Evaluating Customer Differences

Cyclistic Bike-Share

July 2021

Grow with Google

A Google Data Analytics Certification Capstone Project

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Evaluating Customer Differences

Phase 1: Identifying the Business Task

Identifying the Business Task

The business task is to increase revenue by **converting casual**, pay-per-ride users **into annual membership** paying customers.

The specific task of this project is to determine how **casual** riders **differ from member** customers to assist the marketing team with the overall business task.

Evaluating Customer Differences

Phase 2: Preparing the Data

Preparing the Data

In order to **differentiate casual** riders **from member** customers, we'll evaluate bicycle rideshare trip information from the latest available 12 months of data.

This project will use **divvy trip data** (June 2020 through May 2021). This is real-world data from the city of Chicago's bike rideshare program.

~ **4 million** total trips consisting of:

- Ride start and end date/time
- Bicycle type (classic or electric)
- Start/end station name, id, and geolocation
- Customer type (casual or member)
- Data does not include personal identifiers or demographic information

Evaluating Customer Differences

Phase 3: Processing the Data

Processing the Data

The data was processed using RStudio software to combine the data files, clean the data, and add columns containing formulas for further analysis.

New columns include:

- Ride duration (in seconds)
- Ride distance (in kilometers)
- Ride speed (in km/hr)
- Month
- Day of week

Evaluating Customer Differences

Phase 4: Analyzing the Data

Analyzing the Data

First, we looked at overall number of rides by customer type.

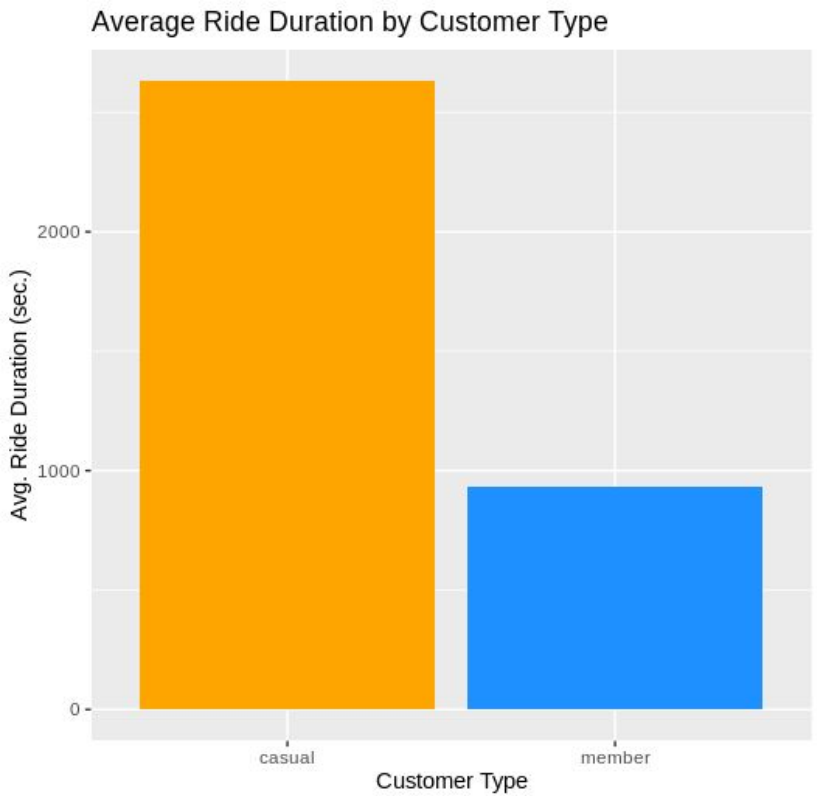
- **Members** accounted for **58%** of the **~3.7 million** rides used in this analysis

Source: June 2020 - May 2021 divvy rideshare trip data. (n=3,759,262 trips)

Analyzing the Data

Next, we looked at the average ride duration by customer type.

- **Casual** riders: ~44 min. avg. ride
- **Members**: ~15 min. avg. ride
- On average, **casual** riders rode for nearly **3 X** longer than **members**

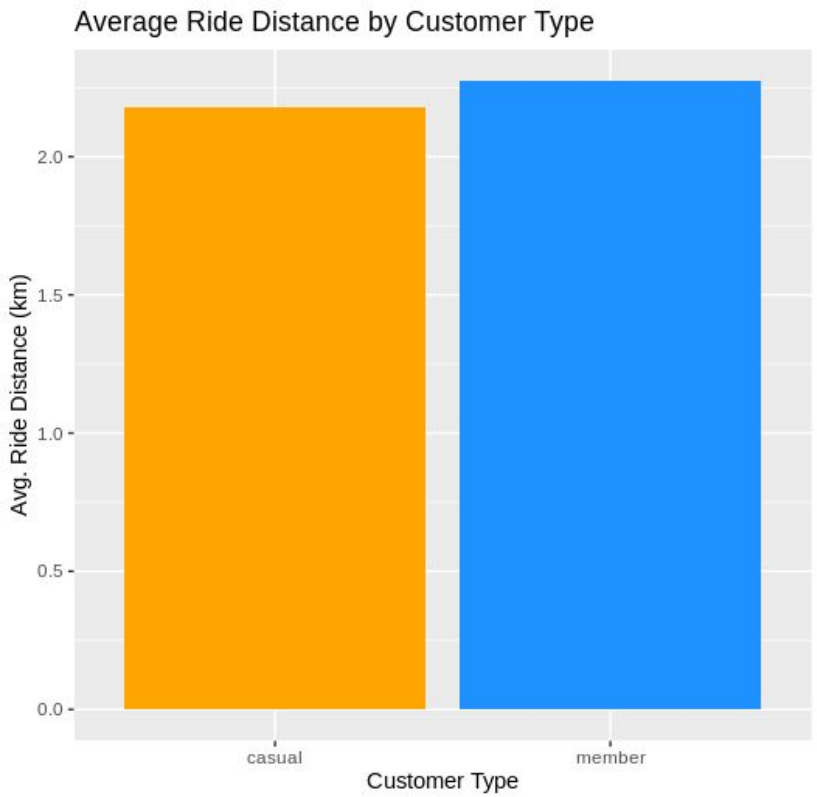


Source: June 2020 - May 2021 divvy rideshare trip data. (n=3,759,262 trips)

Analyzing the Data

This shows the average distance traveled.

- **Members**: ~100 meters longer on avg.
- No significant difference on average between customer types.

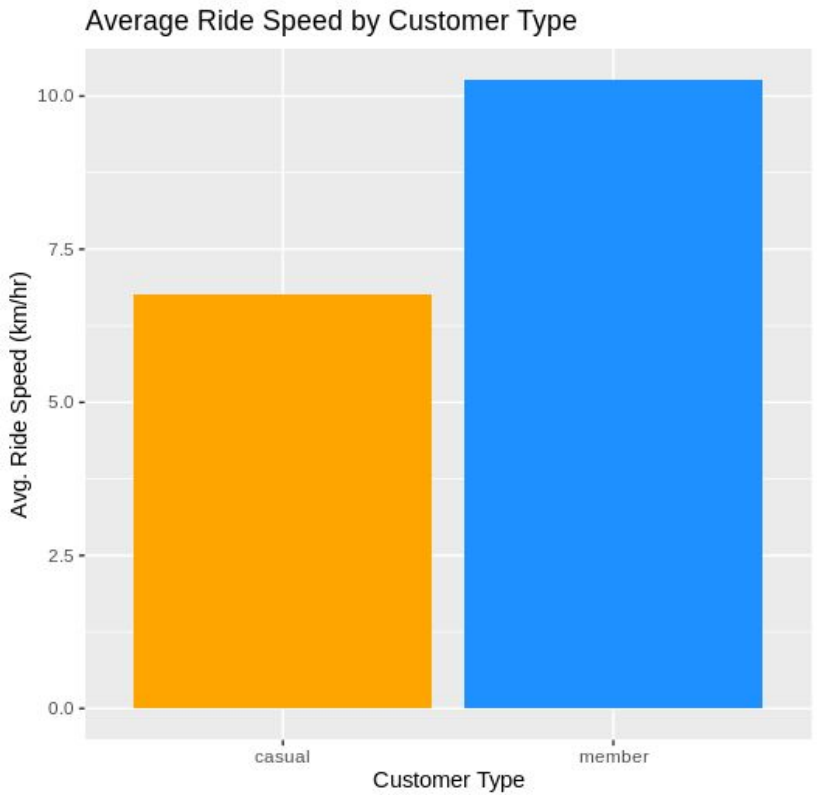


Source: June 2020 - May 2021 divvy rideshare trip data. (n=3,759,262 trips)

Analyzing the Data

This shows the average speed customers traveled.

- **Members** rode ~**1.5 X** faster than casual customers.

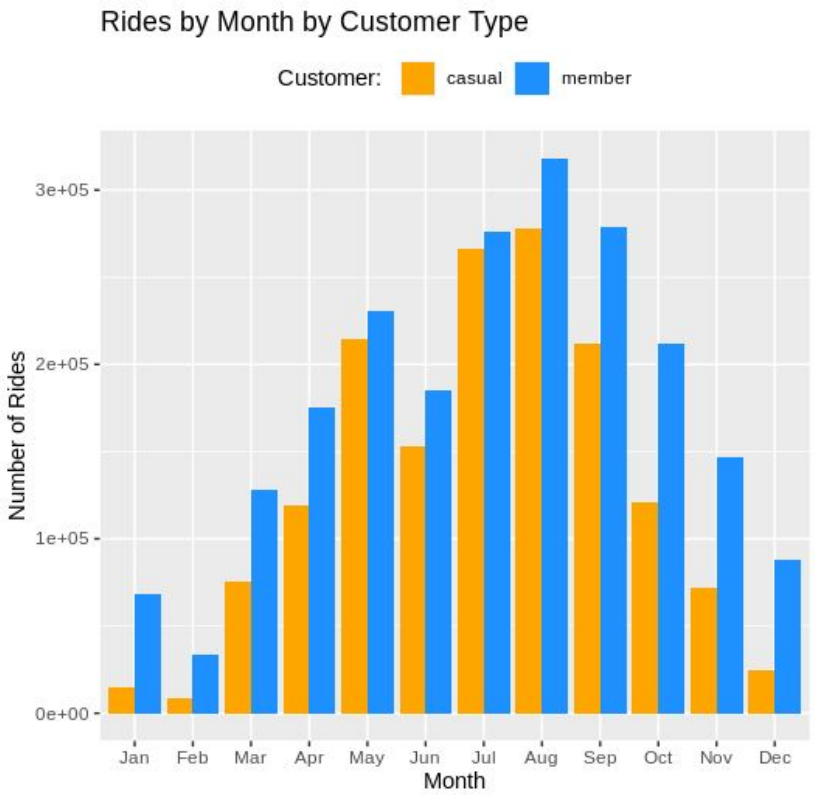


Source: June 2020 - May 2021 divvy rideshare trip data. (n=3,759,262 trips)

Analyzing the Data

Now let's look at rides by month.

- Seasonality affected both types of customers dramatically.
- **Casual** rides really dropped off in winter, but more closely matched **members** in summer months.

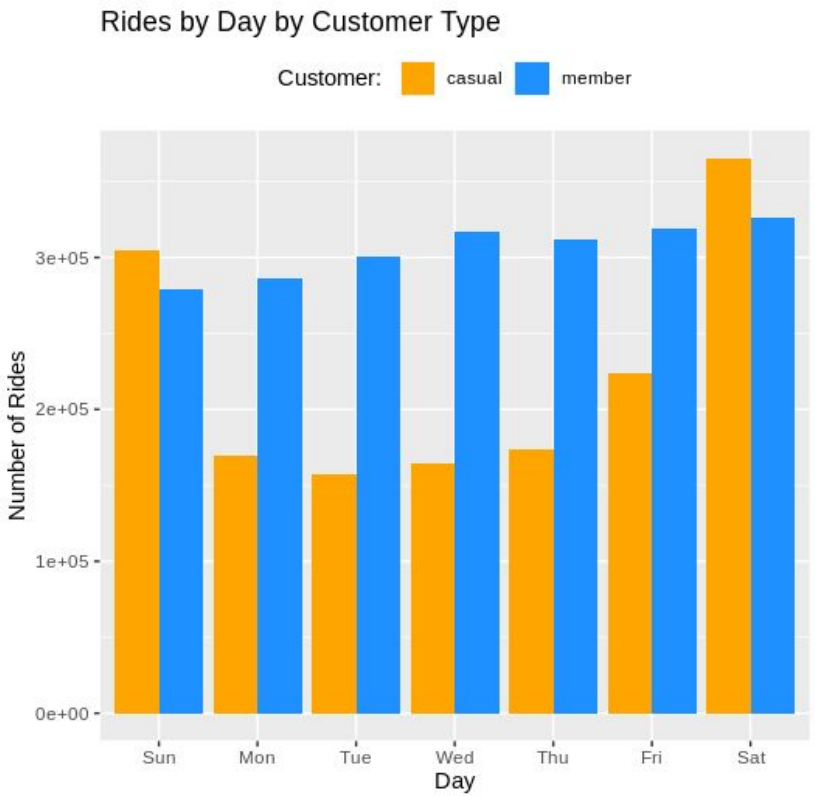


Source: June 2020 - May 2021 divvy rideshare trip data. (n=3,759,262 trips)

Analyzing the Data

Now let's look at rides by day of week.

- **Casual** rides spiked on the weekends.
- **Member** rides were consistent throughout the week.
- Saturday sees the most rides by both customer classes.

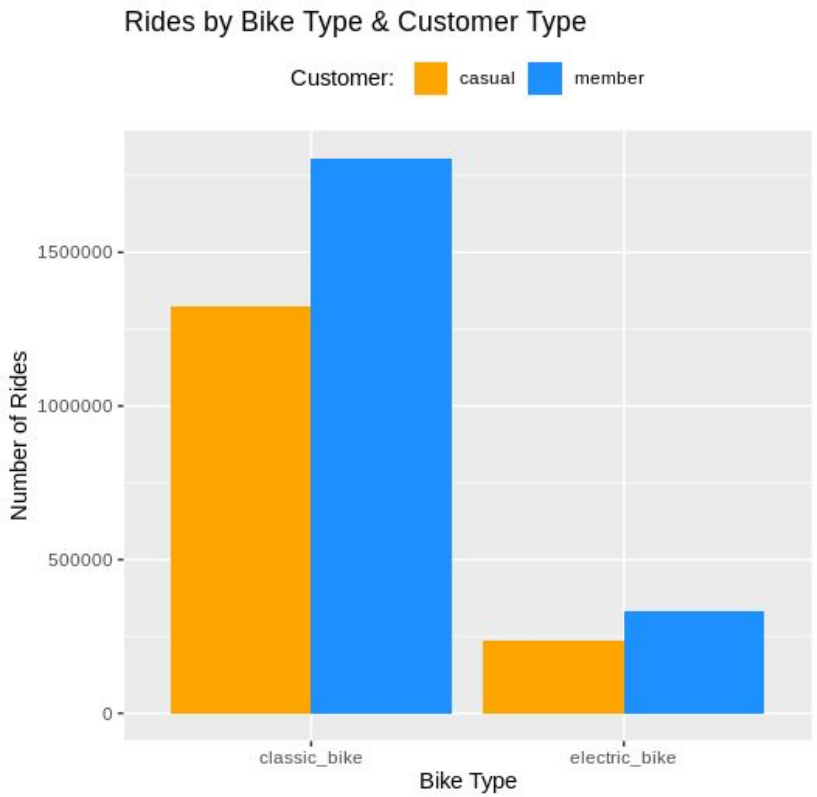


Source: June 2020 - May 2021 divvy rideshare trip data. (n=3,759,262 trips)

Analyzing the Data

Here's a look at rides by bicycle type.

- Both customer types **prefer classic bikes** over e-bikes by about **85%** to **15%**
- **Casual riders** accounted for just over **40%** of each bike category



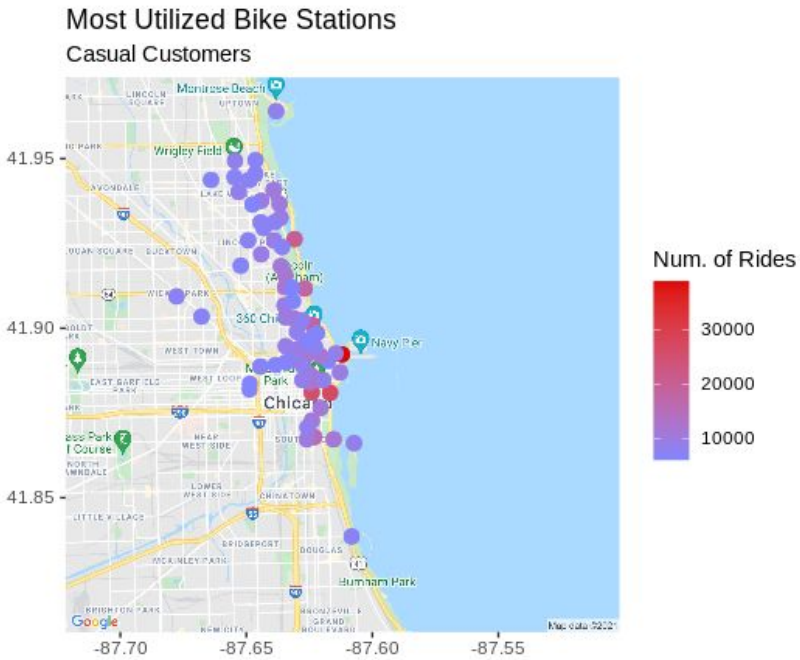
Source: June 2020 - May 2021 divvy rideshare trip data. (n=3,759,262 trips)

Analyzing the Data

Finally we'll plot the most utilized bike stations by customer type. This includes the top 10% of the overall ~700 stations.

First, **casual** riders.

- The busiest stations hug the **lake shore**, follow **greenways**, and are near **tourist attractions**

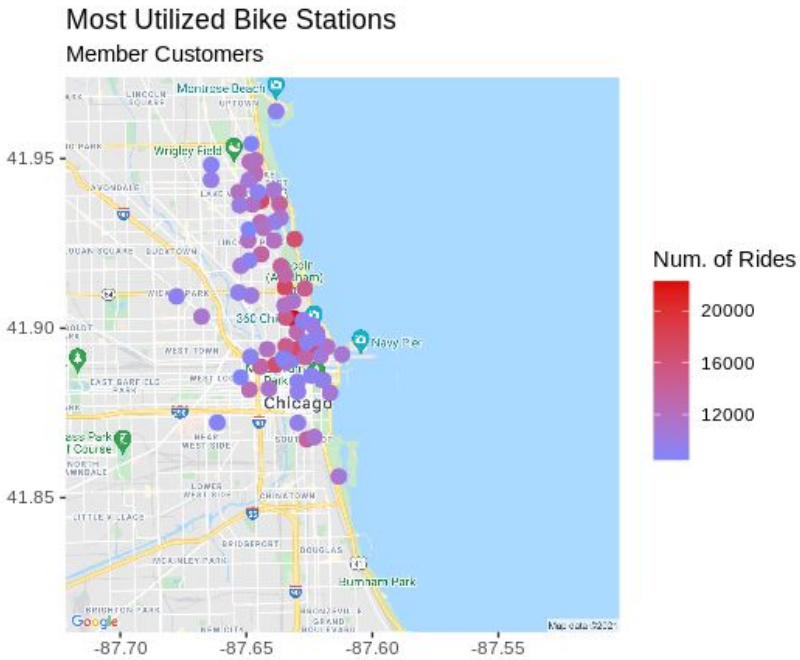


Source: May 2020 - June 2021 divvy rideshare trip data. (n=3,759,262 trips)

Analyzing the Data

Now, **member** riders.

- The busiest member stations are spread out a little wider into **commercial areas** and those located near “L” **subway stations**.



Source: June 2020 - May 2021 divvy rideshare trip data. (n=3,759,262 trips)

Summarizing the Data

- **Casual** users accounted for **~40%** of all bike trips
- **No significant difference** on average trip distance between customer types
- **Casual** riders rode for nearly **3 X *longer*** than **members**
- **Members** rode **1.5 X *faster*** than **casual** customers.
- **Casual** rides dropped off in **winter**, but more closely matched **members** in **summer**
- **Casual** rides spiked on the weekends
- **Member** rides were consistent throughout the week

Summarizing the Data

- **Casual** riders favor bike stations that hug the lake shore, follow greenways, and are near tourist attractions
- The busiest **member** stations spread out into commercial areas and are located near “L” subway stations

Conclusion

Final Recommendations from Analysis

1. Since **casual** riders prefer leisurely trips on weekends in warmer months, offer a **“Summer Pass”** at a discounted rate compared to the annual membership fee.
2. Impose a time restriction on individual rides and/or offer a **“Day Pass”** costing more on weekends.
3. Target ***repeat*** **casual** customers touting the **cost savings** of an annual **membership** vs. paying for individual rides and day passes.

Questions?

Thank You!