Cyclist Organization

Business Case Study and Report

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Agenda

G	O	O	G	L	E
Ask	Prepare	Process	Analyze	Share	Act
• What are the expectation needs of our stake holders • Asking Relevant questions in order to drive conclusion	• Preparing the datasets required to complete the expectations of the stakeholders and tools.	• The Process Phase contains the data cleaning inorder to have reliable,original, comphrehensive ,consistent data	• Analyzing the data inorder to find relationships and trends between them	• Sharing our analyzed data through visualization ,presentation, dashboard so that they could understand in an easy way	• Drives to the conclusion part of analyzed data

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Cyclistic-Bike Sharing

Company Overview

Cyclistic is a Chicago bike-share program with 5,824 bicycles and 692 stations.
The main business goal is to increase profitability by converting casual riders (single-ride/full-day pass holders) into annual members. Annual members are significantly more profitable.

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Ask

Questions

- The problem I am trying to solve is that as the company goal is to make a profit from influencing the casual riders to apply for annual membership.
- To make a data driven decision first I have to understand if the casual rider are facing any issues if it is then we can give a solution to them inorder to apply for annual membership.

Stake Holders

- **Lily Mareno:**the director and the manager of Cyclist Orgtanization
- **Cyclistic marketing analytics team:** A data analyst team that collects, analyze, and report data that helps guide Cyclistic marketing strategy.
- **Cyclistic executive team:** the team that will decide whether to approve the recommended marketing program.

Buisness Task

- To make profit through annual membership by influencing the casual rider to convert them to annual membership
- How Annual Membership rider can influence casual rider to apply for annual membership

Deliverable

- Creating a well-formatted report that tells the visualization and trends that will give a insight of “how casual riders will be influenced in order to apply for annual membership “ so that the cyclist organization will have more profit.

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Prepare

Data Set

- Downloaded dataset from Divvy Tripdata Link (https://divvy-tripdata.s3.amazonaws.com/index.html)
- The Data set that i have chosen are Divvy 2019 Q1 and Divvy 2020 Q1

PlatForm

- The Platform for analyzing two dataset will be performed in R language i.e R-Studio as it contains vast amount of data's , Additionally it is easier to analyze and visualize the data

How is Data Organized

- The data is organized in a well format tabular structured, some of the data may be inconsistent , incomplete , duplicate but it will be resolved using the R tools.

is your data ROCCC ??

- **Reliablity:** The data's are reliable in which they are from Divvy Tripdata which is verified source
- **Orignality:** The dataset has been downloaded from verifiable link
- **Comphrehensive:** the data set is complete and provides all the necessary information.
- **Current:** The data are little bit older but can be helpful to identify the trends and insights
- **Cite:** (https://divvy-tripdata.s3.amazonaws.com/index.html)

Delivarables

- Listing up those tools of spreadsheet that will help to remove duplicates,inconsistent data and null values

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Process

Platform & Tools

- Used R Studio for handling large datasets.
- Installed and loaded tidyverse for data manipulation and visualization.
- R with tidyverse, lubridate, and ggplot2 for data cleaning, analysis, and visualization.

Data Verification

- Checked min, max, mean, and median ride lengths to identify anomalies.
- Verified column types and no missing critical values for analysis.

Data Cleaning Steps

- Renamed columns to make datasets consistent.
- Converted timestamps to date-time format.
- Calculated ride_length in minutes.
- Filtered out negative ride lengths.
- Created new columns: date, month, year, day_of_week, hour.
- Converted ride IDs to character type to combine datasets.

Deliverables

Documentation of cleaning steps and data transformations, ensuring datasets from 2019 and 2020 could be combined for analysis.

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Analysis

Aggregations & Insights

- Casual riders take longer rides, mostly on weekends.
- Members ride shorter, consistent trips throughout the week.
- Members peak in commute hours, casuals in afternoons/evenings.

Key Visuals

- Avg ride duration by day
- Rides per day of week
- Hourly ride trends

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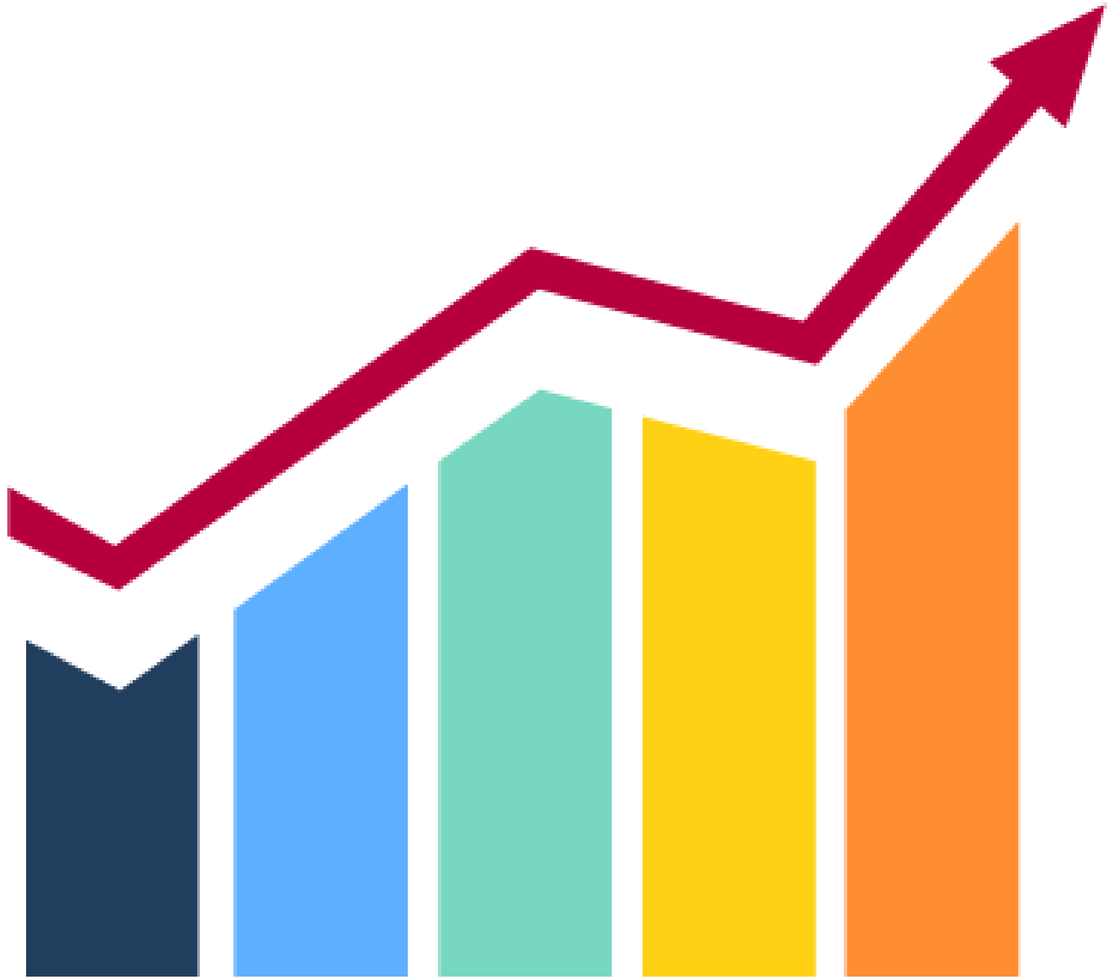

Share

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Story from Data

- Casual riders use bikes for leisure; members use for commuting.
- Marketing can target weekend casual riders with promotions for annual memberships.

Audience & Presentation

- Targeted for Cyclistic marketing and management.
- Visualizations used to communicate trends effectively.
- All graphs created in R (ggplot2) included in the report.

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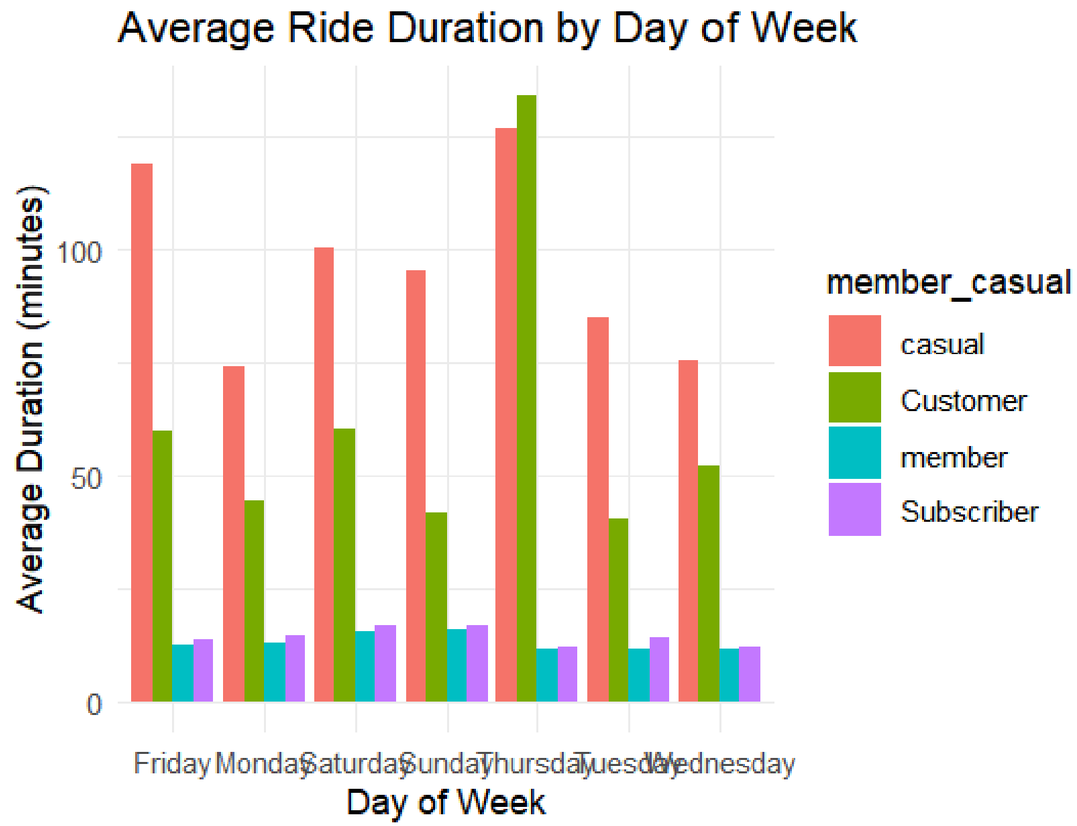
Graphs



Average Ride Duration by Day of Week

- Casual riders take longer rides than members.
- Ride duration peaks on weekends.
- Suggests leisurely weekend trips by casual users.

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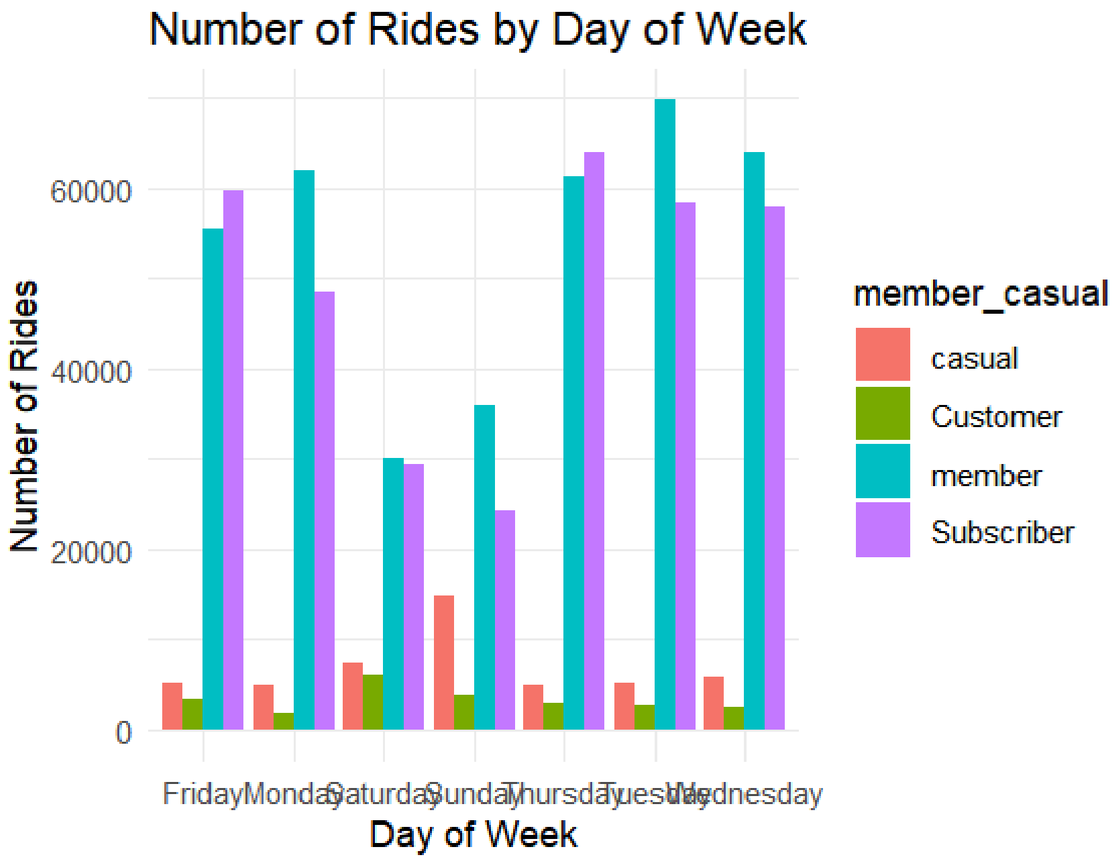
Graphs



Number of Rides by Day of Week

- Members ride more on weekdays.
- Casual riders prefer weekends.
- Shows routine vs recreational usage.

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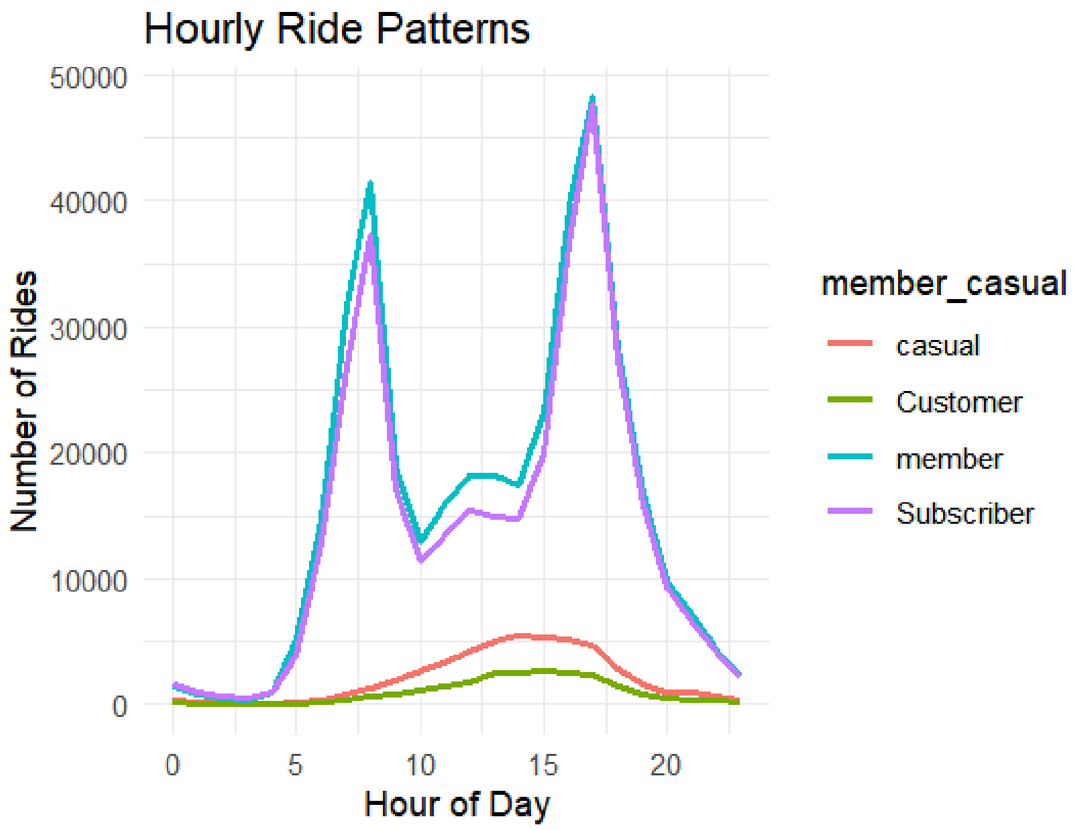
Graphs



Hourly Ride Patterns

- Members ride most during 8 AM & 5 PM (commute hours).
- Casual riders ride more in afternoons.
- Indicates commuting vs leisure behavior.

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Act

01

Conclusions

- Casual riders take longer and fewer trips than members.
- Peak usage times differ, indicating different usage patterns.

02

Recommendations

- Launch weekend promotions targeting casual riders to convert them into members.
- Offer incentives for casual riders who ride frequently during commute hours.
- Use behavioral patterns to design personalized marketing campaigns.

03

Next Steps

- Collect additional seasonal or promotional data to refine strategies.
- Integrate demographics to target specific age or gender groups.

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Add Company Name

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Github

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Thank You