Project Title

Cyclist bike-share analysis

Project Summary:

As a junior data analyst at Cyclistic, a bike-share company in Chicago, the task was to analyze historical trip data to understand the differences between casual riders and annual members. The overarching goal was to inform the development of a new marketing strategy aimed at converting casual riders into annual members.

The analysis involved:

- **Data Preparation:** Downloading and organizing 12 months of trip data, sorting, and filtering it for analysis.
- **Data Processing:** Checking for errors, selecting appropriate tools, transforming the data, and documenting the cleaning process.
- **Data Analysis:** Aggregating, formatting, and performing calculations to identify trends and relationships between customer segments.
- **Data Visualization:** Creating compelling visualizations using Tableau to highlight key differences in usage patterns.
- **Insights and Recommendations:** Summarizing findings, providing supporting visualizations, and offering top recommendations for maximizing annual memberships based on analysis outcomes.

The analysis revealed distinct behavior patterns between casual riders and annual members, informing targeted marketing strategies to drive conversion. Key recommendations included tailoring marketing efforts, offering incentives for membership conversion, and improving the overall user experience for annual members.

Results

1. Clear Statement of the Business Task:

The primary objective of this analysis was to understand the usage patterns of Cyclistic's bike-sharing service among casual riders and annual members. By analyzing historical trip data, we aimed to identify differences in behavior and preferences between these two customer segments in order to inform the development of a new marketing strategy aimed at converting casual riders into annual members.

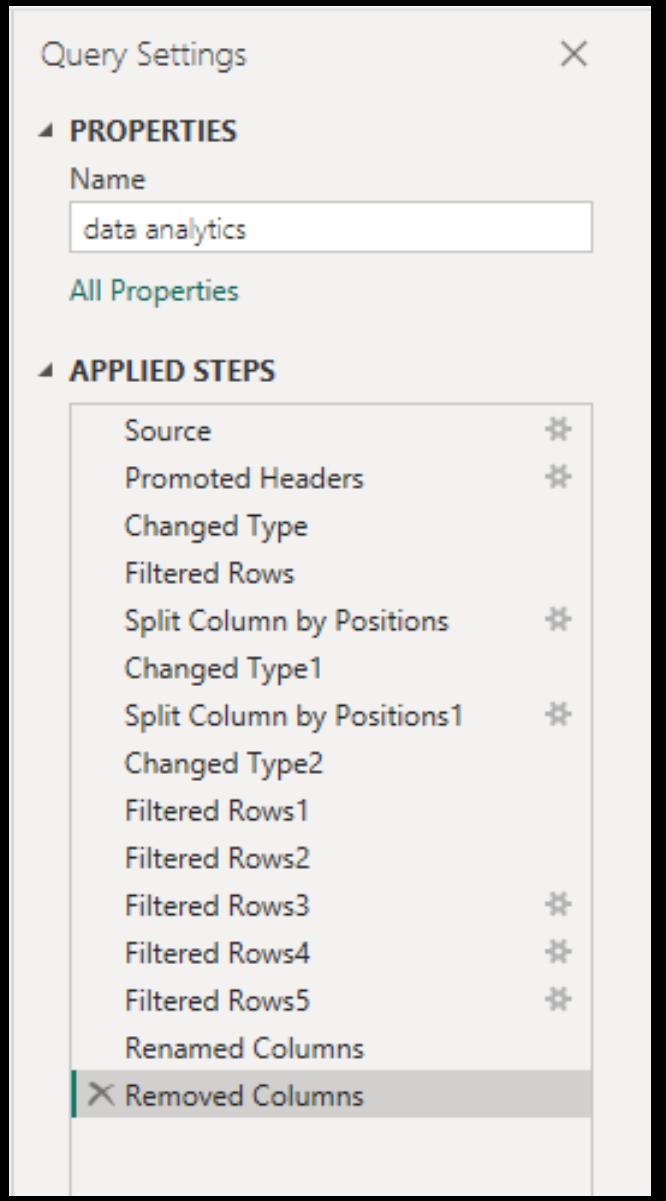
2. Description of Data Sources:

The analysis utilized historical trip data provided by Cyclistic, covering the previous 12 months of bike rides. The dataset included information such as ride duration, start and end times, bike types, and membership types. This data was crucial for understanding how customers interact with Cyclistic's services over time.

3. Documentation of Data Cleaning and Manipulation:

Before analysis, the data underwent thorough cleaning and preparation to ensure its quality and suitability for analysis. This process involved several steps:

- **Handling Missing Values:** Identified and addressed missing values in the dataset using appropriate methods such as imputation or removal, ensuring data completeness.
- **Correcting Inconsistencies:** Identified and corrected inconsistencies or errors in the data to maintain accuracy and integrity.
- **Formatting for Analysis:** Formatted the data to ensure consistency and compatibility with analysis tools and techniques.
- **Creation of Derived Features:** Created new queries or derived features from the original data to extract meaningful insights. These included metrics such as rider frequency, ride per day, ride duration, and others, which provided valuable information about customer behavior and usage patterns.



4. Summary of Analysis:

Our analysis revealed several key insights into the behavior of casual riders and annual members. We identified differences in ride frequency, duration, preferred bike types, and peak usage times between the two segments. These findings provided valuable insights into the distinct preferences and needs of each customer group.

5. Supporting Visualizations and Key Findings:

Visualizations were created to illustrate the differences between casual riders and annual members. These included charts depicting the number of rides per day, per week, and per month for each segment, as well as visualizations of total trip duration in a week. Key findings from the visualizations include:

- Annual members tend to use Cyclistic bikes more frequently than casual riders, with a higher average number of rides per week.
- Casual riders often opt for shorter rides compared to annual members, as evidenced by the lower average trip duration. Our analysis showed that while casual riders may take fewer trips overall, their individual rides tend to be longer in duration.
- While annual riders have a higher total trip duration, the average ride duration is higher among casual riders compared to annual members. This suggests that although casual riders may take fewer trips overall, each individual ride tends to be longer in duration. In contrast, annual members, while taking more frequent trips, have shorter average ride durations

6. Top Three Recommendations:

Based on our analysis, we propose the following recommendations to maximize annual memberships:

- Tailor marketing strategies to target the specific preferences and behaviors of casual riders, emphasizing the benefits of annual membership.
- Offer incentives such as discounted annual membership rates or rewards for frequent riders to encourage conversion.
- Enhance the user experience for annual members by investing in bike availability, maintenance, and customer support services.

THANK YOU