

Cyclistic Bike-Share Analysis

Data Analyst Case Study

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Tools Used : SQL (Big Query), Google Sheets

About the Project

Company	Context	Problem statement
<p>Cyclistic is a Bike-Share Company that offers short term bike rentals through both casual rides and annual memberships.</p>	<p>Two main Customers:</p> <ul style="list-style-type: none">1} <i>Casual Riders</i> - Purchase single-ride or short-term passes.2} <i>Annual Members</i> - Subscribe to a yearly membership.	<ul style="list-style-type: none">1} To understand how casual riders and annual members use bikes differently.2} Find ways to convert the casual riders into annual members.

Business Questions

Question 1

How do annual members and casual riders use Cyclistic bikes differently?

Question 2

Why would casual riders buy Cyclistic annual memberships?

Question 3

How can Cyclistic use digital media to influence casual riders to become members?

Data Source	Description
Dataset	Cyclistic Bike Trip Data
Content	Start time, End time, Rider type, Trip Duration and more
Purpose	Analyze the riding behaviour of members and casual riders

Tool	Purpose
SQL(Big Query)	Data cleaning, aggregation, analysis
Google Sheets	Pivot tables and data visualization

The analysis was conducted using SQL to aggregate trip data at different levels.

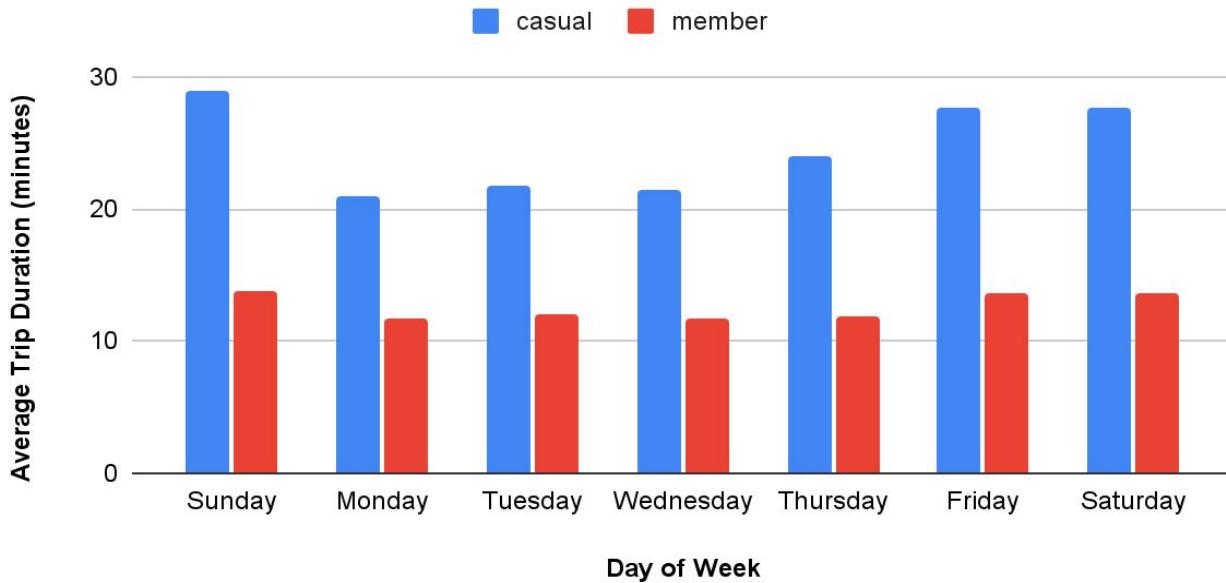
A Common Table Expression (CTE) was used to separate aggregation logic from calculation logic.

- 1} Monthly analysis was performed to identify *seasonal trends*.
 - 2} Day-of-Week analysis was performed to understand the *weekday* and *weekend* riding behaviour.
 - 3} *Average* and *Median* trip durations were calculated to compare the rider behaviour.
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Average Trip Duration by Day of Week :

Annual members show consistent trip durations throughout the week, indicating routine usage, while casual riders exhibit leisure-oriented behavior with long weekend rides.

Average Trip Duration by Day of Week: Members vs Casual Riders

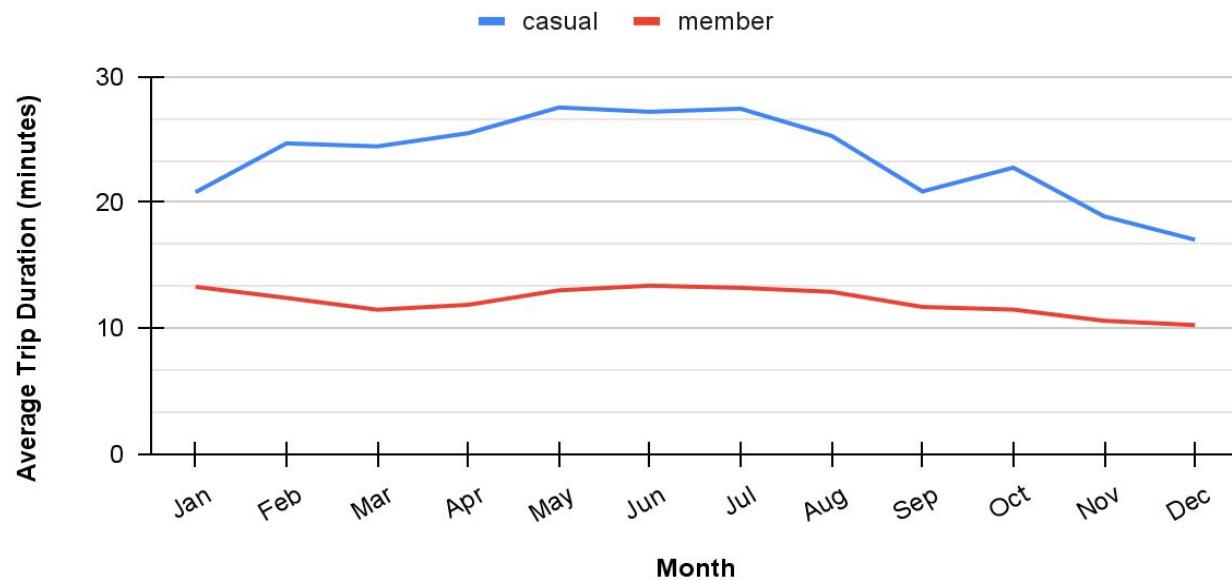


Average Trip Duration by Month :

Casual riders consistently take longer trips than annual members across months, with higher engagement during warmer seasons, while member usage remains relatively stable throughout the year.

Average Trip Duration by Month(2024):

Members vs Casual Riders



Recommendations :

- Target Peak Months - Focus on digital membership campaigns during spring and summer when casual rider engagement is highest.
- Leverage Weekends - Promote membership benefits on weekends, when casual riders take longer leisure trips.
- Highlight Cost Savings - Emphasize how annual memberships are most cost-effective for frequent and long-duration rides.
- Personalize digital outreach - Use ride frequency and duration to identify and target high-engagement casual riders with membership offers.

Conclusion!

Casual riders and annual members show distinct riding behaviors. While annual members show consistent and routine usage; casual riders exhibit longer and seasonally driven trips particularly on weekends.

These patterns indicate strong potential to convert the casual riders into annual members through targeted, data-driven digital strategies.



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Thank You!!