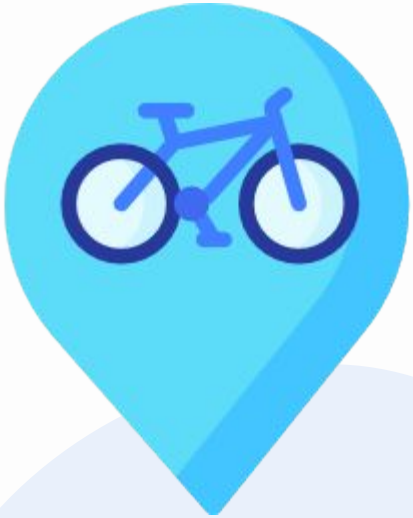
How Annual Members and Casual Riders Use Cyclistic Bikes Differently



A Data-Driven Project for the Google Data Analytics Capstone Project

By Aanchal Saxena | Tools: Excel, SQL, R

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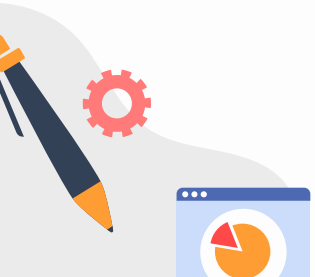


Introduction

Cyclistic is a Chicago-based bike-share company with a growing base of casual riders and annual members. The goal of this analysis is to understand how these two rider groups use Cyclistic bikes differently. By identifying key patterns, the company can design marketing strategies to convert casual riders into annual members.

01

Business Task

Define Cyclist's goal and key question.

Business Task

Cyclistic's success depends on uncovering how different riders use its bikes and turning those insights into action.

Key Focus Areas:

- Rider Behavior
- Membership Growth
- Strategic Insights

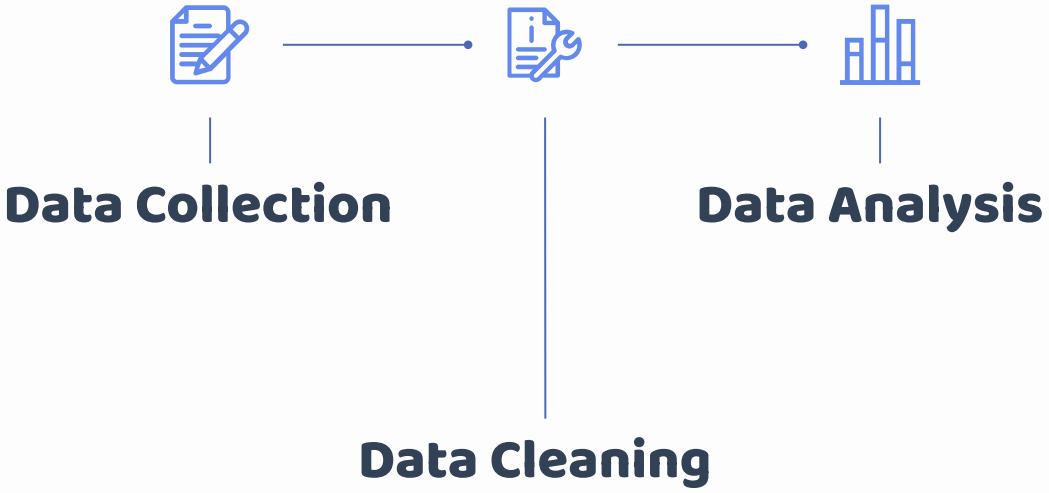
The goal is to identify usage patterns that inform data-driven membership growth strategies.

02

Data Preparation & Cleaning

Collect, clean, and organize 2019 ride data.

From Raw Data to Insights

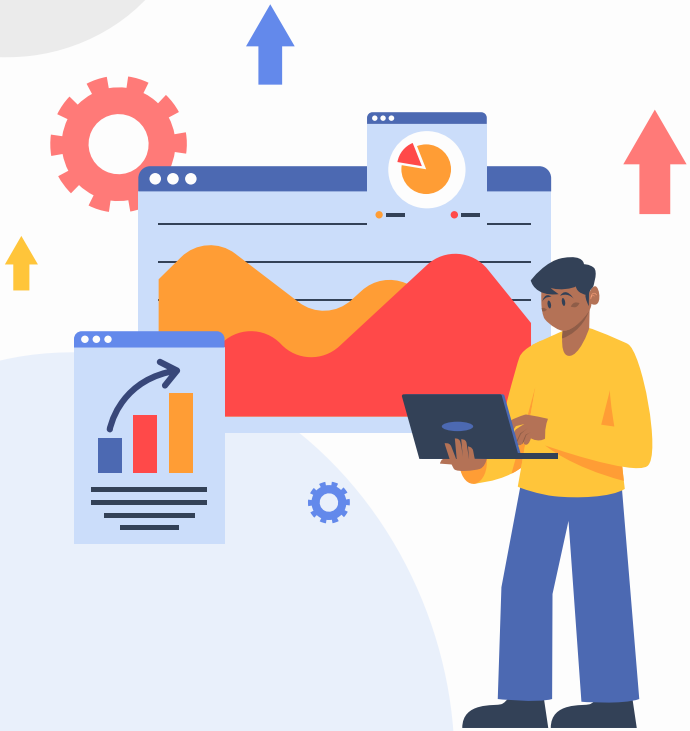


Data Preparation & Cleaning

In the pursuit of meaningful insights, ensuring accurate and consistent data is essential

Key Steps in this process included:

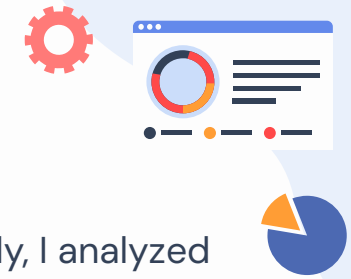
- Removing duplicates and irrelevant columns to streamline analysis
- Correcting inconsistent date and time formats for accuracy
- Standardizing rider type labels for uniformity
- Handling missing values after executing Excel formulas



03 Analysis & Findings

Compare usage between members and casual riders.

Understanding Rider Behavior

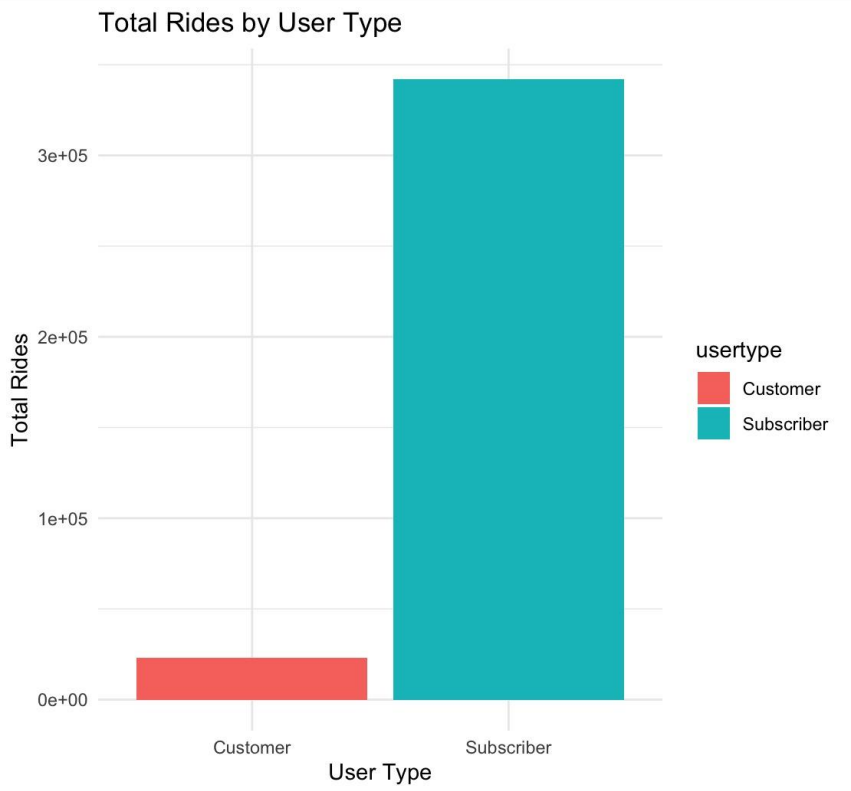


To explore how annual members and casual riders use Cyclistic bikes differently, I analyzed 2019 ride data using Excel, SQL, and R. **The analysis focused on identifying usage patterns and key differences across:**

1. **Trip duration and frequency**
2. **Weekday vs. Weekend trends**
3. **Popular start and end stations**

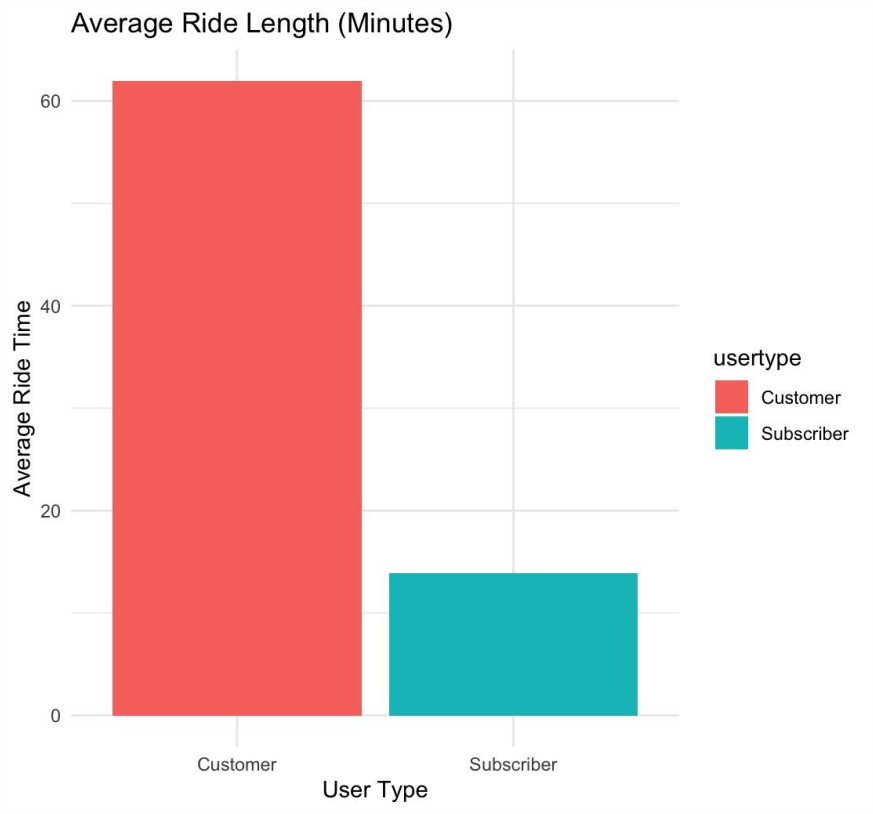
These factors provide insight into each rider type's habits and potential marketing opportunities.

Total Rides By User Type



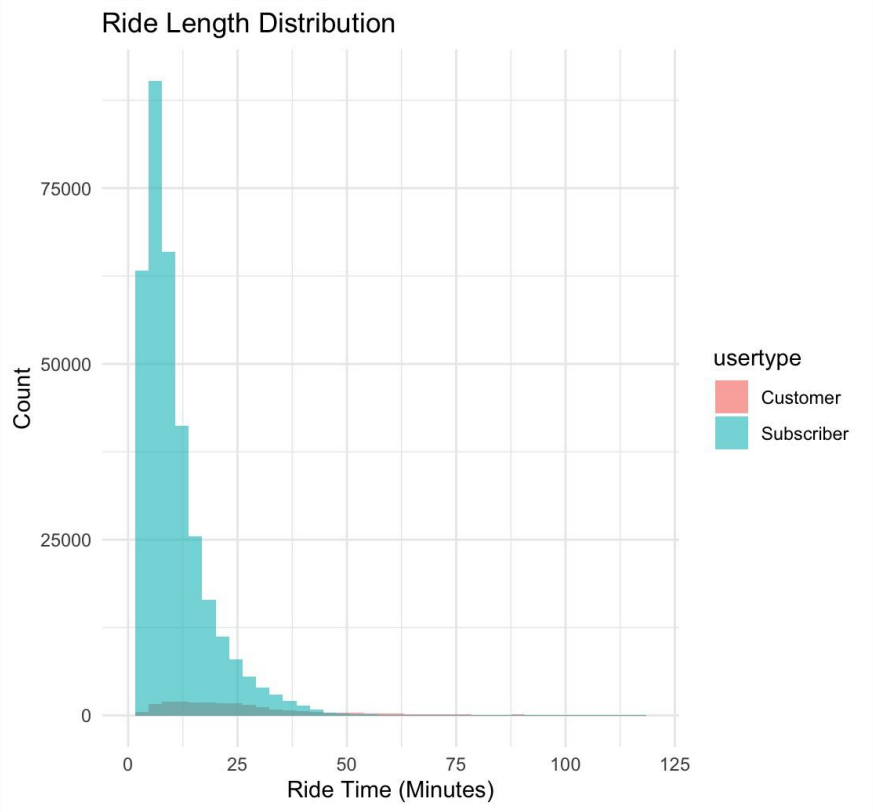
Subscribers take the majority of the rides, indicating consistent, routine use of the service. Customers represent a smaller but important leisure segment, often riding seasonally or casually.

Average Ride Length by User Type



Customers average longer trips than subscribers, suggesting more recreational or sightseeing use. Subscribers tend to take shorter rides, reflecting daily commutes or quick trips.

Ride Length Distribution

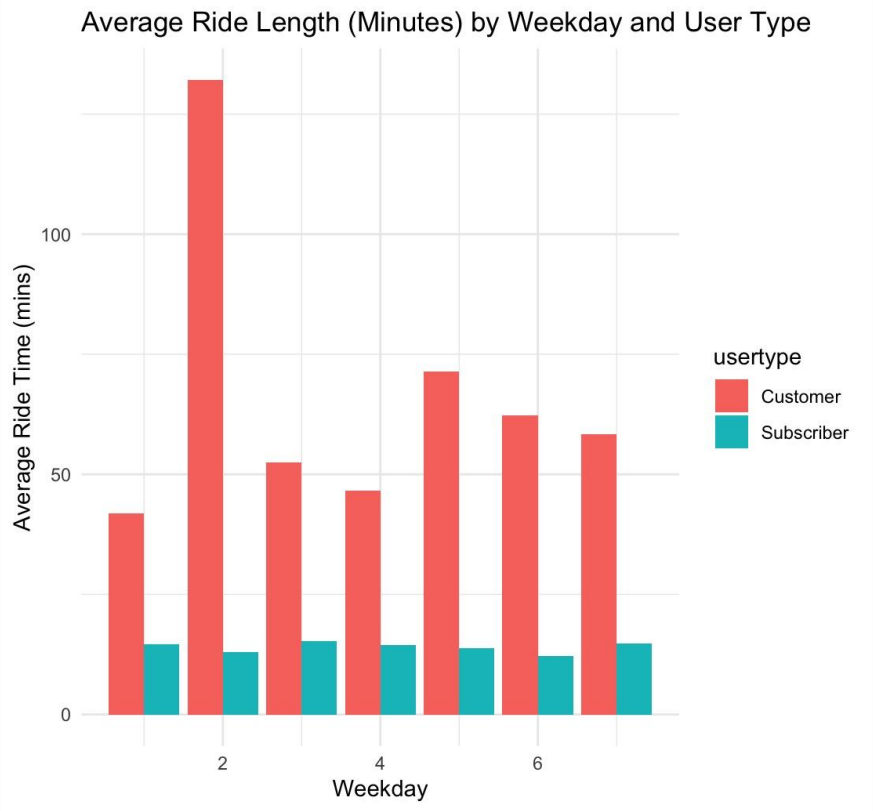


Ride durations vary widely among customers, while subscriber rides are more concentrated around shorter durations. This indicates casual riders spend more time per trip compared to regular commuters.

Total Rides by Weekday

Subscribers ride more frequently on weekdays, aligning with workweek travel patterns. Customer usage spikes on weekends, consistent with leisure and recreational use.

Average Ride Length by Weekday



Both user types record longer average ride times on weekends. This reflects the impact of free time and recreational riding during non-work days.

Key Findings Summary

365,069

Total rides analyzed

62 mins

Average ride time - customers

14 mins

Average ride time - subscribers

94% of rides

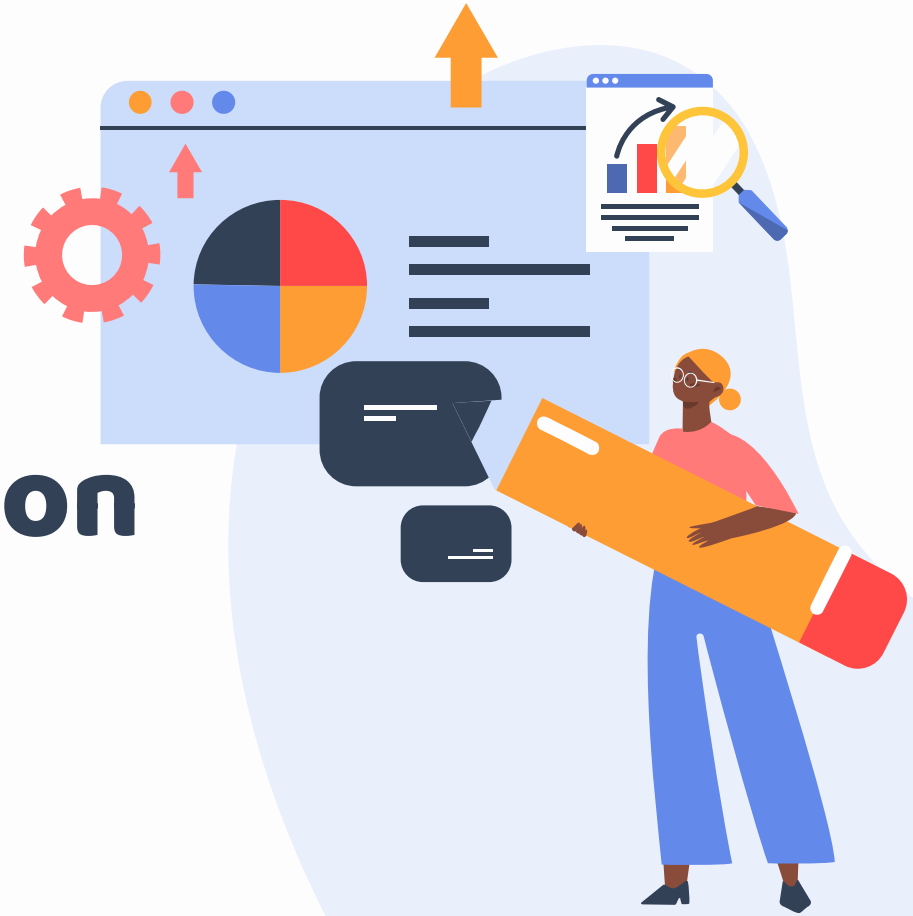
Made by subscribers

Weekday vs. Weekend

Subscribers ride more on weekdays; Customers prefer weekends

04 Insights & Recommendations

Summarize trends and business actions.



Key Insights from the Analysis

💡 Subscriber Behavior

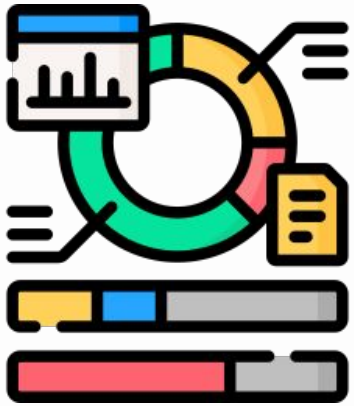
- Subscribers *dominate ridership (94%)* and ride more frequently on weekdays (likely for commuting)
- Their a*verage ride time (14 mins)* is short and consistent, reflecting efficiency-focused usage

💡 Time Based Patterns

- Clear weekday vs. weekend usage patterns *suggest distinct commuter vs. recreational segments.*

💡 Casual Rider Behavior

- Customers ride *mostly on weekends* with longer average durations (62 mins), indicating leisure-oriented trips
- These rides are *less frequent* but generate higher ride time per session



Business Recommendations

🚴 Targeted Marketing Campaigns

- Promote weekend and tourist passes to *casual riders* who prefer leisure rides
- Offer weekday loyalty or referral rewards to *subscribers* to increase engagement

📈 Optimize Bike Availability

- Increase bike availability in business districts on weekdays
- Redistribute bikes to parks or tourist areas on weekends

🎯 Time Based Patterns

- Convert casual riders into subscribers with “Try a Month Free” promotions
- Use ride data to personalize offers (e.g. show routes or stats for milestone rides)

Final Takeaways

Subscribers = Weekdays Commuters

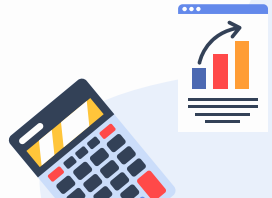
Short, frequent rides show consistent weekday use for daily travel

Customers = Weekend Leisure Riders

Longer weekend rides highlight tourism and recreational use

Opportunities in Retention & Optimization

Focus on converting casual riders and optimizing bike distribution by time and location



Thanks!

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