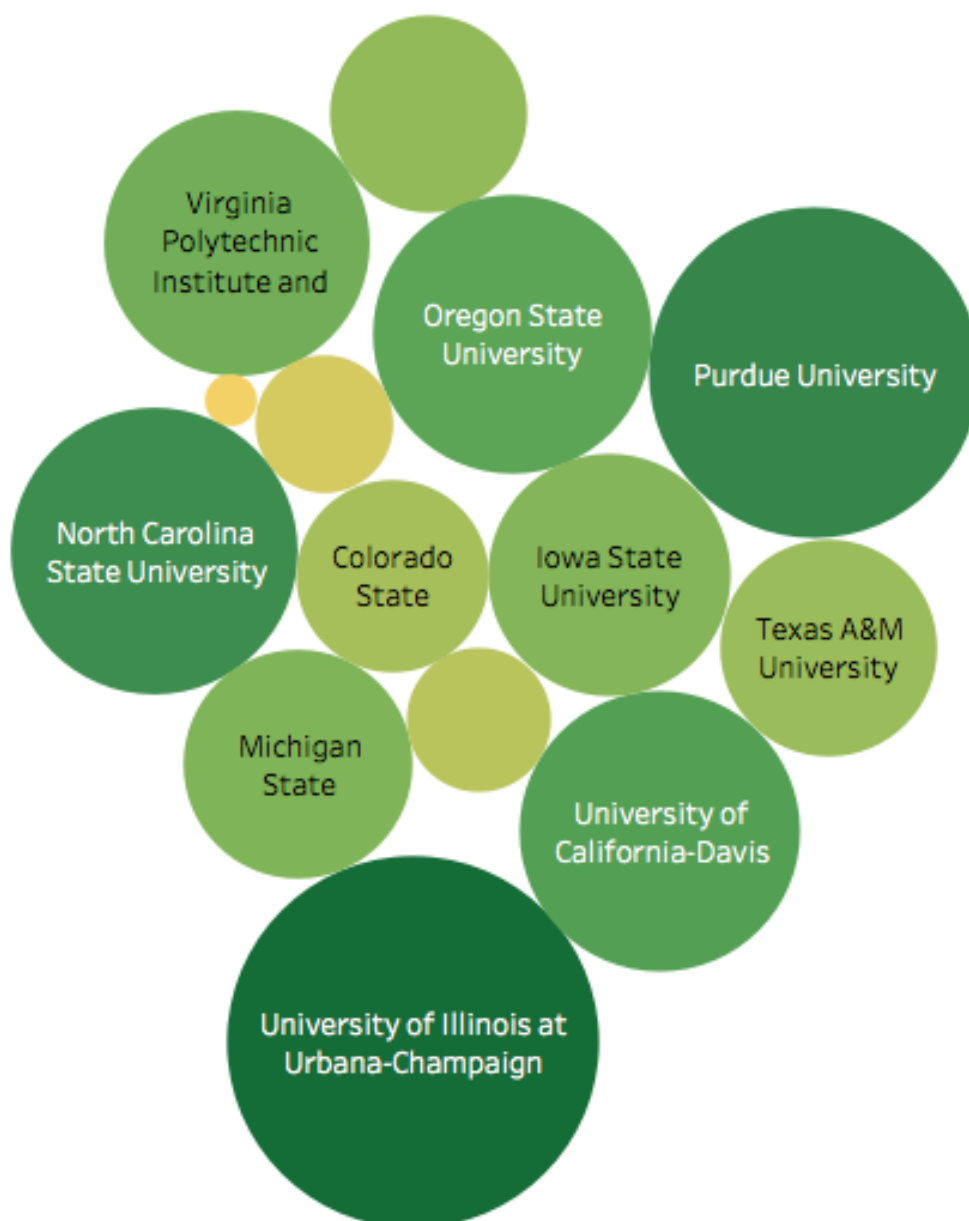


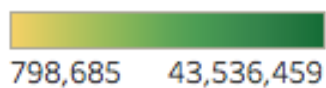
Tableau Example:

NSF Award Amounts for 2012

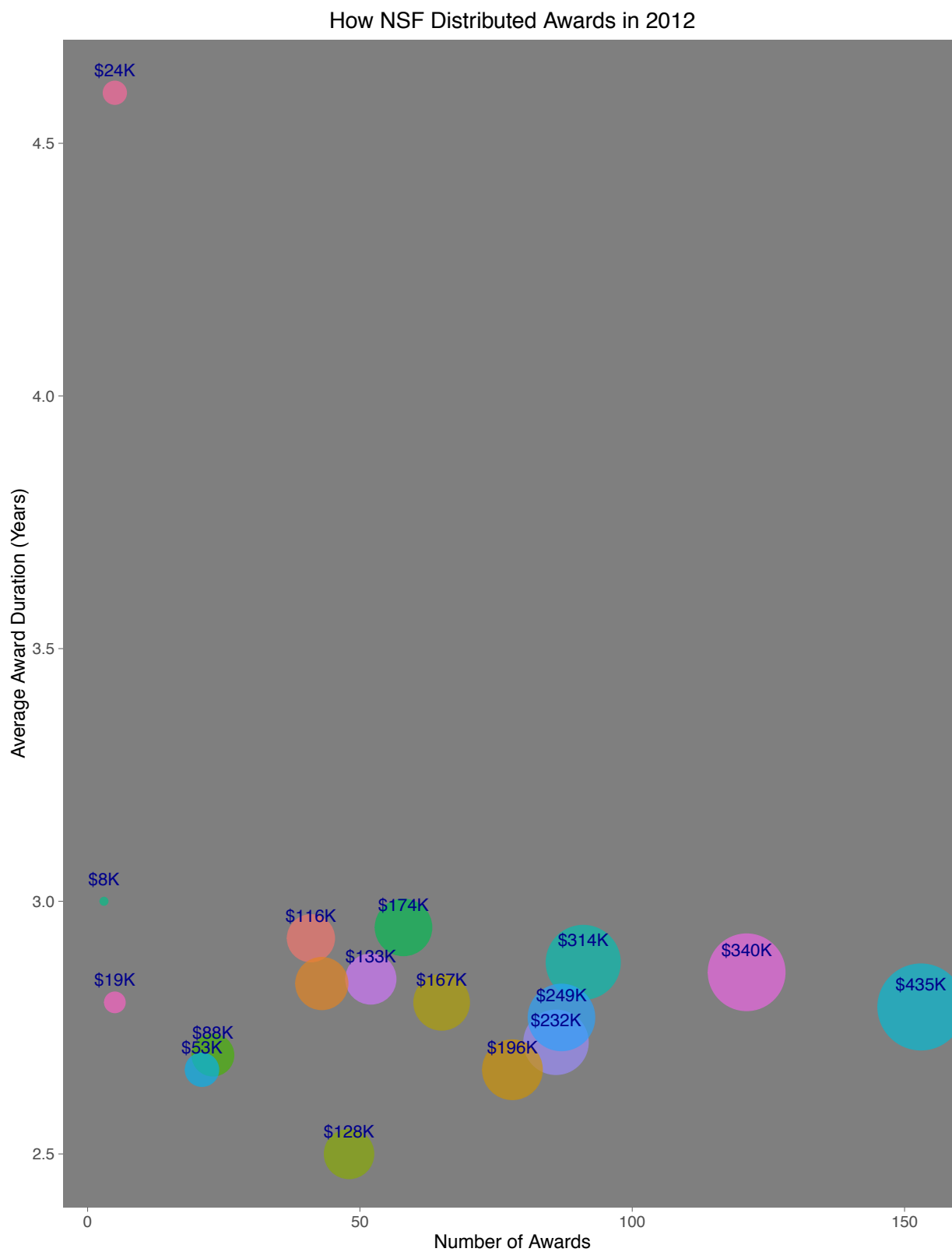


Organization. Color shows sum of Award Sum. Size shows sum of Award Count. The marks are labeled by Organization. The data is filtered on Award Year, which ranges from 2012 to 2012. The view is filtered on Organization, which keeps 14 of 1,571 members.

Award Sum



R (ggplot2) Example:



Bar Chart Comparison – NSF Awards for 2012

Excel Example:

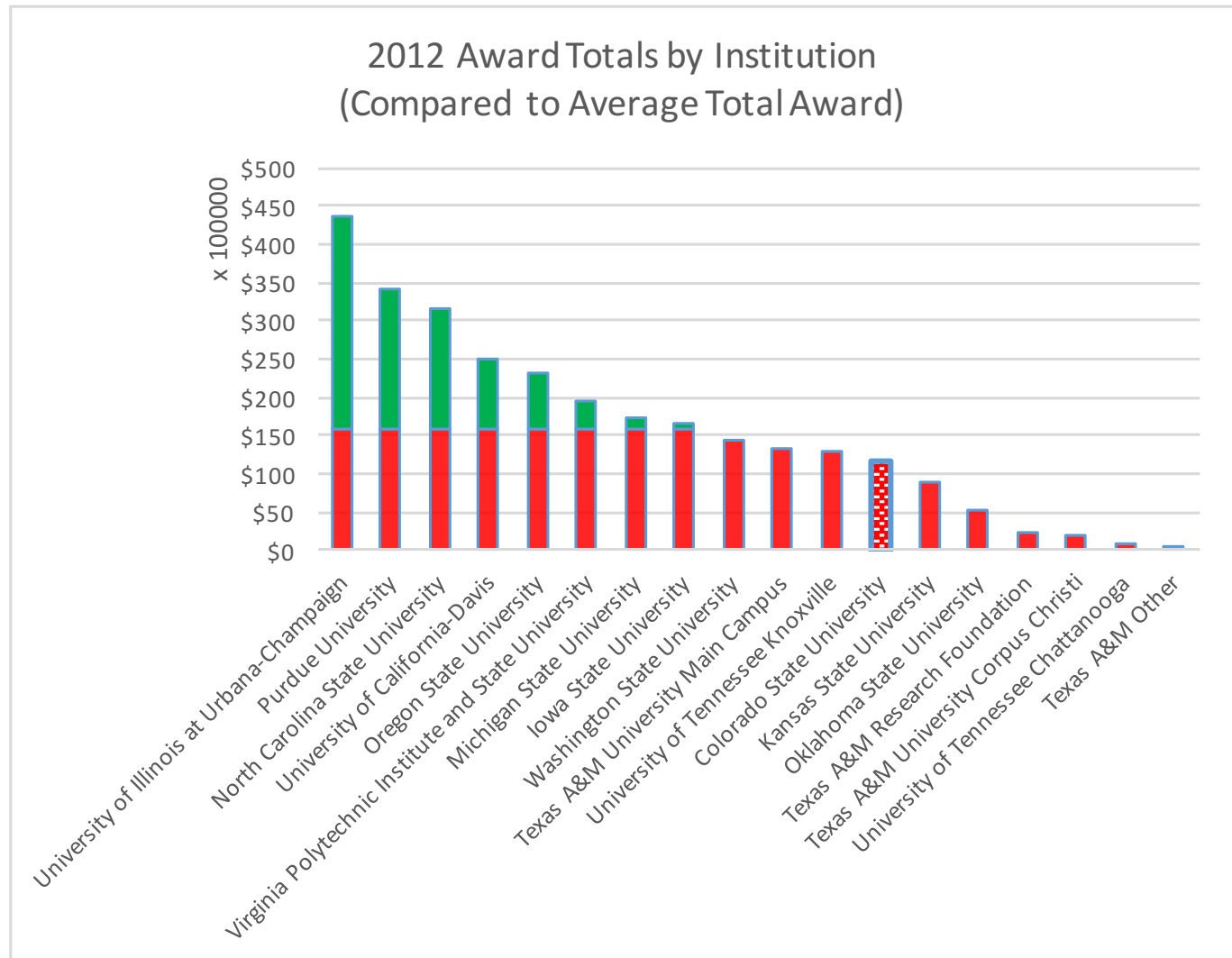
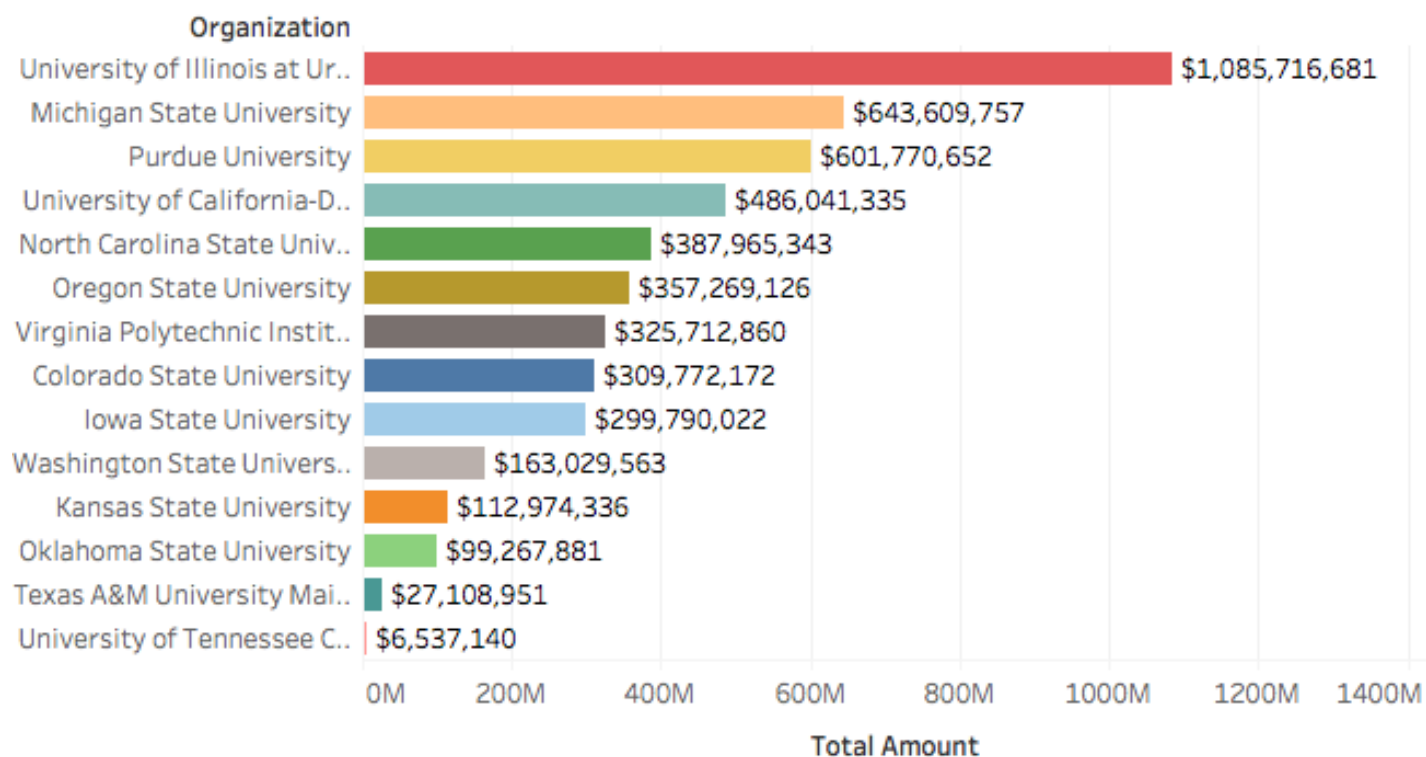
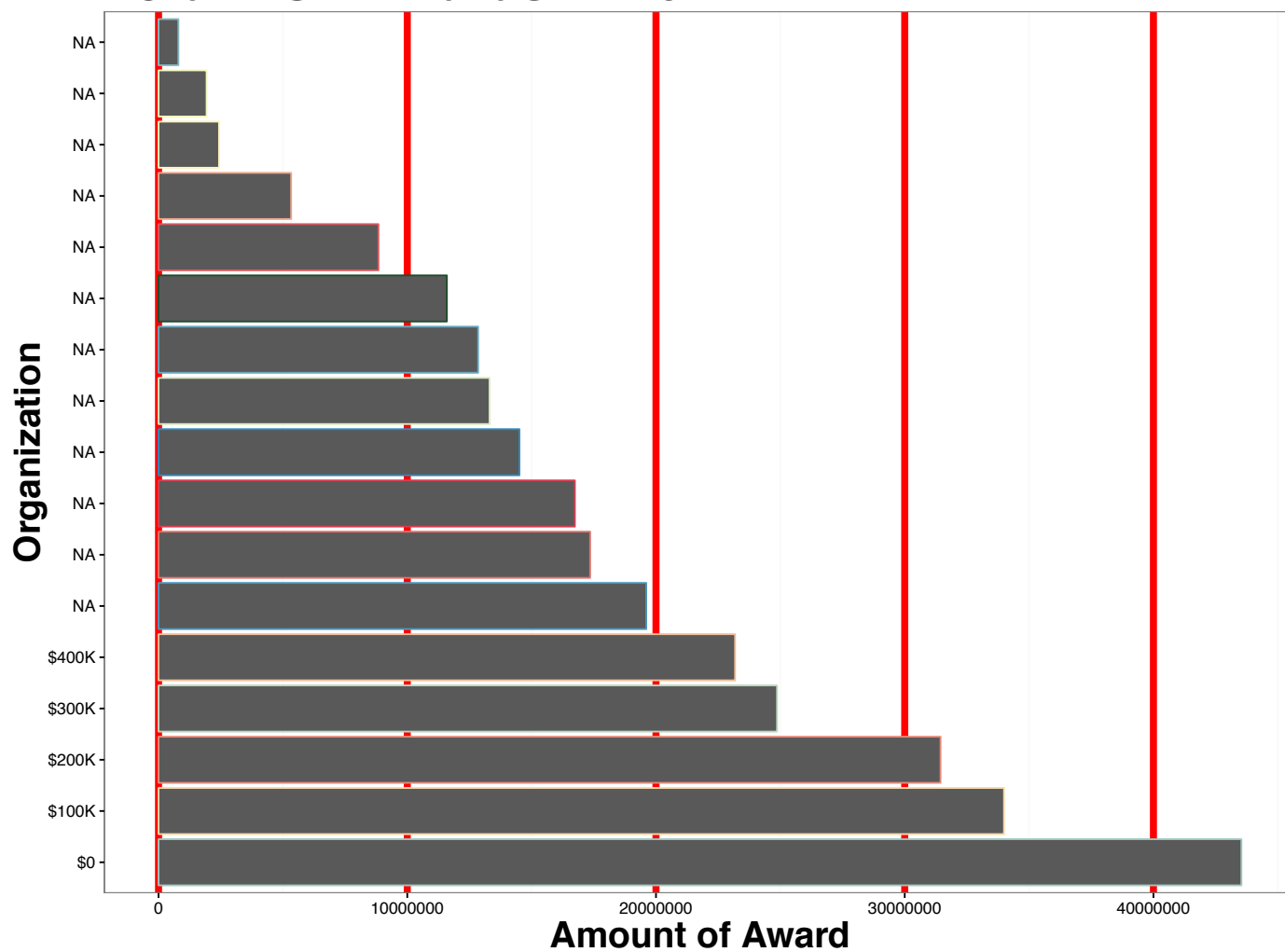


Tableau Example:

NSF Total Awards for 2012



Total NSF Awards in 2012



Time Series Comparison – NSF Awards (all Years)

Excel Example:

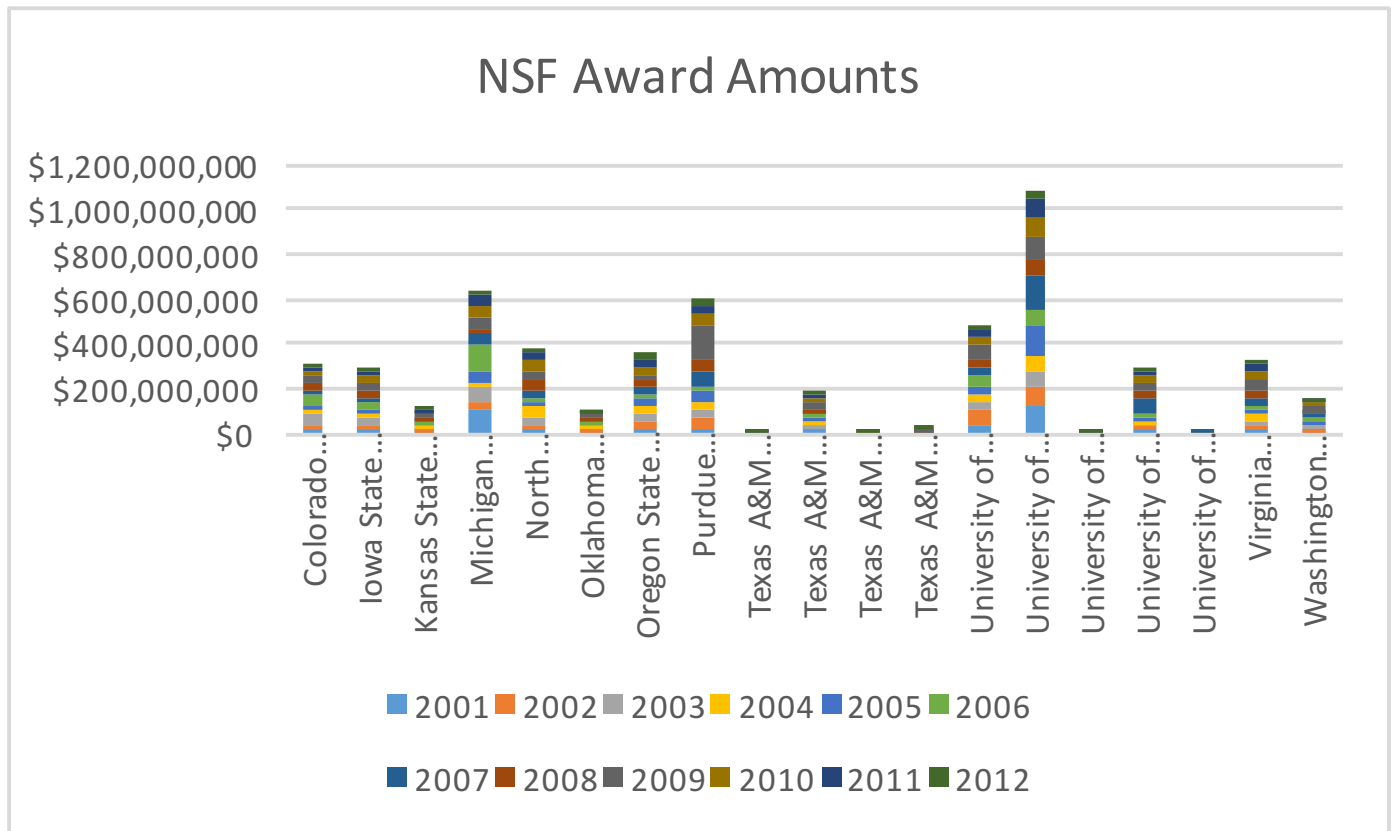
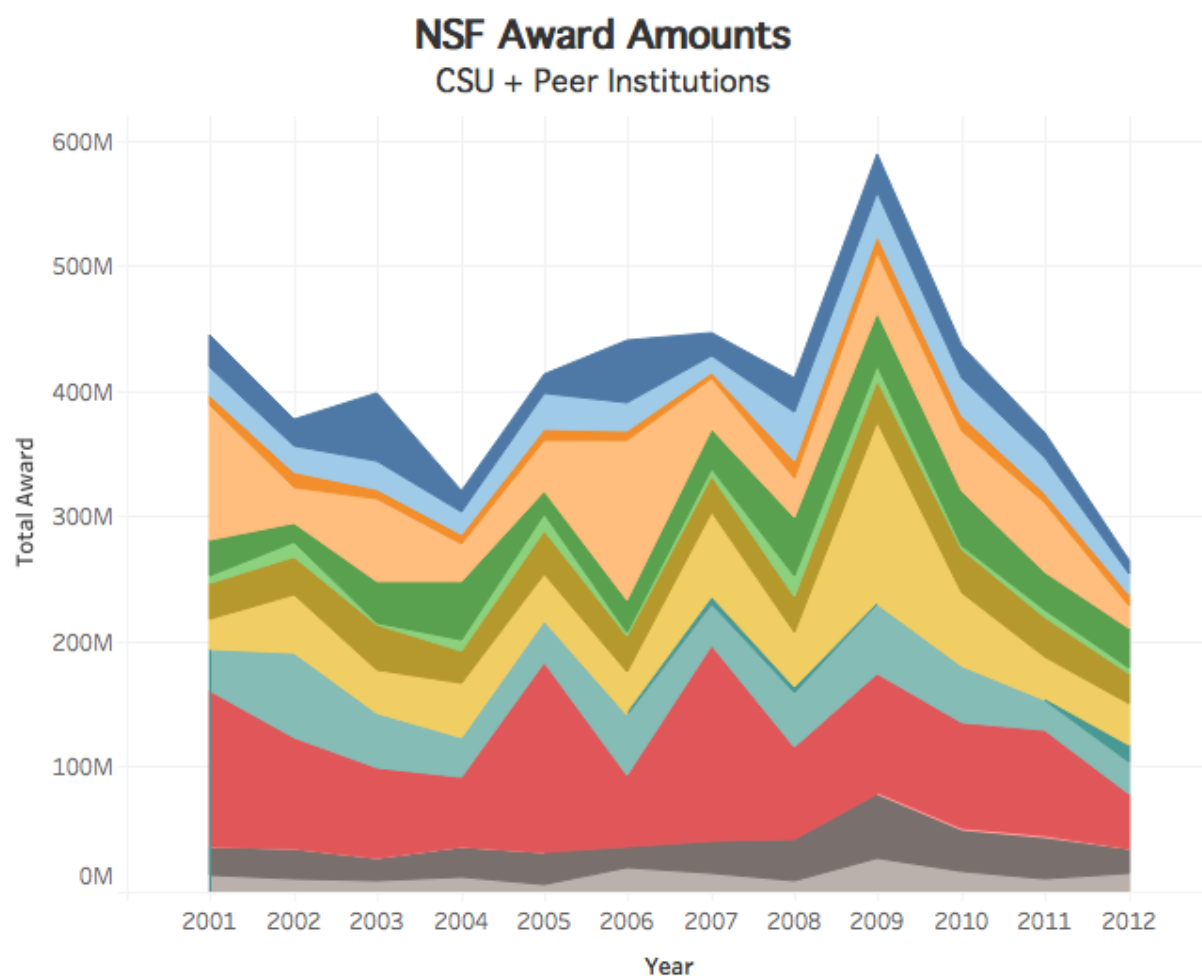


Tableau Example:

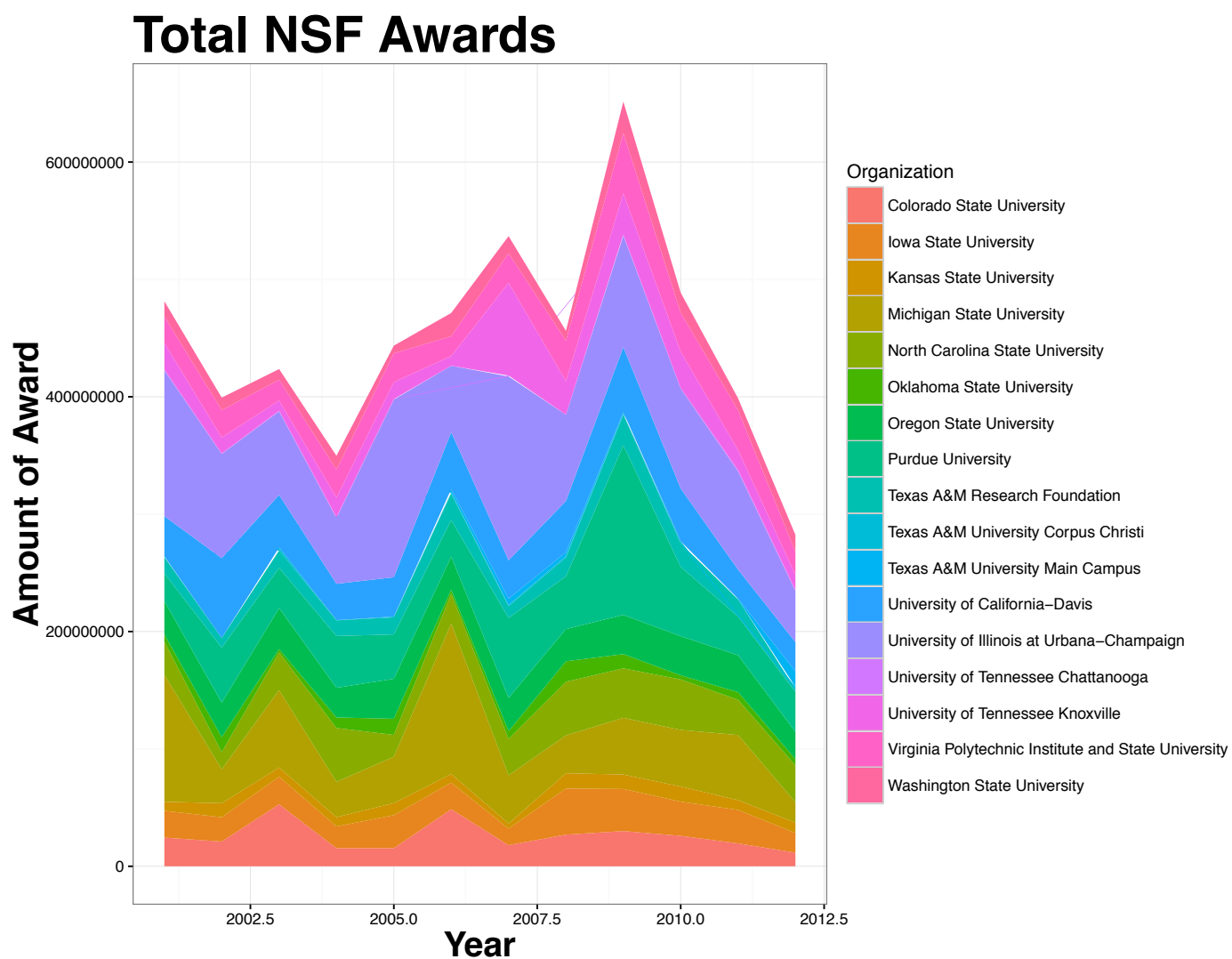


The plot of sum of Award Sum for Award Year. Color shows details about Organization. The view is filtered on Organization, which keeps 14 of 1,571 members.

Organization

- Colorado State University
- Iowa State University
- Kansas State University
- Michigan State University
- North Carolina State University
- Oklahoma State University
- Oregon State University
- Purdue University
- Texas A&M University Main Campus
- University of California-Davis
- University of Illinois at Urbana-Champaign
- University of Tennessee Chattanooga
- Virginia Polytechnic Institute and State University
- Washington State University

R (ggplot2) Example:



Tool Comparison

Of the three tools, I found Tableau the easiest to use. It was intuitive and was designed from the visual perspective rather than the data perspective. I was able to make basic visualizations without much effort or training. What was especially useful was the pre-defined color palettes and chart types.

Everyone's traditional favorite, Excel, was my least favorite to use. Even though it is relatively easy to make a variety of charts and graphs in Excel, one is limited to two levels of visual creation: basic (using the pre-defined options) or complicated (using VBA to try to do something advanced). I particularly find time-series plots difficult in Excel and never did create one I thought was good for this assignment. Since Excel is, at its core, a spreadsheet tool first, it is difficult for me to create and tweak charts and graphs that really "pop". This was compounded for me because I use a MacBook, and Excel on that platform is limited.

Although R gave me a lot of trouble and has a huge learning curve (that caused me to turn in one week late!), it is my favorite tool. This is because of the enormous flexibility R offers. I find the layer concept in ggplot2 my favorite way of creating plots, even over tableau, because I can specify what I want down to a very fine-grained detail, as well as compare and contrast easily. For example, to create a combination of bars+line=gannt, I could use the default plots in Tableau and Excel, or I could create an interesting, new one from scratch in R.

Overall, this was a very difficult assignment for me. This was not because of the tools, but because I am learning all about visualization from the ground up. I have realized since starting this assignment that I really do not perceive my world in terms of aesthetics, but in terms of data. This is true in my home, where I noticed this last month that I spent no time on furniture placement or color schemes on the walls. Everyone else must notice it immediately, but I never did. The same goes with my clothing, which I have noticed usually clashes (or is basic black). The interesting tidbit there is that I noticed last week that my blouse and slacks were two different shades of black, and that was probably not pleasing to observer's eyes. As far as my graphic visualizations have gone, I have noticed I usually prefer not to make visualizations at all. Once the data is cleaned and formatted, I tend to consider myself done. If I did make charts and graphs before, they were always made with the basic templates.

Even though I have probably lost all points for turning this in so late (although I hope I do get some), I personally am very proud of myself for sticking with it and completing it as best as I could. I truly learned and grew by looking and trying and actually being aware of visual elements. Even something as simple as a horizontal bar chart was new to me, and I truly pushed myself to try new things. I am truly looking forward to now being over this initial roadblock, and seeing if I can become a really good data visualizer.