**Data Analysis Project Summary**

**Project Title:** Cyclistic Google Case-Study:

**Introduction:**

Welcome to the Cyclistic Bike-Share Analysis Case Study! This project was undertaken as part of the requirements for the Google Analytics Certificate, where I aimed to explore the usage patterns of casual riders versus annual members within the Cyclistic bike-share program.

**Case Study Overview:**

**Scenario:**

Cyclistic, a leading bike-share company based in Chicago, seeks to understand the behavioral differences between its casual riders and annual members. As a junior data analyst on the marketing analytics team, I was tasked with analyzing historical trip data to uncover insights that would support the development of strategies to convert casual riders into annual members.

**Objective:**

The primary objective of this analysis was to:

* **Understand usage patterns:** Identify how casual riders and annual members differ in their usage of Cyclistic bikes.
* **Support marketing strategy:** Provide data-driven insights to help shape marketing campaigns aimed at converting casual riders into annual members.

**Data Collection and Preparation:**

**Data Sources:**

The analysis utilized trip data from Cyclistic’s bike-share, spanning from January 2023 to December 2023. The data included detailed information on:

* Start and end times of trips
* Start and end stations
* Type of bike used (classic or electric)
* Membership type (casual rider or annual member)

**Data Processing:**

To ensure the accuracy of the analysis, the data was meticulously cleaned and preprocessed. This involved:

* Utilized Excel to clean and preprocess the data
* Removing duplicate entries and Handling missing values
* Normalizing time formats

**Methodology:**

The data was organized using tables and further analyzed with various formulas to uncover key insights for each month.**A screenshot of a computer

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All calculations were then consolidated by category (Count of Use, Duration, Times & Days, AVG Trip Duration) into a single sheet to create visualizations.

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Developed a PowerPoint presentation to effectively present my findings, incorporating key insights, visualizations, and recommendations.

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**Analysis and Insights:**

**Usage Patterns:**

Key patterns identified from the analysis include:

* **Seasonal Trends:** Usage peaks during summer months, with a noticeable decline in winter.
* **Daily and Hourly Trends:** Casual riders predominantly use bikes on weekends, while annual members show higher usage during weekdays. Peak usage hours for both groups are between 3 PM and 6 PM.
* **Trip Duration:** Casual riders tend to have longer trip durations compared to annual members, with significant variation between electric and classic bikes.

**Summary of Findings :**

* The analysis revealed that casual riders are more likely to use Cyclistic services for leisure during weekends, while annual members primarily use bikes for commuting during weekdays.
* Electric bikes are favored during peak seasons, suggesting a preference for ease and speed among both user groups.

**Recommendations:**

Based on the insights derived from the data, the following strategies are recommended:

1. **Targeted Marketing Campaigns:** Launch aggressive marketing efforts during the low season (December to March) to convert casual riders into annual members.
2. **Seasonal Promotions:** Offer promotions specifically designed for casual riders on weekends and for potential members during weekdays.
3. **Increased Electric Bike Availability:** Expand the fleet of electric bikes during peak seasons to meet user demand and enhance satisfaction.

**Conclusion:**

The analysis provides a clear roadmap for Cyclistic’s marketing team to increase annual memberships by leveraging data-driven insights. By understanding the distinct usage patterns of casual riders and annual members, Cyclistic can craft more effective marketing strategies and ultimately drive business growth.