**Overview**

I’ve recently completed the Google Analytics Certificate course on Coursea, thanks to the scholarship by NPower. After completing the course, we were recommended to create a portfolio to showcase our skill and our ability of understanding the data analytics lifecycle. The course provided the options of two case studies to choose from, and for this analysis I chose the Cyclistic Case Study.

For the Cyclistic Case Study you are a junior data analyst for Cyclistic (a fictional bike-share company) on the marketing team. The key stakeholder Lily Moreno, the \_\_ wants to understand how casual riders and annual members use Cyclistic Bikes differently. In addition, from the insights found our team will design a new marketing strategy to convert casual riders into annual members.

**Cleaning Process**

The company provided historical trip data dating all the way back to 2016. For this analysis I decided that the last 12 months of data would be best to use for the analysis. (The data used for the analysis was provided by the course using Motivate International Inc. trip data under this license.)

I initially started with SQL but then ran into memory issues when trying to join tables after cleaning, due to my laptop being so old. So as a result, I decided to use R to merge and clean the datasets, and to create visualization through R. The link to the github where the code in R could be found is here.

I set the active working directory to make it easier to import the .csv file, and then loaded the datasets into R. I combined the 12 months of data to one single table. I then created a day of the week, ride length, as well as removed columns that would not be used for the analysis. I also removed the duplicates, null, and n/a values from the combined table, and created a new master table for the analysis.

**Insights**

On average casual riders take longer trips with their bike with an average of around 11.5 mins compared to annual member whose average trip length is around 9.5 mins

Chart, bar chart

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Casual riders tend to take majority of their trips Friday, Saturday, and Sunday. Saturday being the highest. Compared to annual member who tend to take majority of their trip during the weekdays in contrast to casual members, but both are close in value of total number of riders on weekends.

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Below show the Top 10 Starting Stations for Casual members, where the top 3 starting stations are Streeter Dr & Grand Ave., Wells St & Concord Ln, and Wells St & Elm St.

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Below show the Top 10 Starting Stations for annual members, where the top 3 starting stations are Kingsbury St & Kinzie St, Clark St & Elm St, and Well St & Concord Ln.

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Below show the Top 10 Starting Stations for both casual and annual members, here you could see that between both rider types 3 cities both show up in each respective top 10. These Starting Stations are Clark St & Lincoln Ave., Wells St & Elm St, and Wells St & Evergreen Ave.

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Both Annual and Casual Members seem to prefer the use of classic bikes when compared to the fleet of electric bike Cyclistic has available for use.

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The Line graph below shows that Casual members bike usage increases during the Afternoon from around 3:00PM to 6:00PM. Annual Members seem to have a similar jump in riders during that Afternoon like the Casual Riders, but unlike Casual Riders, Member Riders also see a jump in riders during the morning hours of 6:00AM to around 9:30AM.

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**Recommendations**

* Market and perform more consistent maintenance and upgrades to their casual bikes, with discounted promotional offers to annual members, since casual member mainly use this type.
* The best time to begin a campaign to convert casual riders into annual member riders would be in the Afternoon as that is when there is a large increase in riders out.
* It would be a great idea to offer an incentive like a discount for member who start their trips at one of the top 10 starting stations by user type. In addition, an extra focus should be placed on the starting stations of Clark St & Lincoln Ave., Wells St & Elm St, and Wells St & Evergreen Ave seeing as these 3 are in both of the top 10 starting stations for casual and annual member riders.
* Most casual riders tend to ride on weekends mostly and during the hours of 3:00PM to 6:00PM, which would be great time frames to send notification of any ads created or promotions for converting into an annual member.
* Institute a reward system for annual member that could potentially offer free rides for a certain distance traveled or the length of time of
* trips made during the week.