Report

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1. Business task

- How do annual members and casual riders use Cyclistic bikes differently?
  - What are the main differences in usage of bikes between annual and casual members.
  - What type of member uses the bikes more, and what days of the weeks are the busiest.

2. A description of all data sources used

The dataset used for this analysis is [Divvy_Trips_2019_Q1.scv] from the Divvy database [link here: https://divvy-tripdata.s3.amazonaws.com/index.html]

3. Documentation of any cleaning or manipulation of data

Cleaning data logbook:

1	Create column called ride_length
Create new column	Calculate the length of each ride by subtracting the column started_at from the column ended_at. This column was format HH:MM:SS

2	Create a column called day_of_week.
Create new column	To calculate the day of the week that each ride occurred we used the function =WEEKDAY with serial number started_at and return 1. This column was format to “dddd”

3	All entries were ride_lengths = [negative value] were excluded from the analysis.
Eliminate entries	Reason: A negative value on a ride_lengths is incorrect.

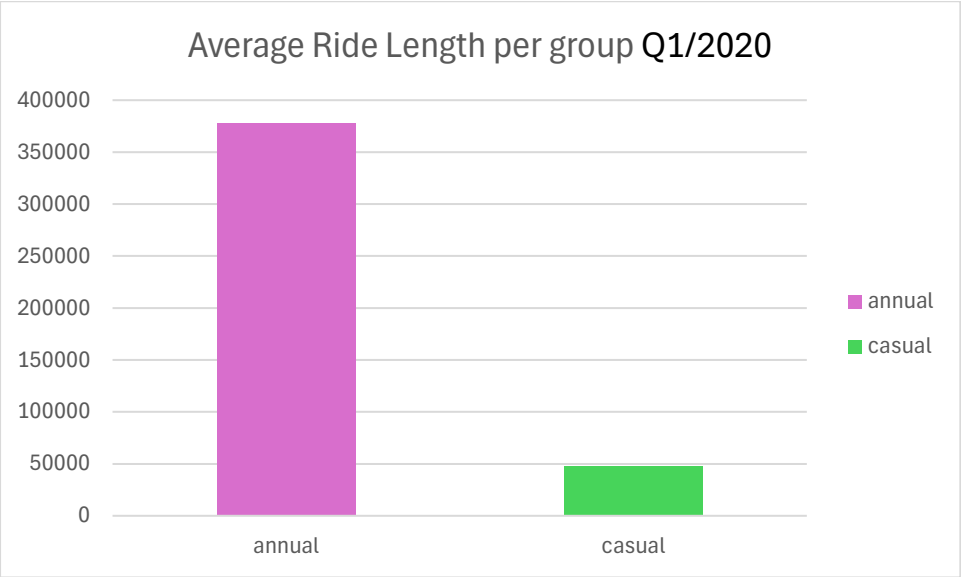
4	All entries were ride_lengths > 5 hours were excluded from the analysis.

Eliminate entries	Reason: A ride over 5 hours is unlikely, and there were over 900 entries with ride length over 5 hours, some of them over 24 hours. This was affecting the results of the analysis.

5	All entries on the column [annual_casual] = “member” were replaced with “annual”
Replace entries	Reason: member referred to annual members. Both groups are member, this was changed to make the analysis more clear.

4. A summary of your analysis, key findings and visualizations.

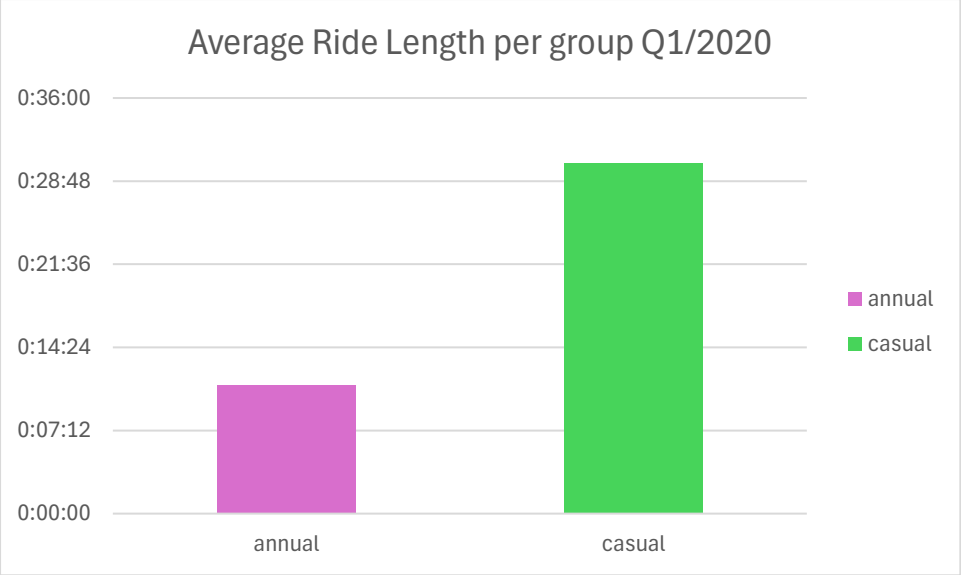
4.1 Who rides more by counts.



Row Labels	Count of ride_id
annual	378165
casual	47271
Grand Total	**425436**

Number of rides for annual members are 9 times higher than Casual. There were 378165 rides for Annual while 47271 for Casuals.

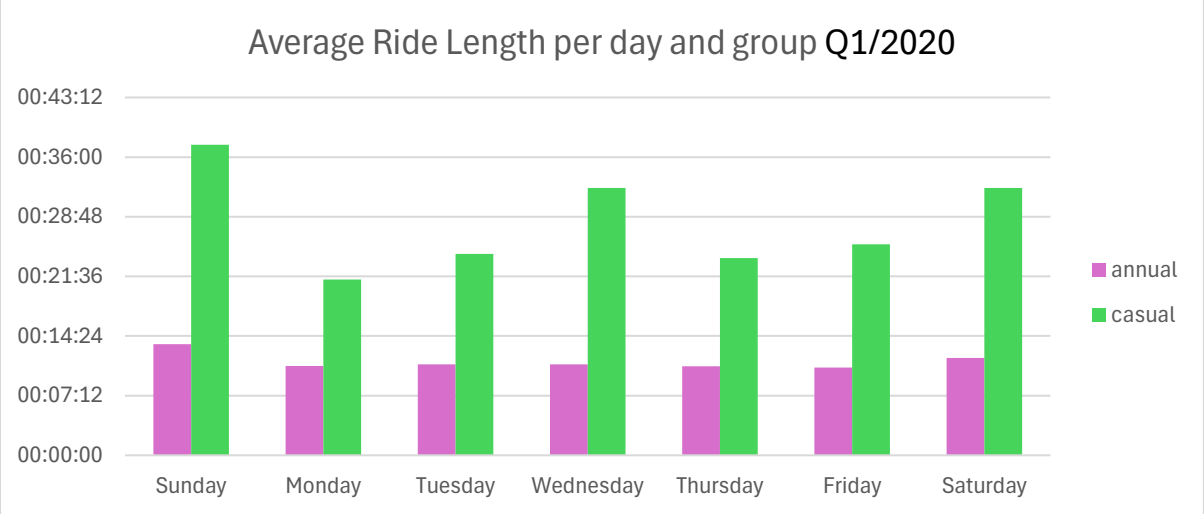
4.2 What group spend more time per ride.



Row Labels	Average of ride_lenght
annual	0:11:09
casual	0:30:23
Grand Total	**0:13:17**

The average for a casual user is 30:23 (MM:SS) which is almost 2 times more than the average for a casual user. If this group is paying by the minute, this means that they are likely to be more profitable than annual members.

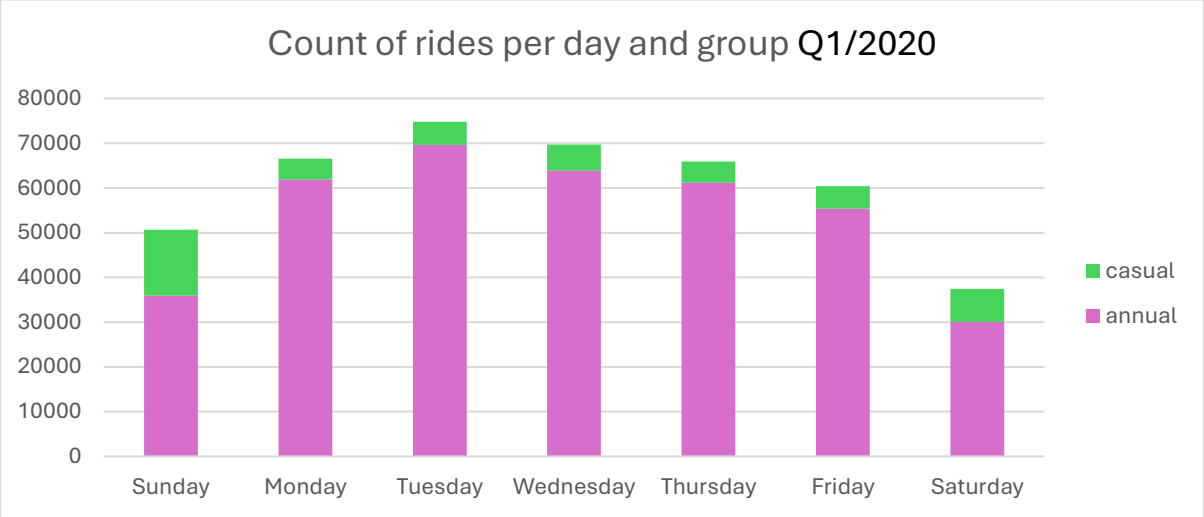
4.3 Average of ride per day and group



Sunday is the day both groups spend the most time on the rides. Followed by Saturday. This also shows that Casual members spend more time than annual member independently of the day of the week.

Row Labels	annual	casual
Sunday	00:13:24	00:37:30
Monday	00:10:47	00:21:14
Tuesday	00:10:59	00:24:18
Wednesday	00:10:59	00:32:16
Thursday	00:10:46	00:23:47
Friday	00:10:35	00:25:29
Saturday	00:11:45	00:32:17

4.4 Count of rides per day and group Q1/2020



Row Labels	annual	casual
Sunday	35949	14712
Monday	61886	4669
Tuesday	69659	5116
Wednesday	63948	5741
Thursday	61202	4690
Friday	55440	4988
Saturday	30081	7355
Grand Total	**378165**	**47271**

Tuesday is the busiest day of the weeks in term of number of rides. Followed by Wednesday and Monday. Both group of members might have trouble to find a bike.

Sunday and Saturday are the quietest days of the weeks. Both groups will have no trouble finding available bikes.

5. Your top three recommendations based on your analysis

- All bikes should be available to be used on the weekdays.
- Casual members have a higher average length ride; therefore, the price they pay should be accordingly. We need to survey if casual riders affect negatively the experience of annual members.
- Sundays and Saturdays are the quietest days, therefore, the number of available bikes could be lower. For maintenance purposes.