Cyclistic bike-share analysis case study

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

The analysis

Data

- There is the first-party data.
- The data is organized in 12 .csv files.
- There aren't any issues with bias or credibility in this data.
- The data-privacy issues prohibit us from using riders' personally identifiable information.

Introduction

1. Cyclistic is a bike-share company in Chicago.
2. Cyclistic has two user types: casual riders and members.
3. Customers who purchase single-ride or full-day passes are referred to as casual riders. Customers who purchase annual memberships are Cyclistic members.

A statement of the business task

Identify differences in Cyclistic bicycle use by casual riders and members. Developing three recommendations to help convert casual riders into members.

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Tools

Google Sheets

I explored the data using Google Sheets. The results of the SQL analysis were saved and organized in Google Sheets. Also, some charts were built using Google Sheets.
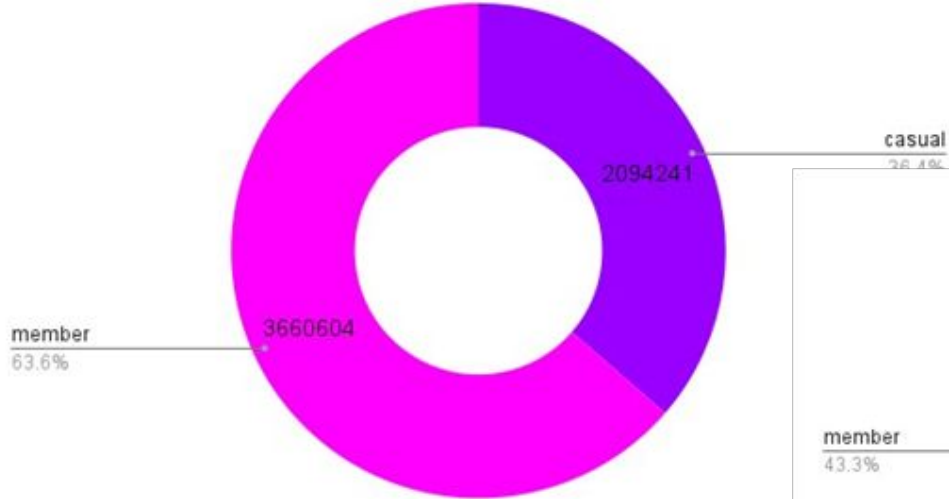
SQL
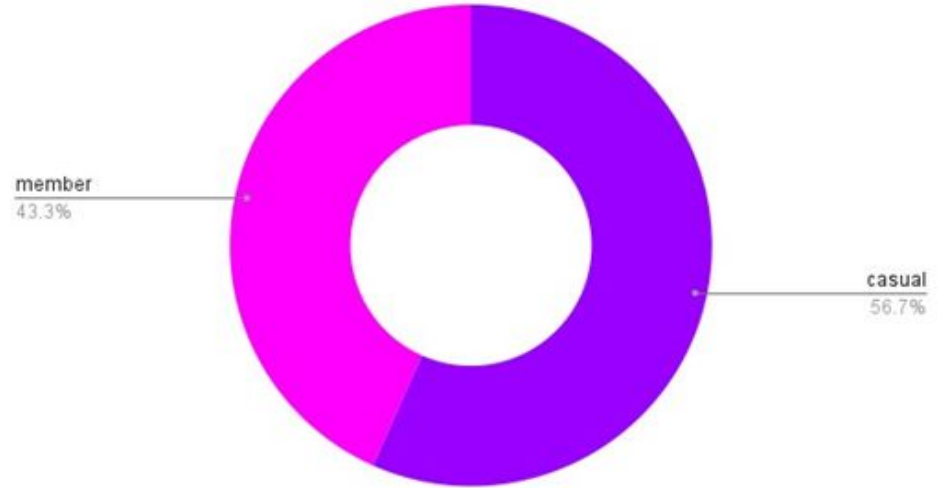
The data was explored, manipulated, and analyzed with SQL.

Tableau

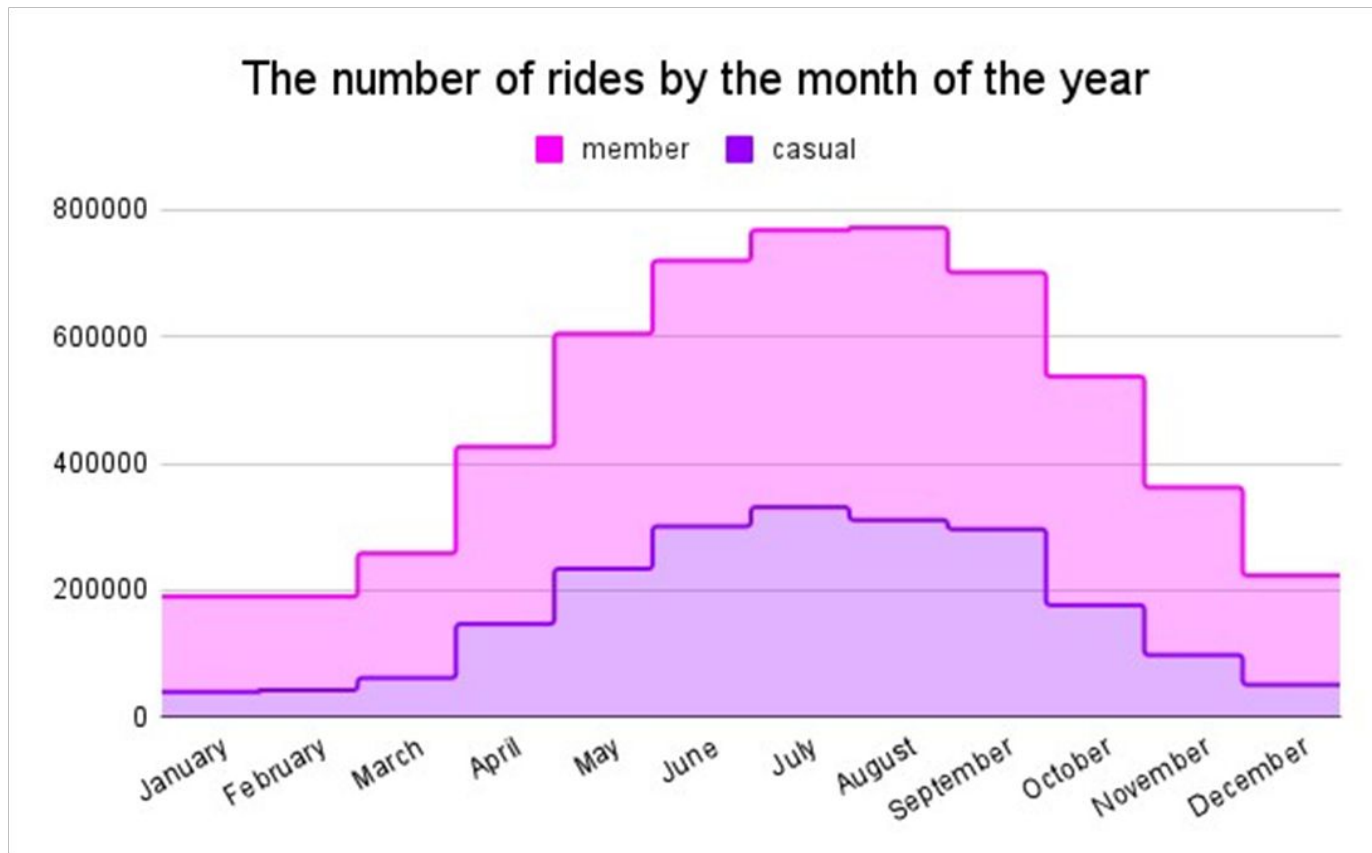A few charts were created with Tableau.

The total number of rides

casual
36.4%

2094241

member
63.6%

3660604

The total duration of rides

member
43.3%

casual
56.7%

In 2023 customers a bike-share company Cyclistic did about 5,8 million rides.

The number of rides by the month of the year

In general, the distribution of the number of trips by month for both types of riders is similar.

The max ride duration by the month of the year

trip_month_start	casual_trip_max_duration	member_trip_max_duration
January	560:03:44	24:59:56
February	314:25:46	24:59:56
March	280:08:04	25:59:40
April	306:35:29	24:59:56
May	486:50:31	25:00:31
June	491:05:58	24:59:56
July	857:41:24	24:59:57
August	1641:29:04	24:59:57
September	461:37:34	172:33:21
October	277:36:31	277:15:13
November	25:00:25	24:59:56
December	24:59:57	24:59:56

The max ride duration on all months is higher for casual riders.

The average ride duration by the month of the year
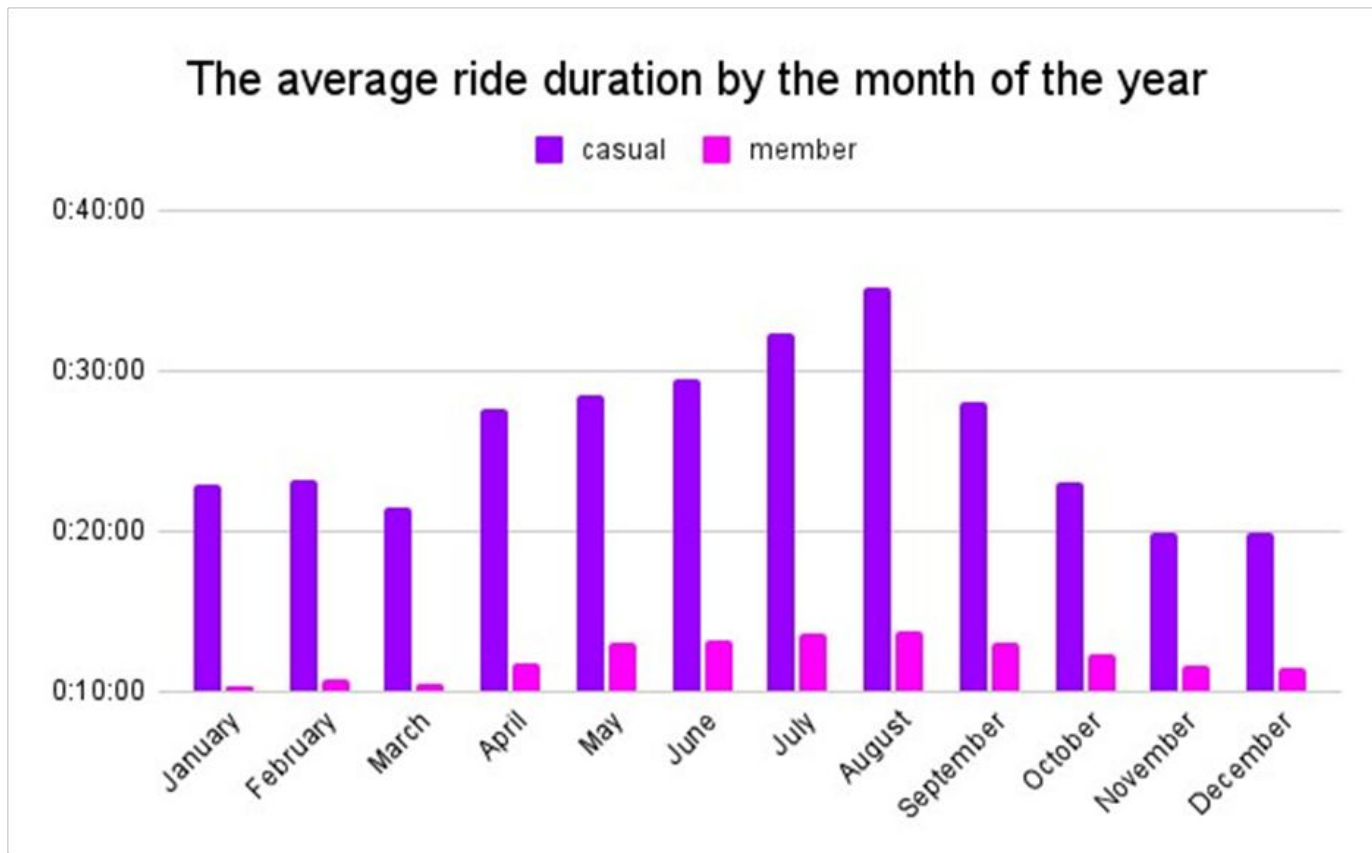
In all months, the average ride duration of casual riders is higher than that of member riders.
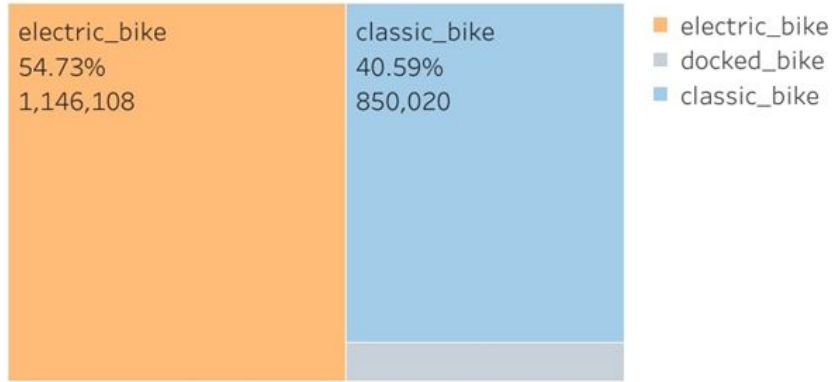
The number of rides by day of the week
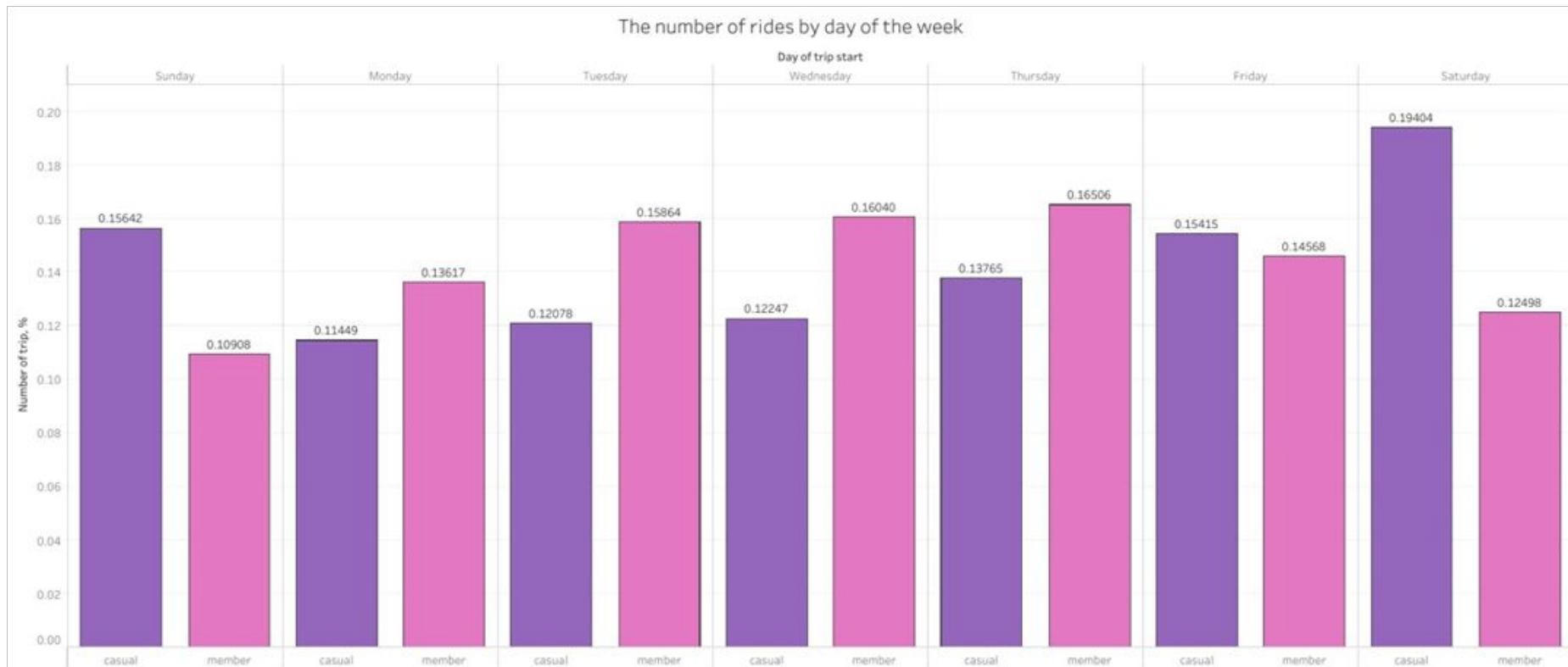
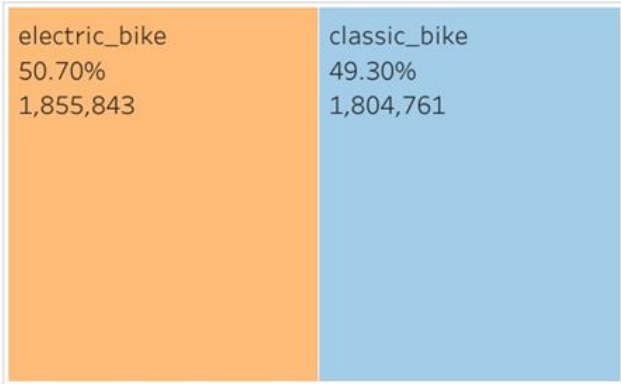The casual riders do more rides on Fridays and weekends. The member riders more often use bikes on workdays.
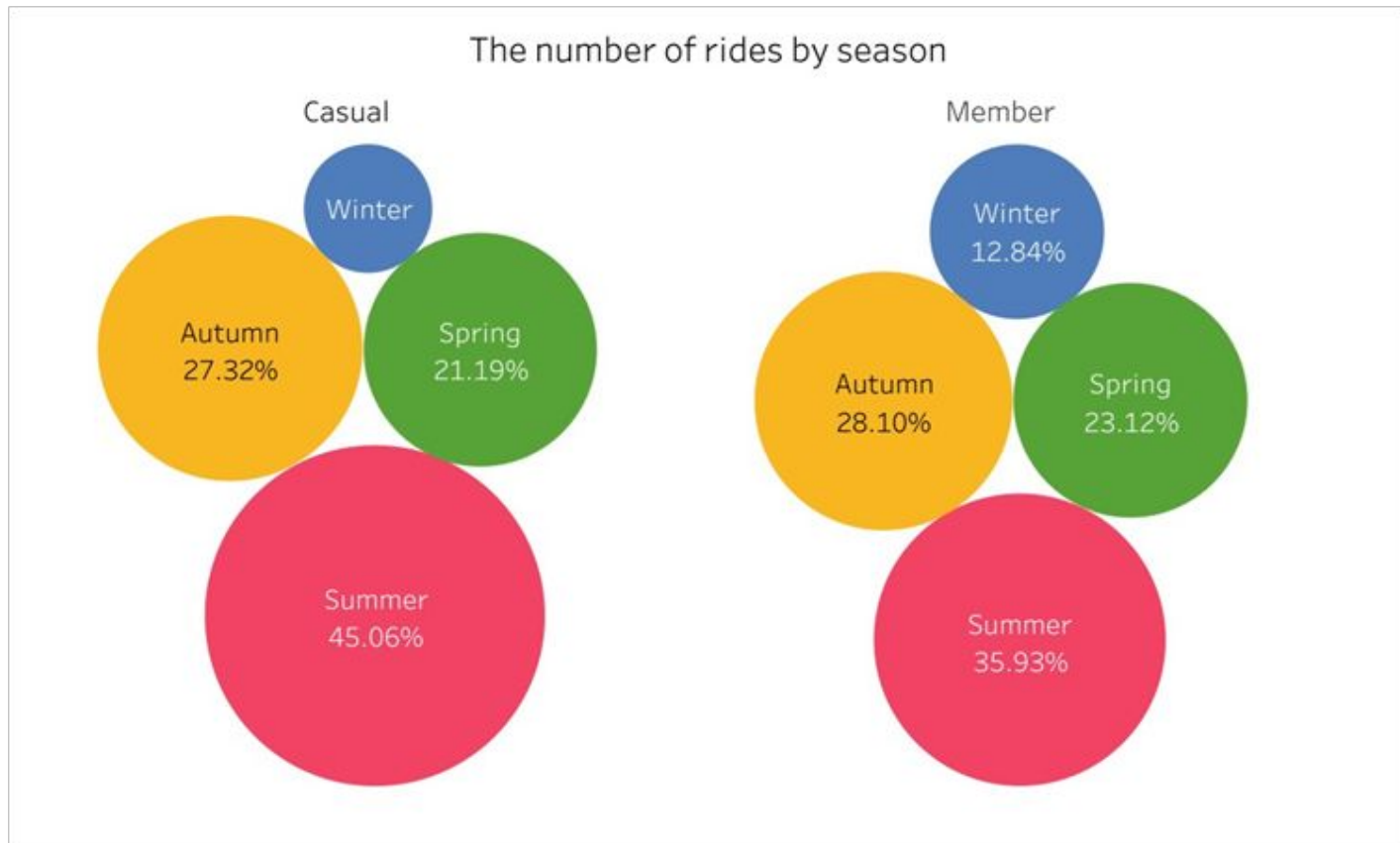
The most popular season for rides by casual and member riders is summer.

Bike type

Casual

| electric_bike 54.73% 1,146,108 | classic_bike 40.59% 850,020 |

- electric_bike
- docked_bike
- classic_bike

Member

| electric_bike 50.70% 1,855,843 | classic_bike 49.30% 1,804,761 |

Casual riders use three types of bikes: electric, classic, and docked.
The member riders use only electric and classic bikes.

Conclusion

1. Casual riders more often used bicycles for recreation. We need to emphasize the benefits of using bicycles for commuting to a job.

2. Some of the casual riders' trips were very long. Maybe, it was tourism trips. It is recommended to tell about the opportunities of using bikes for tourism. For such long trips, it would be more profitable to purchase annual memberships.

3. Casual riders more used bikes on weekends. There is a high probability that they want to ride with their family. Should offer a loyalty system for families.