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D210
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DATA DASHBOARD AND STORYTELLING REFLECTION

A2. Dashboard installation instructions

Executive members and non-data analyst employees wanting to view the dashboard on their own desktop, will need to download and install Tableau Reader. The dashboard has been provided as a packaged file (.twbx) and can be viewed for free within the Tableau Reader desktop application. In addition to this program being free, it also keeps the dashboard fully interactive, and does not limit the viewer from utilizing the appropriate aspects of the dashboard described in the Panopto video, and section A3 below. To download this application, the viewer can type the following URL into their web browser:
https://www.tableau.com/products/reader
After going to the web address above, the viewer would then click the "Download Tableau Reader" button to the left. A new page would appear requiring the user to fill out contact information before clicking a button at the bottom of the page that says "DOWNLOAD"
After filling out the required information and clicking the download button, the user would then follow the installation instructions provided by the developer (usually a pop-up message after attempting to "open" the application). Additionally, Tableau Reader may require the user to create a login using the information provided prior to downloading, and the user should look for messages indicating so. Once Tableau Reader is installed, the viewer can open the dashboard file (.twbx) provided to them by simply saving the file to their computer, and double clicking on the file.

A3. Dashboard navigation

Navigating the Tableau story that I created is fairly simple. Upon opening the file within Tableau Reader, the viewer will immediately see the introduction page. At the top, is the story title "Telecom Customer Insights" and four squares underneath the title. The squares indicate the various dashboards of the story but can be thought of as pages. Underneath the "pages" is a message for the viewer informing of them how to move through the presentation. This message states "Click one of the boxes or arrows above to navigate through the story". Underneath this message is the title of the introduction dashboard, indicating that it is regarding telecommunication services of customers in California. A subtitle underneath states that the data provided is a comparison of churn customers for "WGUco", a fictional name I created for the WGU data, and Telco, the additional data set used. Additionally, I provided a photo and brief description of myself.

Using the arrows, or simply clicking the box titled "Customer Information" brings the viewer to the next dashboard in the story. This dashboard contains four visualizations regarding customer details. The first graphic on the top left is titled "Customer Contract Length" and shows scatter plots pertaining to the Telco and WGUco customers. Underneath the visualization is a

filter titled “Contract Length” that has three clickable boxes to allow the user to choose whether they would like to view customer data for a month-to-month contract, a one-year contract, a two-year contract, or a mix of the options. To the right of the filter is a text box informing the viewer that they can filter by the contract length using the filter.

The text box providing information about the contract length filter also indicates that the user can filter by region using the other filter, which can be found under the visualization to the right. The top right visualization is titled “Percent of customer region” and shows a bar graph with information regarding the customer make-up for both companies and the filter toggles between the southern or northern region of California.

On the lower left the viewer can see two pie charts in a visualization with the title “Customer Gender”. The pie chart on the top indicates the percentage of male and female customers for Telco. The pie chart on the bottom indicates the percentages for male and female customers of WGUco.

Lastly for this dashboard, the lower right visualization is of a horizontal bar graph. This graph is titled “Average Customer Charge” and informs the viewer of the overall average monthly charge that customers are being assessed by Telco and WGUco.

The next “page” or dashboard can be viewed by clicking the right arrow next to the squares, or by clicking the “Customer KPIs” box. This dashboard also includes four titled highlight table visualizations, although the set-up is a bit different. The title of the dashboard states “Phone and Internet Service Breakdown by Region”. There is instructional text underneath that states “Filter by Contract Length using the filter to the right”. The filter to the right is identical to the filter provided in the customer information page.

The first two visualizations are a depiction of the number of customers and percentage of customers with internet service split by region. The last two visualizations are a depiction of the number and percentage of customers with multiple phone lines. The viewer can again utilize the filter to see view customer internet service types, or whether they utilize multiple phone lines, in both northern and southern California specified by their contract lengths.

The final page titled “Summary” can be viewed by clicking the last box or clicking the right arrow next to the boxes at the top. Within this last page is a text box, with two main points. The first being key takeaways, and those takeaways detailed underneath. The second being recommended course of action, and those recommendations underneath.

C1. Purpose and function of dashboard

The dashboards created in Tableau for the purpose of this analysis included visualizations of data from WGU-MSDA D210 coursework and a fictional company named Telco, retrieved from Kaggle. Both datasets include data related to customer churn. Telco’s customers are in California. WGUco’s customers are in multiple west coast states. To focus on a specific region of WGUco customers, only those located in California were used for this analysis. Not only was this choice made to make the data understandable, but also because it would be presented to the panel of regional vice presidents, among others. Involving the regional VP is vital to inform our executives of the regions of California and data within the reference group.

Both datasets had similar columns regarding customers demographics, services, and charges. Comparing WGUco data to that of our leading competitor Telco provides the necessary information needed for our senior executives. Customer data involving their service usage, demographics, and contract specifications is viewable for interpretation for all stakeholders in

this dashboard. The visualizations provide detailed information that can be utilized by both the executive vice president of sales, and the senior vice president for customer experience to improve customer retention and recruitment.

C2. Benefits of the additional data set

Including Telco's customer data enhances the insights for WGUco's executives by allowing the ability to compare the differing demographics and behaviors of telecommunication customers in the state of California. Comparing WGUco customers to those of our competitor allows a broader picture of what customers want and need in the state. Additionally, it allows the analyst and decision makers the opportunity to compare practices that could be better improved on. Altogether allowing WGUco to review the information to build upon changes in practices to allow greater expansion and retention of our customer base.

C3. Two data representations that support executive leaders decision-making

The first visualization seen in the customer information dashboard includes a line graph pertaining to the number of customers in a particular contract length. Executive leaders can use this graph to determine how many customers are agreeing to a particular contract length. In the dashboard for this analysis, the line graph shows a considerable number of customers utilizing a month-to-month plan as compared to longer contract lengths, for both WGUco and Telco. Reviewing this visualization could support executive leaders to make changes pertaining to goals and expectations for certain contract lengths.

Another visualization found in the customer KPIs dashboard shows a highlight table with the percentage of customers using multiple lines on their plan. The table splits up the numbers by WGUco and Telco customers, as well by northern or southern California as the region. The number and percentages of customers within the southern and northern regions could provide the executive leaders with information needed regarding expansion and promotions for family lines, or multiple lines, in one or both regions.

C4. Two interactive controls and how they are used

In the dashboard regarding customer information, there are two interactive controls. The first control is titled "Contract Length" and has three clickable values below the title. The three values are 'month', 'one year', and 'two-year'. Using this control, the user can filter the visualization related to customer counts and percentages pertaining to specific contract lengths.

The second control found in the customer information dashboard is titled "Region" and has a drop-down menu, as well as arrows to the left and right of the applicable category. The two available categories are 'Northern CA' and 'Southern CA'. This control allows the user to view the percentage of customers in a particular region for both companies, one region at a time. Both controls are only applicable to one visualization each, with each control having been placed below the applicable visualization.

C5. Dashboard accessibility for individuals with colorblindness

Although I did use colors in my presentation for viewers that benefit from such usage, I made sure to utilize visualizations that were not solely dependent on color for interpretation. In addition to avoiding color dependent visuals, like a heat map, I ensured to include important data point labels in each graph. Instead of using color schemes to depict the differences in values, the data points are label very clearly in automatic black ink. All other words or numbers used within the story are also in black and white, rather than color.

C6. Two data representations that support the story being told

The horizontal bar graph found in the lower right corner within the customer information dashboard compares the average customer charge for both Telco and WGUco customers. Having these bars highlight the major difference in average customer charge supports a portion of the story I wanted to tell, which was that restructuring of packages and promotions is vital for WGUco. Because Telco offers nearly the same types of add-on services, and internet service types, it is important to compare these numbers. Showing that our largest competitor can provide all the same services as WGUco at a significantly lower cost to the customer could help inform the executive members of gaps in customer count. Updating promotions to seem more appetizing to customers could allow WGUco to obtain and maintain a strong customer base.

Found in the "Customer KPIs" dashboard, the second highlight table provides the percentage of customers using either DSL or optic internet service, and in which region. The data is also split between WGUco and Telco. The data shows that DSL and Optic internet service are almost evenly distributed between the regions for all WGUco customers that use internet service. The data also shows that most Telco customers with internet service utilize fiber optic, 73.8% to be exact. Forty percent being in the southern region, and 33.8% being in the northern region. Displaying this data supports another portion of the story I wanted to tell, being that WGUco should expand their fiber optic internet promotions in the southern California region.

C7. Use of audience analysis to adapt the message in the presentation

Within my Panopto video, I thanked everyone for being there and proceeded as if we were in a Teams meeting. In addition, I addressed the SVP (Sarah), the EVP (Paul) and the regional VP (Taylor). I also thanked them for being there for the presentation and noted that their tasks and key focuses were taken into consideration when preparing the presentation. When presenting data presentations pertaining to the interests of the individual executives, I mentioned the importance of the visualizations and how they could meet the differing needs of the members. I made sure to allow members of the meeting to ask questions and explained all the various aspects of the dashboards in detail. Throughout the video I demonstrated and read off the instructions for moving through the dashboards and the filters as well.

C8. Universal access by all audiences

Within my storytelling I informed the audience that I would send the presentation via email. I saved the presentation as a packaged workbook and have included that workbook to this submission. This .twbx file can be opened and viewed using Tableau reader. Additionally, throughout my presentation I included instructions for how to navigate the dashboards. Within the first dashboard of my introduction, I included a textbox with instructions on how to move

through the different dashboards within the story. In the latter dashboards, textboxes were included to detail how to use the filters and what they were for. Additionally, I utilized visualizations that the average person could interpret. Adding the data points via text labels allows the user to see the data upfront, rather than needing to hover over any graph to find the data. Lastly, the presentation was created to flow together and fit together appropriately. Lettering was made large enough to be legible, and no visualizations clashed with another.

C9. Audience engagement

Before delving into the data, I warned the viewers of the difference in customer data available for WGUco compared to Telco. I explained that there were 710 WGUco customers and 1,869 Telco customers. In explaining this, I let the viewers know that certain graphs may seem significantly different because of the difference in data counts available. Then I went into explaining the different graphs, starting with the customer contract length visualization, which showed the difference in customer count. Pointing out the difference between customer count within the data frames, and then showing a visualization that shows exactly that difference, promotes viewer engagement. Providing information indicating that a little extra attention may need to be given to interpret the data, could motivate viewers to be involved in the presentation to ensure they are not missing important topics.

An additional element of effective storytelling that I implemented was speaking to the audience as if there were truly a live audience present. Not droning on about the data points or talking in a monotone manner helps viewers stay interested and engaged. Throughout the presentation I mentioned viewers by name and noted that I would be emailing the presentation to each and every individual in the meeting. Additionally, I asked three times throughout my presentation that any viewers with questions speak up or write in the chat. By recognizing the individuals in the meeting and continuously promoting engagement via questions allows all members of the meeting to be deeply involved.

D. Sources

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