Cyclistic Bike Share Analysis

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Introduction

This case study is to verify my learning steps of studying in the Google Data Analytics Course.

Scenario

I'm a junior data analyst working in the marketing team at Cyclistic (a fictional bike-share company based in Chicago). The company wants to analyze its user data to find the main differences in behavior between the two types of users, the "casual rider" who pays for each ride and the "annual member" who pays for a yearly subscription to the service. The company is trying to design a marketing campaign to convert casual riders to annual members. The goal is to identify user behavior and develop a membership strategy of converting casual users to annual members.

Phase 1: Ask

Business Task - The company wants to improve their earnings by reaching out to their casual riders, and for that, they have to analyze in what aspects the casual users and the annual customers differ, to be able to create a focused and successful marketing message for the casual customers that makes them change to the annual subscription.

Questions for Stakeholders –

How do annual members and causal riders use cyclistic bikes differently?

Why would casual riders buy the annual membership?

Phase 2: Prepare

To find out user behavior between these two types of casual users and members. It needs to identify the time they use, their site, and the kinds of bikes they ride in the data. Gain insight into user behavior patterns; the marketing can follow up to make suitable promotions and marketing campaigns.

The data that I used is public data from a bike-share company and is kept regularly updated by Google. For this analysis, I used the last 12 months' data (June 2021 – May 2022).

Phase 3: Process

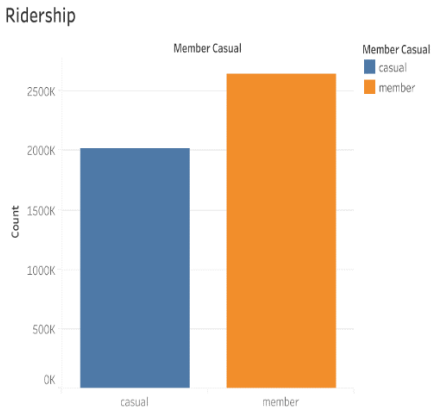
In the data clean phase, I used R Studio to clean up the null values and unnecessary data and created a single data frame for all 12 months.

Phase 4: Analyze

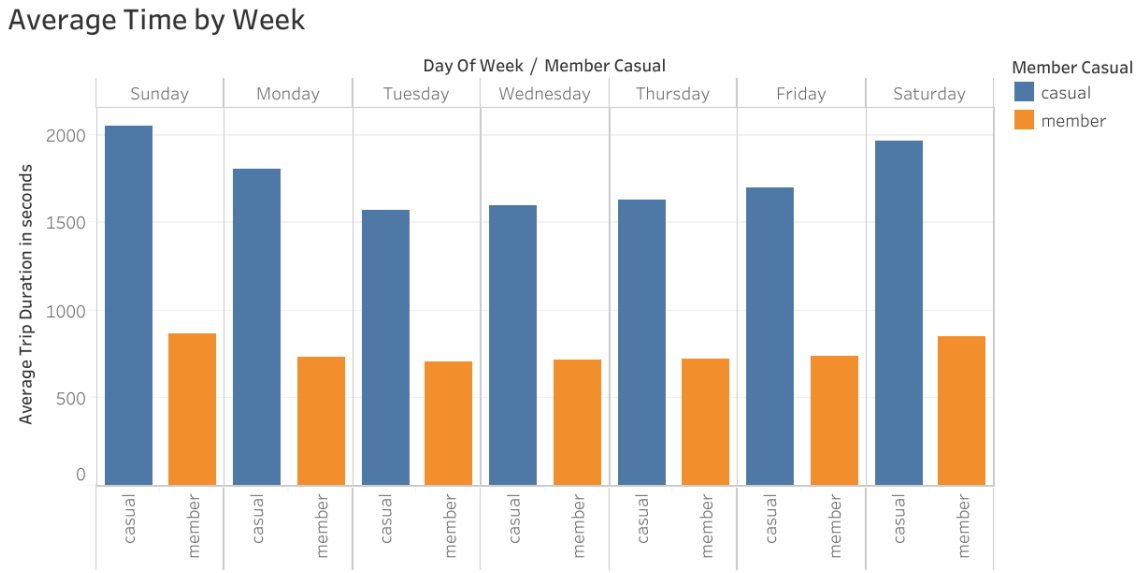
In the analysis phase, I used R studio to create some custom columns like the day of the week, date, month, and year. Calculated the ride length for every ride. Converted the raw data into convenient data frames for further analysis. Then exported the data frames to Tableau for further detailed visualizations.

Phase 5: Share

In the proportion of users in the last 12 months, the majority are members. Casual users are around 40% of the total users.

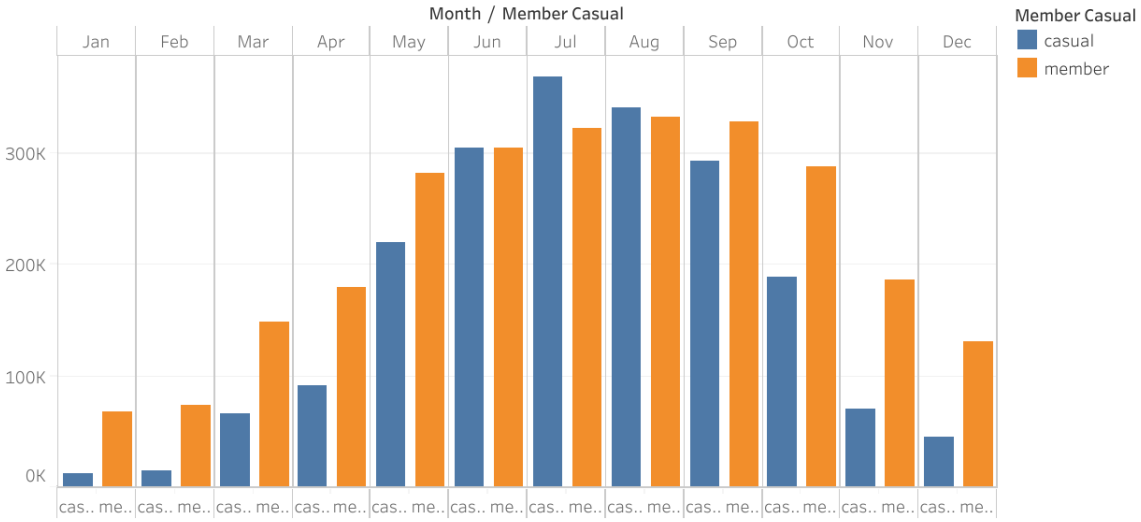


Whereas, the trip duration between the casual users and members differs widely. The trips duration by casual users is more than the annual members throughout the week with a peak on Saturdays and Sundays. On the other hand, the trip durations by annual members are more or less equal throughout the week.



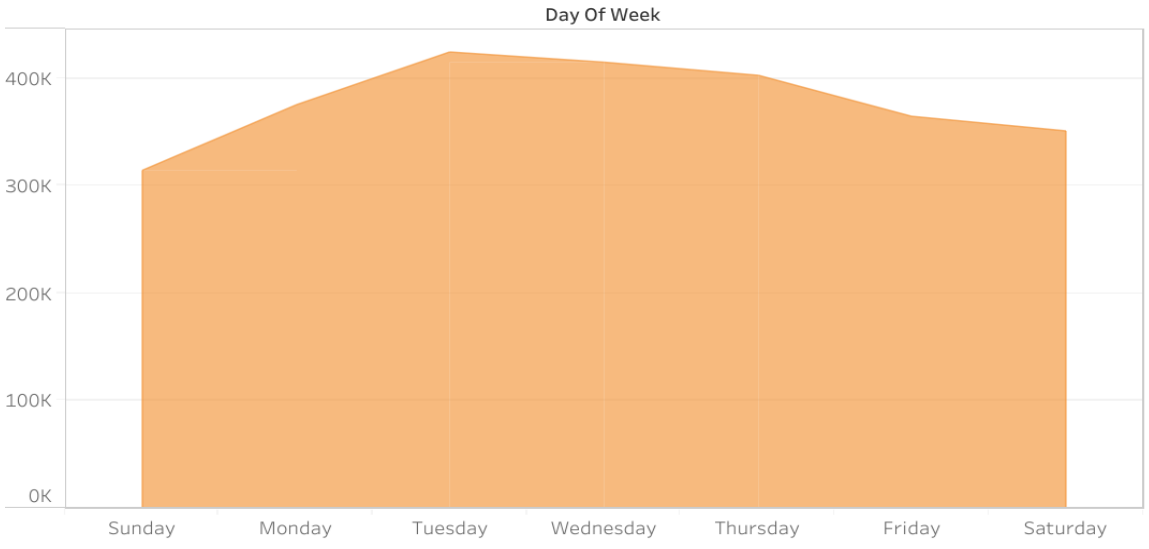
Regardless of whether members or not, the peak months starting from June to September can be considered a reasonable time for the campaign for high engagement.

Monthly Usage



Here we can see that the annual members use the bikes more on weekdays than weekends. So we can imply that the annual members are mostly working people and they use these bikes for their traveling to the office and back home.

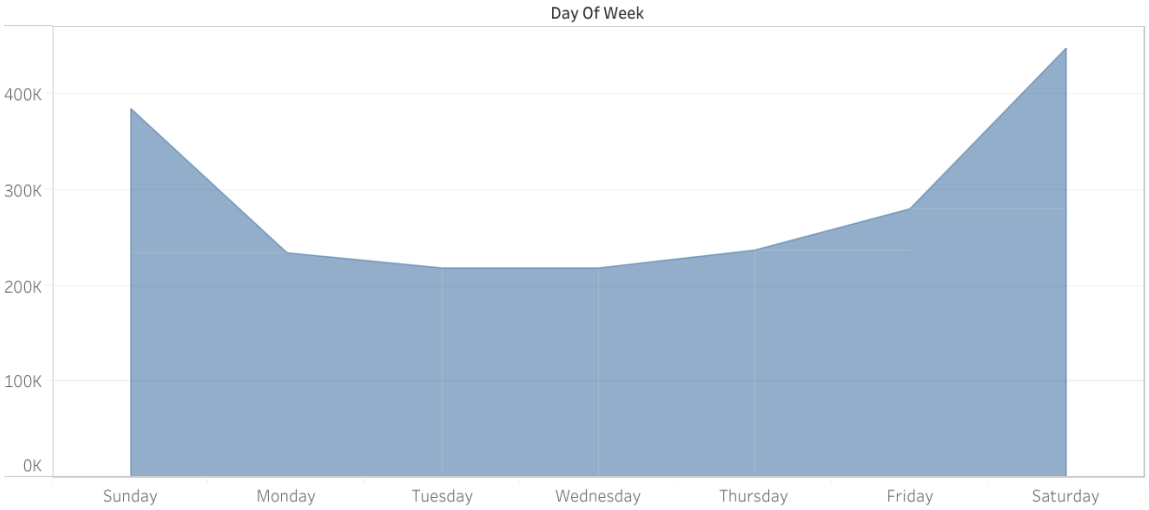
Daily usage by Members



On the other hand, we can see that the casual users use these bikes mostly on weekends than on weekdays. So we can imply that the casual users are mostly students who use these bikes to travel around the city on holidays.

So, casual users prefer riding on holidays. It can be considered a good time to do a special promotion to attract them to sign up as members.

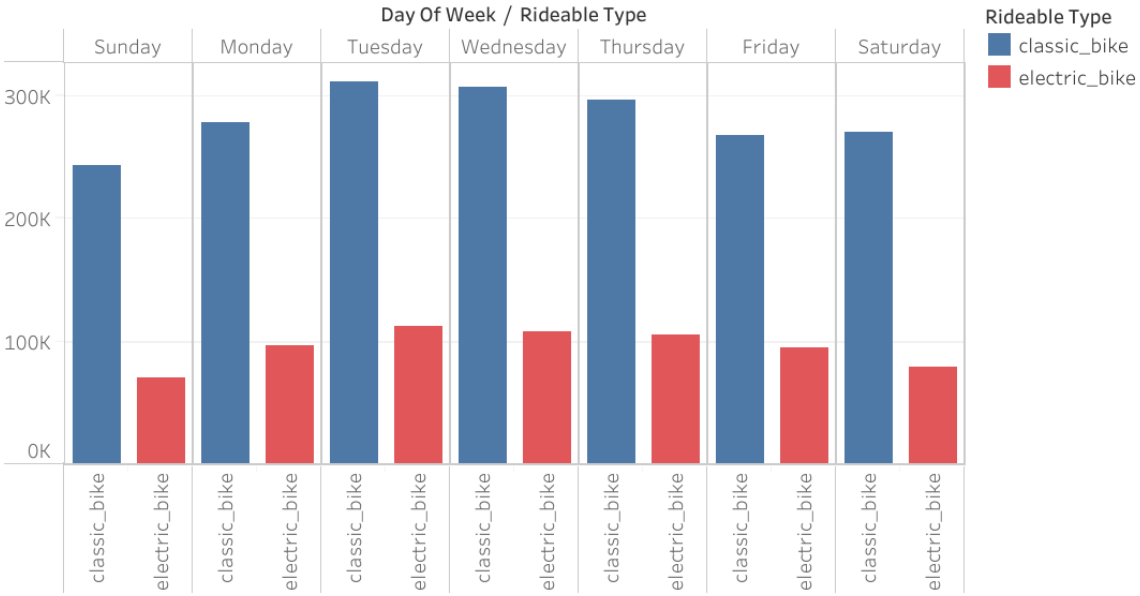
Daily usage by Casual Riders



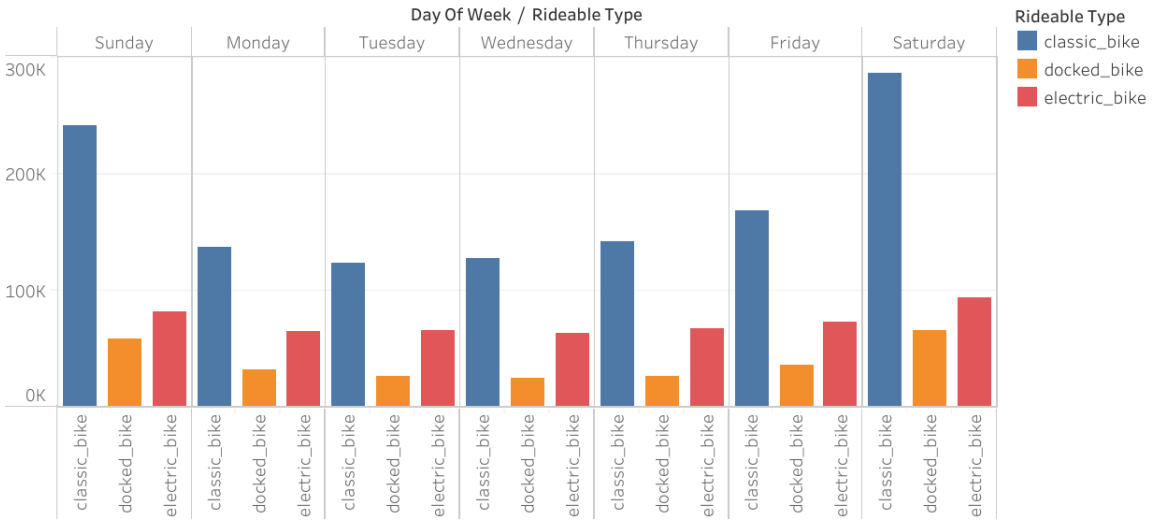
Members and casual users are more likely to ride classic bikes, which can leverage the number of bike types as the adjustment ratio for future needs.

And we can see that the members do not use docked bikes at all OR this might be due to the incomplete data.

Ride Type by Week (Members)



Ride Type by Week (Casual Riders)



Phase 6: Act

To summarize, all possible campaign suggestions are:

- **Promote according to the peak months (June – September), and put on advertising.**
- **Run campaigns on weekends or holidays to attract casual users.**
- **Promote a time reward membership program to attract sign-up for memberships during holidays.**
- **Include a membership plan of weekends only for casual users.**

Thank you for reading.