

Case Study 1

Ask

Business task: Design marketing strategies aimed at converting casual riders into annual members.

Analysis questions:

1. How do annual members and casual riders use Cyclistic bikes differently?
2. Why would casual riders buy Cyclistic annual memberships?
3. How can Cyclistic use digital media to influence casual riders to become members?

I have been assigned the question: How do annual members and casual riders use Cyclistic bikes differently?

Prepare

The data that I've used is contained in an index known as [divvy_tripdata](#). The data used is the data related to the 2019 Q1 usage and the 2020 Q1 usage. This is a public dataset, but due to data-privacy issues, the riders' personally identifiable information is not included. This data includes information on membership status of the users and the ride length of each trip.

We can use this data to help determine why a user might be making use of the service, and try to draw insights into why someone would buy an annual membership for the service.

Process

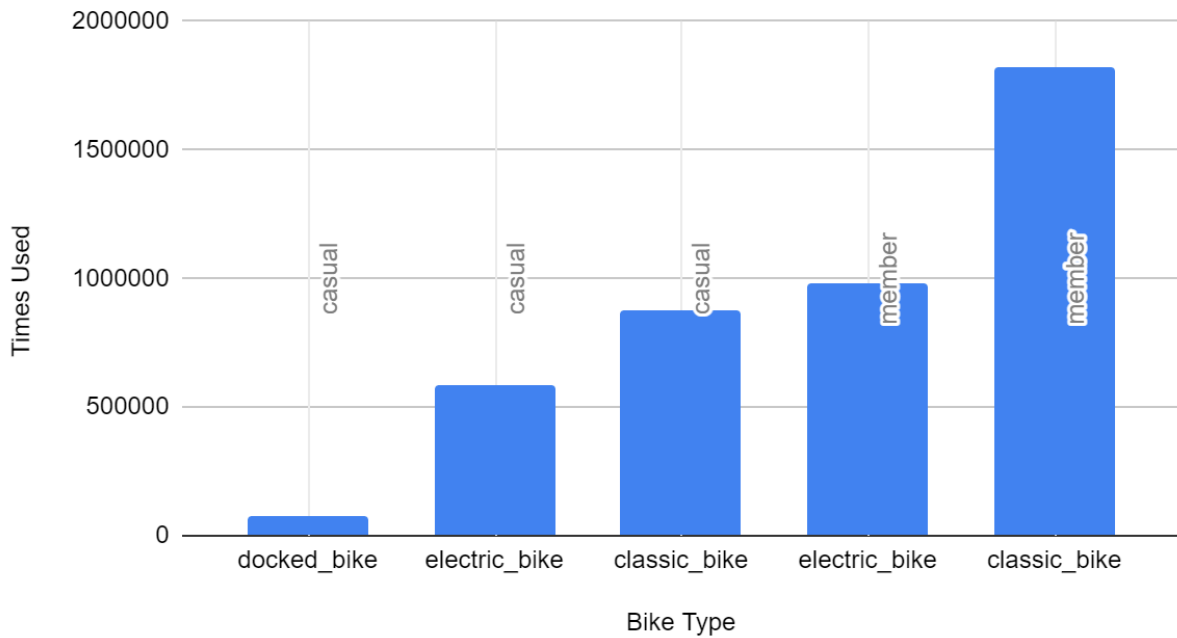
Since the dataset that is being worked with is such a big size, I chose to use SQL to manipulate the data. The first step I took was to combine the 12 tables. Once the tables were combined, I went through and checked for null values within the combined table, and made sure that the columns only had values that made sense. The ride_id in each row had a length of 16. The only three bike types that appeared within the data were electric, classic, and docked. There were null values in the start_station_name, start_station_id, end_station_name, end_station_id, end_lat, and end_lng columns. Finally, the only two values that appeared in the member_casual column were member and casual.

After finding all of this, I went through the table and deleted all of the rows that contained null values, taking the dataset from 5719877 values to 4331707 values.

Analyze and Share

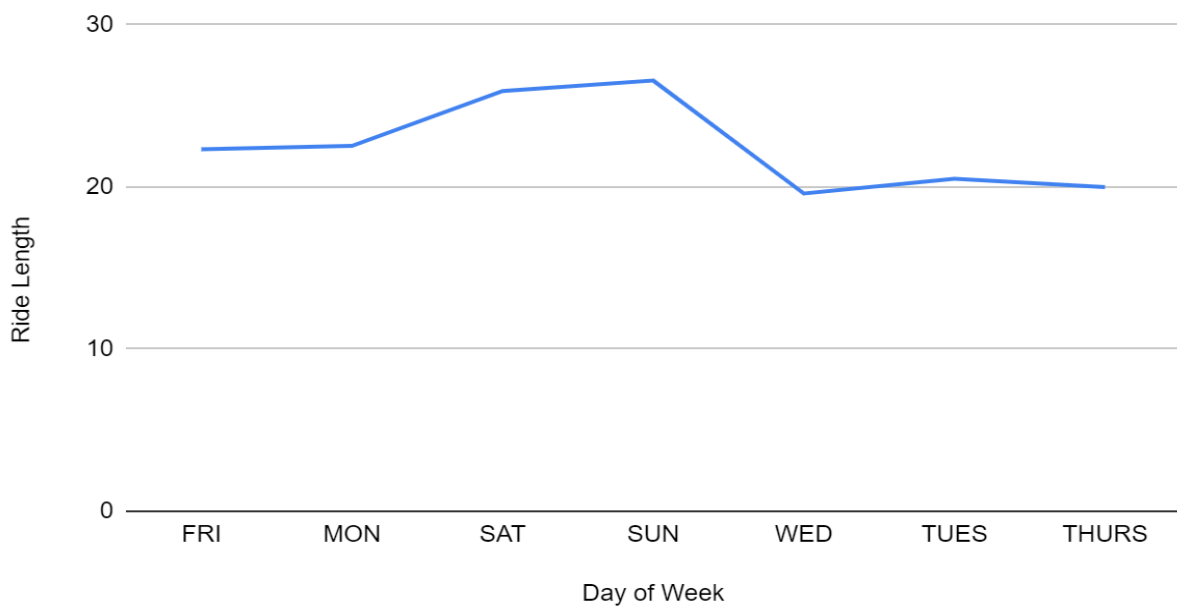
One of the first steps that I took in analyzing the data was to see how the different users of the service used the different types of bikes.

Bike Type Used by Member Type

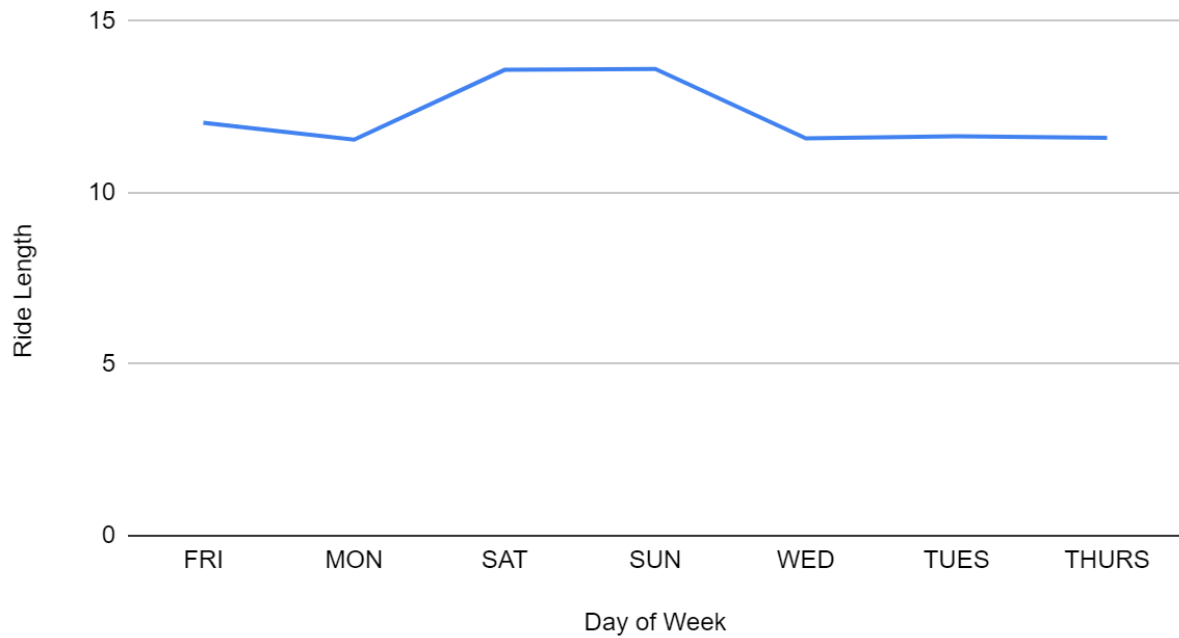


We can see from this that the casual users are the only ones who use the docked bike type, and also take less trips overall than the full members. Next, I made sure to check the average ride length per member type and the total trips per day of the week for 2023.

Average Ride Length for Casual Users

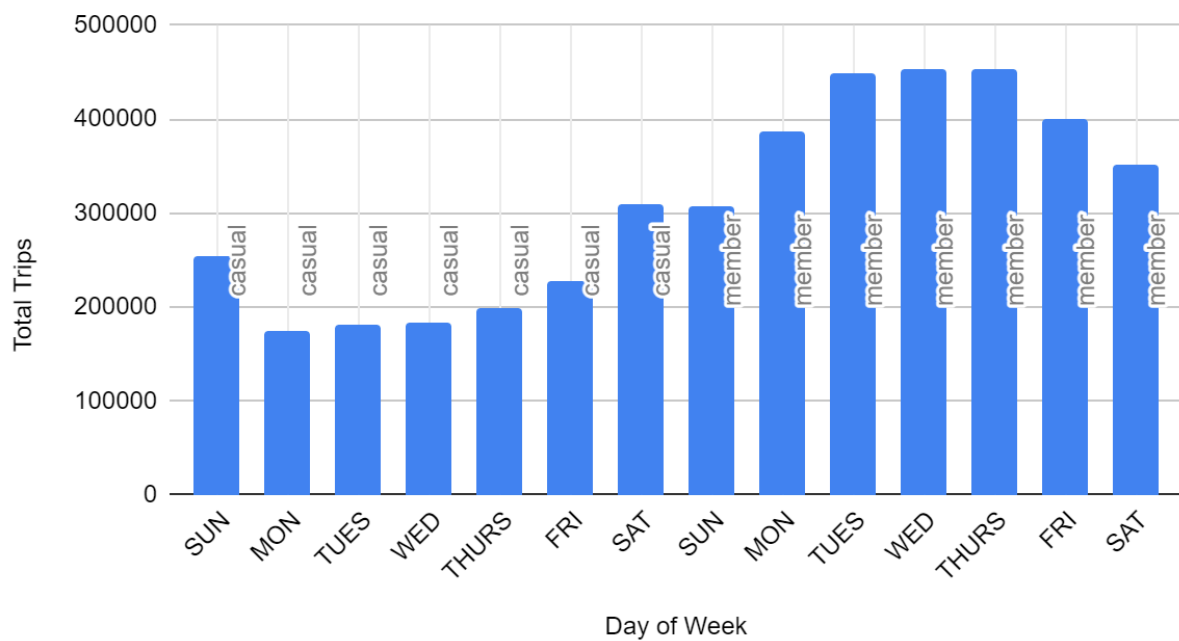


Average Ride Length for Members



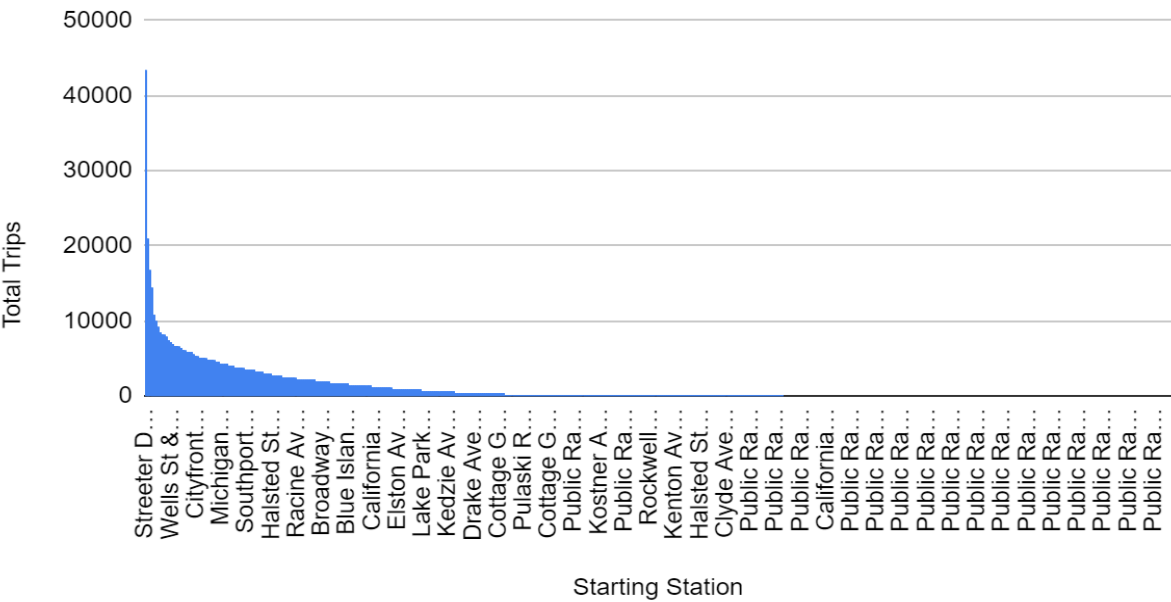
We can see from this data that casual members take longer trips than full members on average. This could be because casual users are using the service for recreational purposes, rather than trying to get to a specific destination.

Trips per Day by Member

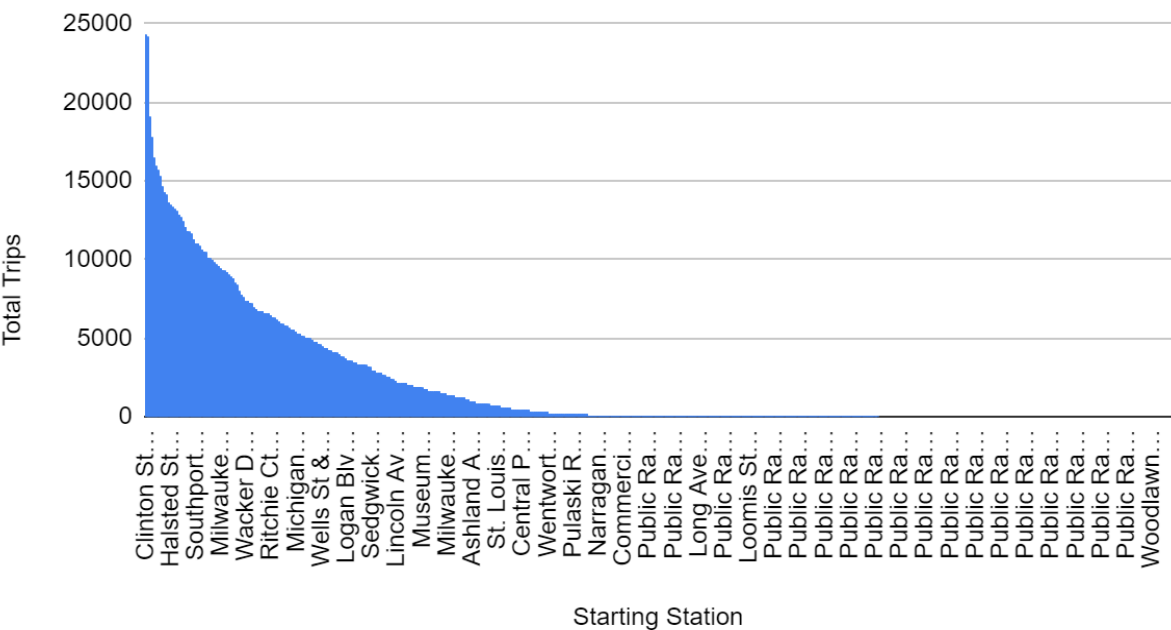


We can see here that full members of the service took more trips over the year than casual members. There is especially an uptick in use on the weekdays. This could mean that those who are full members of the service are using the bikes to get to and from work, rather than for recreational purposes. We can also take a look at the start and end stations for each member type.

Casual User Start Stations

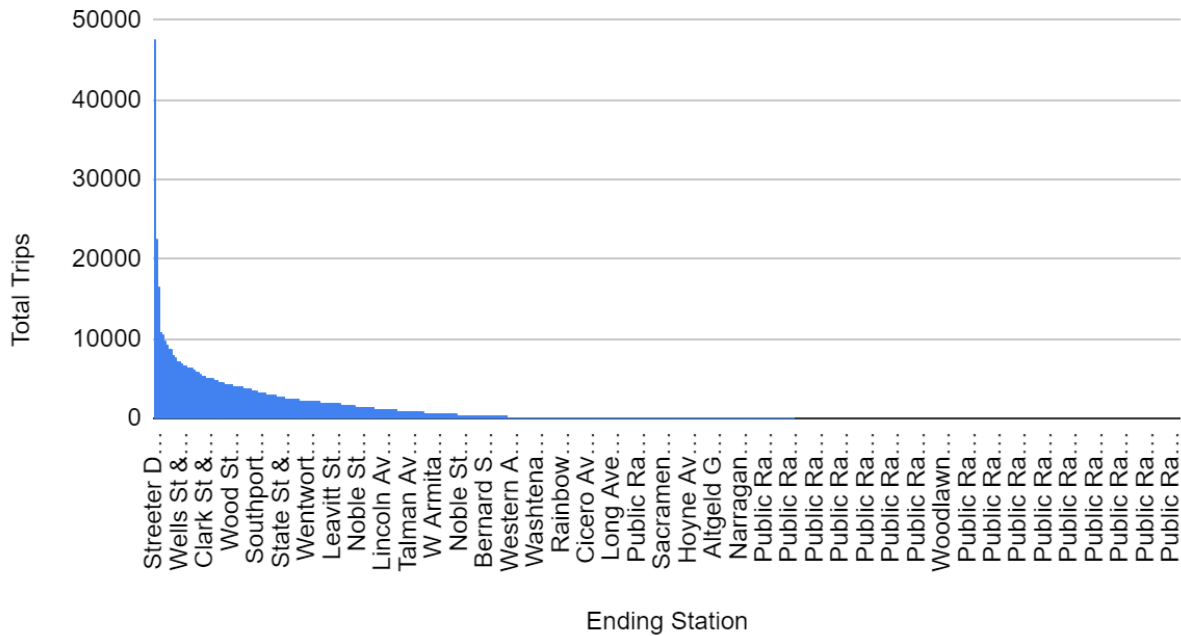


Member Start Stations

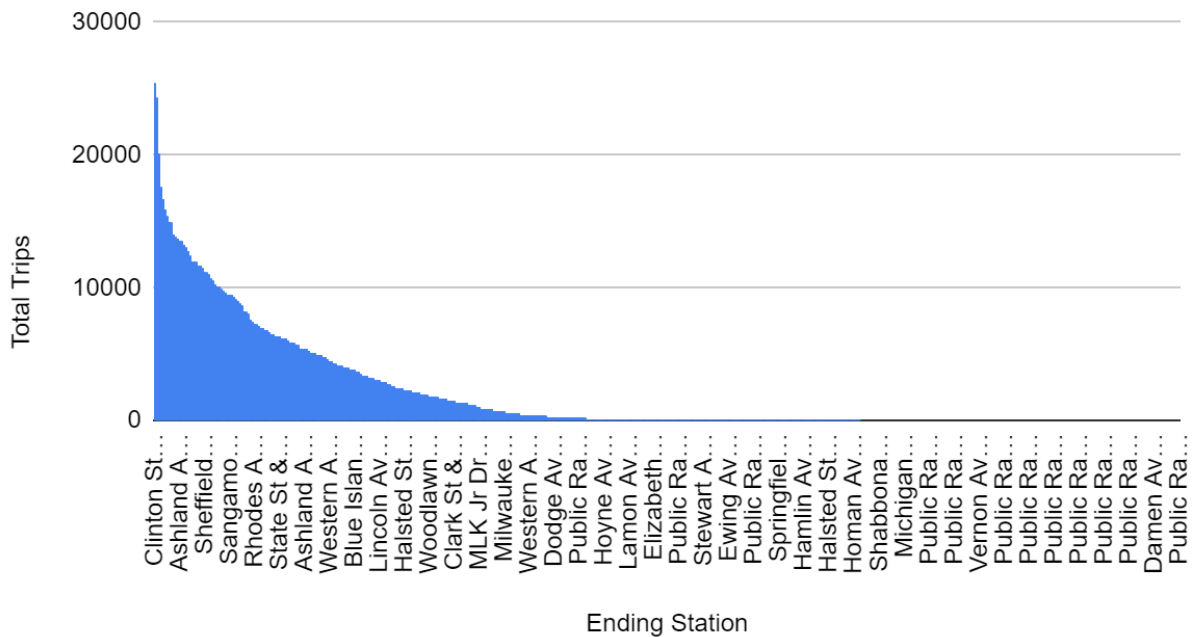


We can see here that the casual members use one start station much more than the others, while the full members are more varied in their starting station.

Casual User End Stations



Member End Stations



We see a similar situation here. The casual members typically use the same ending station, while the full members have more varied ending stations. The casual members' most used

ending station also matches up with their most used starting station, which can lead us to believe that many trips for the casual members are more recreational, using the bikes for exercise or fun before returning them to the same station.

Act

We have identified some big differences between casual members and full members with the data, and these can be used to create a marketing campaign to convert the casual members into full members.

1. Casual members seem to use the bike service for more recreational purposes.
2. Full members use the bike service more on weekdays, implying that these trips are for work purposes.
3. On average, casual members go on longer trips than full members.

For the marketing campaign, it would be best to offer discounts based on longer trip times or for specific starting stations, targeting what sets the casual members apart from the full members.