William Kelly

MBA 562

Module 1 Graded Discussion

Data Visualization Tools in Workplace

* What tool(s) do you use currently to create data visualizations?
* Do you ever use a combination of tools to create a single visual?
* If so, what tools do you use and what role does each tool play in your process?

I work as a software test engineer at Northrop Grumman testing the modules that go on-board the F-22 Fighter Jet. Currently I use the programming tools National Instruments LabVIEW and TestStand as well as Microsoft Excel to visualize the data tested in the lab.

I use LabVIEW, which is a data flow programming language to interface with the test instruments which is effective at creating integrated capabilities for generating plots and exporting the data to excel or csv files. LabVIEW is also a graphical programming language using a Front Panel and Block Diagram to create the different functional “Virtual Instruments” (VIs).

In addition, I use TestStand, which is an IDE Test Executive language to sequentially perform the LabVIEW functions along with generating reports from the different tests performed. This tool is useful in providing information on how the tests ran and whether the tests passed using Numeric Limit Tests as well as displaying a test report.

Lastly, I use Excel to sort and graph the data being exported from LabVIEW for the test engineers to visualize the outcome of the results. The results are plotted on each tab of the excel worksheet to make it easily laid out so that the data is visually clean when analyzing the data.

Overall, the combination of these tools does a great job in visualizing the outcome of the tests being run and allow the test engineers to evaluate the effectiveness of the tests. It also improves the functionality of the modules being tested which results in continuous improvement of the technology being designed for the F-22 fighter jet.

**Rebecca Wood-Spagnoli**

Currently I create a very limited number of data visualizations in my day to day work. When I do create visualizations it is often with a tool from the G Suite typically either Slides or Sheets. Typically if I’m working with a large volume of quantitative data I’ll utilize Sheets because the functionality is powerful and allows me to create a wide range of charts within a few minutes. If I’m working with a small data set I may create visuals more manually using Slides. In these cases I use a variety of shapes to create visual elements.

Sometimes if I’m not sure which is the most appropriate way to visualize a data set, especially if I’m trying to display several different data sets or different visuals on a single page I’ll sketch it out first using Adobe Fresco on my iPad. I do this to get my ideas out without the constraints of technology.

When I’m creating final visuals I use either Sheets or Slides but I don’t use both. This simplifies creation and speeds up time. The only time I’d combine tools is if I’m putting together several visuals into a single view. In this case I’ll create them individually in either Sheets or Slides and then combine them into a single view in Slides or Docs. This is a pretty rare case for me. Docs is only ever an aggregator but in the case of Slides it can serve both as a creator of visuals and as the place I aggregate them all. Sheets is only ever a creator, while it’s great for manipulating large data sets quickly I don’t find it an intuitive vehicle for compiling and presenting several different visuals.

**Response:**

Hi Rebecca,

Thank you for your insight into the tools you use in the workplace.

I agree that the Google Suite application contains very useful functionality for creating visualizations whether it be for presentations or gathering information into a single document to make it easy to find and reference for future use.

Through my experience I like to use a combination of Sheets and Slides. Like you were saying, you can easily manipulate large sets of quantitative data using sheets to create plots and other visualizations. But then from there one can easily export the charts and visuals onto Slides along with creating notes and subtitles to outline the main ideas of the data being presented.

Also, G suite is great when you want to collaborate on projects such as within the iMBA program. Gives you the ability to create visualizations through sheets, slides, Google docs and providing the convenience for each person on the project the opportunity to contribute to the design of the project or presentation in real time.

I also agree that Adobe Fresco is a great tool to get your ideas flowing before starting the visualization process, I have been using Microsoft Visio which is an effective tool for creating flow diagrams to outline and create visuals for how the overall design is laid out and then work to generate the visuals using the data.