

Group 1 Project 1

Title: Uber Ride Patterns in Extreme Weather

Team Members:

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Project Description/Outline:

The aim of this project is to analyze the relationship between weather conditions and Uber ride usage, especially during extreme weather conditions. The problem we address is whether weather conditions, ranging from subzero temperatures to scorching heat, influence the frequency of ride-sharing usage.

- Compare the Uber rides vs the weather in New York City
- Compare the following data:
 - Ride demand
 - Weather conditions
 - Geographic distribution

Research Questions to Answer:

1. **Correlation Study:** Is there a specific correlation between weather factors (e.g., temperature, precipitation) and the number of rides provided by Uber and other FHV companies?
 - a. **Demand Impact:** How does weather influence ride demand for Uber and other FHV companies in New York?
 - b. **Strategic Planning:** Can correlations between weather and ride frequency be leveraged to plan driver promotions and increase ride shares?

Dataset to be Used:

1. **Uber Ride Data:** Obtain Uber ride data from Kaggle or a similar source that includes information such as ride dates, and locations.
2. **Weather Data:** Obtained from OpenWeather API that includes temperature readings that correspond to the ride data in the Uber dataset.

Rough Breakdown of tasks:

1. Data Collection & Preparation: Gathering and formatting the necessary data for analysis.
2. Analysis & Visualization: Interpreting data through various analytical tools and graphical representations.
3. Acknowledging Limitations: Recognizing and documenting any constraints and limitations of the study.
4. Conclusion: Summarizing findings and providing insights into potential applications and future research.

Target Audience:

- **Uber and Other FHV Companies:** The insights derived from this study may assist Uber and other FHV companies in optimizing service strategies, enhancing customer experience, and potentially increasing profitability during extreme weather conditions.

Hypothesis:

- **Hypothesis:** Extreme weather conditions significantly affect the demand and geographic distribution of rides for Uber and other FHV companies.
- **Null Hypothesis:** Extreme weather conditions have no significant impact on the demand and geographic distribution of rides for Uber and other FHV companies.

What Would Be Accomplished After the Analysis?

- This analysis is anticipated to reveal significant insights into how weather influences ride-sharing. It may inform optimized service strategies, contribute to urban transportation planning, and influence marketing and promotional tactics for FHV companies during extreme weather conditions.