How Does a Bike-Share Navigate Speedy Success?

How annual members and casual riders use Cyclistic bikes differently.

JANUARY 6, 2026
OKYERE ADUBOFUOR
Kumasi

Executive Summary

This case study analyzes Cyclistic's 2019-2020 bike-share trip data to understand behavioural differences between annual members and casual riders. The analysis reveals that annual members take significantly more rides and exhibit consistent weekday usage patterns indicative of routine commuting, while casual riders record longer trip durations associated with leisure activities. Although annual members are more profitable, they currently represent only about 30% of Cyclistic's user base. Based on these insights, this study recommends introducing duration-based pricing for casual riders, offering weekend-focused incentives within annual memberships, and creating exclusive medium- and long-term member plans to maximize conversion from casual riders and drive sustainable revenue growth.

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Introduction / Business Task

Cyclistic is a bike-share company with over 5800 bicycles and 600 docking stations.

This case study analyzes historical bike trip data to understand how annual members and casual riders use Cyclistic bikes differently. The goal is to identify insights that can help convert casual riders into annual members.

Data Overview

Data Source:
Publicly available Cyclistic bike trip data provided by the company.

Time Period:
2019-2020

Data Size:
Two datasets were used: 2029_Q1 (over 41,900 records) and 2020_Q1 (over 166,000 records).

Limitations:
The 2019 dataset does not include complete daily coverage for all months, which results in fewer records compared to 2020. Due to this limitation, a direct year-over-year comparison was not conducted.

Tools Used

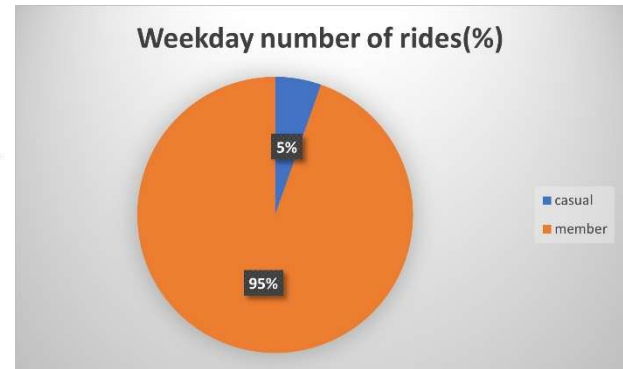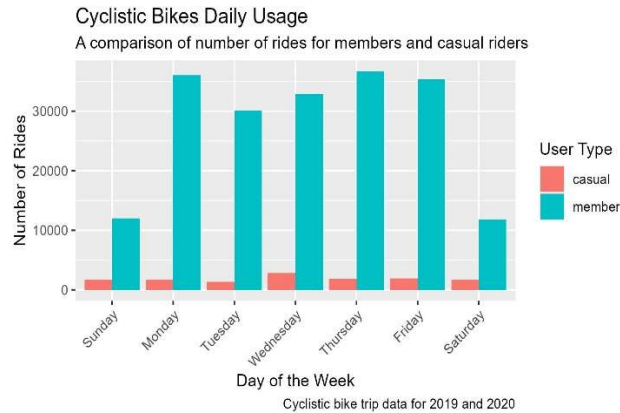R, tidyverse, lubridate, readr, ggplot2, Excel

Data Preparation & Processing

The datasets from 2019 and 2020 were cleaned and combined into a single dataset for analysis. Column names and data types were standardized to ensure consistency across both years.

Customer categories were harmonized by consolidating multiple labels into two groups: member and casual. Date-time values of different formats and of type character were parsed and transformed to the date type to extract useful features such as day, month, year, and day of the week.

To ensure data quality, non-commercial test rides originating from the headquarters station and trips with negative durations were removed. These steps produced a clean dataset suitable for accurate analysis.
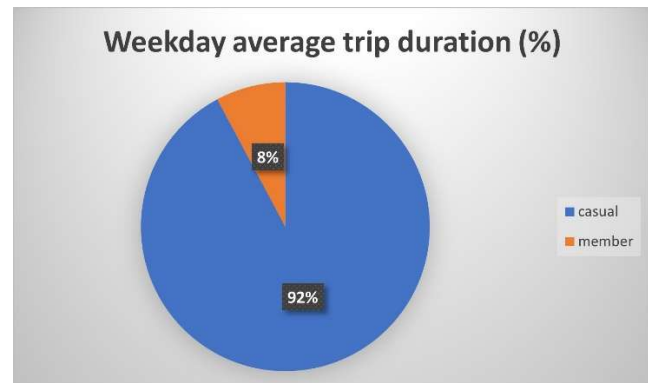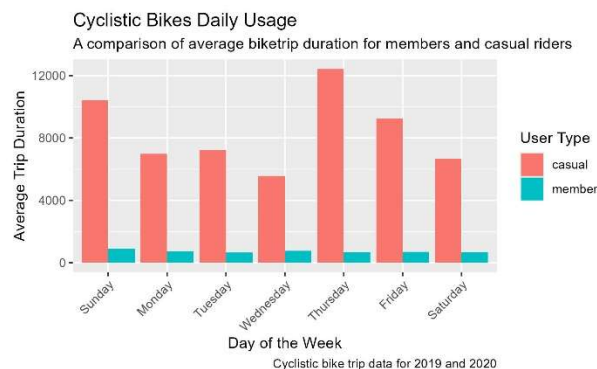
Analysis & Visualizations

Ride Frequency by Day of the Week

Overall, members consistently take more rides that casual riders. Usage patterns across weekdays and weekends suggest that members primarily use Cyclistic bikes for routine and purpose-driven activities such as commuting. In particular, weekday ride volumes indicate that the 30% of Cyclistic users who use the bikes to commute to work are more likely to be members than casual riders.

Ride Duration by Day of the Week

Casual riders consistently spend significantly more time per trip than annual members. The usage patterns observed in the visualizations indicate that casual riders are more likely to use Cyclistic bikes for leisure activities, where longer ride durations are expected. In contrast, members show relatively and fairly consistent trip durations on weekdays, reinforcing the interpretation that their bike usage is primarily routine and commuter-oriented.

Conclusion

In conclusion, although according to Cyclistic's financial analysts indicate that annual members are much more profitable than casual riders, they currently make up just about 30% of the total user base. Cyclistic has stated that the majority of its users ride primarily for leisure, this behaviour aligns closely with the patterns observed of casual riders in this analysis. In contrast, annual members exhibit more consistent and routine usage pattern, particularly on weekdays. Given that the 30% annual members are much more profitable, Moreno's belief that maximizing the number of annual members will be key to future growth is strongly reinforced. Therefore, Moreno's goal to design marketing strategies aimed at converting casual riders to annual members is both prudent and strategically sound.

Top Three Recommendations

1. **Introduce duration-based pricing for casual riders**
   Cyclistic should incorporate a pricing layer for casual rider packages that increases with trip duration. Since casual riders tend to take longer rides, this approach would better align pricing with usage behaviour while creating a natural incentive for frequent or long-duration riders to consider annual membership.

2. **Offer weekend-focused incentives within annual memberships**
   Cyclistic should design weekend promotional benefits as part of the annual membership plan, such as discounted or extended ride durations on Saturdays and Sundays. This would directly entice leisure-oriented casual riders to convert to annual members while maintaining value for existing annual members too.

3. **Create exclusive medium- and long-term plans for members**
   Cyclistic should introduce member-only rewards or discounted medium- and long-term subscription options that casual riders can not subscribe to. These exclusive benefits reinforce the value of membership, increases retention, and make conversion more attractive to frequent casual riders.

Together, these strategies leverage existing usage patterns to ensure that Cyclistic achieves its goal of navigating speedy success by maximizing annual membership through the conversion of casual riders.