Cyclistic Bikes Usage - 2019
A Case Study on a Fictional Company named Cyclistic.

Introduction

Welcome to the Cyclistic bike-share analysis case study! In this case study, I will perform many real-world tasks of a junior data analyst. I will work for a fictional company, Cyclistic, and meet different characters and team members. I joined Cyclistic's marketing analytics team 6 months ago. My manager is Lily Moreno who is also the director of marketing.

About The Company

In 2016, Cyclistic launched a successful bike-share offering. Since then, the program has grown to a fleet of 5,824 bicycles that are geo-tracked and locked into a network of 692 stations across Chicago. The bikes can be unlocked from one station and returned to any other station in the system at anytime.

Until now, Cyclistic's marketing strategy relied on building general awareness and appealing to broad consumer segments. One approach that helped make these things possible was the flexibility of its pricing plans: single-ride passes, full-day passes, and annual memberships. Customers who purchase single-ride or full-day passes are referred to as customers. Customers who purchase annual memberships are subscribers.

Deliverables

1. A clear statement of the business task.
2. A description of all data sources used.
3. Documentation of any cleaning or manipulation of data.
4. A summary of my analysis.
5. Supporting visualizations and key findings.
6. My top three recommendations based on my analysis.

Business Task / The Problem

Cyclistic's finance analysts have concluded that subscribers are much more profitable than customers. Although the pricing flexibility helps Cyclistic attract more customers, Moreno believes that maximizing the number of subscribers will be key to future growth. Rather than creating a marketing campaign targeting all-new customers, Moreno believes there is a good chance to convert customers into subscribers. She notes that customers already know the Cyclistic program and have chosen Cyclistic for their mobility needs.

Moreno has set a clear goal: Design marketing strategies to convert customers into subscribers. In order to do that, however, the marketing analyst team needs to understand better how subscribers and customers differ, why customers would buy a membership,

and how digital media could affect their marketing tactics. Moreno and her team are interested in analyzing the Cyclistic historical bike trip data to identify trends.

The team has been assigned to solve these three questions:

1. How do subscribers and customers use Cyclistic bikes differently?
2. Why would customers buy Cyclistic annual memberships?
3. How can Cyclistic use digital media to influence customers to become members?

*My job is to answer the **first** question out of the above three, which is :*

How do subscribers and customers use Cyclistic bikes differently?

Data Sources

The Cyclistic trip data which I used for my analysis was made available by Motivate International Inc. under this license. (Note: The datasets have a different name because Cyclistic is a fictional company.)

Data Cleaning

```sql
SELECT
*
FROM
table_name
WHERE
gender IS NOT NULL AND
birthyear IS NOT NULL
ORDER BY RAND()
LIMIT 10000
```

This query was done to clear all the NULL values (which were less than 5% of the whole dataset.), and also to derive a random sample of 10000 rows from each quarter, which would sum up the total sample size to 40000.

Furthermore, the column **start_time** was divided into **start_date** and **start_time** to separate the date. A new column named **day_of_week** was created to determine the day (1 for Monday and 7 for Sunday) using the newly created **start_date** column.
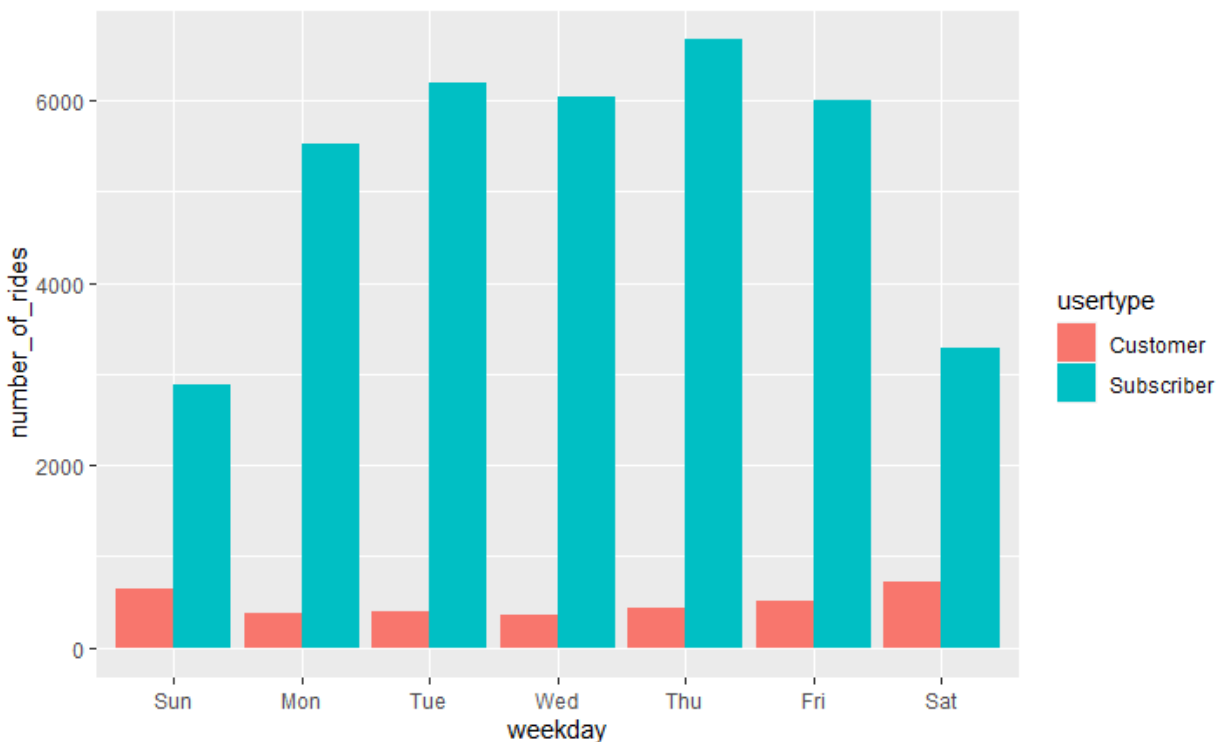
Analysis - Summary

[Here](#) is the link to the R script I used for my analysis.

After my analysis, I found out two major things:

1. The **Subscribers** had more rides than the **Customers** on any given day of the week.
2. While the length of a **Customer's** trip was significantly more than the length of a **Subscriber's** trip on average.

Both these points are illustrated below respectively:

You can see how many trips the subscribers have as compared to the customers. The difference is not as great on weekends as the weekdays, but the difference is nonetheless too great to be ignored.

Also, the average trip duration of customers far exceeds that of the subscribers. In the chart below, you can see just that:
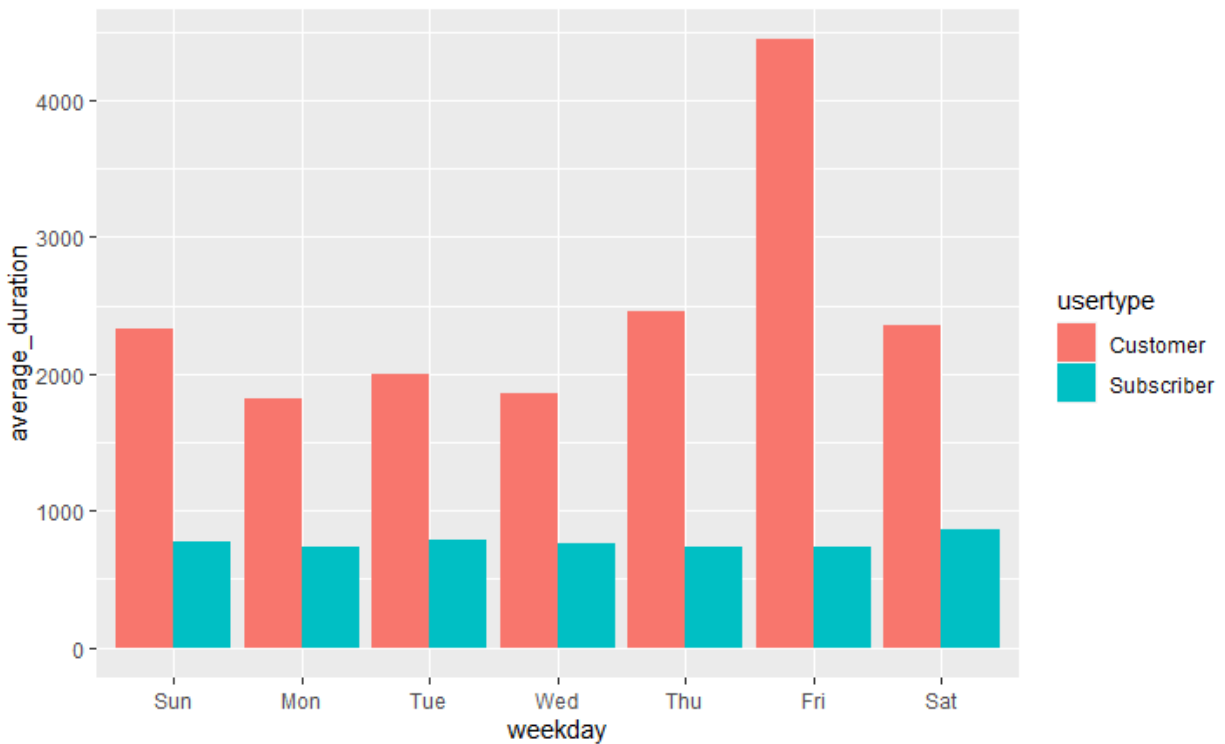
Customers seem to have lesser but longer trips, while subscribers have a lot more trips but shorter ones.

Conclusion

Since the subscribers will be charged a fixed amount annually, and not per trip, they feel freer to have many more trips as per their comfort. The customers may be trying to achieve as much as possible within a limited amount of trips, as they have to pay for each trip. But the most likely case is that the customers just want to have long trips.

Recommendations

Incentivize Long Trips

Make annual membership plans regarding long rides/trips more incentive. This can draw long trippers to subscriptions. This also includes making their long trips comfortable in any way possible. For example:

1. Checking that the bikes are in good condition, and are ready for long trips anytime.
2. If possible, give each rider a fresh water bottle just before they start their trip.
3. Perhaps keep certain reward points after their trip duration crosses certain marks, for example, 5km, 10km, 20km, etc.

Secure Long Trips

If in case anything bad happens to the bike during their trips, have immediate assistance be sent to them from the nearest Cyclistic point. After making sure the rider is ok, only then can the matter of bike damages be bought up! The last thing we want is to leave them stranded in the middle of the road.

Give Access to Premiums

My last point. As an annual member a rider can participate in certain marathons, or other such events. This will motivate them participate and engage with the Cyclistic community. This will in turn strengthen the riders relations with the brand.

These were three of my recommendations, and hopefully they will come of use.