Cyclistic Bike-Share Bike Analysis

Brent Lund, Data Analyst | Portfolio Project

Project Summary

In this case study, I analyzed how casual riders and annual members use Cyclistic bikes differently, using trip data from Q1 2019 and Q1 2020. I used R to clean and process the data and Tableau to visualize patterns in ride duration and frequency. The findings support targeted marketing strategies to help convert casual riders into members. This project was completed as part of the Google Data Analytics Capstone.

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

Deliverable:

Determine how annual members and casual riders use Cyclistic bikes differently in order to provide actionable insights that can inform a marketing strategy aimed at converting more casual riders into annual members.

What was reviewed:

- Trip length for members vs casual riders
- Number of Riders under each category

Data Sources

- Divvy trip data, 2019 Q1 + 2020 Q1 .csv files
- Data cleaned, processed, and analyzed in R studio
- Visually produced in Tableau

Data Cleaning and Preparations

- Columns renamed to match between files
- Convert/mutate characters for correct stacking
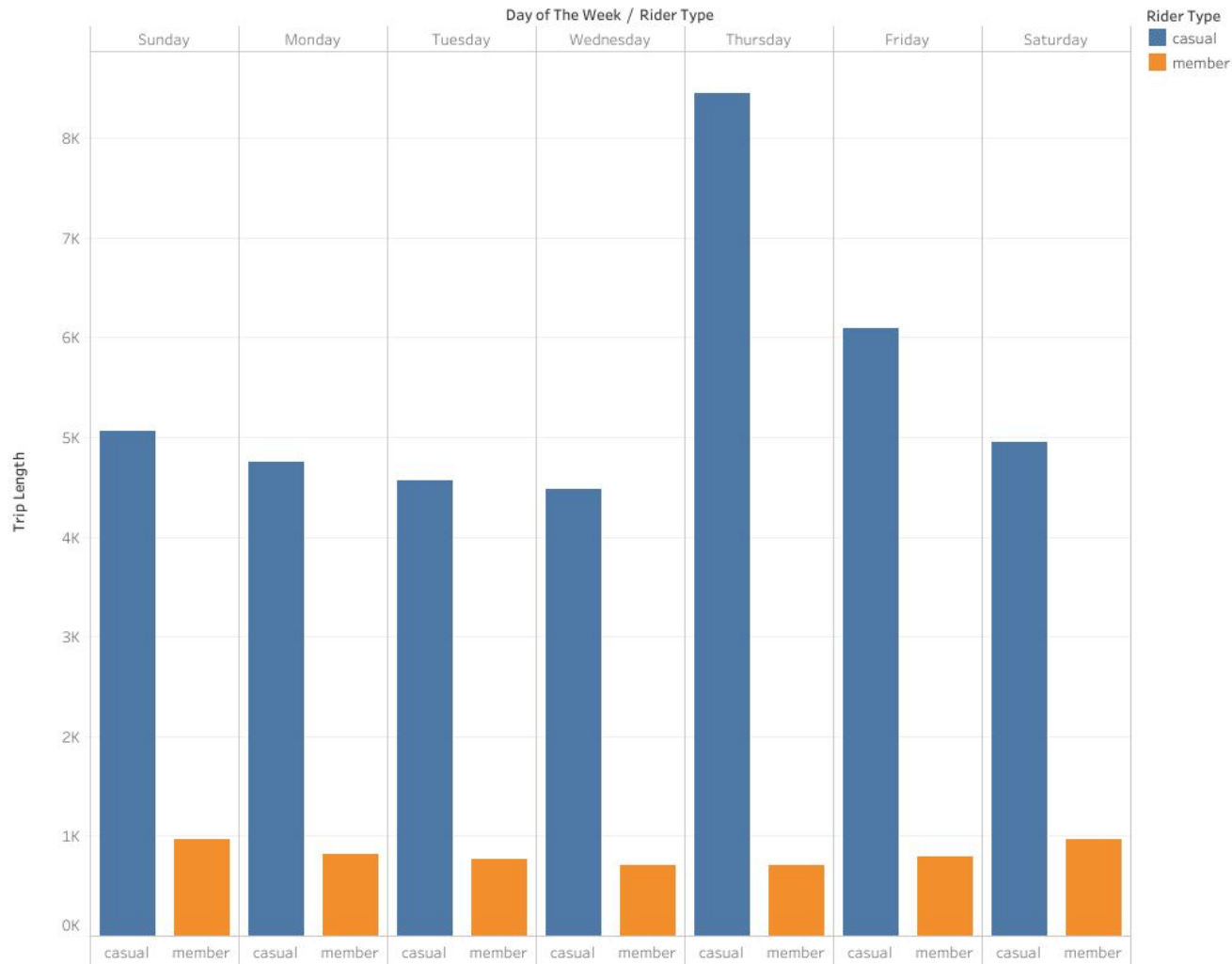- Stack files into one big data frame

Identify Problems in Data

- Added day, month, year for grouping
- Removed quality-control outliers
- Add a calculated field for trip length
- "member_casual" column, replace "Subscriber" with "member" and "Customer" with "casual"
- Ride-level too granular
- Deleted data where duration was negative or QC rides made by company

Casual Riders, Ride Longer

- Casual riders travel further distances
- Members ride for commuting

Trip Length

Day of The Week / Rider Type

| | Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |

Rider Type
- casual
- member

Rider Duration Patterns by Day and Rider Type

- Increased casual riders on weekends
- Increased member riders on weekdays

Key Behavioral Differences Between Members and Casuals

- Casual riders take longer rides, especially on weekdays.
- Members ride more consistently–likely commuting.
- Casual riders peak on weekends, Members peak during week.

Goal: Convert Casual riders into Members

- Offer weekend discounts to help convert casual riders to members
- Members are commuting, so market the savings casual riders will have if they switched to Members. Member cost vs fuel consumption.
- Use targeted digital ads for casual users who ride frequently. In high tourist areas or areas where casual riders are starting/ending rides.

Thank you

This project was completed as part of the Google Data Analytics Capstone

Tools used: Excel, R, Tableau, Google Slides

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