Current trend of using bike-sharing by members and causal riders

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Executive Summary

The director of marketing believes the company's future success depends on maximizing the number of annual memberships. Therefore, your team wants to understand how casual riders and annual members use Cyclistic bikes differently. From these insights, our team will design a new marketing strategy to convert casual riders into annual members.

In this document, we would present our findings which provide us more insights about the users' behaviour of our casual riders and members based on our internal existing data. The data includes:

- Rides' check in&out time
- Date of Use
- Start & End station of ride parking
- Station address with geographical longitude and latitude details
- Type of user (causal/member)

To provide insights to future marketing programme on promoting more casual riders to be our membership users…

Questions:

How do annual members and casual riders use Cyclistic bikes differently?

Summary of Findings:

1. Demand from Casual Riders mainly come from weekend cycling for leisure as the main purpose. Therefore, they prefer to purchase single-ride or full-day passes.
2. Members mostly use the rides during the weekdays for short ride travelling, it make sense to assume the purpose of usage is for working and avoid traffic jam within busy district.

(Detailed data analysis in the following pages)

Suggested Solutions:

- ❑ Differentiate and offer additional type of membership to fit in different purchase pattern and capture the marginal opportunity.
- ❑ Offer 5-time or 10-time “weekend member pass” for weekend casual riders.
- ❑ Offer discount for frequent users by reaching required level of usage by joining as members.

Review the trend from the Past 12 Months (April 2020 – March 2021)

- Both Casual Riders and Members have the increasing demand for bikes during **July**, **August**, **Sept**.

- During the week, **higher demand** to:
  Casual Riders: Sun & Sat
  Members: Wed, Thu, Fri, Sat

  (*Notes*: Day_of_Week - Sunday = 1; Saturday = 7)

- Casual riders would use the bikes for the **long cycling** on average (approx. 40-50 mins), comparing with members using the bikes for **short riding** (approx. <20 mins).

Trend of usage on the Past 12 Months by Type of User (April 2020 – March 2021)

Results | Messages

	user_type	yr	mth	num_users
1	casual	2020	4	354075
2	casual	2020	5	1302570
3	casual	2020	6	2311802
4	casual	2020	7	3761282
5	casual	2020	8	4040204
6	casual	2020	9	3220686
7	casual	2020	10	2023154
8	casual	2020	11	1230628
9	casual	2020	12	414211
10	casual	2021	1	40809
11	casual	2021	2	20058
12	casual	2021	3	85171
13	member	2020	4	916680
14	member	2020	5	1698780
15	member	2020	6	2812029
16	member	2020	7	3934028
17	member	2020	8	4632530
18	member	2020	9	4210052
19	member	2020	10	3390674
20	member	2020	11	2392894
21	member	2020	12	1394469
22	member	2021	1	177491
23	member	2021	2	77990
24	member	2021	3	146924

Trend of usage during the week by Type of User on the Past 12 Months

Results | Messages

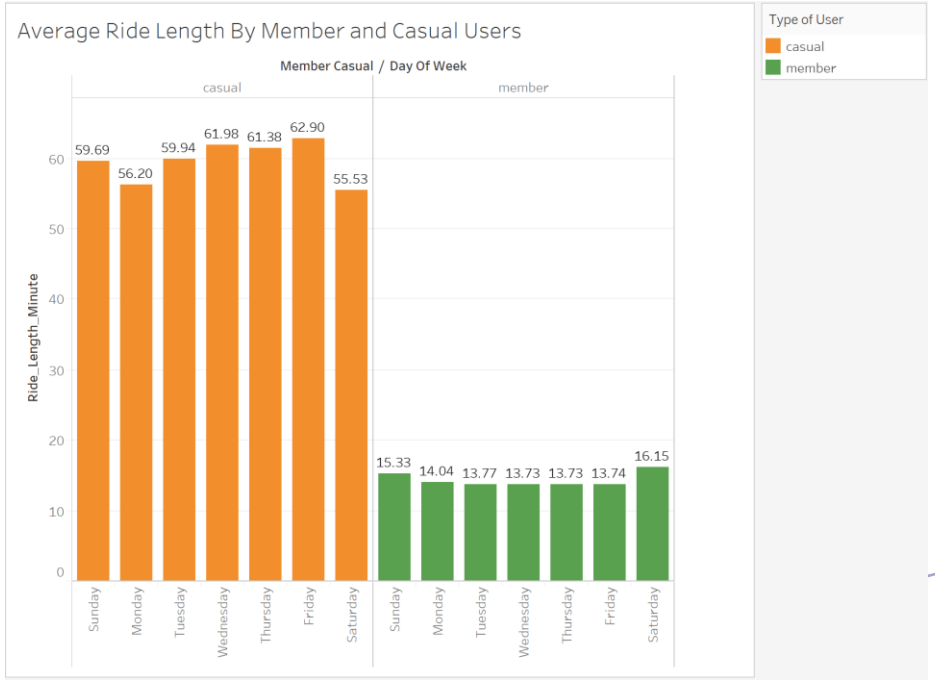
	user_type	Day_of_Week	num_users	avg_min_ride_length
1	casual	1	3445769	51
2	casual	7	4377589	47
3	casual	2	1955303	45
4	casual	6	2799535	43
5	casual	5	2246899	43
6	casual	3	1890290	41
7	casual	4	2089265	41
8	member	1	3375164	18
9	member	7	4062320	18
10	member	6	3877570	16
11	member	4	3805843	15
12	member	2	3306940	15
13	member	3	3525097	15
14	member	5	3831607	15

Comparing the trend on previous year performance (Q4 2019- Q3 2020)

- During the week, similar pattern for the trend of **high demand**:
  Casual Riders: Sun & Sat
  Members: Mon, Tue, Wed, Thu, Fri, Sat

- In this period, similar trend captured, Casual riders normally use the bikes for the **long cycling** on average (approx. >50 mins), comparing with members using the bikes for **short riding** (approx. <20 mins).

	member_casual	weekday	number_of_rides	average_duration
	<chr>	<ord>	<int>	<dbl>
1	casual	Sun	181293	3581.
2	casual	Mon	103296	3372.
3	casual	Tue	90510	3596.
4	casual	Wed	92457	3719.
5	casual	Thu	102679	3683.
6	casual	Fri	122404	3774.
7	casual	Sat	209543	3332.
8	member	Sun	267965	920.
9	member	Mon	472196	843.
10	member	Tue	508445	826.
11	member	Wed	500329	824.
12	member	Thu	484177	824.
13	member	Fri	452790	825.
14	member	Sat	287958	969.



Further Exploration

- The existing data includes the geographical data (the station location with latitude and longitude). It is possible to explore the distribution of casual riders and members which is useful for planning the marketing campaign by considering the area factor, e.g. putting customized ad on targeted region/district.

Data Limitation

- The yearly data has quite a lot of missing data and error which is found during the data cleaning process. There are more than thousand data records with error, for example, same datetime and unaligned time format on start & end time records, extremely large figures on ride length. It is worth to do further investigation the reason causing these issues.