Cyclistic Bike-Share Case Study – Google Data Analytics Capstone

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How Does a Bike-Share Navigate Speedy Success?

Cyclistic Bike-Share Case Study

Introduction

Cyclistic is a bike-share company that offers both casual ride options and annual memberships. The marketing team aims to increase the number of annual members, as members represent a more profitable and stable customer segment.

Business Task:

The goal of this analysis is to understand how annual members and casual riders use Cyclistic bikes differently in order to design data-driven marketing strategies to convert casual riders into annual members.

Key Stakeholders:

Cyclistic Marketing Team

Cyclistic Executive Team

Data Source

The dataset used in this case study is Cyclistic's historical bike trip data, covering a 12-month period from September 2024 to August 2025. The data was provided in CSV format and stored and processed using Google BigQuery.

Data Description

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The analysis is based on 12 months of Cyclistic bike-share trip data, covering the period from September 2024 to August 2025. The dataset includes ride start and end timestamps, rider type (member or casual), and trip duration.

Data Limitations

No demographic information is available

Analysis is limited to usage behavior

Data Cleaning and Processing

Data cleaning was performed using SQL in Google BigQuery. Steps included removing null values, calculating ride duration, standardizing column names, and combining monthly datasets into a single table for analysis.

Combined 12 monthly datasets into a single table

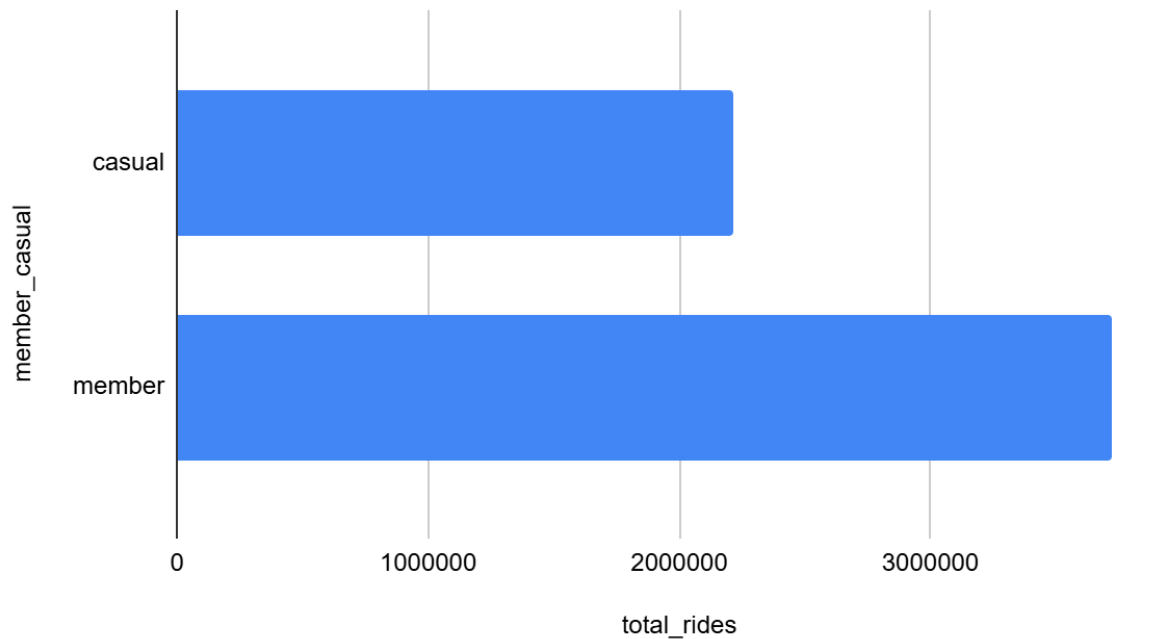Removed records with missing or invalid timestamps

Excluded trips with negative or zero duration

Created new features such as ride duration, day of the week, and month.

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Analysis and Insights

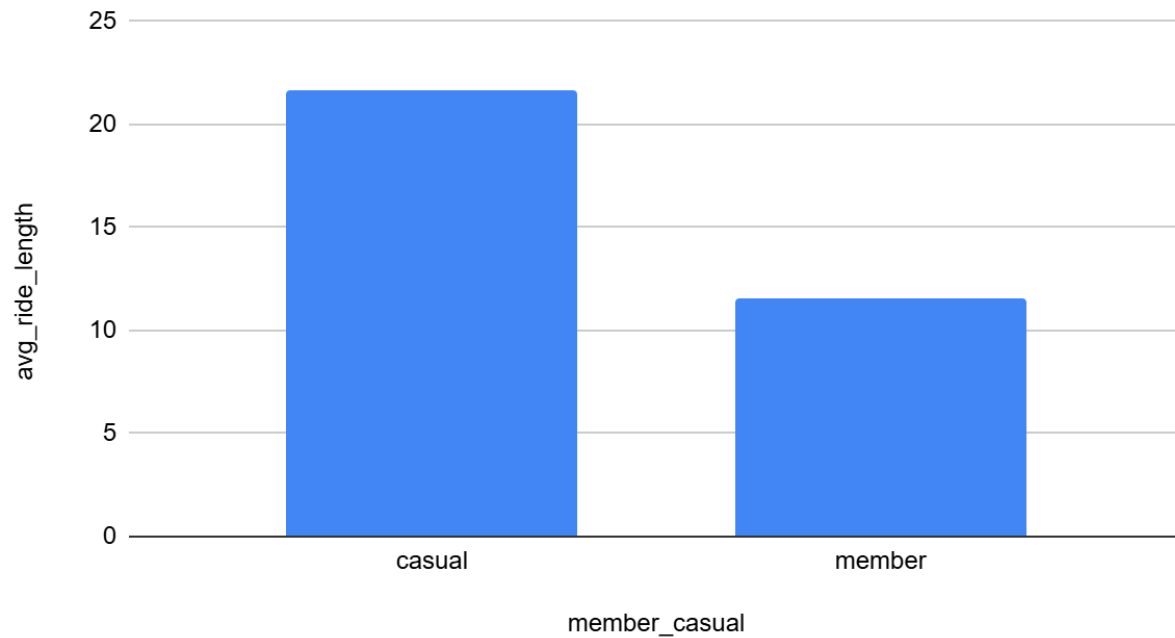**◈ Graph 1 – Total Number of Rides by User Type**

Total Rides by User Type

This chart compares the total number of rides taken by members and casual riders. Members account for a significantly higher number of trips than casual riders, indicating that membership users rely more frequently on the bike-sharing service

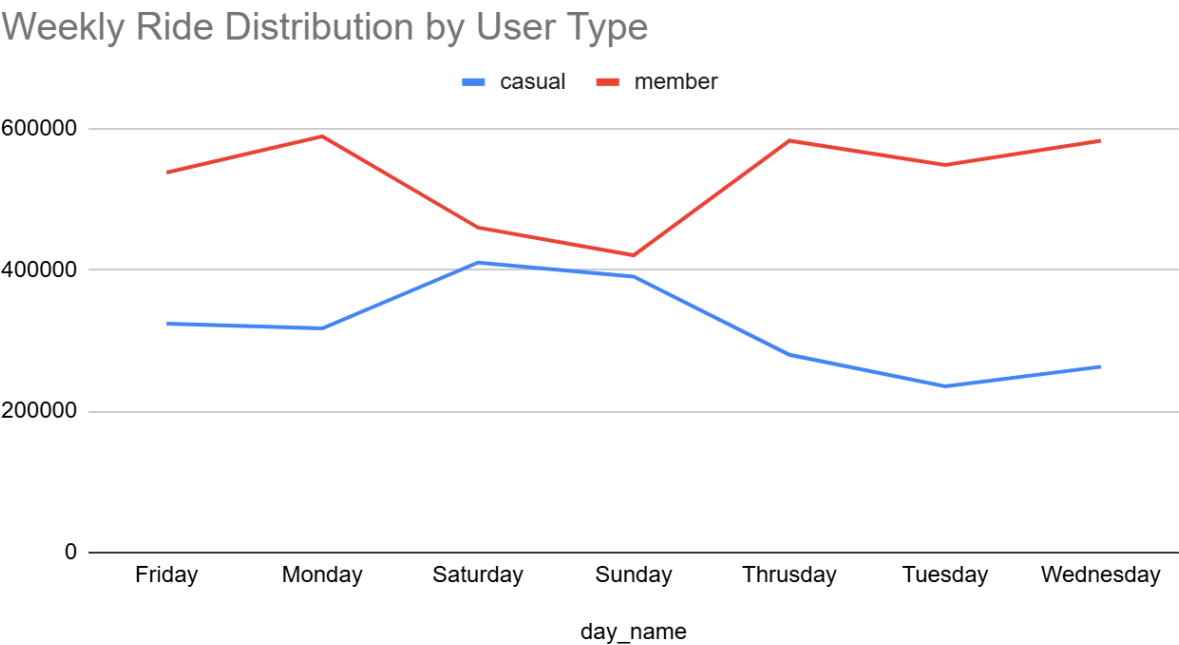## ◈ Graph 2 – Average Ride Duration by User Type

Average Ride Duration by User Type (minutes)

Although casual riders take fewer trips overall, they tend to use the bikes for longer durations compared to members. This suggests that casual riders are more likely to use the service for leisure activities, while members use it for shorter, routine trips.

◈ Graph 3 – Weekly Ride Distribution by User Type

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Weekly Ride Distribution by User Type

This chart shows distinct weekly usage patterns between the two user types. Members demonstrate consistent usage throughout the week, suggesting commuting behavior, while casual riders show higher activity during weekends, indicating recreational use.

Summary of Insights

The analysis reveals clear behavioral differences between casual riders and members. Members use the service more frequently and consistently, while casual riders take longer rides and are more active on weekends.

Recommendations

Recommendation 1: Weekend Conversion Campaigns

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Target casual riders during weekends with limited-time membership promotions, leveraging peak leisure usage periods.

Recommendation 2: Cost-Saving Communication

Highlight the financial benefits of memberships by comparing frequent casual usage costs with membership pricing.

Recommendation 3: Flexible Membership Options

Introduce flexible or weekend-focused membership plans tailored to recreational users.

Based on these insights, Cyclistic should focus on targeted marketing campaigns aimed at casual riders, such as weekend promotions, trial memberships, and incentives highlighting the cost-effectiveness of annual plans for frequent users.

Conclusion

The analysis reveals clear behavioral differences between members and casual riders. By aligning marketing strategies with observed usage patterns, Cyclistic can effectively convert casual riders into long-term members, increasing customer retention and revenue stability.