A1:INTERACTIVE DATA DASHBOARD
Public Dashboard

A2:DATA SETS

1. WGU's churn csv file churn_clean.csv can be located with this link(https://access.wgu.edu/ASP3/aap/content/f9tjr8djg83jd8c3sdf8.zip)

2. My external data from Kaggle is the second highest upvoted post when "customer churn" is searched. Link to data(CUSTOMER CHURN PREDICTION 📈 (kaggle.com))

A3:INSTALLATION INSTRUCTIONS

Step 1: Download Tableau

1. Go to the Tableau website.
2. Navigate to the "Products" section and select "Tableau Desktop."
3. Click on "Try Now" to download a free trial if you don't have a license, or "Buy Now" if you're ready to purchase.
4. Fill in the required details if prompted, and the download should start automatically.

Step 2: Install Tableau

1. Once the download is complete, locate the installer file in your downloads folder.
2. Run the installer by double-clicking the file.
3. Follow the on-screen instructions to install Tableau Desktop.
    - Accept the license agreement.
    - Choose the installation directory if needed (default is fine for most users).
    - Click "Install."
4. Once the installation is complete, click "Finish."

Step 3: Open Tableau

1. Launch Tableau Desktop from your desktop or start menu.

Step 4: Open a `.twbx` File

1. In Tableau Desktop, go to "File" in the top menu.
2. Click "Open" from the dropdown.
3. Browse to the location where your `.twbx` file is stored.
4. Select the `.twbx` file and click "Open."

Step 5: Explore the Workbook

1. Once the `.twbx` file is opened, you can explore the different dashboards, worksheets, and data sources included in the workbook.
2. Use the navigation pane on the bottom to switch between different views and sheets.

A4:NAVIGATION INSTRUCTIONS

To effectively explore and understand the Tableau dashboard, follow these instructions:

1. Accessing the Dashboard: Open the dashboard using the link provided: Tableau Dashboard. This will take you to the main view of the dashboard.
2. Understanding the Layout:
    - The dashboard contains 4 slides, which are numbered right above the main content area.
    - Slides 1 & 4 are the Introduction and Conclusion slides, providing context and summarizing the key insights.
    - Slides 2 & 3 contain the interactive data content, where you can explore and interact with the data visualizations.
3. Navigating Between Slides:
    - Use the arrow keys on your keyboard to move sequentially through the slides.
    - Alternatively, you can click on the numbered circles above the slides to jump directly to a specific slide.
        - Click on 1 to view the Introduction.
        - Click on 2 or 3 to interact with the data content.
        - Click on 4 to view the Conclusion.
4. Interacting with the Data:
    - On Slides 2 & 3, you can interact with the visualizations.
    - Use filters, dropdowns, or clickable elements (if available) to explore the data in detail.
    - Hover over data points to see additional information and insights.
5. Exploring Data in Depth:
    - Spend time on Slides 2 & 3 to fully explore the interactive elements.
    - Adjust any parameters or filters to see how the data changes, giving you a more comprehensive understanding of the information presented.

C1:DASHBOARD ALIGNMENT

The primary purpose of this dashboard is to provide valuable context for internal stakeholders by analyzing customer statistics in direct comparison to our competitors. The goal is to enable our team to understand how our performance in key areas like churn rates, customer retention, and service preferences compares with others in the industry. This allows for data-driven decision-making to identify areas where we excel and pinpoint opportunities for improvement. The function of the dashboard is to serve as an industry comparison tool, helping stakeholders visualize and interpret the relationships between our customer behaviors and those of competitors. In my initial search for a suitable dataset for this analysis, I focused on finding an external dataset that aligned closely with our internal data. Specifically, I ensured that the dataset had matching columns to our own churn_clean dataset, allowing for an apples-to-apples comparison. This alignment ensures that the comparison is fair and meaningful, reflecting true industry insights. To maintain the integrity of the comparison, I removed any data points that were not present in both datasets.Columns that only existed in our internal data, such as survey satisfaction scores, were omitted from the analysis to keep the comparison consistent and relevant. Overall, the dashboards effectively meet the needs of

internal stakeholders by providing a clear and accurate comparison with competitors, supporting strategic decision-making and business optimization efforts.

C2:ADDITIONAL DATA SET INSIGHTS

The variables in the additional dataset significantly enhance the insights we can draw from our own internal dataset due to the similarity in product offerings and customer characteristics between the two. The external dataset includes many of the same services that our company provides, such as Online Security and Online Backup, which made it an excellent match for our analysis. This alignment allows us to directly compare how customers of our competitors engage with similar products, providing a clearer picture of how we stack up in the market. For instance, the fact that both datasets capture similar customer engagement with core services like streaming services, payment methods, and contract types enables us to make more informed comparisons regarding customer satisfaction, churn rates, and preferences. By analyzing these shared variables, we can draw parallels and identify potential areas for improvement or new opportunities for growth within our own service offerings.

However, one limitation of the external dataset is its size—it contains only 7,043 unique responses, which is significantly smaller than our internal dataset. This means that certain numbers may be skewed and could potentially paint an inaccurate picture of overall trends in the industry. For this reason, I was very selective in the insights I chose to focus on, ensuring that the findings were representative and not overly influenced by the smaller sample size. I also took care to cross-reference trends with our larger internal dataset, giving us confidence in the recommendations derived from this analysis.

C3:DECISION-MAKING SUPPORT

Internet Services Pie Chart

This pie chart illustrates the distribution of customers across different internet service types, such as DSL, Fiber Optic, and those with no internet service. The chart displays both the count and the percentage of customers using each type of service.

- How Leaders Can Use It: Executive leaders can use this data to understand which internet services are most popular among customers. For example, the strong preference for Fiber Optic service suggests that customers value high-speed internet options. This insight can guide decisions to invest in infrastructure, expand Fiber Optic service areas, or introduce new marketing campaigns to promote high-speed options in underserved regions. If a significant portion of customers are not using internet services, leaders might also explore opportunities to cross-sell internet packages to these customers.

Payment Types Bar Graph

Description: The horizontal bar graph shows the distribution of payment methods used by customers, including Autopay, eCheck, and Check. For instance, Autopay is used by 7,378 customers, making it the most popular method.

- How Leaders Can Use It: Executives can leverage this data to understand customer payment preferences and how they might affect retention. The popularity of Autopay suggests that customers prefer the convenience of automatic billing. Leaders can consider increasing incentives for customers to adopt Autopay, such as discounts or rewards for enrolling. Additionally, this information can be used to optimize billing processes by reducing reliance on manual payment methods, which may have higher associated costs or lead to delayed payments. Encouraging Autopay adoption could also have a positive impact on churn reduction, as customers using automated payments may be less likely to cancel services.

C4:INTERACTIVE CONTROLS

1. Contract Type Filter

Description: This interactive filter allows users to select specific contract types (e.g., Month-to-Month, One-Year, Two-Year) and see how the data changes for each group. The pie charts in the top middle section, which display the gender distribution based on the calculated sum of monthly charges, adjust dynamically when different contract types are selected.

How It Modifies Data Presentation: By using this control, users can focus on analyzing specific customer segments based on contract length. This enables them to compare how monthly charges and gender distribution vary across contract types. For instance, selecting the Month-to-Month contract will show the percentage of males and females contributing to monthly charges for that group alone. This allows for a more granular analysis, helping users to identify trends specific to different contract types and adjust strategies accordingly, such as tailoring marketing efforts or adjusting pricing models.

2. Churn Rate

Description: The churn rate vertical bar graphs at the bottom of the dashboard display churn data for different services, such as Streaming Movies, Phone Services, and Streaming TV. These graphs are interactive and allow users to click on different service types or churn statuses to further drill down into the specific customers who have or have not churned for each service.

How It Modifies Data Presentation: This control allows users to dive deeper into the reasons behind churn for each service. For example, clicking on the churn data for Streaming Movies will reveal more detailed information about customer behavior, such as the proportion of customers who continued the service versus those who canceled. This interaction gives users the ability to explore service-specific churn trends and understand the impact of individual services on overall customer retention. Insights gathered from these interactions can inform decisions around bundling services or improving specific offerings to reduce churn.

These interactive controls give users the flexibility to customize their analysis by isolating specific variables, leading to more targeted insights and enabling more informed decision-making.

C5:COLORBLINDNESS

When designing the graphs and charts, I utilized a color-blind friendly palette to ensure that all users, regardless of color vision deficiencies, can easily distinguish between different data points. This palette was specifically chosen to avoid combinations of colors that are commonly difficult for colorblind individuals to differentiate, such as red-green or blue-purple. As a result, all graphs, including pie charts, bar graphs, and tree maps, use distinct, accessible colors that are easy to interpret for everyone. To further enhance clarity and accessibility, I ensured that consistent colors were applied across all data sets and visuals. For instance, each service type or category is represented using the same color in all charts and graphs. This uniformity minimizes confusion for colorblind users by reducing the reliance on color alone to differentiate between datasets or segments. Instead, users can rely on consistent labeling and graph shapes to understand the data, which provides a clear and intuitive experience for all.

In addition to using a color-blind palette, I applied a minimalistic design approach, using contrast and texture to emphasize data points rather than relying solely on color differences. This means that even if a user is unable to distinguish colors, they can still use the dashboard's labels, numbers, and chart elements to extract meaningful insights. For instance, pie chart slices are clearly labeled with percentages and categories, and the bar graphs have gridlines and axis labels to make the data easy to follow without needing to rely on color cues alone. By incorporating these techniques, I aimed to create a dashboard that is not only functional but also inclusive and accessible, allowing users with color vision deficiencies to fully engage with the data and make informed decisions based on clear and easy-to-read visual representations.

C6:DATA REPRESENTATIONS

1. Internet Services Pie Chart

The Internet Services Pie Chart visually illustrates the distribution of customer preferences for internet service types—DSL, Fiber Optic, and None. This representation is crucial to the story because it highlights the clear customer preference for Fiber Optic, which is the most popular service. This supports the narrative of how service quality and reliability can drive customer choices and potentially influence churn rates. By showing that the majority of customers choose Fiber Optic over other services, it provides evidence for the company to continue investing in high-speed internet services, ensuring we meet the growing demand and maintain a competitive edge.

2. Churn Rate Vertical Bar Graphs

The Churn Rate Bar Graphs for Streaming Movies, Phone Services, and Streaming TV provide an insightful comparison of customer churn across different services. This data representation is key to telling the story of service-specific customer retention. For instance, the stark difference in churn rates for Phone Services (with 15,428 customers churning) compared to Streaming Movies (with 7,622 churning) shows that Phone Services are a significant pain point for customers, while streaming services may help retain them. This supports the recommendation that executives should focus on improving or re-evaluating the Phone Services offering, while potentially expanding the

promotion of bundled streaming services to enhance retention and reduce churn across multiple services.

Together, these data representations paint a clear picture of customer behavior and preferences, providing the necessary support for targeted strategies to improve service offerings and customer retention efforts.

C7:AUDIENCE ANALYSIS

When preparing the presentation, I carefully considered the needs and priorities of senior management as the primary audience. This influenced the structure and delivery of the message in the following ways:

1. High-Level Insights and Strategic Focus:

Senior management typically focuses on high-level insights that can drive strategic decisions. Therefore, I tailored the presentation to emphasize the most impactful findings from the data, such as key trends in churn rates, service preferences, and customer behavior across both our company and competitors. Instead of getting bogged down in technical details, the presentation highlighted actionable insights—such as the need to improve Phone Services and promote bundled offerings—that can directly inform strategic planning and resource allocation.

2. Clear Data Visualizations for Decision-Making:

Understanding that senior management needs to make quick, informed decisions, I focused on delivering clear and concise data representations, such as the Internet Services Pie Chart and Churn Rate Bar Graphs. These visuals were designed to be easily digestible, providing an immediate understanding of the data without requiring in-depth technical knowledge. By selecting visuals that directly align with the company's goals—such as reducing churn and improving service offerings—the presentation allowed executives to quickly grasp the key takeaways and consider them in their broader business strategy.

3. Business Impact and ROI Emphasis:

Senior management is particularly interested in understanding the business impact of insights and their potential for return on investment (ROI). I adapted the message to highlight how the findings could influence customer retention, revenue growth, and competitive advantage. For instance, by addressing high churn rates in Phone Services and promoting Autopay, the company can both reduce churn and improve customer satisfaction, leading to increased long-term revenue. This focus on business outcomes ensures that the recommendations are seen not just as data points but as levers for enhancing profitability and market positioning.

By tailoring the message to the needs of senior management, the presentation effectively communicated strategic insights that are aligned with their goals, providing the context and clarity needed to drive informed, high-level decision-making.

C8:UNIVERSAL ACCESS

When creating the presentation, I ensured that it was designed for universal access, making it inclusive and easily understandable for all audiences, regardless of their background, abilities, or access needs. Here's how I achieved this:

1. Use of Accessible Colors and Design Elements:

To accommodate individuals with color vision deficiencies, I implemented a color-blind friendly palette throughout the presentation. This ensures that all graphs, charts, and visuals are distinguishable for colorblind users. Additionally, I avoided using color as the sole means of conveying information, instead pairing it with text labels, percentages, and icons to ensure clarity. The overall design maintains high contrast between text and background, making the content legible for individuals with visual impairments.

2. Consistent and Clear Visuals:

I designed the presentation with clear, concise data visualizations that are easy to interpret for all audiences, regardless of their familiarity with the data. Visuals like pie charts, bar graphs, and tree maps are accompanied by descriptive titles and labels that explain the significance of the data at a glance. Tooltips and hover-over interactions were minimized to ensure that the key information is always visible and accessible, especially for users who may be using screen readers or have difficulty with fine motor control.

3. Text-Based Support for Visuals:

Each visual was supplemented with text descriptions and key insights to ensure that audiences who may have difficulty interpreting charts can still understand the findings. This makes the presentation accessible to individuals who may be non-visual learners or rely on screen readers. Additionally, the text was written in plain language, avoiding technical jargon wherever possible, so that individuals from all backgrounds—including those without a data analytics or technical background—can fully engage with and understand the insights.

4. Logical Structure and Flow:

The presentation was designed with a clear, logical structure that guides the audience through the insights step by step, ensuring that everyone can follow along, regardless of their familiarity with the data. The layout ensures that key points are introduced early and reinforced through supporting data, making the information digestible and easy to retain. Interactive elements, such as filters and drill-downs, were kept intuitive and straightforward, allowing users of varying technical skill levels to engage with the dashboard seamlessly.

By focusing on these design principles, the presentation ensures universal access for all audiences, making it inclusive, clear, and engaging for users with diverse abilities and backgrounds.

C9:EFFECTIVE STORYTELLING

1. Structured Narrative with a Clear Beginning, Middle, and End:

The presentation follows a coherent narrative structure that guides the audience from the introduction of the data and its context through to key insights and actionable recommendations. The Introduction slide outlines the purpose and objectives, followed by detailed analyses of customer behavior and service preferences in the middle slides. The final slide provides a conclusion that summarizes the findings and highlights actionable strategies.

How It Engages the Audience: This structured flow helps the audience stay focused and engaged by leading them through the data in a logical progression. By establishing a clear storyline, senior leaders can easily follow how the data leads to actionable insights, making the presentation memorable and allowing them to see how each piece of information connects to the next. The structure ensures that they can grasp the key takeaways and understand the strategic implications for the business.

2. Use of Data to Tell a Compelling Story:

Throughout the presentation, I used data visualizations to create a narrative around customer behavior, churn rates, and service preferences. Rather than just presenting raw numbers, I framed the data to tell a compelling story about how different factors (e.g., internet service quality, payment methods, and contract types) influence customer retention and churn. The use of pie charts, bar graphs, and comparative visuals helped reinforce the narrative by showing concrete evidence of customer trends and preferences.

How It Engages the Audience: Data-backed storytelling makes the insights tangible and relatable. For example, illustrating how Fiber Optic service dominates customer preferences provides a clear picture of how investing in this service type could drive retention. Likewise, highlighting the churn rate for phone services compared to streaming services paints a vivid story of customer dissatisfaction. These elements engage the audience by making the data actionable and showing how it directly relates to their decision-making processes.