Reflection Paper

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Performance Assessment

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# Part 1: Interactive Data Dashboard

## Provide a copy of your interactive Tableau dashboard to support executive decision-making. Your dashboard must be accessible to users with colorblindness, and must include the components in each of the following bullet points:

### 1. Provide both data sets that serve as the data source for the dashboard.

WA\_Fn-UseC\_-Telco-Customer-Churn.csv

churn\_clean.csv

### 2. Provide step-by-step instructions to guide users through the dashboard installation.

**Option 1:** Select the link below to access the dashboard online.

<https://public.tableau.com/app/profile/laurie.narcisse/viz/PA210_17032799581740/TelecommunicationsChurn?publish=yes>

**Option 2:** Click on the link above to download the dashboard. Once downloaded, open it using your Tableau App in offline mode by clicking the download button located in the top-right corner.

### 3. Provide instructions to help users navigate the dashboard.

Navigating and utilizing the Tableau Public dashboard is straightforward. Simply open this link in your web browser to access the story. <https://public.tableau.com/app/profile/laurie.narcisse/viz/PA210_17032799581740/TelecommunicationsChurn?publish=yes>

The five boxes positioned prominently at the top of this narrative function much like "tabs" in a web browser, each offering a distinct facet of information. The "Intro" tab serves as a concise, non-interactive overview, briefly introducing the presentation and the presenter.

Moving on to the "What is the distribution of monthly charges among customers?" section, you'll encounter an engaging interactive map. This map invites you to delve into the monthly charges borne by our customers across different states. By simply clicking on a specific state, you can glean insights into the variations in monthly charges. Moreover, there's a convenient filter allowing you to focus on the data for a particular state of interest.

Transitioning to the "How is churn amongst genders?" segment, you'll find a dynamic depiction of churn patterns based on the gender of our customers. The interactive filter permits you to narrow down your focus to Female, Male, or Nonbinary categories, providing a nuanced understanding of churn dynamics within each gender.

In the "Are customers with longer tenure older or younger?" portion, the focus shifts to the relationship between the average tenure of our customers and their age. With a filter that allows you to select an age range in increments of 10, you can explore whether customers with lengthier tenures tend to be older or younger.

Venturing into the "How does payment methods vary amongst gender?" section, you'll encounter a visualization showcasing the diversity of payment methods utilized by our customers, categorized by gender. The filter on the right side empowers you to explore the distribution of payment methods among Female, Male, and Nonbinary segments.

The final section, "How does internet services vary amongst gender?" elucidates the distinctions in internet service usage based on the gender of our customers. This provides a comprehensive view of how different genders engage with and utilize internet services.

By navigating through these interactive tabs, you can gain a holistic understanding of diverse aspects of our customer data, fostering a more nuanced comprehension of the intricate relationships within our clientele.

# Part 2: Storytelling with Data

## B. Provide a link to a Panopto multimedia presentation in which you tell a story about the data to an audience of data analytics peers. Your presentation should implement elements of effective storytelling and include each of the following elements:

Please see attached.

# Part 3: Reflection Paper

## C. Write a reflection paper to demonstrate your understanding of data representation and reporting by doing the following:

### 1. Explain how the purpose and function of your dashboard align with the needs outlined in the data dictionary associated with your chosen data set.

Distribution of Monthly Charges Among Customers:

As an analyst, I've visualized the distribution of monthly charges to provide a comprehensive view of how customers' spending varies. This insight is crucial for understanding the economic aspects of customer engagement. The higher monthly charges may indicate premium services or add-ons, impacting customer satisfaction and retention. This information is valuable for sales strategies, helping identify pricing segments and areas for upselling or promotions. Additionally, regional leaders can leverage this data to tailor marketing efforts based on local spending habits.

Churn Amongst Genders:

In my analysis, I've delved into the churn patterns across genders, aligning with the business need to tailor retention strategies. Understanding if there are gender-specific factors influencing churn is vital. This information is also essential for refining customer outreach strategies and addressing challenges or opportunities in retaining customers of different genders. Regional leaders can adapt strategies based on the observed gender-specific churn trends in their regions.

Customers with Longer Tenure - Older or Younger:

I've explored whether longer-tenured customers are older or younger, aligning with the business need to improve customer engagement. Knowing the age distribution of long-term customers is important. It provides insights into tailoring products and promotions based on specific age demographics.

Payment Methods Variation Amongst Gender:

Through visualizations, I've depicted how payment methods vary across genders, providing insights aligned with the business need to understand preferred payment channels. This information is crucial for the SVP for Customer Experience in tailoring customer service and for the EVP of Sales to align sales transactions and promotions with gender-specific preferences. Regional leaders can adapt payment-related policies based on the observed preferences in their specific regions.

Internet Services Variation Amongst Gender:

In my analysis, I've examined how internet service preferences vary across genders, offering actionable insights for improving services. This aligns with the SVP for Customer Experience's goal of developing targeted service improvements or promotions based on customer preferences. The information is crucial for the EVP of Sales to align sales strategies with gender-specific preferences in internet services. Regional leaders can adapt their offerings based on observed preferences in their specific regions.

### 2. Explain how the variables in the additional data set enhance the insights that can be drawn from the data set you chose from the provided options.

Having incorporated the additional data set, the analysis gains depth by considering variables such as "SeniorCitizen," "Partner," "Dependents," and more. For instance, "SeniorCitizen" provides insights into the demographics of customers, allowing for a more targeted understanding of services for seniors. The variables "PhoneService" and "MultipleLines" offer details about the customers' phone service preferences, contributing to a nuanced examination of communication choices. "InternetService" and related features like "OnlineSecurity" and "OnlineBackup" delve into the specifics of internet service usage, enhancing the exploration of customer satisfaction and potential churn factors. Moreover, variables like "Contract" and "PaymentMethod" shed light on customers' commitment levels and preferred payment channels, contributing significantly to strategic decision-making for customer retention. Additionally, the inclusion of "Churn" in this data set aligns with the primary data set, providing a comprehensive overview of customer behavior, service usage, and factors influencing churn.

### 3. Explain two different data representations from your dashboard and how executive leaders can use them to support decision-making.

In my dashboard, one key data representation that stands out is the visualization depicting the distribution of monthly charges among customers. This insightful display allows an executive leader to gain a comprehensive understanding of how charges are spread across our customer base. This information becomes instrumental in shaping pricing strategies, as it helps them identify patterns, outliers, and potential areas for improvement. Armed with this knowledge, executive leaders can make informed decisions about adjusting pricing plans or introducing targeted promotions, ultimately optimizing customer satisfaction and maximizing revenue.

Another crucial data representation focuses on churn rates among different genders. Executive leaders can easily grasp the dynamics of customer retention specific to male, female, or nonbinary customers. This visual insight enables them to identify any significant discrepancies in churn rates between genders, prompting strategic actions. If, for instance, there is a noticeable gender-based trend, they can implement personalized retention campaigns or refine the customer engagement strategies to cater to the unique needs of each demographic. This data representation empowers them to make proactive decisions, addressing gender-specific challenges and fostering enhanced customer loyalty.

In essence, these data representations serve as indispensable tools an executive leader, offering actionable insights that directly inform decisions related to pricing, customer retention, and targeted marketing efforts. The visualizations not only simplify complex data patterns but also pave the way for tailored strategies that resonate with the diverse needs of the customer segments.

### 4. Explain two interactive controls in your dashboard and how each enables the user to modify the presentation of the data.

In my Tableau dashboard, I integrated two interactive controls to empower users in customizing the presentation of data. One key feature is the multiple values dropdowns, strategically incorporated across various dashboards. This control allows users to dynamically select multiple values from a dropdown menu, offering a versatile way to filter and focus on specific data points. By leveraging this interactive control, users can tailor the dashboard to their specific interests, exploring diverse datasets and gaining a more nuanced understanding of the information presented.

Another impactful interactive control is the age range slider, designed to enhance the user's ability to modify the data presentation. This slider enables users to dynamically adjust the age range displayed in the visualizations, offering a dynamic and personalized exploration of age-related trends. By smoothly sliding across different age brackets, users can instantly observe how variations in age influence various metrics, providing a more interactive and engaging experience. These controls collectively empower users to customize their exploration of the dashboard, ensuring a tailored and insightful analysis based on their preferences and specific areas of interest.

### 5. Describe how you built your dashboard to be accessible for individuals with colorblindness.

The dashboard ensures accessibility for users with color blindness through its thoughtful data representation. Every element, including graphs, charts, and maps, is accompanied by the corresponding raw data numbers. This design allows users who may have difficulty interpreting color-coded information to access the data seamlessly. If a user is unable to perceive a graph due to color blindness, they can rely on the adjacent raw data numbers to obtain the same information. Each visualization is presented in both a visually appealing, color-coded format and a straightforward raw number data version, ensuring inclusivity and providing multiple means for users to comprehend the data.

### 6. Explain how two data representations in your presentation support the story you wanted to tell.

In my presentation, the data representations of gender and age were instrumental in reinforcing the narrative centered around customer churn. The gender breakdown, visualized through graphs and charts, illuminated distinct patterns influencing churn rates, providing a clear understanding of how different demographics engage with the services. This representation underscored the role of gender in shaping customer behavior and contributed to a compelling narrative about the factors influencing churn.

Similarly, age segmentation played a crucial role in supporting the story. By categorizing data into different age groups, I uncovered unique trends and behaviors associated with various generational cohorts. Graphs depicting churn rates across age brackets visually emphasized the correlation between age and customer churn, strengthening the narrative and providing clear, data-driven evidence of the impact of age on retention in the telecommunications industry.

### 7. Explain how you used audience analysis to adapt the message in your presentation.

In tailoring the message, I conducted a thorough audience analysis to cater to the diverse backgrounds and preferences of the users. For my peers and individuals with a strong grasp of data, I made sure to prominently display the raw data alongside each visualization—be it graphs, charts, or maps. This approach caters to those who are accustomed to interpreting and extracting insights directly from numerical information.

Recognizing that not everyone may have the same level of familiarity with raw data, I took an additional step to enhance accessibility. I integrated color-coded elements into the graphs, maps, and other visual representations to provide an alternative and comprehensible way of understanding the data. This dual approach ensures that the information is accessible to a broader audience, including those who may not have as much experience reading or analyzing raw data. By incorporating both the raw data and visually appealing representations, the dashboard strives to be inclusive and user-friendly for individuals with varied levels of data literacy.

### 8. Describe how you designed your presentation for universal access by all audiences.

In crafting the dashboard, my foremost consideration was ensuring universal accessibility for all audiences. For individuals with a more advanced understanding of data, I implemented a feature that presents the raw data prominently. This allows seasoned analysts, including myself and my peers, to delve into the numerical intricacies and draw insights directly from the data.

Understanding the importance of inclusivity, I incorporated features to enhance accessibility for individuals with color blindness. The color-coded elements in visualizations, including maps, charts, and graphs, offer an alternative means of comprehension. This thoughtful design ensures that the dashboard caters to a diverse audience, accommodating those who may have specific visual needs or preferences.

To further enhance user-friendliness, the dashboard features easy-to-read and understand visualizations. The inclusion of various data representations, such as maps, charts, and graphs, is geared towards making complex information more digestible. A comprehensive storyboard, accessible with just a few clicks, guides users through different data points, providing a cohesive narrative and aiding in a holistic understanding of the information presented.

Recognizing the need for customization, I incorporated interactive controls that empower users to tailor the data according to their specific needs. This feature allows users to dynamically manipulate the displayed data, providing a personalized experience and ensuring that the dashboard is adaptable to a range of preferences and requirements.

Moreover, I designed the dashboard with a user-friendly storyboard that serves as a guide for navigation. Clear instructions are provided to assist users in understanding the layout, accessing different data sets, and making the most of interactive features. This ensures that individuals, regardless of their familiarity with data analysis, can seamlessly navigate and derive meaningful insights from the dashboard. In essence, the dashboard is a versatile and inclusive tool that caters to a spectrum of users, promoting accessibility and ease of use for all.

### 9. Explain two elements of effective storytelling that you implemented in your presentation and how each element was intended to engage the audience.

In my presentation, I strategically incorporated two crucial elements of effective storytelling: relatability through gender and age. Recognizing the universal relevance of these factors, I intentionally threaded gender and age considerations throughout various reports and graphs. By doing so, I aimed to engage the audience on a more personal level, allowing them to connect with the information presented.

The element of gender was thoughtfully integrated into the narrative to resonate with diverse audience segments. Whether examining churn rates, service preferences, or satisfaction levels, the breakdown by gender provided a relatable lens for many viewers. This approach allowed individuals to see themselves reflected in the data, fostering a deeper connection and understanding of the insights being shared.

Similarly, age served as another compelling element woven into the storytelling fabric of my presentation. By consistently incorporating age-related perspectives across different analyses, I aimed to capture the attention of a wide-ranging audience. Whether exploring customer tenure, service usage patterns, or preferences, the inclusion of age-related data offered a relatable context for viewers, fostering a sense of connection and relevance.

In essence, by leveraging gender and age as integral components of the storytelling framework, I sought to make the data more relatable and engaging for the audience. This approach aimed to create a presentation that resonated on a personal level, encouraging a more profound connection with the information and, ultimately, enhancing the overall impact of the storytelling experience.

## D. Acknowledge sources, using in-text citations and references, for content that is quoted, paraphrased, or summarized.

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