

Part 1: Interactive Data Dashboard

1.

Dashboard is provided with the submission of this Task as well as the data sets as .CSV files and a Python workbook file to show some alterations to the dataset to make it flow easier with Tableau.

2.

Step 1: Go to <https://www.tableau.com>

Step 2: Download the software and run through the installation prompts.

Step 3: Open the dashboard file (Dashboard_D210.twb)

3.

The dashboard is interactive and will update items in other parts of the dashboard as you click. The main features of the dashboard will allow you to filter between gender and between those who churned and those who did not. On the dashboard itself, you will notice that there are two companies listed, Company 1 and Company 2. Company 1 has data that includes demographic data by state, while Company 2 data does not.

Clicking on the right hand side of the dashboard under gender, you can filter by gender and see how the dashboard changes, you can also click on the filter for Company 1 which will update the other part of the dashboard as well.

Part 2: Video is provided with this submission.

Part 3: Reflection Paper

This interactive Tableau dashboard focuses on customer churn in the telecom industry. One of the data sources was provided by the course and the other can be found at the following link: <https://www.kaggle.com/barun2104/telecom-churn>

Both data sets are focused on customer churn and both have complimentary data focused on customer churn rates, monthly charges, data usage, and demographics. These variables will give us insights into how we can best analyze and approach the problem of churn since they will allow us to dig deep into the data that may influence the reasons why customers leave a company for a competitor. For example, customer churn may be linked with higher monthly charges or with less usage and these variables will help us in discovering new pieces of information we would now know otherwise.

One way to display data is visually, which I have done with Company 1 (which shows data taken from the customer churn dataset provided with the course) and another is to show data in table format (since Company 2 has no demographic data, this was the chosen data representation for Company 2). We have also included a bar graph for Company 1 that shows customer churn rates by state which is interactive with other parts of the dashboard.

Tableau is a powerful tool because it will show how data changes when you interact with the dashboard so executive leaders can control the data they need to see through this interaction. In the dashboard I have provided a few filters in order to see how data can change according to Gender, location via States in the continental U.S., monthly charges and gigabyte usage.

I used the standard color-blind palette that comes loaded with Tableau so that anyone can use it despite any color blindness they may have, usually this means avoiding colors in red or in green, which can enhance our understanding of data as we interact with the dashboard.

The basic story that the data shows is that customer churn rates are highly correlated with monthly charges and with tenure and usage. In order to see this relationship in the dashboard, you can interact with the table for Company 1 and see how higher monthly charges lead to higher customer churn and how more usage is associated with less churn. I decided to change the churn data and state it as either someone who “Left” the company or who “Stayed” with the company. The demographic data is also important since it shows that there are more customers in higher populated states which is shown on the dashboard via the map of the U.S. where a darker hue in each state is associated with more customers.

I assumed in my presentation that most of my audience are data professional (teachers specifically) who understand the nuances of data but also want to be engaged in a story about the data so that anyone watching can be involved. I purposefully tried to steer away from being too technical and focused instead on the trends in the data, such as higher monthly charges leading to higher customer churn. Easy bits of information that can still tell a story without overwhelming or boring an audience.

One element of effective storytelling I used was to first begin with a question, mainly: why do people get upset with their service provider and end up leaving with a short tenure? I believe starting with a question first will lead to better insights later. The second element I used was to convey the data visually using the Tableau Map function even though there was no demographic data provided for Company 2. Sometimes there needs to be costs associated with conveying information and I decided that it was important to use the demographic data from Company 1 (the data provided with the course) to tell a story visually instead of relying just on tables.

In summary, I chose to begin with a question about why customers leave for a competitor, show how the Tableau dashboard can lead to insights about why customers leave, both visually via the Map and on the tables, then conclude with my reasoning for what we can do to keep customers longer.