

Data Representation Reflections

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1. Alignment With Needs

Specific needs outlined in the data dictionary for the churn data set include the following:

- Customer engagement with the company's products
- Recruitment and retention
- Customer outreach and promotions

My churn analysis dashboard presents data that can be used to address customer recruitment by illustrating which states exhibit the largest percentage of non-customer residents, along with the total estimated population for those states (Lowest Subscriber to Population Ratios worksheet). This information can be used to identify target markets for more aggressive sales strategies and promotions.

The dashboard also identifies states with the largest degree of churn, cross-referenced with each state's total estimated population (Churn % With Total Population worksheet). The Churn % By State worksheet allows the user to view churn percentages for individual states, with the added functionality to filter the chart by region as well. This is useful for identifying markets where retention should be more closely managed.

Lastly, the Addon Purchases By State worksheet speaks specifically to potential promotions, delivering a view of the most popular add-on purchases filtered by state. Used in conjunction with the data presented in the other worksheets, this is a tool to determine which addons might attract or retain customers in specific parts of the country. It can be used to tailor special offers or marketing campaigns.

2. Additional Variables

The primary variable used from my additional data set was the population estimate. The inclusion of this data provided a much clearer picture of where the company has the greatest opportunities for growing its customer base.

3. Data Representation Details

As mentioned previously, the Lowest Subscriber to Population Ratios worksheet shows us which states exhibit the largest percentage of non-customer residents, along with the total estimated population for those states, providing insight into where the company has the greatest opportunities for growing the customer base. The worksheet illustrates this via two horizontal bar charts aligned next to each other, with additional data available when hovering the mouse cursor over the bars for each state.

The Addon Purchases By State worksheet, which allows decision makers to drill down state by state to see which add-ons are most popular and where, can be used as a complement to the Lowest Subscriber to Population Ratios worksheet. The data is easy to compare due to the side-by-side bar chart design. The data can be filtered by state using the dropdown interactive control and hovering the mouse cursor over each bar gives an exact count of how many customers in the selected state purchased each add-on.

4. Interactive Controls

The Addon Purchases By State worksheet includes a dropdown menu with which the user can narrow the data presented by selecting a state. This can also be left with "all" selected to view a representation of all customers.

The Churn % By State worksheet features a similar state dropdown menu, as well as a region dropdown menu to once again display only the churn percentage data relevant to the area the user is focusing on.

5. Color Blindness

Tableau includes a "color blind" color palette to make visualizations more accessible to users with color blindness, and this palette was used for the color properties of each worksheet.

6. Data Representations and Supporting the Story

The story the dashboard tells is that there are areas of the country where a large percentage of the population does not subscribe to the company's services. California is a good example of this; in the Lowest Subscriber to Population Ratios worksheet we see that only 0.000013405% of the total population currently subscribes.

Sticking with California as our example, we can look at the Churn % With Total Population worksheet. By hovering the cursor over the dot representing California, we can see that there are a total of 20.6 million residents; plenty of room for growth.

7. Audience Analysis

With a team of executives as my audience, I wanted to make the data easily digestible via visualizations rather than simply displaying rows and columns of figures. Technical jargon is also kept to a minimum. While churn is used for its industry definition (nothing to do with butter), business executives in a customer-oriented field should be familiar with its use here.

8. Universal Access

While tailoring the color scheme of my dashboard to address the needs of users with colorblindness does make the dashboard more universally accessible, I felt that users should be able to easily view and interact with the dashboard via tablets and mobile devices. A layout for each has been included.

9. Elements of Effective Storytelling

- Know your audience - As mentioned previously, the dashboard's presentation was tailored to be consumed and put to use by the target audience, company executives. The data was easily digestible via visualizations and technical jargon was kept to a minimum.
 - Communicate the problem you solve - The dashboard's design emphasizes specific details relevant to the data story: location, subscriber numbers, customer retention, and popular products. Other data, even though it was available, would have interfered with the main idea of the story, so it was not included. The data is presented in a way that, simply by looking, one could develop a potentially effective strategy or course of action.
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