## horizontal line

USAGE OF CYCLISTIC BIKES BY CASUAL AND MEMBERSHIP RIDERS

Google Professional certificate

Case Study Document

MARGA AMRUTHA

VISAKHAPATNAM

ANDHRA PRADESH

INDIA

# Overview

For the purposes of this case study, the datasets are appropriate and will enable you to answer the business questions. The data has been made available by Motivate International Inc. under The license.

# Goal

1.FIND out HOW Annual members and Casual riders use Cyclistic bikes differently

2.Drawing insights from the analysis without any bias and errors

3.Based on analysis,sharing with stakeholders what next steps to be taken for business propagation.

# Specifications

* In 2016, Cyclistic launched a successful bike-share offering.
* The program has grown to a fleet of 5,824 bicycles that are geotracked and locked into a network of 692 stations across Chicago. The bikes can be unlocked from one station and returned to any other station in the system anytime.
* Customers who purchase single-ride or full-day passes are referred to as casual riders and who purchase annual memberships are Cyclistic members.
* Cyclistic’s finance analysts have concluded that annual members are much more profitable than casual riders.
* Design marketing strategies aimed at converting casual riders into annual members.
* In order to do that, primarily, the marketing analyst team needs to better understand how annual members and casual riders differ using cyclistic bikes.

**Data Handling**

Data loaded into excel sheet for Data cleaning Data manipulation and Data calculation

**DATA CLEANING AND DATA MANIPULATION**

* DATE and TIME separated into 2 different columns using text to columns which is in data icon
* Duplicates have been eliminated using duplicate remove option which is in data icon
* Average length was calculated using difference between end time - starttime
* Null values in the average length taken into consideration which occurred into time lapse differentiation
* Separate if differentiation formula is used to correct null value error i,e=IF(D17>F17,F17+1,F17)-D17
* =WEEKDAY(C2,2) formula used to specify weekday numbering with respect to Date
* =IF(WEEKDAY(C2,2)>5,"WEEKEND","WEEKDAY") formula used to get weektype
* MEAN , MEDIAN, MODE and MAX ride\_length is calculated

| mean | 00:19:08 |
| --- | --- |
| median | 00:11:00 |
| mode | 0.004595 |
| maximum | 23:47:38 |

**DATA CALCULATION**

**SQL QUERY**

* In the dataset the total count of rows is **49,623**
* Distinct Count of rows is **49,586**, calculated using sql query
* The total count of ride \_id (casual) is **10131** and (member) is **39491**
* Distinct count of ride\_id are calculated by grouping casual\_members

I.e, casual=**10121** and member =**39465**

**EXCEL**

* Using PIVOT table Data calculation are done
* AVERAGE ride\_length(time) is calculated for casual and member riders
* Average ride\_length is calculated for both riders with respect to individual week\_days
* Count of ride\_id is calculated with respect to week\_days
* Count of ride\_id is calculated with respect to week\_type
* SUM of ride\_length is calculated with respect to week\_type

# OBSERVATION

* As per above ,detail different calculations are done to bring out the insight on HOW Annual members and Casual riders use Cyclistic bikes differently

As per calculation it is observed

* The average ride\_length(time) of casual riders greater than member riders

| CASUAL | 00:31:53 |
| --- | --- |
| MEMBER | 00:15:52 |

* The count of casual riders on weekdays is almost similar to weekend where as for count of member riders there is a huge difference between weekdays and weekend

| Week\_type | Casual | Member |
| --- | --- | --- |
| Week\_days | 5253 | 28971 |
| week\_endst | 4878 | 10520 |

* The count of member riders are greater than casual riders with respect to individual week\_days

| Week\_days | CASUAL | MEMBER |
| --- | --- | --- |
| MONDAY(1) | 585 | 4005 |
| TUESDAY(2) | 1007 | 5728 |
| WEDNESDAY(3) | 1123 | 6613 |
| THURSDAY(4) | 1042 | 6031 |
| FRIDAY(5) | 1496 | 6594 |
| SATURDAY(6) | 3485 | 6529 |
| SUNDAY(7) | 1393 | 3991 |

## 

## 

## 

## 

* The Sum of ride\_length for casual riders with respect to week\_type is slightly different while for member riders, there is a huge drop on weekends compared to week\_day .

| Week\_type | Casual | Member |
| --- | --- | --- |
| Week\_days | 100.8701 | 307.8333 |
| Week\_ends | 123.4911 | 127.4098 |

## 

# INFERENCE

* From the taken data , the registered ride\_id for members are four times in number when compare to casual ride\_id
* The mean ride\_length for casual is double in time i.e, 00:31:53 in comparing with member is 00:15:52 and the Overall mean ride\_length is 00:11:00
* The count of casual\_riders on weekdays and weekends are almost similar whereas for member\_riders there is a huge drop during weekends
* The count of member riders are greater than casual riders with respect to individual week\_days
* The Sum of ride\_length for casual ride with respect to week\_type is slightly different while for members, there is a huge drop on weekends compared to week\_day .

# INSIGHTS

* In terms of increase in Business propagation, the already registered casual members are needed to take in account separately and explain the benefits of taking membership for there usage while explaining the cost variation in usage with respect to ride length , weekday and weekend
* Special offer or discount need to be advertise for the casual members who wanted to convert into member\_riders
* Since the average ride\_length time for casual is double the time of members, this needed to highlight to draw the attention of riders in benefit of using member
* Taking into consideration for enthusiastic weekend casual cyclistic riders, a Special membership plan need to be taken