Cyclistic Bike Share Case Study:

Introduction :

As part of the Google Data Analytics Professional Certificate Course, I require to act as a ***marketing analyst*** at Cyclistic, bike sharing company in Chicago.

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 geotracked 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 anytime.

Approaching Method:

Ask : formulating business questions

Prepare : collecting data from different sources

Process : cleaning the data for analysis

Analyze : taking insights from cleaned data

Share : transforming it into interactive formats

Act : giving better suggestions from collected data to solve business problem

Phase - 1: Ask

why casual members not taking membership?

Why would casual riders buy Cyclistic annual memberships?

How can Cyclistic use digital media to influence casual riders to become members?

Phase - 2: Prepare

These 12 datasets are the bike user historical trip data in 2021. Each dataset contains the number of cyclistic bike user and their riding distance and places.Each file represents different month of rider data.

tripdata_202101	Rider Information of 96,831 users in January

tripdata_202102	Rider Information of 96,831 users in February
tripdata_202103	Rider Information of 96,831 users in March
tripdata_202104	Rider Information of 96,831 users in April
tripdata_202105	Rider Information of 96,831 users in May
tripdata_202106	Rider Information of 96,831 users in June
tripdata_202107	Rider Information of 96,831 users in July
tripdata_202108	Rider Information of 96,831 users in August
tripdata_202109	Rider Information of 96,831 users in September
tripdata_202110	Rider Information of 96,831 users in October
tripdata_202111	Rider Information of 96,831 users in November
tripdata_202112	Rider Information of 96,831 users in December

In the data set there are 13 columns ,as shown in the following:

Ride_id	Unique ID assigned to each ride
rideable_type	classic, docked, or electric
started_at	Date and time at the start of trip
ended_at	Date and time at the end of trip
start_station_name	Name of the station where the ride journey started from
start_station_id	ID of the station where the ride journey started from
end_station_name	Name of the station where the ride trip ended at
end_station_id	ID of the station where the ride trip ended at
start_lat	Latitude of starting station
start_lng	Longitude of starting station
end_lat	Latitude of ending station
end_lng	Longitude of ending station
member_casual	type of membership of each rider

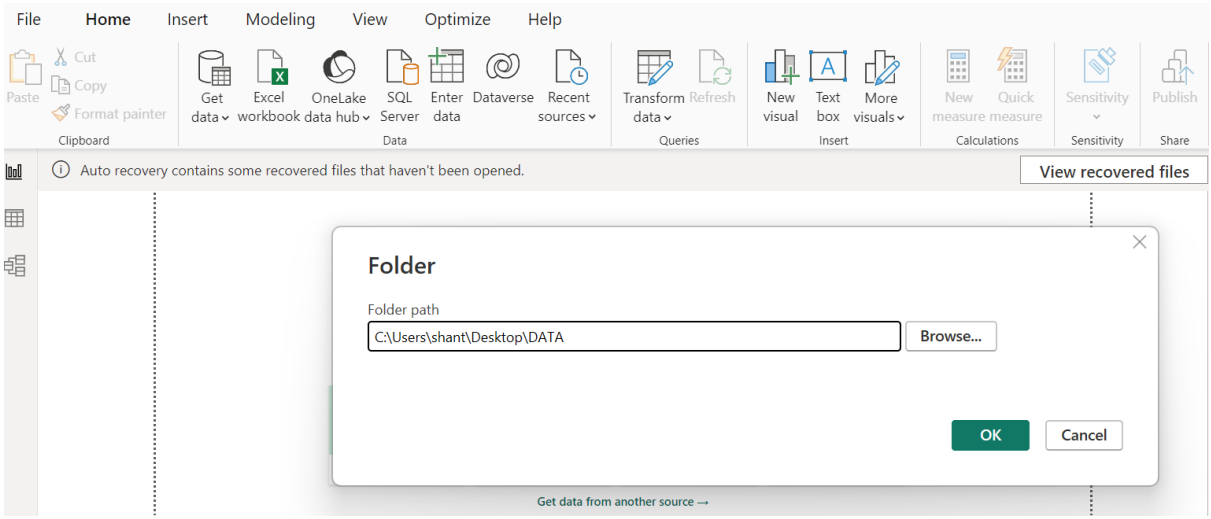
Phase-3: Process

For the process of data cleaning am using business intelligence tool called power BI.

Why am using power BI instead of using spreadsheets and SQL for data cleaning ? because it is very easy to clean data in power query with out writing any code or any formula , just by button clicks we can clean data very easy with out writing any code.

Lets start our data cleaning process:

Step 1: loading all datasets into power BI , if you import your data sets through a folder it automatically merges all datasets into power query.

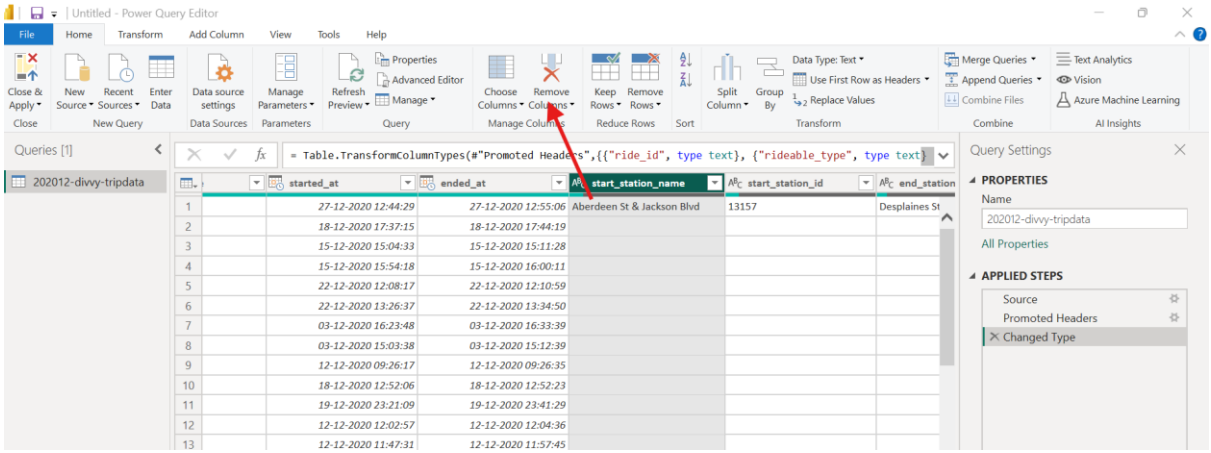


After giving your folder path , click transform button that will take all the datasets to power query.

Step 2:

After the data is imported , I saw some columns having more than 50 percent null values , so am dropping that columns.

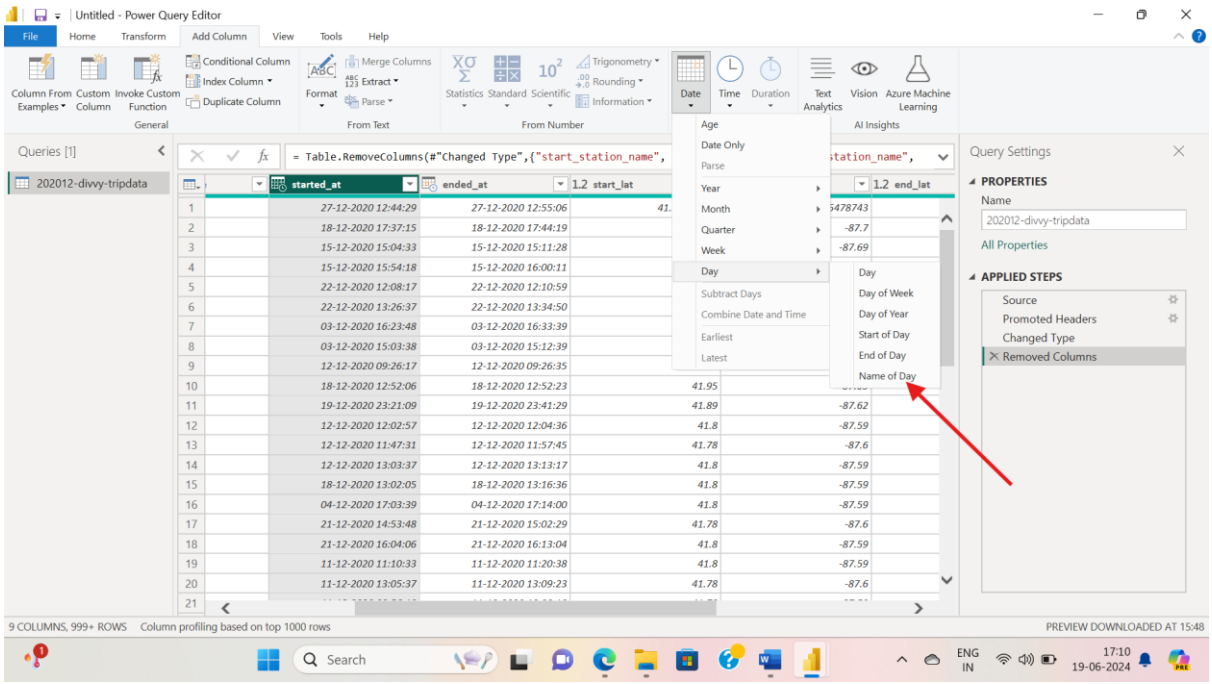
To remove that columns select that column and in the home tab you will find remove column button , after clicking remove columns the column will be dropped from the data.



Step 3:

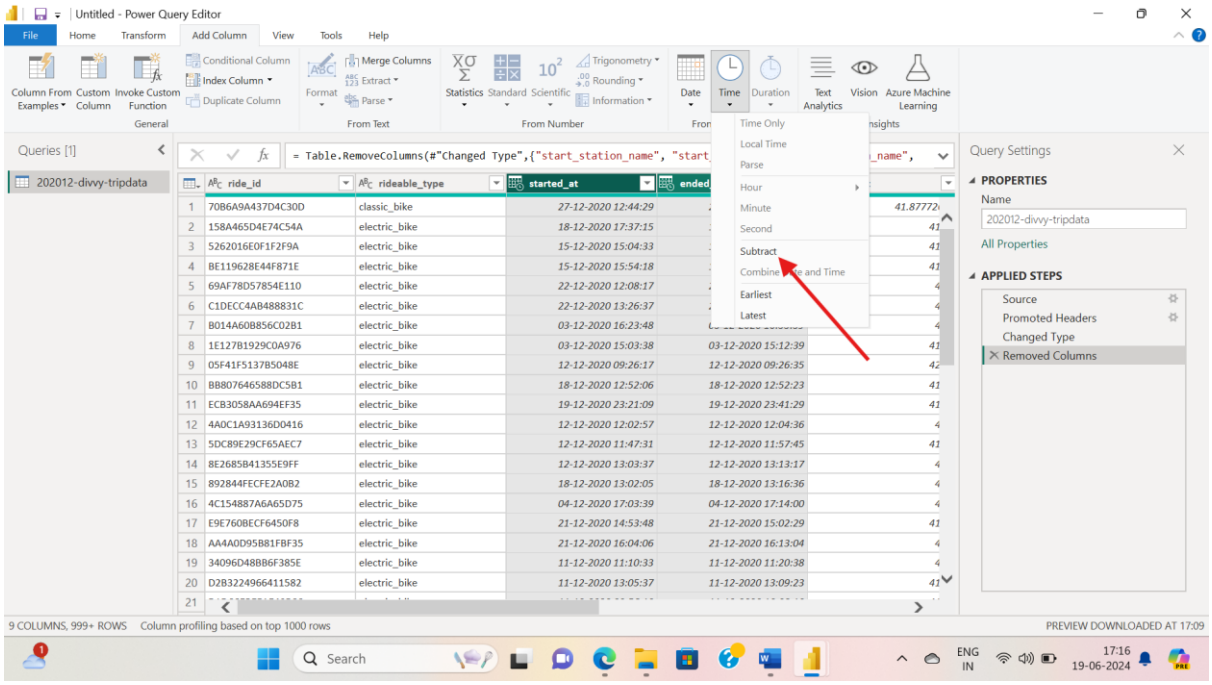
Form the start date column am extracting name of the month and name of the day . for that go to add column tab there you will find date button with calendar icon then click the drop down you will find name of the day .

To get name of the month do same thing you will get name of the month



Step 4:

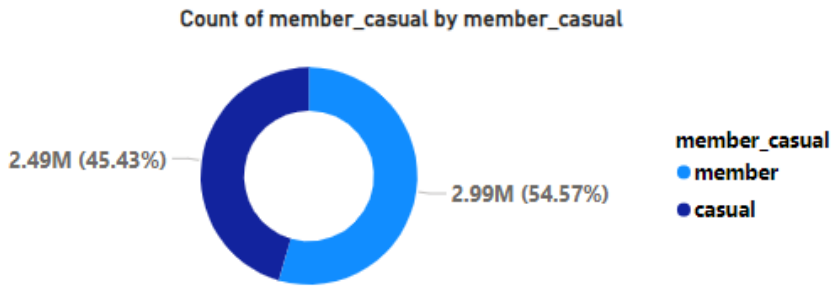
Calculating the ride length , to calculate the ride length go to add column tab and select end time and start time then go to time icon click dropdown and click subtract .



Phase 4: Analyze

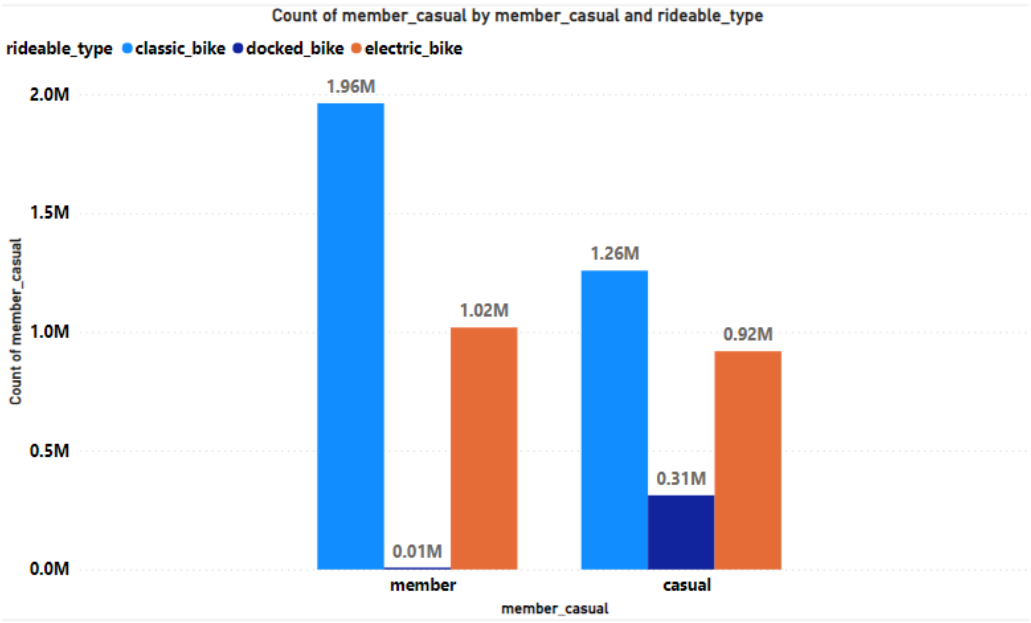
Once you done with the data cleaning and calculations click close and apply that will take to you power view.

4.1 counting total number of casual and member



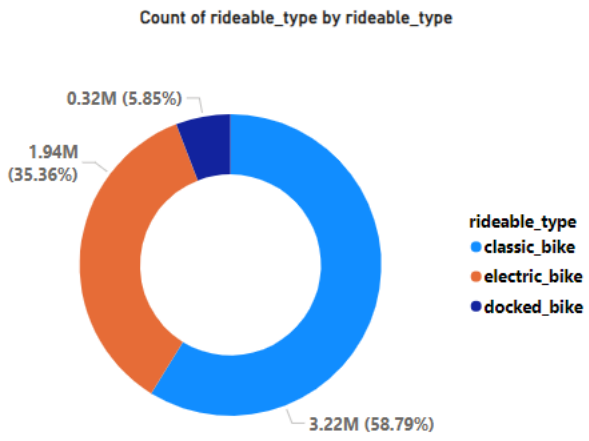
From the above chat we can clearly say that most of the rides are taken by members , but there is not that much difference between them.

4.2 which bike will be preferred most



classic_bike had the highest total Count of member_casual at 32,21,009, followed by electric_bike at 1937668 and docked_bike at 320419.

Most of customers preferring classic bike followed by electric bike then decked bike.

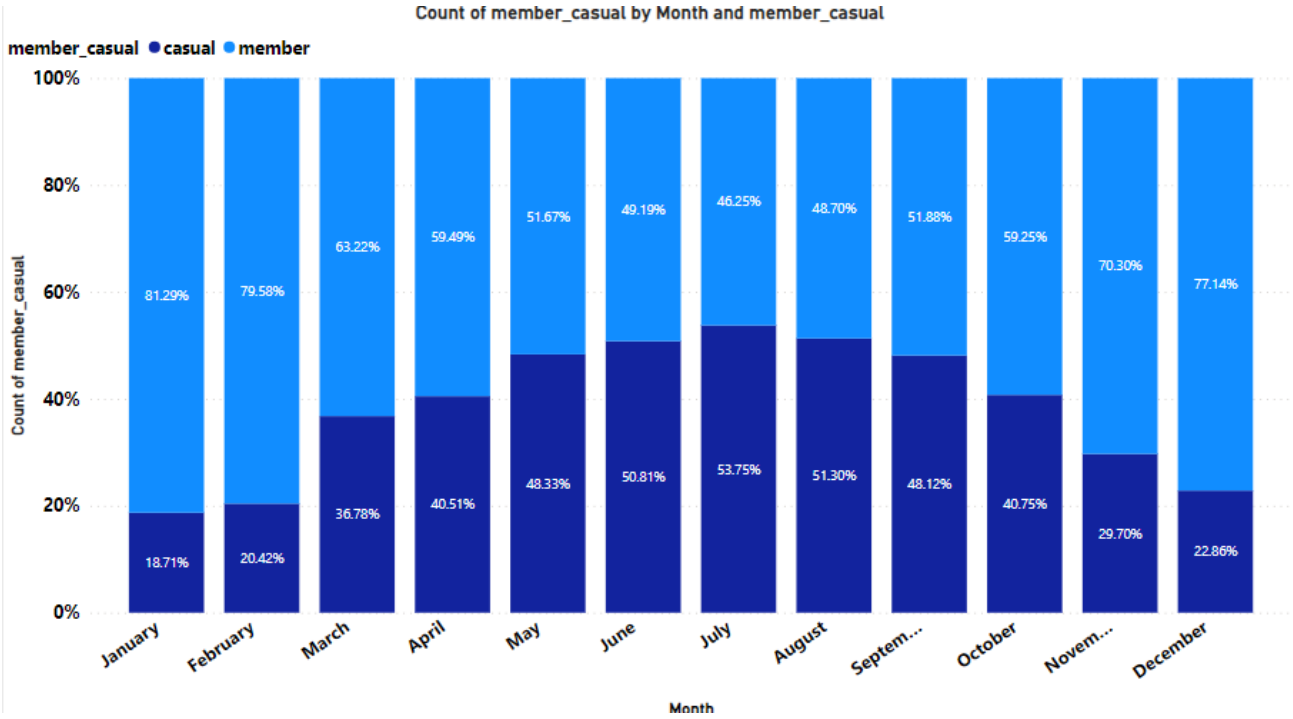


By this analysis most of the people like to ride classic bike.

Few of them like docked bike, so it is better to increase classic bikes and electric bikes in the bike stations and stop increasing docked bikes in the stations.

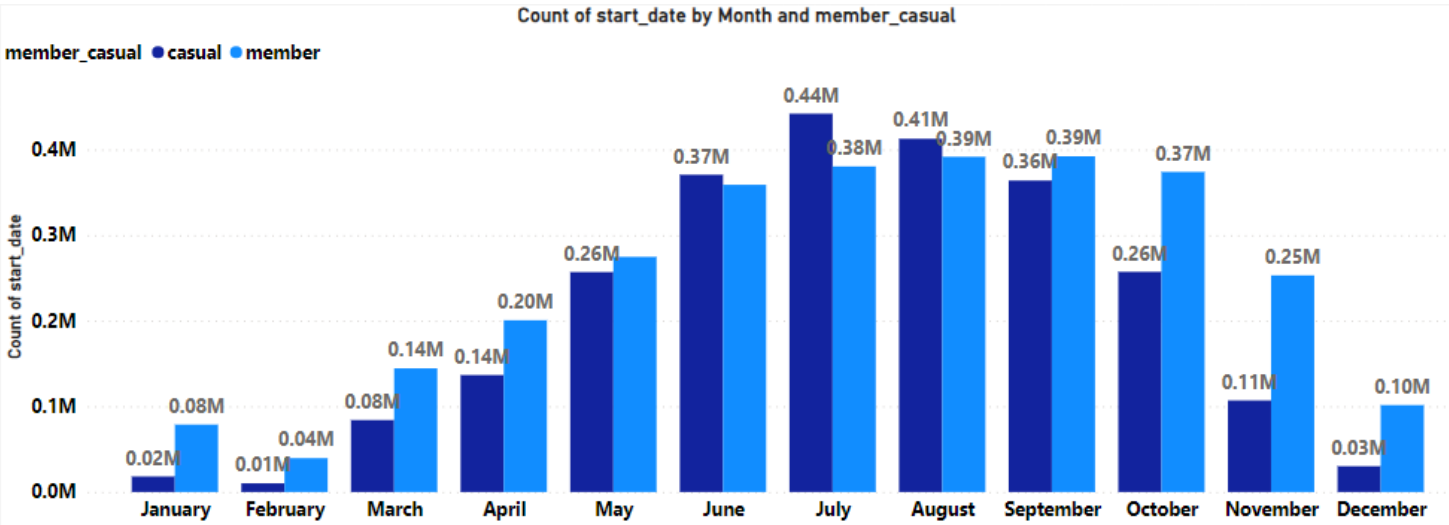
This will help the company to grow customers for the company.

4.3 percentage of rides taken by members and casual riders in the year



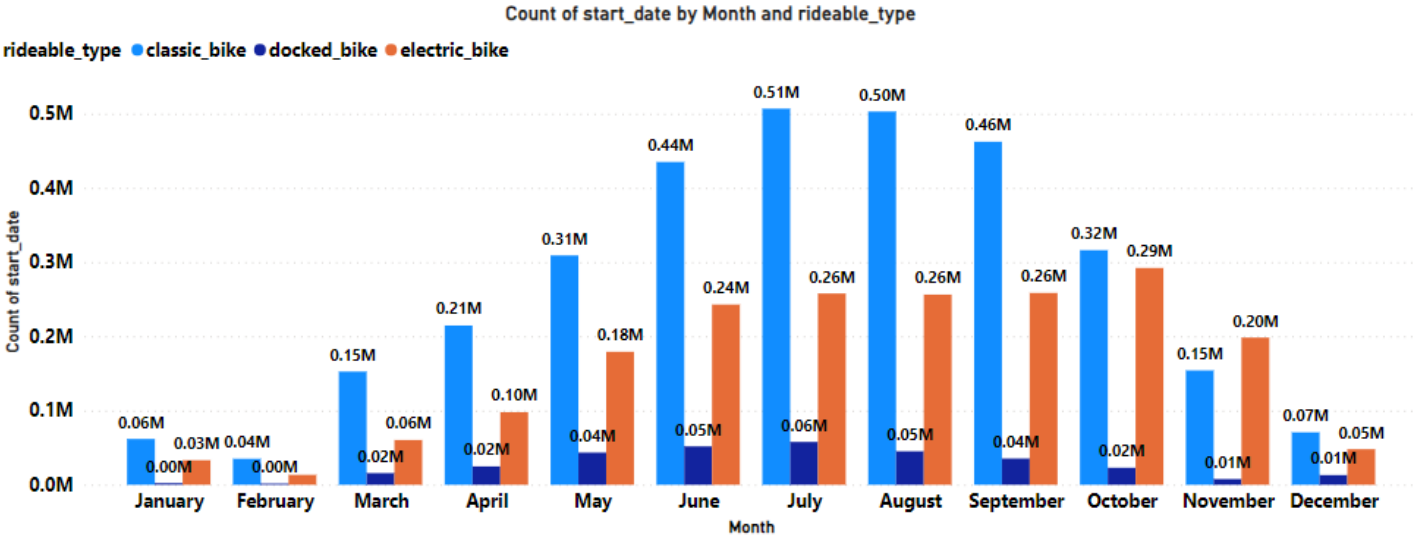
From the above visual , it is clear that in the months of January , February , March , November and December most of the rides taken by the members.

In the months of May , June , July and August most of the rides are taken by



casual riders.

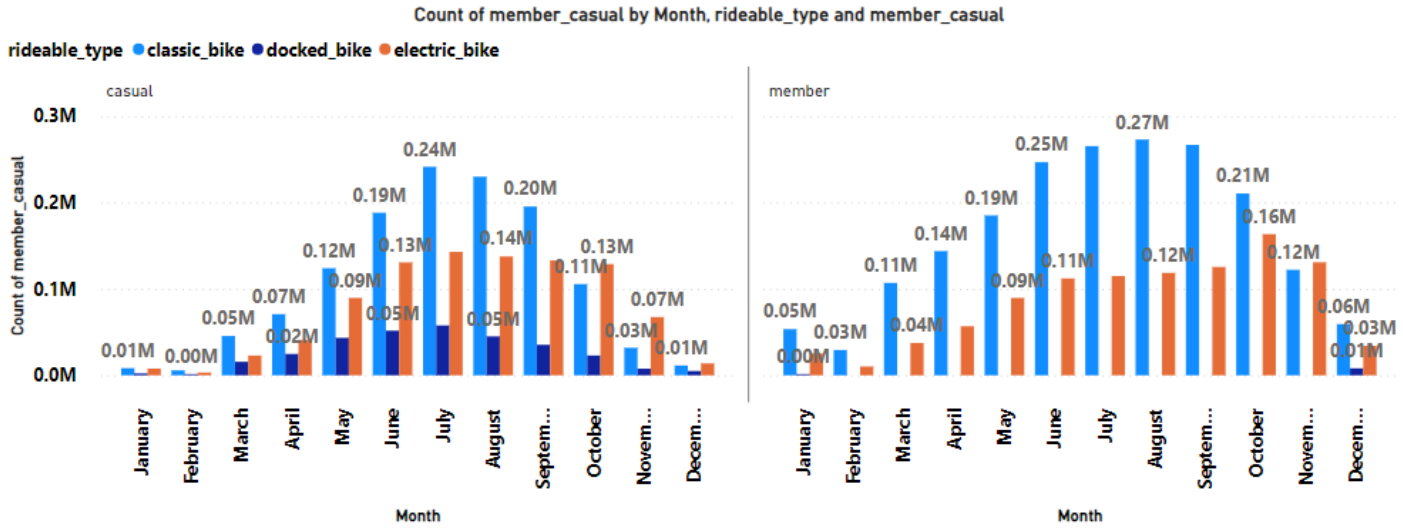
Here we can clearly see the count of rides by casual riders and member riders in every month.



4.4 count of bike type in every month

According to the visual 4.2 most of the people preferring classic bikes but in this visual you will notice a difference , just look at the month of October and November, rides of electric bikes increased rapidly.

But we don't know that either casual or member rider is preferring electric bike in that two months , to find that we will go for further analysis.

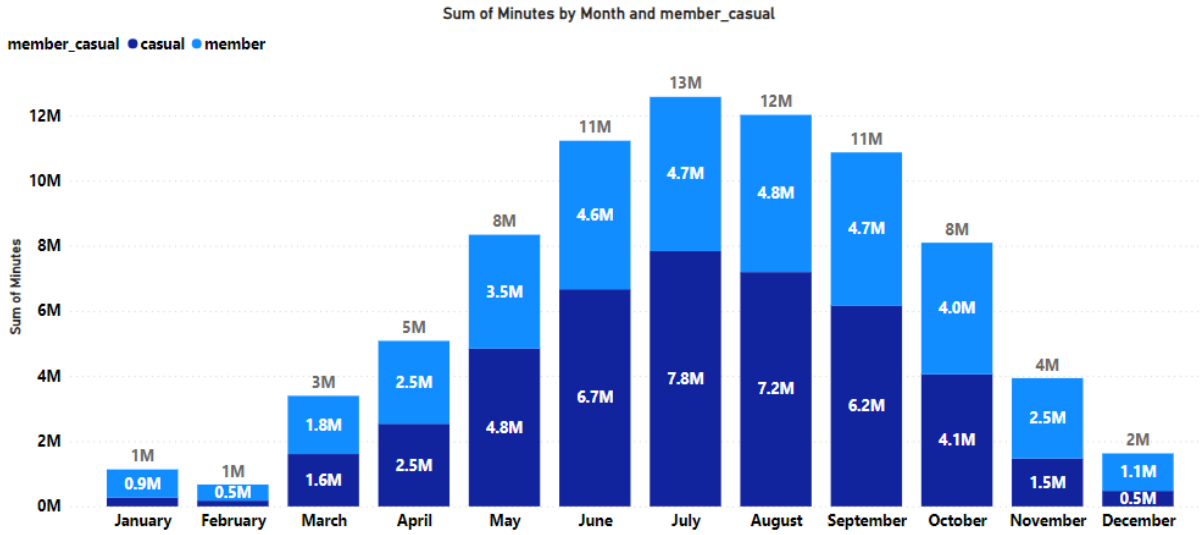


4.5 Reason behind increase rides in electric bikes in oct and nov

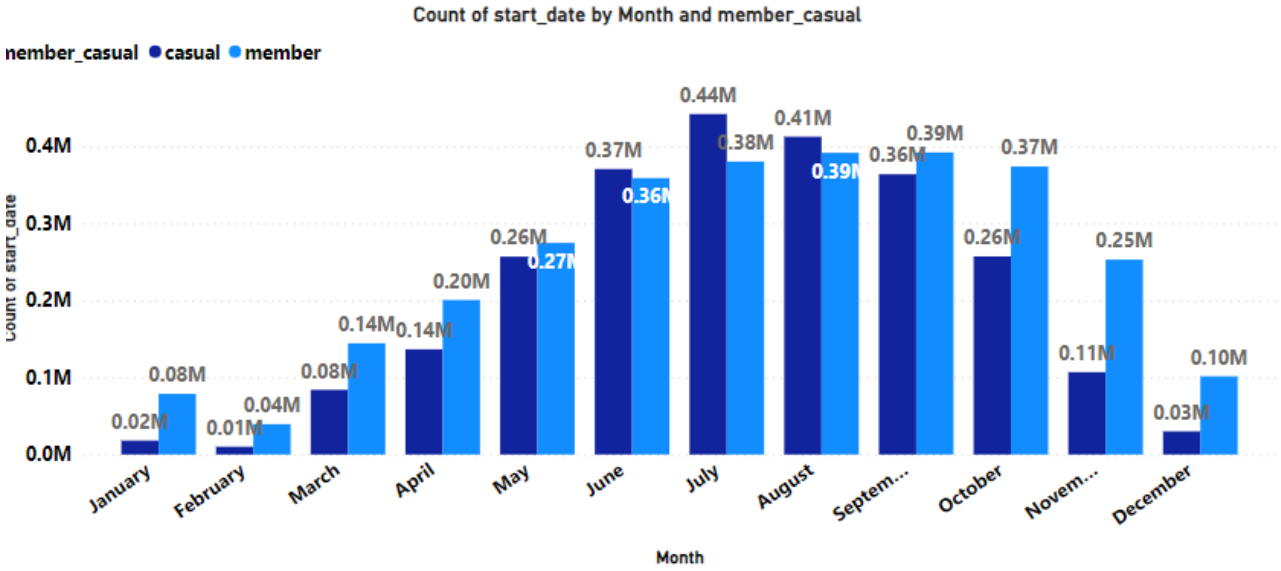
I want to find the reason behind increased electric bike rides in the month of October and November , from the above figure member riders and casual riders

both are preferring electric bikes in that months but casual members dominated a little bit.

4.6 Length of the ride in each month



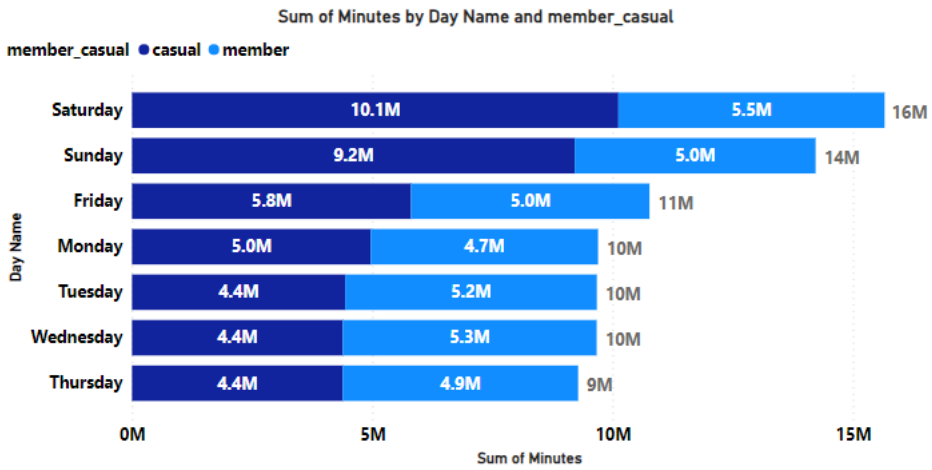
We know that most of the rides are taken by members but if we observe here we will find an interesting visual , casual members ride length is more than member ride length.



By this visual I can say that most of the casual riders are tourists and most of the members are local area people who regularly uses bikes.

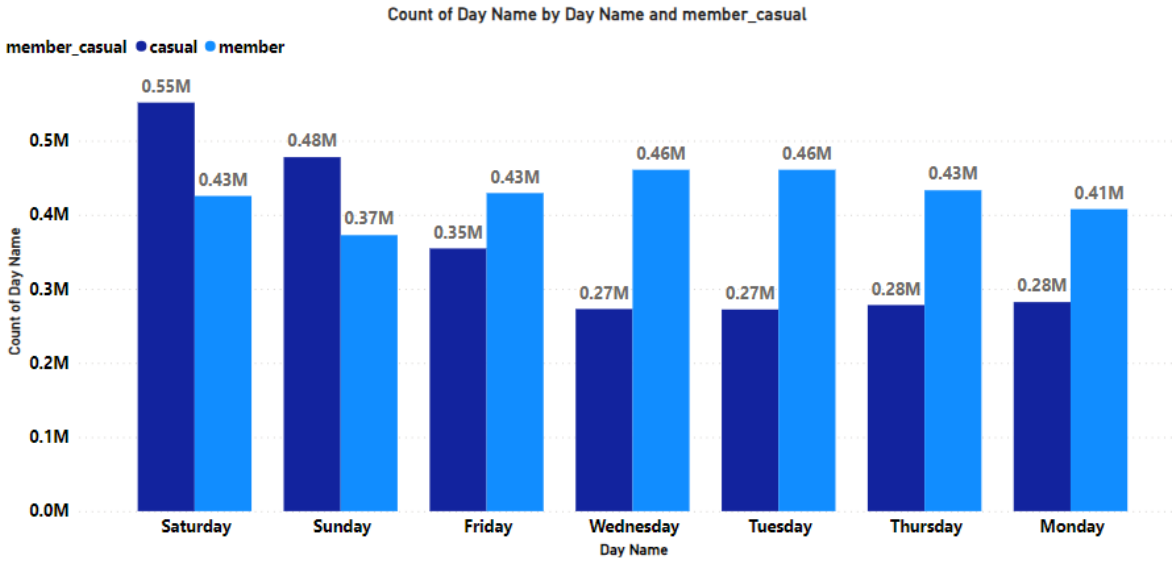
In this visual you can easily compare the ride length of member riders and casual riders by month.

4.7 Length of the ride by day



Maximum ride length is on the weekends i.e Saturday and Sunday in these two days ride length of the casual riders is more than the ride length of member riders.

Many of the riders taking bikes on the Saturday and Sunday in these days most of the riders are casual riders , so I will focus on casual riders.



Phase 5: Share

Members:

Members are local people who will travel one place to another place daily.

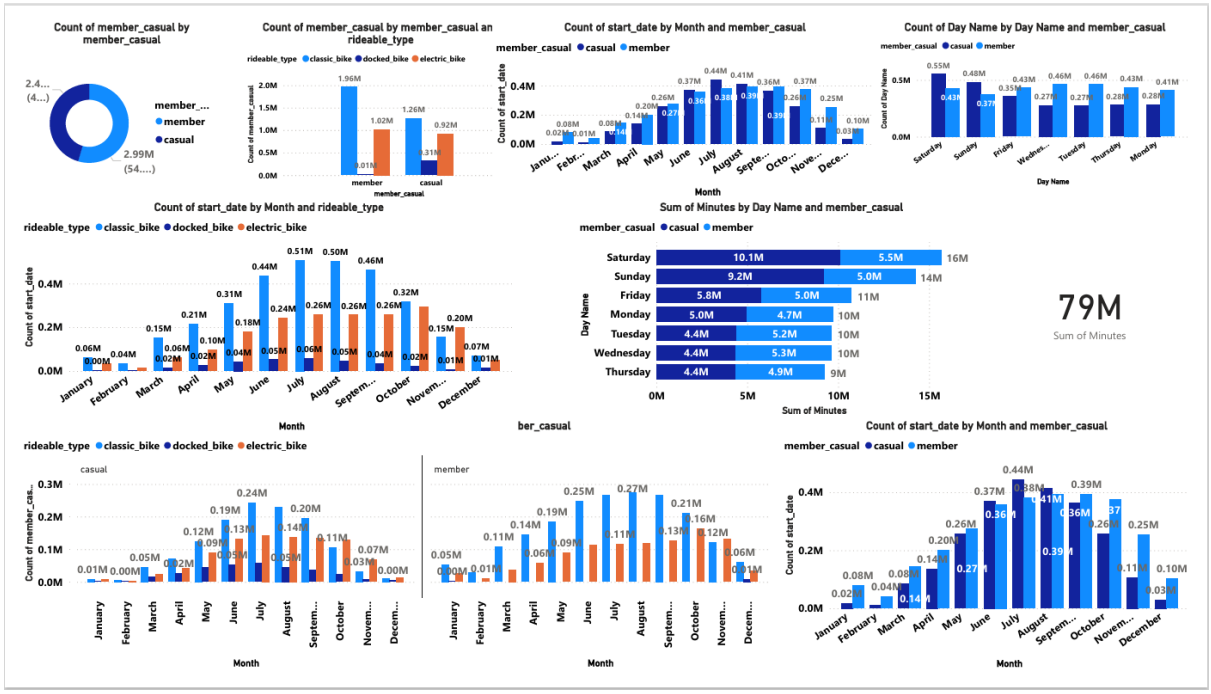
Members include collage students and employees .

Ride length of the members is low they will travel up to 1 hour a day.

During June and July rides are very low .

During weekends also rides and ride lengths both are less for members.

They use electric bikes more and they will not prefer d



Casual riders:

They are mixture of tourists and local people.

Ride length of casual riders peaks in the month of June , July and August.

In the Saturdays and Sundays ride length peaks.

Phase 6: Act

Recommendation:

I recommend the company to give subscription offer in the months of June July and August because most of the casual riders are taking ride in that months.

Increase decoked bikes for casual riders that increases company income.

Giving advertising in the winter month is better.

On weekends all the staff should be present and explain benefits of the membership to casual riders.