Cyclistic Bike share Analysis

Paul Mukasa

2025-12-12

"'{# Cyclistic Bike-Share Analysis ## Case Study: Converting Casual Riders to Annual Members

Executive Summary

Analysis of 217,072 bike-share rides reveals significant differences between casual riders and annual members. Casual riders take longer trips (27 minutes longer on average) and prefer weekends (39.8% of rides vs. 13.9% for members). Three targeted marketing strategies are proposed to convert casual riders to annual members.

1. Business Task

Understand how casual riders and annual members use Cyclistic bikes differently to design effective marketing strategies for converting casual riders to annual members.

Data Sources Used

Dataset: Divvy_Trips_2020.csv (Q1 2020)
Provider: Motivate International Inc. (now Lyft Bikes and Scooters)
License: Public data made available under the Divvy Data License Agreement
Access: Available for public analysis and non-commercial use
Privacy Note: Data-privacy issues prohibit using riders' personally identifiable information
Source URL: https://divvy-tripdata.s3.amazonaws.com/index.html

3. Data Processing

- Converted ride_length from HH:MM:SS format to minutes
- Removed invalid rides (0 minutes or >24 hours)
- Added day names and weekend classification
- Cleaned dataset: 217,072 rides

4. Analysis & Key Findings

Ride Distribution:

- Casual riders: 14,391 rides (6.6%)
- Annual members: 202,681 rides (93.4%)

Ride Duration (minutes):

User Type	Average	Median	90th Percentile
Casual	37.9	18.4	65.4
Member	10.9	8.2	20.7

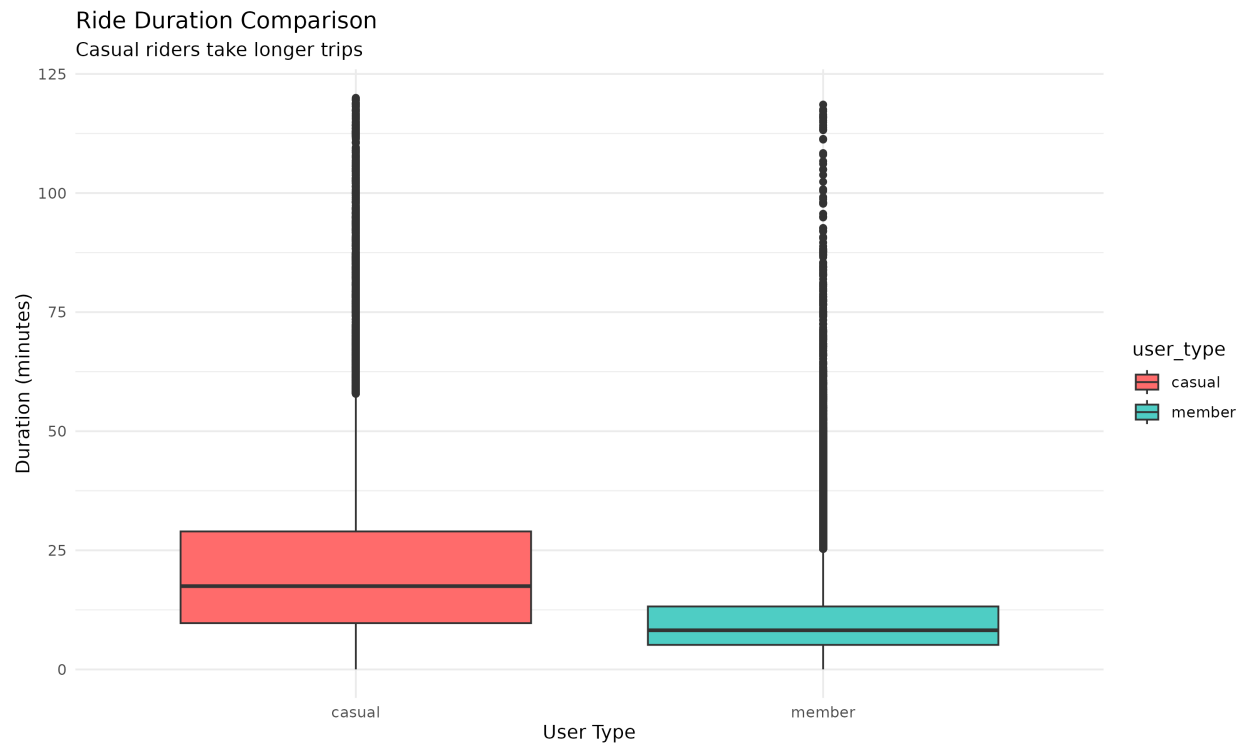**Key Insight:** Casual rides are **27 minutes longer** on average.

Weekend Usage:

- Casual: 39.8% weekend rides
- Member: 13.9% weekend rides

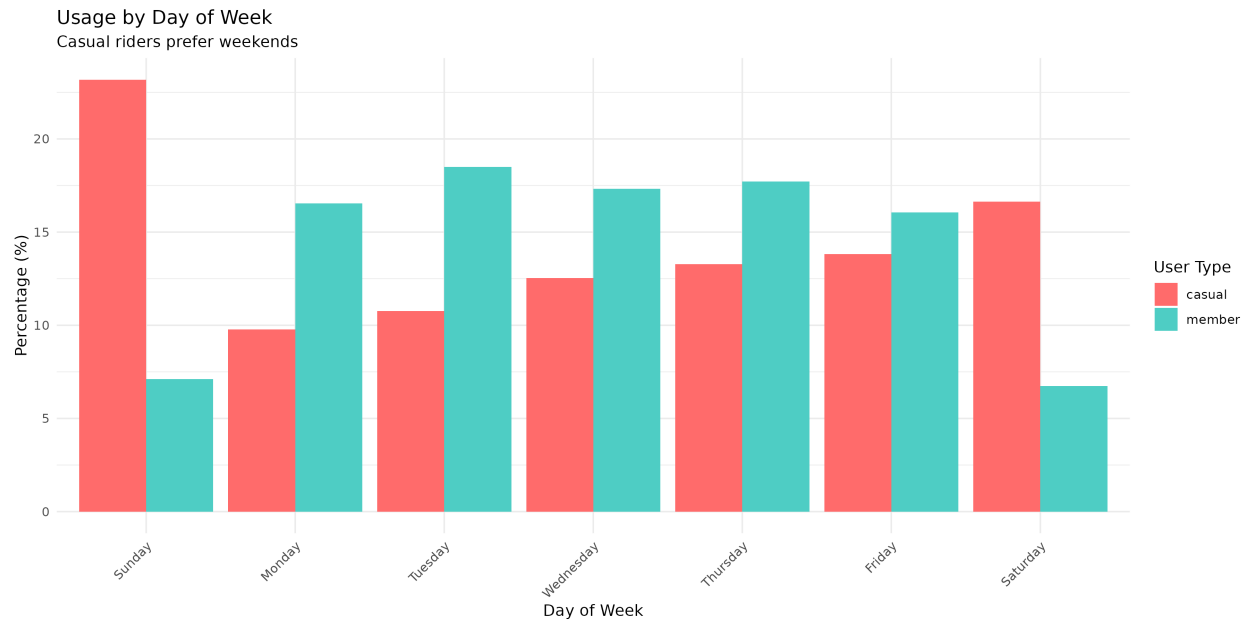- **Difference:** 25.9% more weekend usage for casual riders

Peak Usage Days:

- Casual riders: **Sunday** (3,336 rides)
- Annual members: **Tuesday** (37,479 rides)

5. Visualizations

Casual riders take significantly longer trips with wider duration distribution.

Usage by Day of Week
Casual riders prefer weekends

Clear pattern: Casual riders prefer weekends while members are consistent weekday users.

6. Recommendations

1. Weekend-Focused "Weekend Warrior" Program

- **Target:** Casual riders on Saturdays and Sundays
- **Tactic:** Special weekend-only membership rates
- **Rationale:** 39.8% of casual rides occur on weekends

2. Long-Ride "Extended Adventure" Membership

- **Target:** Casual riders taking longer trips

- **Tactic:** Unlimited ride time for members, loyalty points for long trips
- **Rationale:** Casual rides average 37.9 minutes vs. 10.9 minutes for members

3. Sunday "Peak Day" Promotion Campaign

- **Target:** Casual riders on Sundays
- **Tactic:** Sunday sign-up bonuses, targeted social media campaigns
- **Rationale:** Sunday is the most popular day for casual riders

7. Conclusion

Casual riders demonstrate leisure-oriented usage patterns (longer rides, weekend preference), while members show utility-focused patterns (shorter rides, consistent weekday usage). A targeted marketing approach focusing on weekend benefits and long-ride incentives offers the strongest potential for converting casual riders to annual members.

Analyst: [Paul Mukasa] **Date:** [2025-12-12] **Tools Used:** R, tidyverse, ggplot2

" '