Consumer Behaviour

A study on a comparison between how casual riders and annual members uses Cyclistic's bikes

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Cyclistic is a bike-sharing company who has grown tremendously over the past few years. They have two main types of users; casual riders, and annual members. The Company believes that its success depends on increasing the number of annual members. This case study will focus on how the two users uses the bike-share for their needs and what could be the driving factors behind their choice of subscription. This case study will also try to recommend few suggestions to be considered by the executive team while making their decision making strategy.

ASK Phase

Business Task

How different users are using Cyclistic bike-share and what could possibly be done to improve the number of members.

Key Stakeholders

- Marketing director
- Marketing analytics team
- Executive team

Preparing Data

Source of data

For the purpose of this case study the data is used from the Cyclistic data records. Data range is the past 12 months (February 2021 - January 2022). Cyclistic has taken the data from Motivate International Inc. under a licence. This is a public data that can be used to explore how different customer types are using Cyclistic bikes.

Data management

There are proportionally few missing values in the data for the station names. Regardless, the data is quiet comprehensive for the purpose of case study. The data is reliable as its been collected from the first hand source. However, few column names have to be adjusted and new columns had to be made for separate start date and start time and correspondingly end date and end time to make more sense out of the data. Three additional columns have been added, date of month, day of month, and ride length for in depth analysis purposes.

Cleaning of data

- Loading all the required libraries - using **library()**

- Loading individual months data sets - using **read_csv**

- Combining individual datsets to make one big dataset; combined_dataset - Using **bind_rows**

- splitting datetime columns of start and end to their respective date and time columns - using *_**tidyr::separate**

- Extracting month and day from the month/day column - using **lubridate**

- Saved processed files into a new csv files for a fastyer loading time - using **write.csv**

- directed R to load only the new saved datsets from the last step for reduced loading time - using **read.csv**

- Adding *ride_length* column - using **as.duration**

Data integrity

The quality of data is not very high but for the purpose of this case study it was of good enough quality. There are few station names and ids are missing but them were not required for this case study.
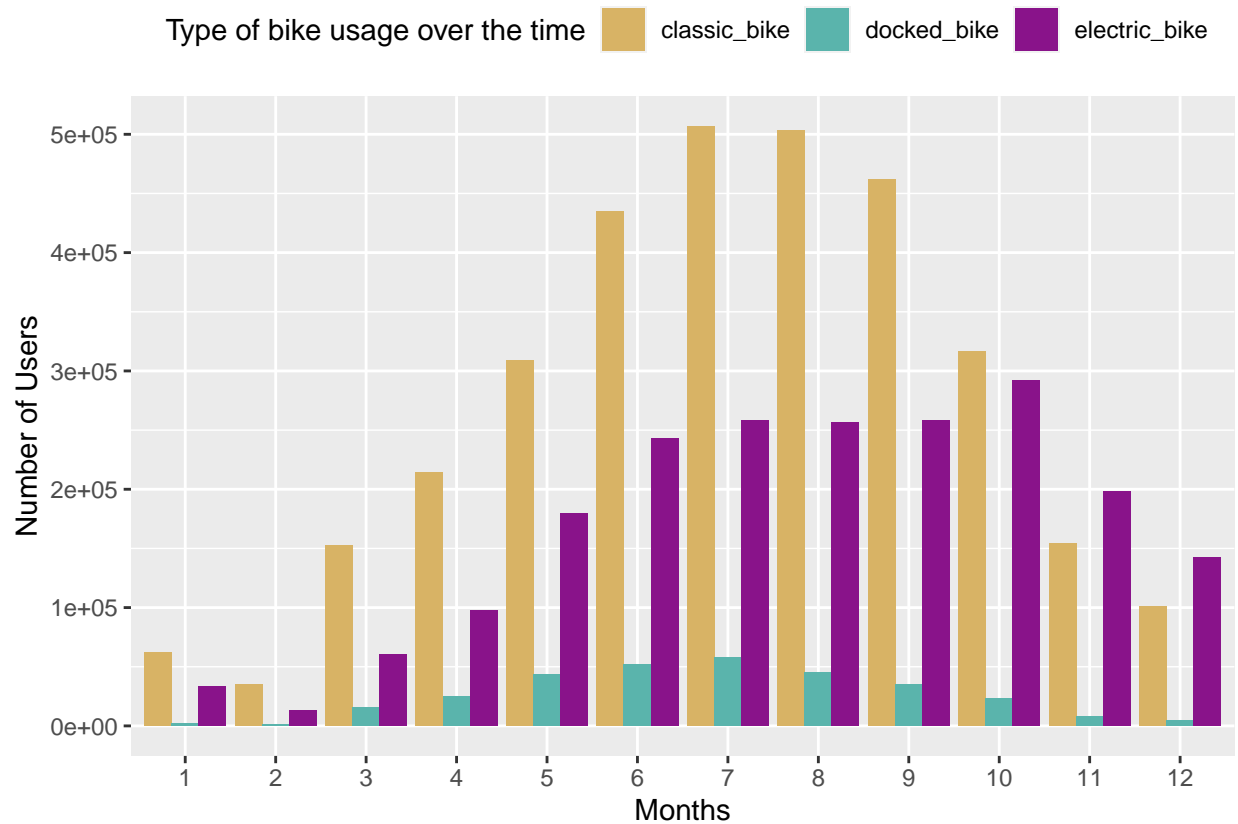
Data Visualizations

Day to Day usage of Bikes by different users

Monthly usage of Users
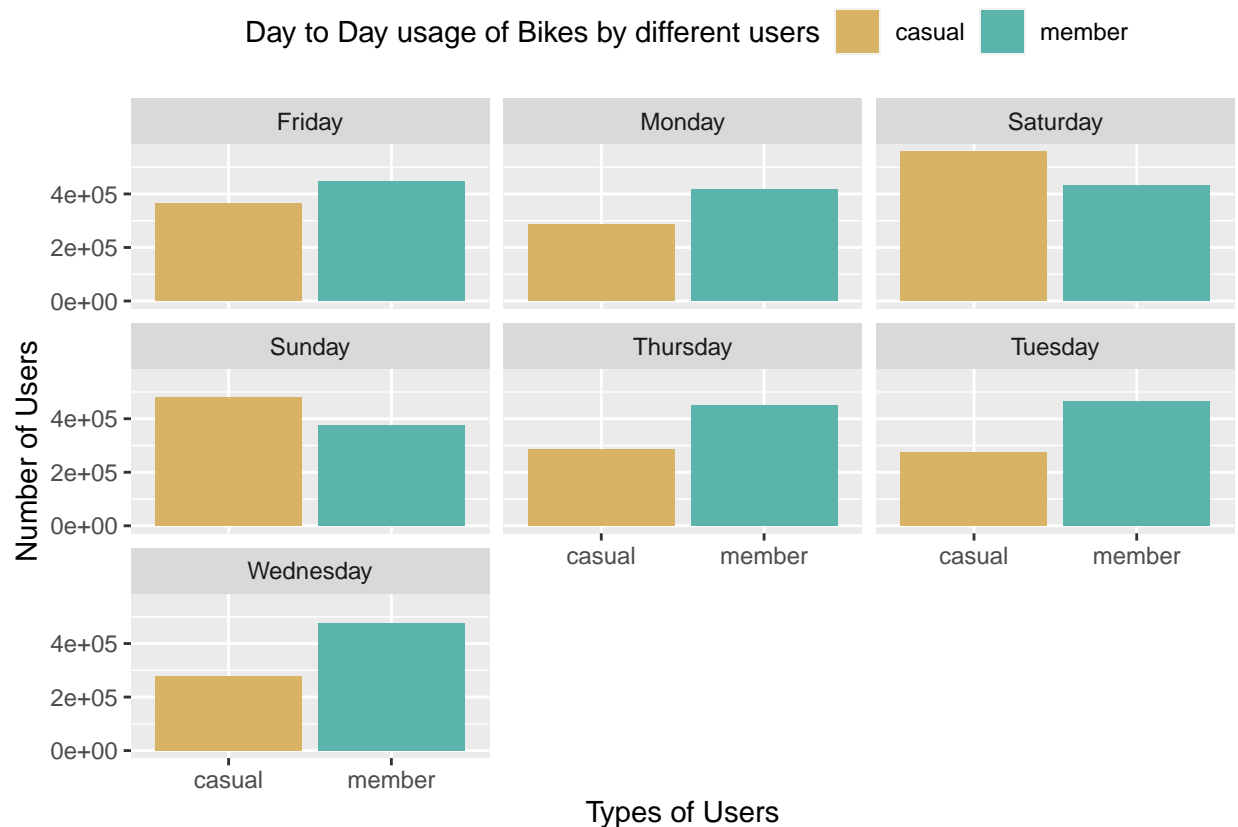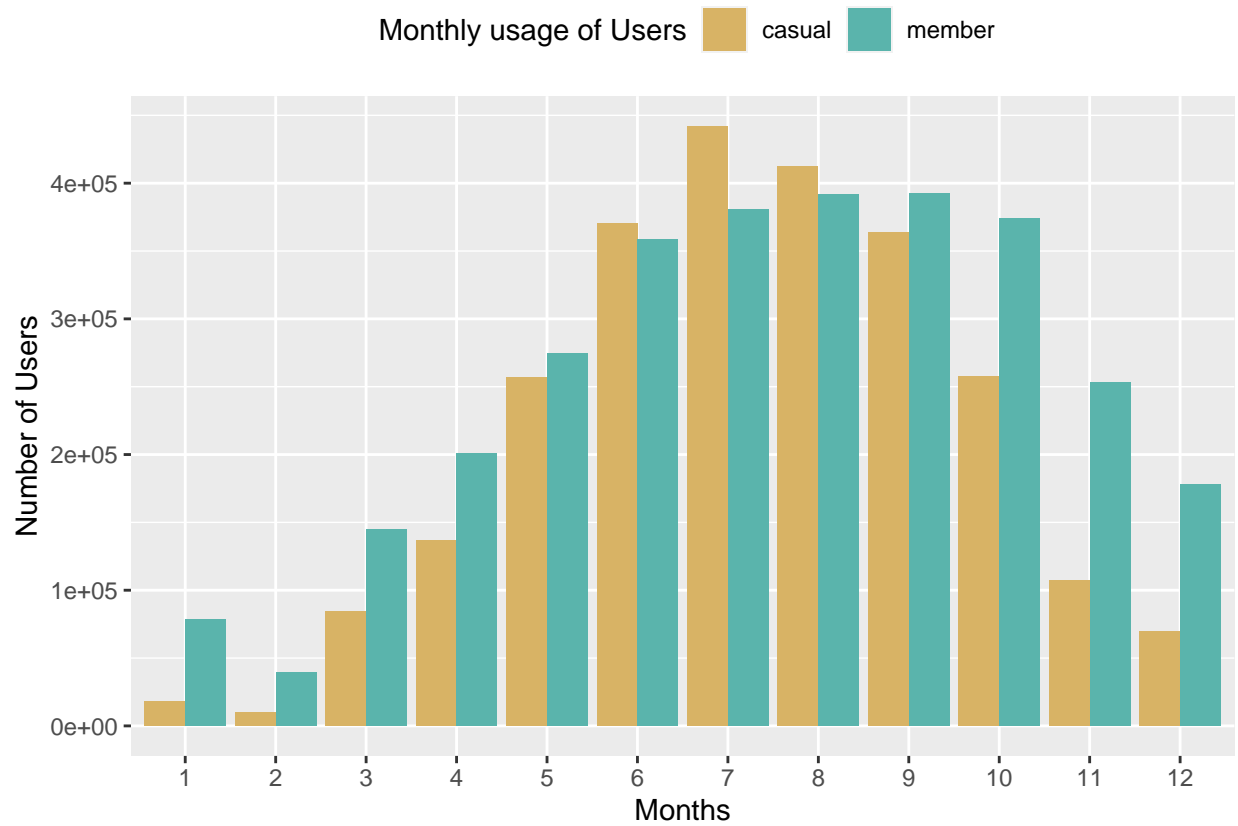
- The trend shows that there is an increasing number of member users of the Cyclistic over the period of last 12 months.
- The above graph also shows that there were more users during the summer time and less during winters.
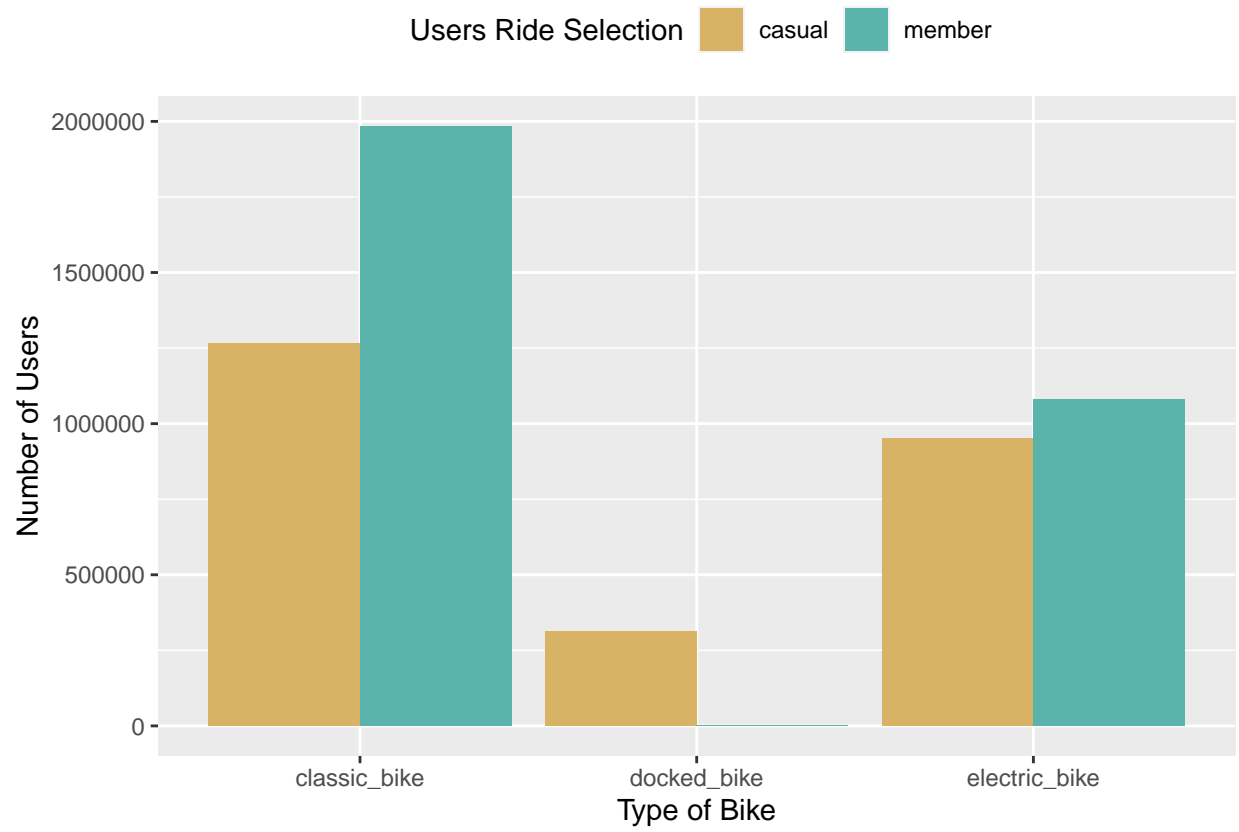
Statistical Analysis

- Distribution of type of bike used vs type of user

```
##        Electric Classic Docked
## Member 19.33    35.47   0
## Casual 16.98    22.64   5.58
```

- The above matrix shows that there are no member users of docked bikes. Therefore, company need not to invest more in docked bikes.

Now lets look into different aspects of data.

Members

Mean time (minutes)

```
## [1] 13.63284
```

- The mean time is ~**14 minutes** which means members mostly use bikes for short distances. The company could focus on building new bike stands to motivate cylists to ride a bit longer.

Mode weekday - Weekday with most usage

```
## [1] "Wednesday"
```

Mode month (Month with most usage)

```
## [1] "September"
```

Median ride time (minutes)

```
## [1] 9.6
```

Casual Users

Mean time (minutes)

```
## [1] 32.00095
```

Mode weekday (Weekday with most usage)

```
## [1] "Saturday"
```

- Since the company wants to increase their number of members, therefore Saturday is the best day in the week to launch extensive advertising.

Mode month (Month with most usage)

```
## [1] "July"
```

Median ride time (minutes)

```
## [1] "958s (~15.97 minutes)"
```

Conclusion

- Casual users uses bikes mostly on weekends, probably for leisure
- member users uses bikes mostly during the weekdays, probably for commuting to work.

General Recommendations

- There are more member users of classic bikes so it would be a good investment to provide more of classic bikes.
- Based on the multiple bar chart graph, the company shouldn't spend more resources on advertising as of yet since its winter time and users are already avoiding cycling.
- The marketing team should prepare a strategy for the spring time when there are considerable more users and make the marketing campaign worthwhile.

- It is also noted that there are more member users on weekdays as compared to weekends, so if there are flyers and other physical marketing strategies they are best to be focusing on weekdays.
- The company could launch a weekend special plan for the member users to motivate them to use more bikes on weekends.
- Sunday is noted to be the day when there are less member users than the casual users, the company could try introducing some value package focused on sundays and weekend as a whole to improve member user numbers.
- Casual users are noted to be less users of the company during the week but increases their usage over the weekend. Therefore, a weekday special package for the casual users would possibly increase their numbers on weekdays.
- the company should focus on how to change casual riders perpective about the bike use to motivate them into buying memberships.