

Google Data Analytics Capstone

Syed Bilal Raza

Introduction:

This is Google data analytic case study project completed in fulfillment of the requirement for the Google Data Analytics Professional Certificate. This case study will follow all the data analytics steps require to complete the data analysis for meaningful action.

Ask:

Business task:

As a newly appointed data analyst at a bike sharing company, I have been asked to understand, identify, and present differences in bike usage hourly, daily, monthly and by type of bikes by casual riders and subscribers of the bike sharing company.

Prepare:

For this case study, the data used will be the 12-month historical ride data of Cyclists that can be found here link (<https://divvy-tripdata.s3.amazonaws.com/index.html>). This project will use historical riding data ranging from September 2020 - August 2021.

Process:

Data organization and data cleaning is done in Microsoft Power BI desktop. Data is loaded, combined, and transformed using Power Query.

- Duplicates were removed and nulls and blank rows were deleted.
- New columns Starting_day, Starting_hour, Starting_month and Starting_year were extracted from started_at.
- Data types of each column is checked and corrected
- Ride duration is calculated.

Analysis and Visualization:

Power BI desktop is used for analysis and visualization of the processed data.

Following analysis is done.

- Number of casual members and subscribers.
- Total rides each day of week by each membership type
- Average ride duration by each membership type
- Daily average ride duration by each membership type
- Monthly total ride duration by each membership type.
- Hourly total number of rides by each membership type.
- Hourly number of rides by each membership type for each day of week.

- Number of rides by each bike type.
- Average ride duration by each bike type
- Daily total rides by bike type by both membership categories.
- Daily average ride duration by bike type by both membership categories.

Summary of Analysis:

- More number of subscriber than casual riders
- Average ride duration of casual riders is greater than subscribers
- Jun-Aug 2021 were the busiest months in terms of number of rides taken.
- Weekends are the busiest days.
- Weekday 5pm is usually peak ridership.

Share:

The data highlights the main differences between casuals and members. The differences highlighted by the data suggests that both members and casuals use bikes for different purposes. The main findings from the data can then be visualized and presented in an accessible way to the Cyclistic marketing analytics team, Lily Moreno and Cyclistic executive team.

Act:

The marketing team would then utilize these insights and recommendations to further enhance the marketing strategy. The insights could be implemented or incorporated when designing the marketing campaign to convert casuals to members. These insights could also form the foundational elements of the marketing campaign.