Microsoft | Power BI

Bike Trip Report

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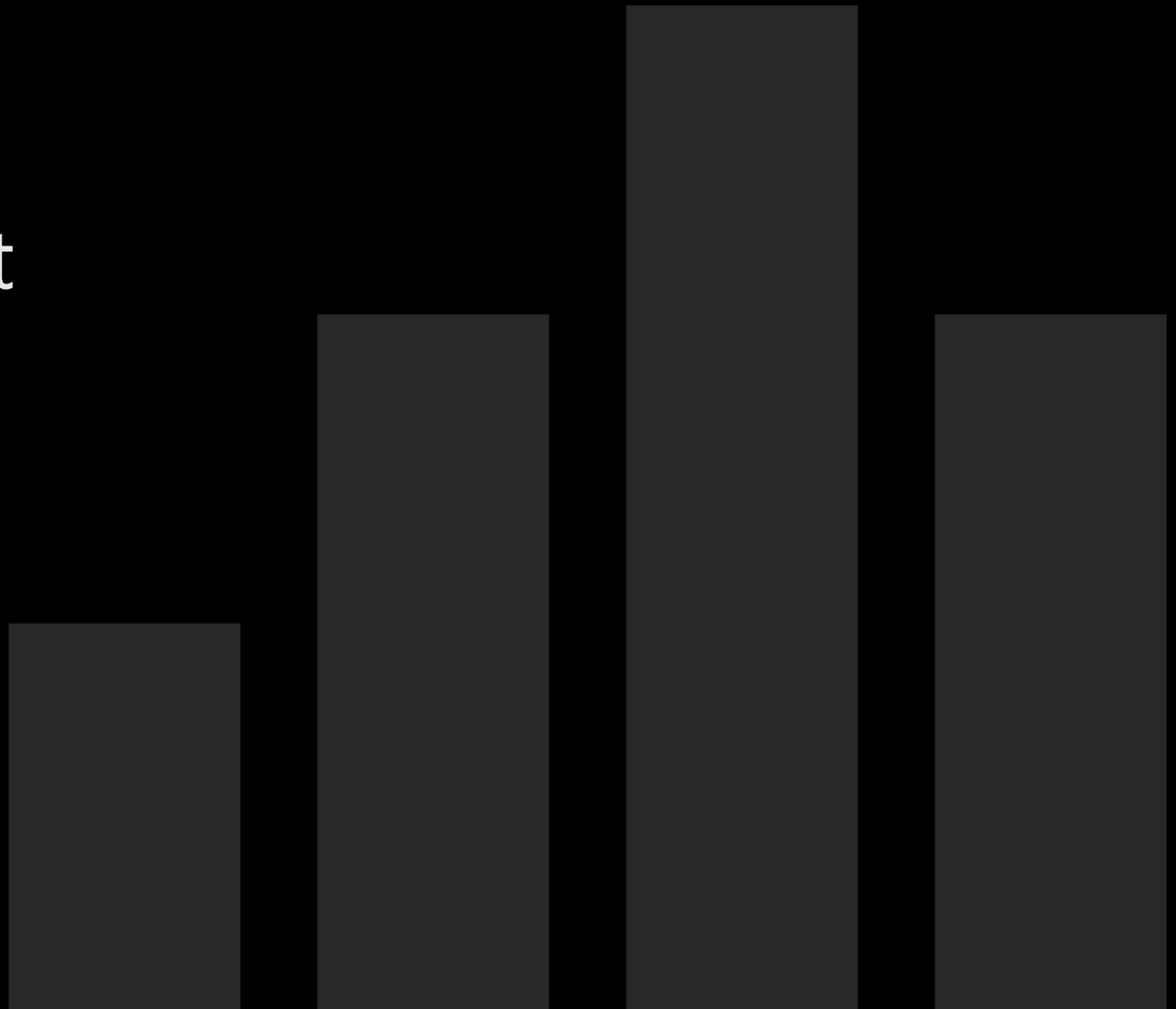

Cyclistic Bike-Share Analysis Report

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Date: 09/07/2023

Executive Summary

In this report, I analyze the usage patterns of Cyclistic's bike-share program to understand the differences between annual members and casual riders. The objective is to provide insights that will inform the development of a marketing strategy aimed at converting casual riders into annual members.

Introduction

Background and Objectives

Cyclistic is a bike-share company based in Chicago with the aim of maximizing annual memberships. The marketing team is interested in understanding how casual riders and annual members use Cyclistic bikes differently. This analysis will provide the foundation for a marketing strategy to convert casual riders into annual members.

Data Sources

For this analysis, we utilized Cyclistic's historical trip data, which is publicly available and contains valuable insights into customer behavior.

Data Preparation

Data Collection

I collected the historical trip data from Cyclistic's database, ensuring that it is suitable for analysis.

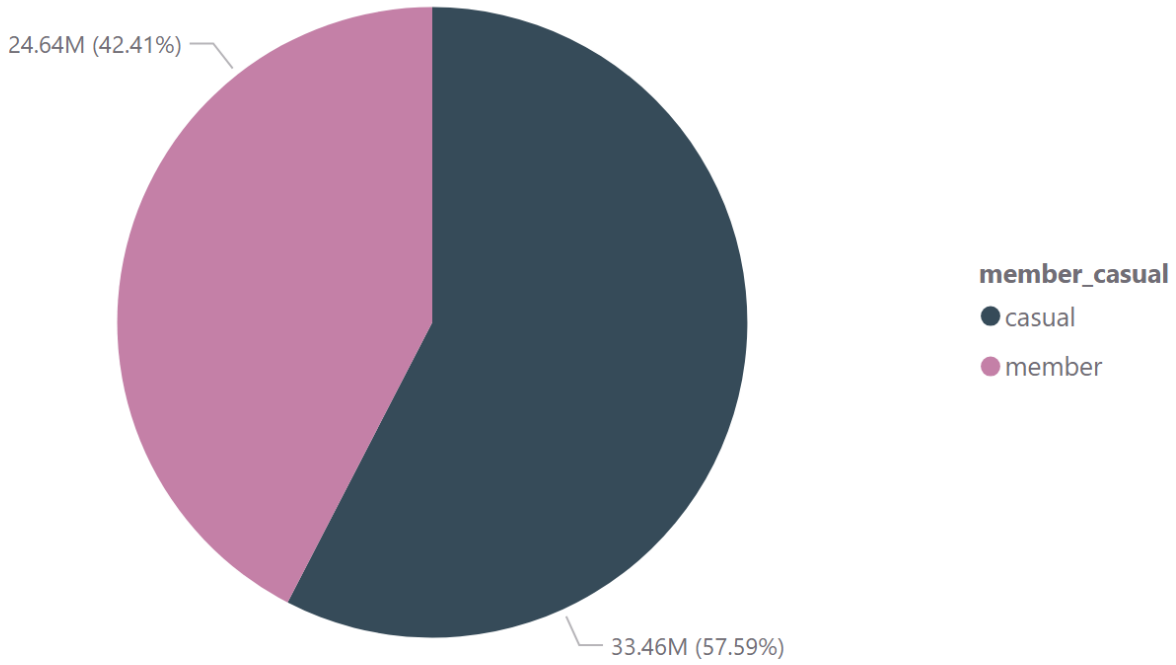
Data Organization

The data was structured in a way that allowed us to perform meaningful analysis and gain insights.

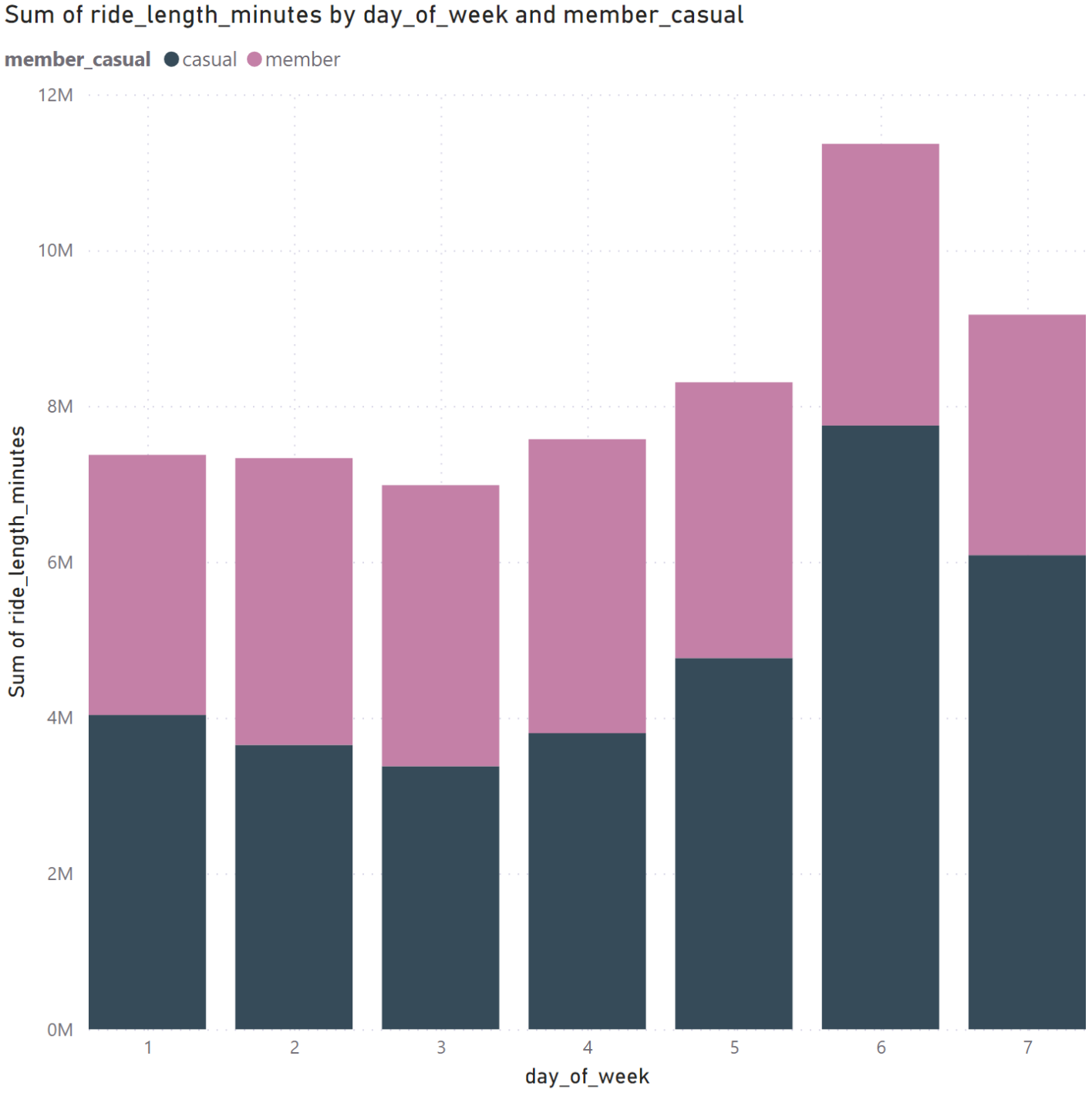
Data Credibility and Verification

We assessed the credibility of the data, addressed potential biases, and verified its integrity.

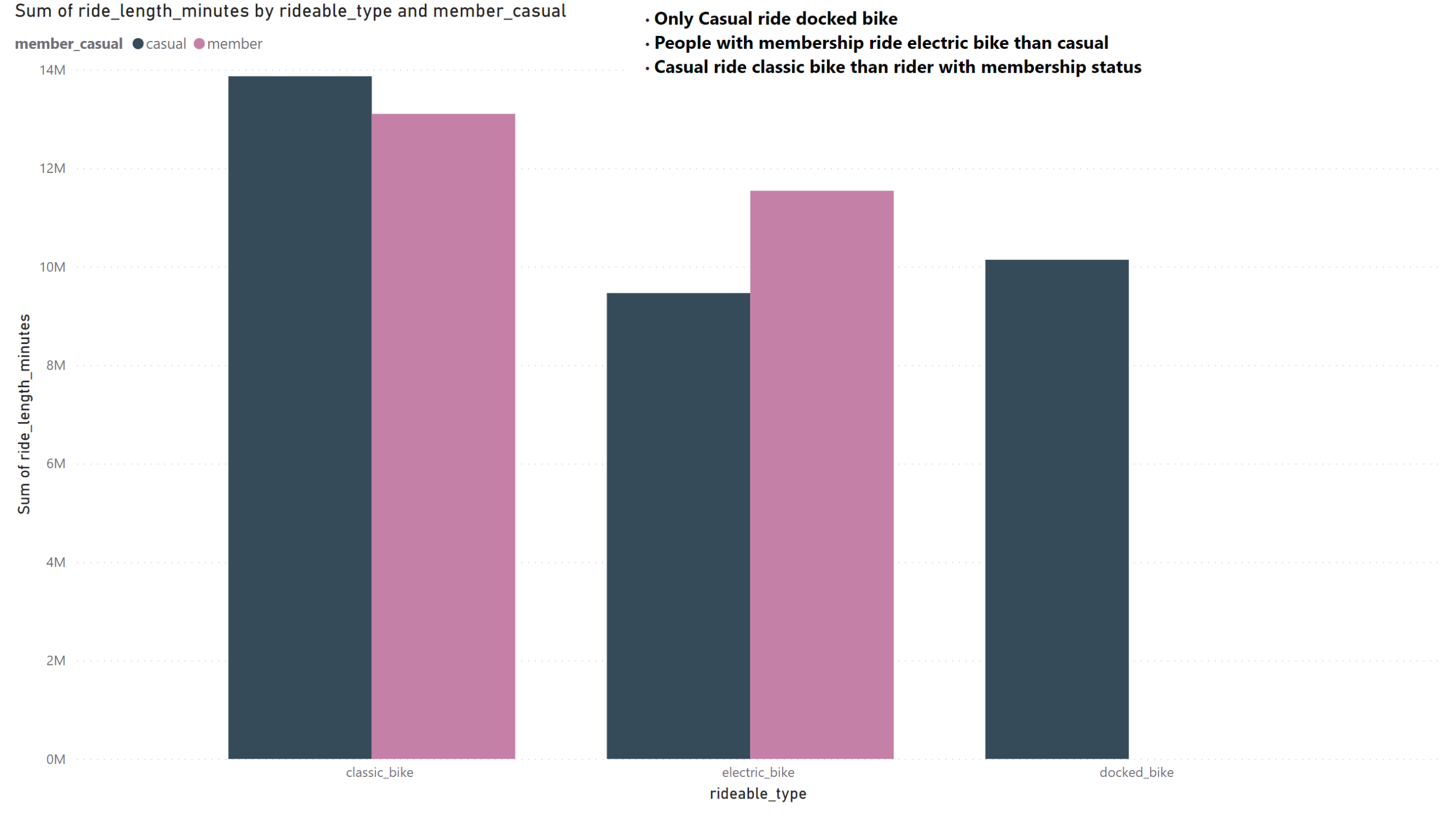
Sum of ride_length_minutes by member_casual

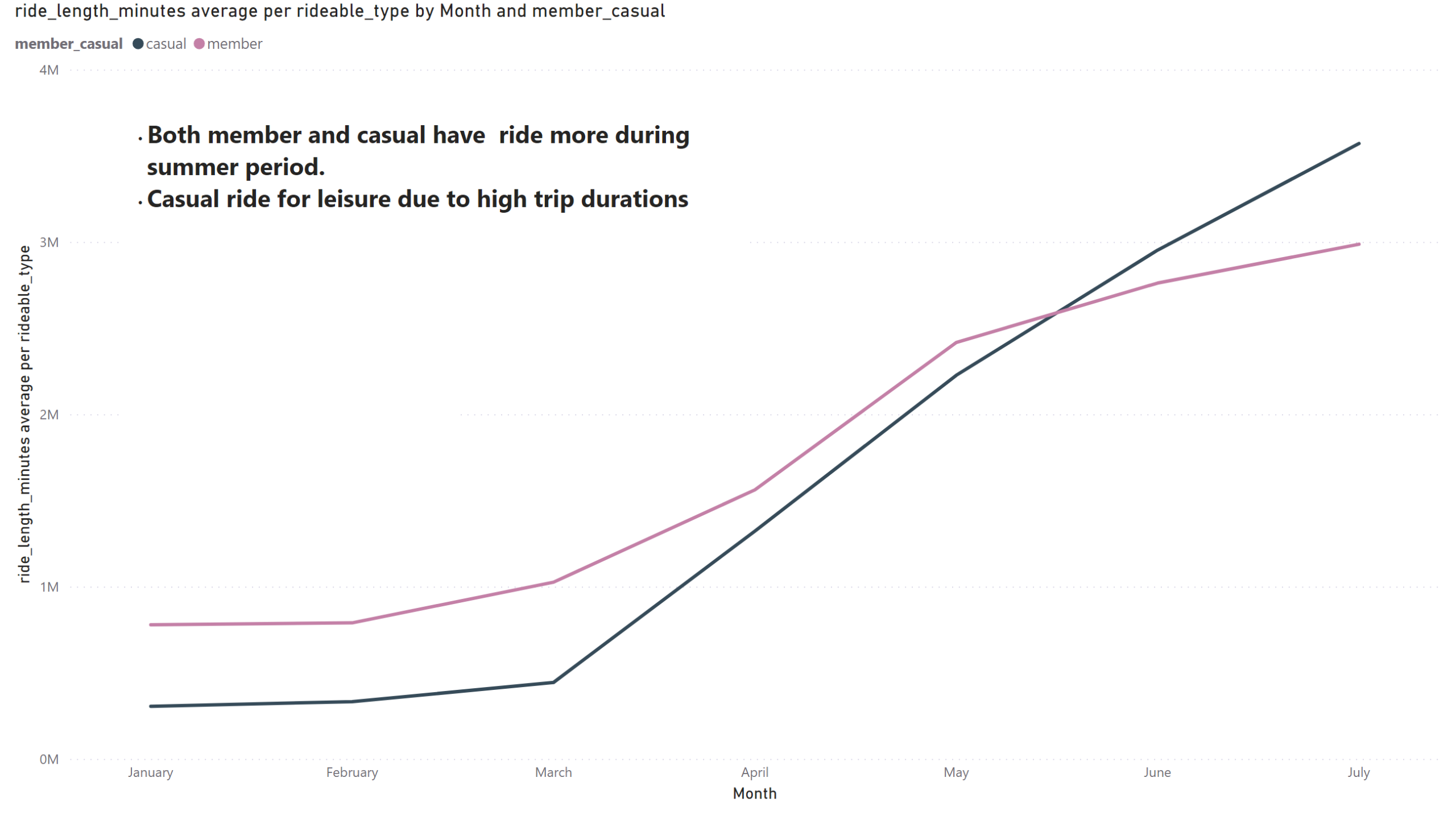


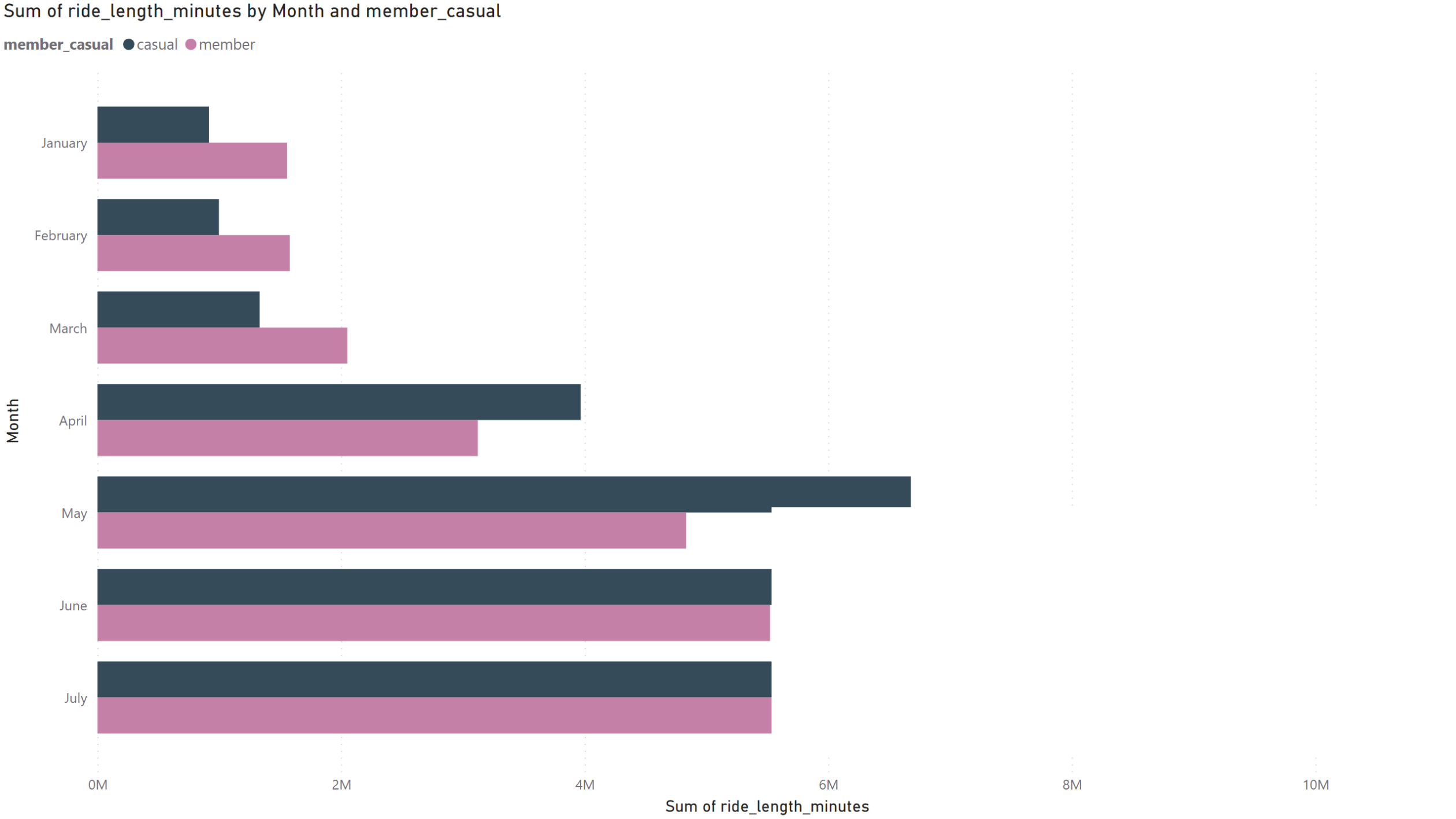
There are 33.46 million member and 24.64 million casual using the company.



Casual seems to ride more on Friday than any other days of the week while Member seems to ride more on Wednesday


Sum of ride_length_minutes by rideable_type and member_casual
member_casual casual member
• Only Casual ride docked bike
• People with membership ride electric bike than casual
• Casual ride classic bike than rider with membership status
14M
12M
10M
8M
6M
4M
2M
0M
Sum of ride_length_minutes
classic_bike
electric_bike
docked_bike
rideable_type


ride_length_minutes average per rideable_type by Month and member_casual
member_casual casual member
4M
3M
2M
1M
0M
ride_length_minutes average per rideable_type
Both member and casual have ride more during summer period.
Casual ride for leisure due to high trip durations
January
February
March
April
May
June
July
Month


Sum of ride_length_minutes by Month and member_casual
member_casual
casual
member
January
February
March
April
May
June
July
Month
0M
2M
4M
6M
8M
10M
Sum of ride_length_minutes

KEY FINDINGS

- Casual riders outnumber annual members, indicating a larger potential customer base for conversion.
- Cyclistic experiences a surge in ridership during the summer months, presenting an opportunity for targeted marketing campaigns during this period.
- Casual riders tend to have longer trip durations compared to annual members, suggesting that they may use the service for leisure and extended rides.
- Casual riders predominantly use docked bikes, while annual members may prefer other bike types, such as electric bikes or classic bikes.
- Casual riders appear to prefer riding on Fridays, possibly indicating weekend leisure rides.
- Annual members show a preference for riding on Wednesdays, suggesting weekday commuting patterns.
- Annual members show a preference for electric bikes, which may align with their commuting needs and speed preferences.
- Casual riders tend to use classic bikes, which may cater to their leisurely riding style.

Marketing Strategies

- Utilize seasonal promotions to attract leisure riders during peak summer months, targeting casual riders with special offers.
- Create "Weekend Getaway" packages to cater to Friday riders and incentivize casual riders to become members.
- Enhance the bike-type experience by highlighting the benefits of different bikes, encouraging electric bike adoption, and customizing routes for classic bike enthusiasts.

Tools

Python: Cleaning and Preprocessing
Power Bi: Visualisation

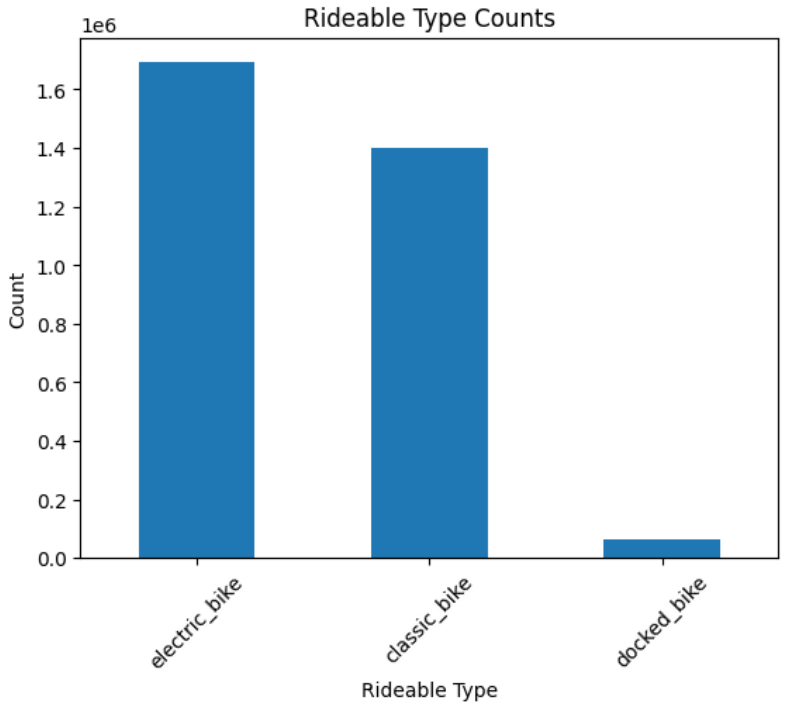
- **I joined seven monthly data together**
- **I converted the started date to DateTime format**
- **I calculated the trip duration for each member**
- **I created a column for the day of the week (started from Sunday as 1)**
- **I performed a descriptive analysis**

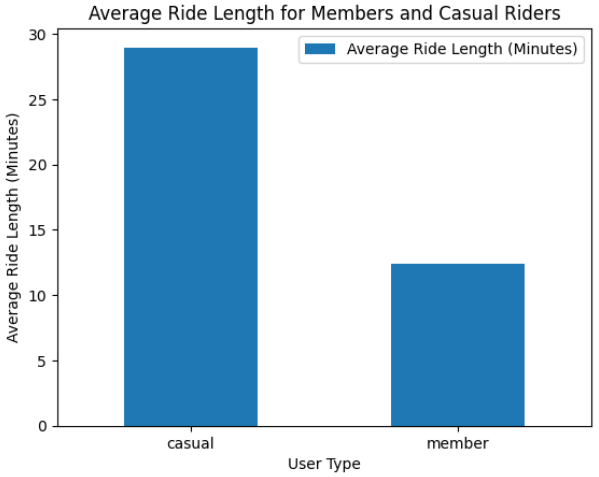
Here is the link to **Jupyter Notebook** files on my Github Profile

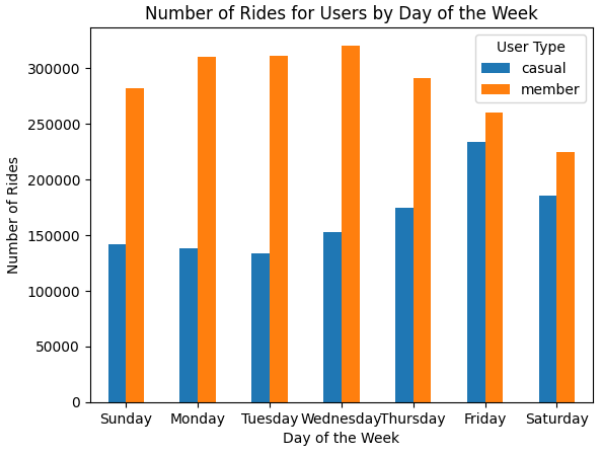
Conclusion

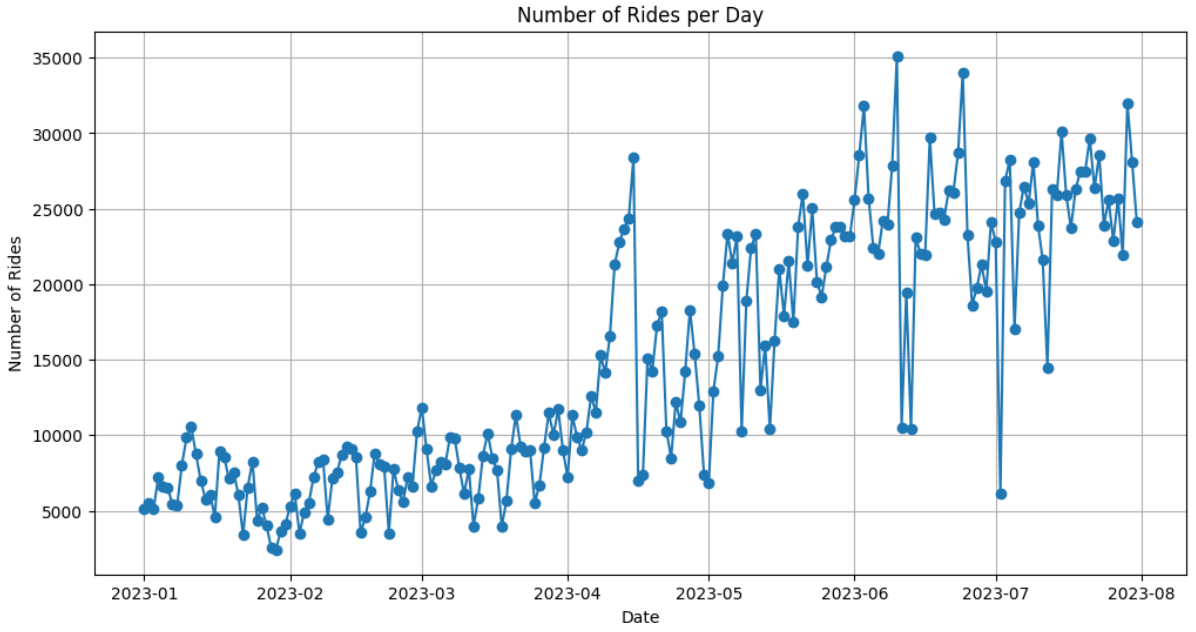
In conclusion, my analysis provides valuable insights into the differences between annual members and casual riders. Making use of my recommendations and marketing insights will help Cyclistic take significant steps toward achieving its goal of maximizing annual memberships.

Appendix


Rideable Type Counts
1e6
Count
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
electric_bike
classic_bike
docked_bike
Rideable Type


Average Ride Length for Members and Casual Riders
Average Ride Length (Minutes)
Average Ride Length (Minutes)
0
5
10
15
20
25
30
casual
member
User Type


Number of Rides for Users by Day of the Week
User Type
casual
member
Number of Rides
0
50000
100000
150000
200000
250000
300000
Sunday
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Day of the Week


Number of Rides per Day
Number of Rides
5000
10000
15000
20000
25000
30000
35000
2023-01
2023-02
2023-03
2023-04
2023-05
2023-06
2023-07
2023-08
Date

Thank you