**What tools have we explored? What do we like/dislike about them?**

During the data visualization course primarily there have been 2 tracks

1. Visualization using R
2. Visualization using Tableau

Visualization using R

For this we have used following

1. R Language
2. ggplot2
3. Shiny apps
4. R Studio (Cloud and Desktop)
5. ShinyApps.io

Likes

1. Since I come from programming background, I prefer programming languages and tools related to it, which provides flexibility.
2. R ecosystem general is open source, so there are lot of visualization packages which are available for free.
3. ggplot2 library in R is pretty powerful and has capability to create variety of types of visualizations.
4. ShinyApps are also very useful to build web interface to share the visualization findings with others on web in an interactive manner.
5. Online community support (R as well as Stack overflow)
6. Because you can always write your own scripts, it means R will always be more flexible than Tableau in terms on the type of visualizations you can generate.

Dislikes

1. Learning curve is steep especially ShinyApps.
2. ShinyApps.io free version only provides limited resources. You cannot put a shiny app which has visualizations build on data which is of larger size (1-2GB).
3. Difficult to debug Shiny Apps.

Visualization using Tableau

For this we have used following

1. Tableau Desktop
2. Tableau Public

Likes

1. Easy to use.
2. Drag and Drop features makes it easy to build visualizations in rapid manner.
3. Good for people who come from non-programming background.
4. Dashboards can be built quickly and can be shared by publishing it to web using to Tableau Public.

Dislikes

1. Product license is costly. Only big organizations can afford it.
2. Not a big fan of Drag and drop tools.
3. Layout building was kind of tricky. It has concept of vertical/horizontal tiles as well concept of floating and tiled which took a while for me to learn.
4. While scripting it is step by step approach and you code for each steps, but in Tableau you start building things using various menu options and dragging dropping things, so if you are stuck at some point and have to go back and forth then then you tend forget the steps that you have done. This is especially applicable when you are in learning phase.

To summarize, R provides you with everything: data extraction, manipulation, analysis, visualization, and reporting. Don't let the learning curve scare you; you are missing out if you are not using it.

**What visualization do we use where?**

You want to compare values, to create a comparison chart, use these types of graphs:

1. Column
2. Bar
3. Pie
4. Line
5. Scatter Plot

To show composition of something, use these charts:

1. Pie
2. Stacked Bar
3. Stacked Column
4. Area
5. Waterfall

Use these charts to show distribution of data

1. Scatter Plot
2. Line
3. Column
4. Bar

To analyze trends in the dataset use following charts

1. Line
2. Dual-Axis Line
3. Column

When trying to establish the relationship between things, use these charts:

1. Scatter Plot
2. Bubble
3. Line