

## Synopsis

In this capstone project, I navigate a case study using the skills and competencies that I acquired from the Google Data Analytics Professional Certificate program offered on Coursera.

## Scenario

Case Study 1: How Does a Bike-Share Navigate Speedy Success?

In this case study, I act as a junior data analyst working in the marketing analyst team at Cyclistic, a bike-share company in Chicago. It has a network of 692 stations across Chicago with a fleet of 5,824 bicycles. The company offers flexible pricing plans for casual riders (single-ride passes, full-day passes) and customers who wish to purchase annual memberships. The director of marketing wants to maximize the number of annual memberships by converting casual riders into members.

## Business task: Design marketing strategies aimed at converting casual riders into annual members.

- How do annual members and casual riders differ?
- Why would casual riders would buy a membership?
- How can digital media affect their marketing tactics?
- Analyze the Cyclistic historical bike data to identify trends.

The data can be downloaded here: <https://divvy-tripdata.s3.amazonaws.com/index.html>

## Data Obtainment

The data was taken from 2021 September to 2022 September for the bike sharing service's website, and the results will be given based on this 12 month time frame.

The original csv files were downloaded and then uploaded to the working directory in RStudio Cloud.

This section will install and load the required libraries for analysis, load the .csv data into the data frame and identify each table's format.

Code

Code

```
trying URL 'https://cran.rstudio.com/bin/macosx/contrib/4.2/dplyr_1.0.10.tgz'
Content type 'application/x-gzip' length 1310338 bytes (1.2 MB)
=====
downloaded 1.2 MB
```

The downloaded binary packages are in  
/var/folders/fn/4rz56t8s02dfyly9v4dvptfr0000gn/T//RtmpnsePVp/downloaded\_packages

Code

Code

## Data Cleaning & Transformation

After viewing the data, some of the columns did not share the same format. Thus, these conflicted variables were converted to character variables.

To make the data easier to read, the “started\_at” and “ended\_at” columns were combined to provide a total duration (seconds) of the ride.

## Data Analysis

The section will organize the data by weekdays.

## Results

Customer Type	Avg Ride Length (seconds)	Med Ride Length (seconds)	Max Ride Length (seconds)	Min Ride Length (seconds)
Casual	1974	1016	3356649	0
Member	811	598	573467	0

The results are as follows by casual customers by weekdays

Weekday	Avg Ride Length (seconds)	Med Ride Length (seconds)	Max Ride Length (seconds)	Min Ride Length (seconds)
Sunday	2282	1185	3235296	0
Monday	1960	1016	1900899	0
Tuesday	1763	902	2335375	0
Wednesday	1710	881	2337785	0
Thursday	1685	864	2946429	0
Friday	1889	949	3341501	0
Saturday	2125	1135	3356649	0

The results are as follows by member customers by weekdays

Weekday	Avg Ride Length (seconds)	Med Ride Length (seconds)	Max Ride Length (seconds)	Min Ride Length (seconds)
Sunday	923	672	89995	0
Monday	777	572	89993	0
Tuesday	764	569	89996	0
Wednesday	768	575	573467	0
Thursday	760	569	89996	0
Friday	796	586	542972	0
Saturday	905	669	89996	0

## Visualization



## Conclusion:

Based on the data analysis, I made the following conclusions:

1. Members and casual customers are set apart by their average ride duration such that casual customers ride for a longer time than members.
2. Casual riders tend to ride more on the weekends while members tend to ride during the weekdays.

Thus, after identifying these trends, I recommend the following strategies to convert casual riders to members:

1. Have the cost for weekday riding be cheaper so that the casual riders may consider riding during the weekdays and purchase the annual membership.
2. Make the annual membership not too high of a price so that casual riders may also consider the cost annual membership to get the best deal.