Case Study: How does a bike-share navigate speedy success?

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Background:

As a junior data analyst working on the marketing analyst team at Cyclistic, a bike-share company in Chicago. The director of marketing believes the company's future success depends on maximizing the number of annual memberships. Therefore, my team wants to **understand how casual riders and annual members use Cyclistic bikes differently.**

From these insights, my team will design a new marketing strategy to convert casual riders into annual members. But first, Cyclistic executives must approve my recommendations, so they must be **backed up with compelling data insights and professional data visualizations.**

Business Task:

Gain insights into how annual members and casual riders use Cyclistic bikes differently to inform a new marketing strategy aimed at converting casual riders into annual members.

Data Source:

12 Months of Historical Cyclistic Trip Data:

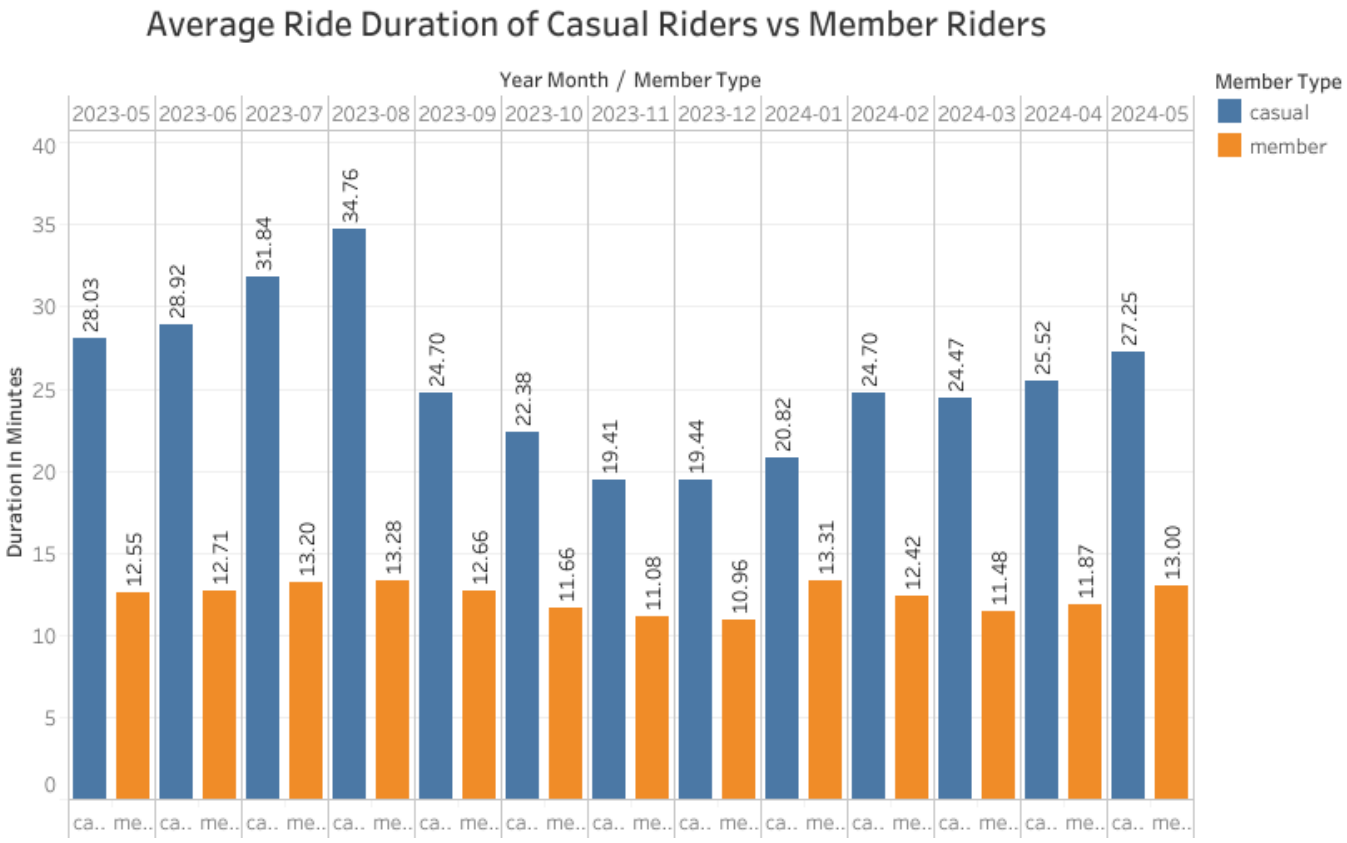
- **Period Covered:** May 2023 to May 2024
- **Fields Included:** Ride ID, ride type, start/end times, station names/IDs, coordinates (latitude and longitude), and member type (annual member or casual rider).

Documentation of data cleaning and manipulation:

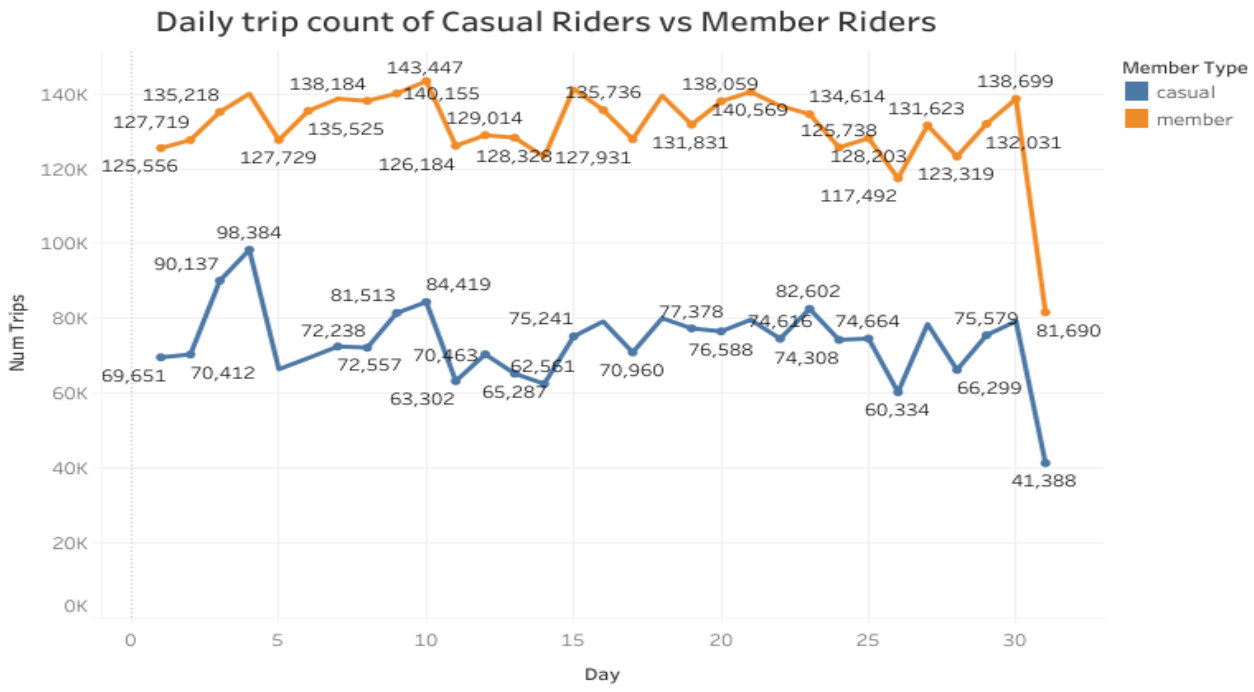
Activity	Description
1. Upload Data	**Tool:** MySQL **Activity:** ● Import dataset from May 2023 to May 2024
2. Data Manipulation	**Tool:** MySQL **Activities:** ● Derive **average ride duration** for casual and annual members for the past year ● Analysed the **number of rides per day/month** for both groups ● Clean and group the longitude and latitude for the number of rides in **each location**
3. Create Visualisation	**Tool:** Tableau **Activities:** ● **Bar Chart:** Compare trip duration for the past years between the rider types ● **Map:** Displayed the density of rides starting or ending at different stations ● **Line Graphs:** Illustrate trends in ride count for casual and annual members over time in days/months for the past year

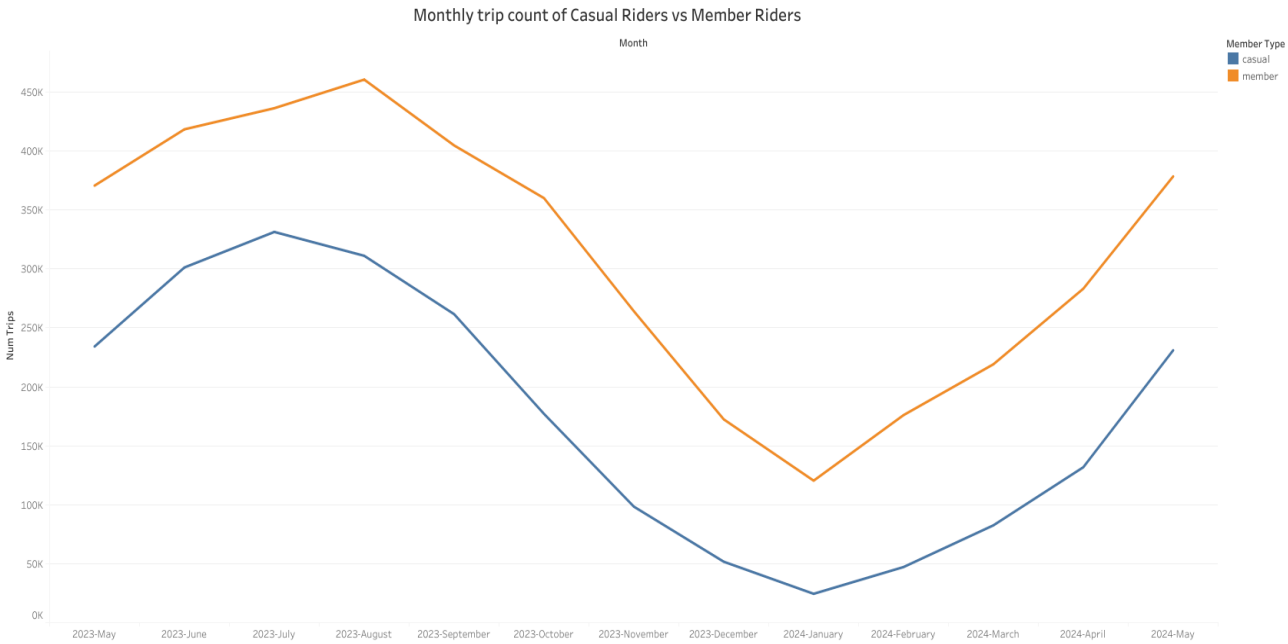
Summary of analysis:

- Average Ride Duration trend visualisation for the past year
    - On average, members ride for approximately twice the duration of casual users throughout the year.
    - Both member and casual user ride durations peaked notably in August 2023.

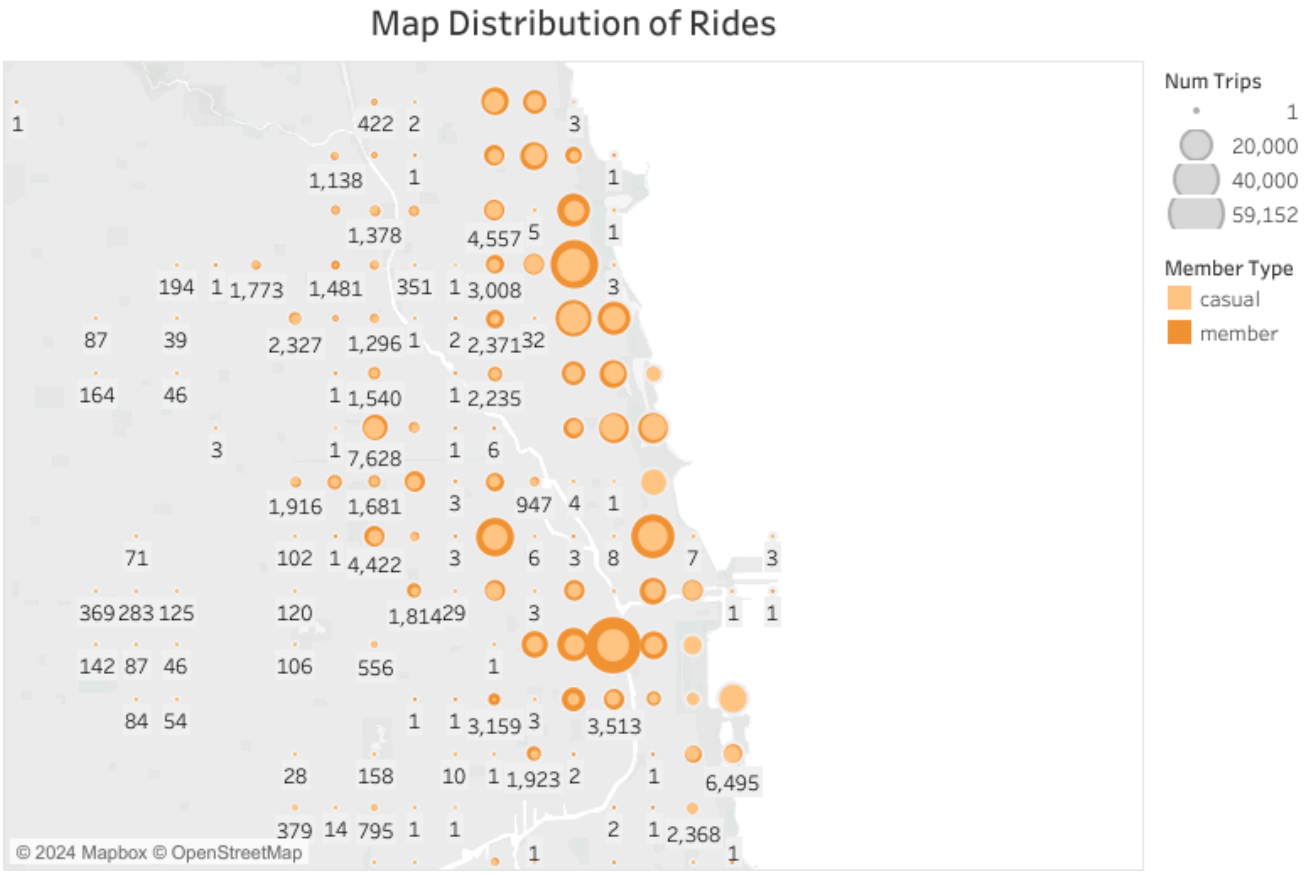


- <u>Trip ride visualisation of casual riders vs member riders</u>
    - On average, members ride for approximately twice the number of trips as casual riders in a month
    - Casual riders experienced their peak in trip counts in July 2023, while member riders peaked in August 2023.





- Map distribution of start stations
    - Despite some start stations being more popular among members, many of these stations still see significant usage by casual riders.



Recommendations:

1. **Targeted Promotions at Popular Start Stations**
    a. Focus on stations that are popular among both casual riders and members. Use targeted promotions or incentives (such as discounted annual memberships, free trials, or loyalty rewards) to encourage casual riders to switch to annual memberships.
2. **Seasonal Campaigns Based on Peak Months**
    a. Launch seasonal marketing campaigns around peak months for both casual riders (July 2023) and members (August 2023)
    b. Highlight the benefits of annual memberships during these periods, emphasising increased ride duration and trip frequency.
3. **Referral Programs**
    a. Introduce referral programs where existing members can earn rewards for referring friends or family to sign up for annual memberships.
    b. This leverages word-of-mouth marketing and growth in member numbers especially at popular member spots where there are still a significant amount of casual riders

Tableau Visualisation link:

https://public.tableau.com/views/Cyclistic-Analytics-Google-Capstone-Project/RiderHistoryDashboard?:language=en-GB&:sid=&:display_count=n&:origin=viz_share_link

Github link:

https://github.com/Luanjie-Dong/Cyclistic-Analytics-Google-Capstone-Project