Article Review

Article title: The Spatio-temporal Analysis of UBER Growth vs Green Cabs in Outer Boroughs in New York City
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Author: Diego Correa

Paper Summary

Problem discussed:

- This paper analyzes the spatial and temporal distribution of taxi demand.
- It assesses the differences between Uber and green taxis in the outer neighbours of New York City.
- It also explores the impact of Uber's rapid growth on the traditional taxi market while considering multiple factors, including the time of day and regional income.

Research questions addressed:

- The paper addresses the growth rate and spatial-temporal distribution pattern for two specific taxi services, Uber and green taxis.
- The paper compares and contrasts Uber's results with those of green taxis.
- The paper discusses how users' preferences may vary with time (morning and evening peak, weekend/weekday) and income levels associated with specific regions.

Methodology and data analysis techniques used:

- Data source:
    - The data source used for this paper is discussed under the "Dataset Description" section.
    - The datasets are trip records of Uber trips in NYC and of green taxis from 2014 to 2015
    - The data includes specific pick-up and drop-off times as well as location.
- Unit of analysis:
    - The unit used for the analysis was discussed under the "METHODOLOGY" section.
    - The authors used NTA zones as their unit of analysis.
- Tools and methods:
    - Under the section "Data Analytics: Tools and Methods," they indicate the use of Python, R, and MySQL for data processing.

Novelty of the contributions:

- The paper provides an analysis of market competition for traffic services in outer areas of NYC, with a focus on the comparison between traditional and innovative services.
- The analysis could serve as an important basis for optimizing the use of resources in the future.

Relevance to Your Project:

The relevance to RQ3

- The paper first discussed the general growth pattern in the demand for taxi services in the borough areas.
- The paper also pointed out that with the general growth in demand, the growth trend for Uber and green taxis differ drastically, with Uber showing steep growth and green taxis showing steady growth.
- The paper illustrates the negative impact of Uber's growth on green taxis. However, this impact is not equivalent in all borough areas. The author indicates that only the most impoverished areas show this significant impact. This reflects that multiple factors intersect and lead to the consumer decision.
- The paper also examined the different times of day when the services were most in demand and compared the results between Uber and green taxis. The author concludes that riders prefer Uber during night time. This links to competition with green taxi during certain time that could impact its revenue.

At least three cons:

cons 1: Revenue not analyzed directly:

- The paper used trip records as the primary data type. However, it did not analyze any financial aspects which could impact companies' or organizations' revenue. Other factors, such as operating costs and marketing strategies, could all contribute to the final revenue and are not discussed in this paper.

cons 2: Limitations of time

- The data covers 2014-2015 only. It is challenging to evaluate the long-term impact of Uber on traditional taxi ridership within such a limited time frame. Also, the data is almost 10 years before the publishing year, which poses the question of whether this has implications for the current market.

cons 3: Other factors

- Other factors, such as government policies, available resources, or evolving consumer characteristics, could impact the implementation, demand, and favourability of the services. These could further complicate whether the trends depicted in the paper are strictly due to the entry of Uber into the transportation industry.
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