**Dashboard for Monitoring Internet Use and Customer Retention**

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**A. INTERACTIVE DATA DASHBOARD**

The tableau dashboard was created using Tableau Public can be accessed at this link: <https://public.tableau.com/views/ChurnAnalysis_16882133465550/Dashboard?:language=en-US&:display_count=n&:origin=viz_share_link>

**A1. DATA SETS**

The two dataset sources for the dashboard are attached. The first data source, “churn\_clean.csv” is the churn dataset provided internally. The second data source, “broadband\_data\_clean.csv” includes county level broadband internet availability and usage data released by Microsoft and the FCC (Thomas 2020).

Python was used to pre-process both datasets before uploading them to Tableau. The python script is attached (D210.py). The external broadband dataset (Thomas 2020) was cleaned by removing metadata rows at the top of the table and checking for nulls and duplicates (none found). The values in the “County Name” field of the broadband dataset were also adjusted to match the “County” field in the customer churn dataset so that “county” serve as a key for joining the datasets in Tableau. For example, in the broadband dataset, the county names included the word “county”, “municipality”, or “borough” after the name, which is inconsistent with the customer churn dataset “county” format. Therefore, those ending strings were removed from the broadband dataset “country name” column. Finally, a ”Region” feature was also added to the customer churn dataset by mapping states to the four major regions in the U.S. This addition will allow us to use “region” as a filter on our tableau dashboard.

**A2. INSTALLATION INSTRUCTIONS**

The dashboard is currently available on dashboard public. Follow the instructions below to access the dashboard.

1. Click the link below to open it or copy and paste the link into your favorite browser.   
   <https://public.tableau.com/views/ChurnAnalysis_16882133465550/Dashboard?:language=en-US&:display_count=n&:origin=viz_share_link>
2. In the bottom right corner of the dashboard, click the full screen icon (see picture below) to use the dashboard in full screen mode.

A screenshot of a computer

Description automatically generated

**A3. NAVIGATION INSTRUCTIONS**

There are two drop-down filters available in the top right corner of the dashboard.

**B. PANOPTO STORYTELLING WITH DATA**

A link to a Panopto multimedia presentation is provided, and the presentation includes each of the given elements. The multimedia presentation implements elements of effective storytelling.

**C1. DASHBOARD ALIGNMENT**

|  |
| --- |
| The submission explains a reasonable alignment between the purpose and function of the dashboard and the needs outlined in the data dictionary associated with the chosen data set. |

**C2. ADDITIONAL DATA INSIGHTS**

The submission clearly explains how the variables in the additional data set enhance the insights that can be drawn from the chosen provided data set.

**C3. DECISION MAKING SUPPORT**

The submission clearly and plausibly explains how 2 different data representations from the data dashboard could support executive leaders’ decision-making.

**C4. INTERACTIVE CONTROLS**

The submission includes an accurate explanation of how 2 interactive controls in the dashboard enable users to modify the presentation of the data in the dashboard.

**C5. COLORBLINDNESS**

The submission includes an accurate and detailed description of how the dashboard was built to be accessible for individuals with colorblindness.

**C6. DATA REPRESENTATIONS**

The submission explains how 2 data representations in the presentation support the story told in the presentation and provides plausible reasons for both data representations.

**C7. AUDIENCE ANALYSIS**

The submission accurately explains how audience analysis was used to adapt the message in the presentation, and it includes specific examples from the presentation.

**C8. UNIVERSAL ACCESS**

The description of how the presentation was designed for universal access is clear.

**C9. EFFECTIVE STORYTELLING**

The submission identifies 2 effective storytelling elements implemented in the presentation and plausibly explains how both elements were intended engage the audience.

**D. SOURCES**

**The submission includes in-text citations for sources that are properly quoted, paraphrased, or summarized and a reference list that accurately identifies the author, date, title, and source location as available.**

DATA SOURCE: https://data.world/amberthomas/broadband-usage-in-us