

## MIS0855: Data Science

### In-Class Exercise on Mon, Feb 9 – Telling a Story through Visualization

**Objective:** Identify which visualizations are most appropriate to convey a message

#### Learning Outcomes:

- Discover the way in which data can be represented using Tableau.
- Select visualizations that best describe relationships in the data.
- Suggest and implement modifications to improve existing visualizations.

You'll be working with an existing Tableau workbook (studentloans2013.twb). It uses an Excel spreadsheet (studentloans2013.xlsx).

The data set lists student loan data, by school, for 2013. It includes the amount awarded, the amount disbursed (paid), and the number of students that received loans.

The original data set is hosted on the FederalStudentAid site maintained by the US Department of Education (see <https://studentaid.ed.gov/data-center>).

#### Part 1: Download the Tableau workbook and the Excel spreadsheet (individual - 5 minutes).

- 1) Go to the Community Site and look for the post with this in-class exercise.
- 2) Right-click on the link to the Tableau workbook (studentloans2013.twb) and save it to your computer.
- 3) Right-click on the link to the data set (studentloans2013.xlsx) and save it to your computer. And save it to the same place where you put the Tableau workbook!
- 4) Remember where you both of them.

You can open the file in Excel and take a look through it. The Data Dictionary is in the tab "Data Dictionary"
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- 5) Start Tableau. If you're using Windows 7, find it on the Start Menu. If you're using Windows 8, it will be an icon on the Start Screen.

## Part 2: Examine the graphics (individual – 10 minutes)

- 1) Open the Tableau workbook (File/Open).

If you get a message that it can't find the file, choose to replace it with another file. Then browse for the studentloans2013.xlsx file that you saved to your computer.

- 2) Look through each of the nine tabs in the Tableau workbook. Each tab has its own visualization of the data. Some are different visualizations of the same data, and some look at different fields entirely.
- 3) For each graphic, try to understand (i) what are messages or stories and (ii) whether you think it is effective in explaining something about how student loan money is distributed (by type of school, by state, by institution, etc.). Refer "Data Visualization Principles" at <http://moz.com/blog/data-visualization-principles-lessons-from-tufte>.

## Part 3: Prepare (group – 10 minutes)

- 1) In groups of three or four, discuss each of the graphics in the workbook.
- 2) Choose two graphics you think are the most effective at communicating insights from the data. Explain **why** you think they are effective.
- 3) Choose two graphics that you think are not very effective. Again, explain **why** you think it is not effective. Also, **recommend** changes to the graphic to make it better.

Since you are familiar with Tableau, try to use the software to improve those graphics!

## Part 4: Class Discussion (class – 5 minutes)

We will discuss your choices for "best" and "worst" graphics, and your suggestions for improving them.

Send your group's note to [minspang@temple.edu](mailto:minspang@temple.edu) by 10:00AM.