



Data Glacier

Your Deep Learning Partner

Cab Industry Investment Analysis

(USA market)

Alireza Ehiaei

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Problem Statement

- In this research, we try to recognize determinants of Go-to-Market(G2M) strategy of the cab industry in the US for proposing to XYZ investment firm to decide whether invest in this market or not.
- Objective

By analyzing the business information of two cab companies XYZ's executive team is capable to prioritize its investment options among these companies.
- The analysis includes four parts:
 - Data Understanding
 - Forecasting profit and number of rides for each cab type
 - Finding the most profitable Cab company
 - Recommendations for investment

Data Set

In this research the data of four different sets mentioned below in time period from 31/01/2016 to 31/12/2018 is used.

- **Cab Data** – This data set includes the name of company, data & ID of transaction, city, cost and charged price of 440096 transactions.
- **Customer Data** – It contains ID, gender, age and Income of each customer.
- **Transaction Data** – It contains transaction ID & transaction payment mode of each transaction.
- **City Data** – this data set includes the name of US cities studied in this research, their population and number of cab users.

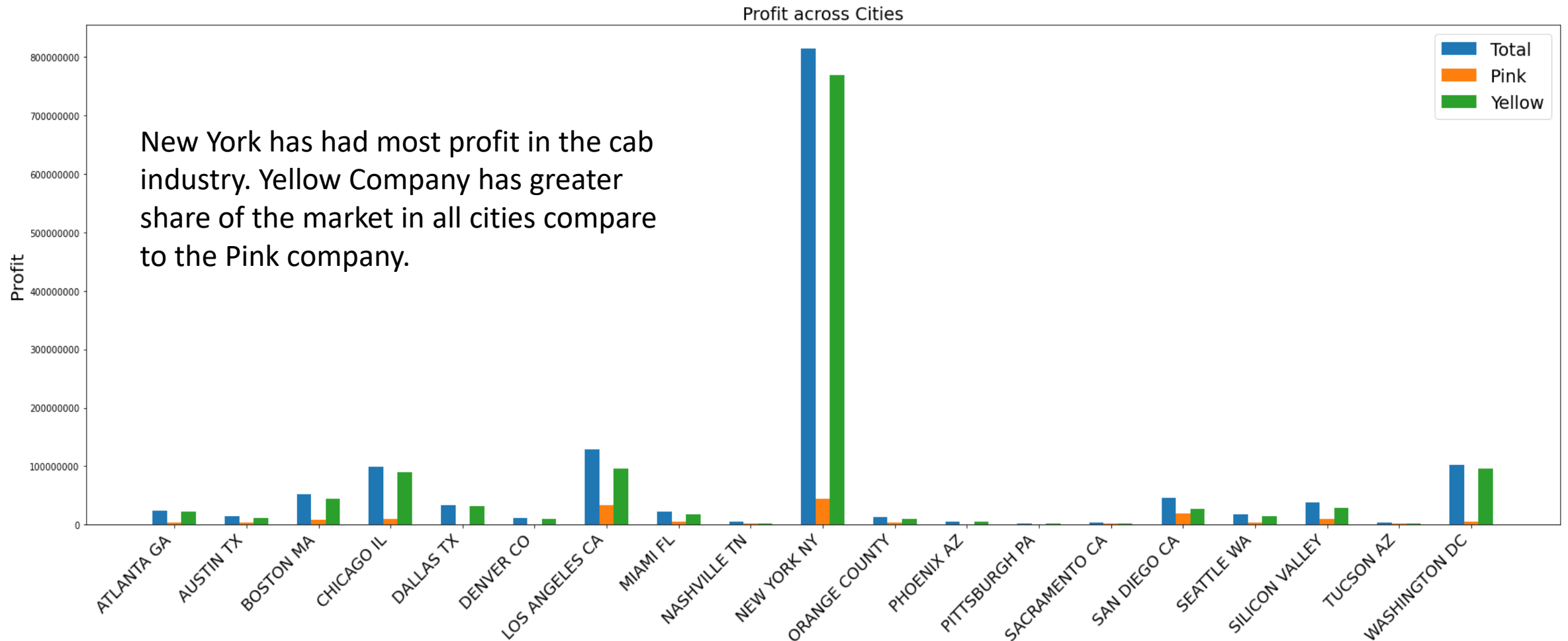
Data Set in Numbers

- 49171 customers.
- 2 companies.
- 440098 transactions.
- 20 cities.
- Customer age (Average, Min , Max): 35.36, 18, 65
- Customer income (Average , Min, Max): 15015.63, 2000.00, 35000.00(USD/Month)

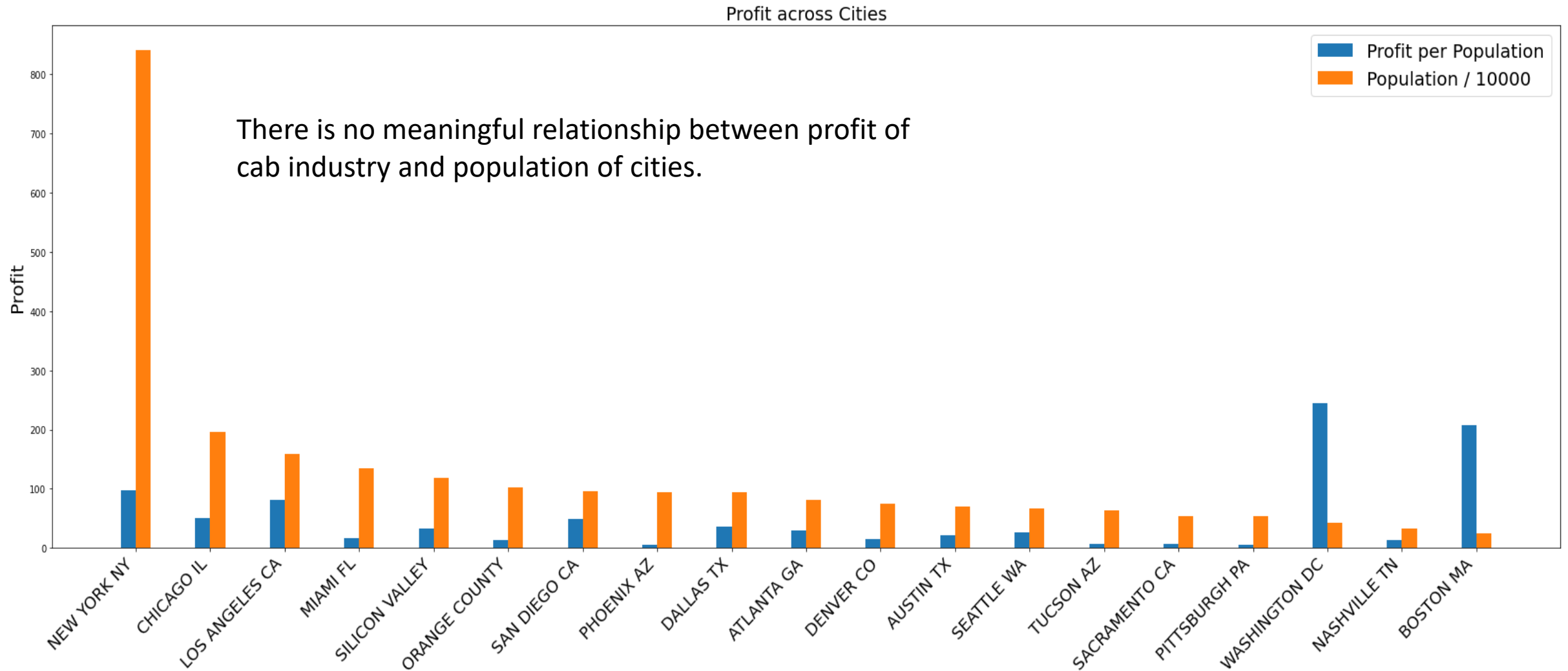
Hypothesis

- Analyzing relationship of between profit of cab industry and population of cities.
- Analyzing percentage of customers in different groups of number of trips.
- Analyzing percentage of profit created in different groups of number of trips.
- Study the potential relationship between income of customers and the profit induced by them.
- Time series analysis of distance of travels and profit.
- Average Income of customers and Distance Travelled analysis.

Most Profitable Cities

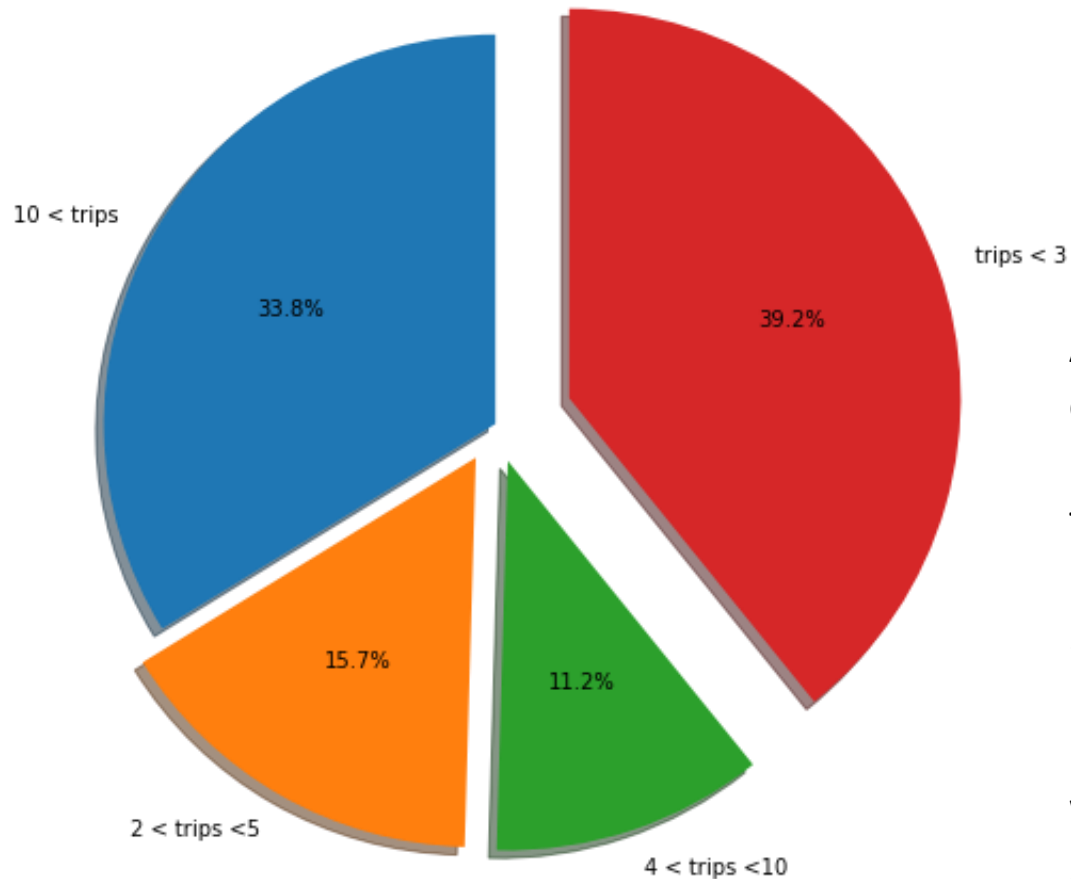


Most Profitable Cities



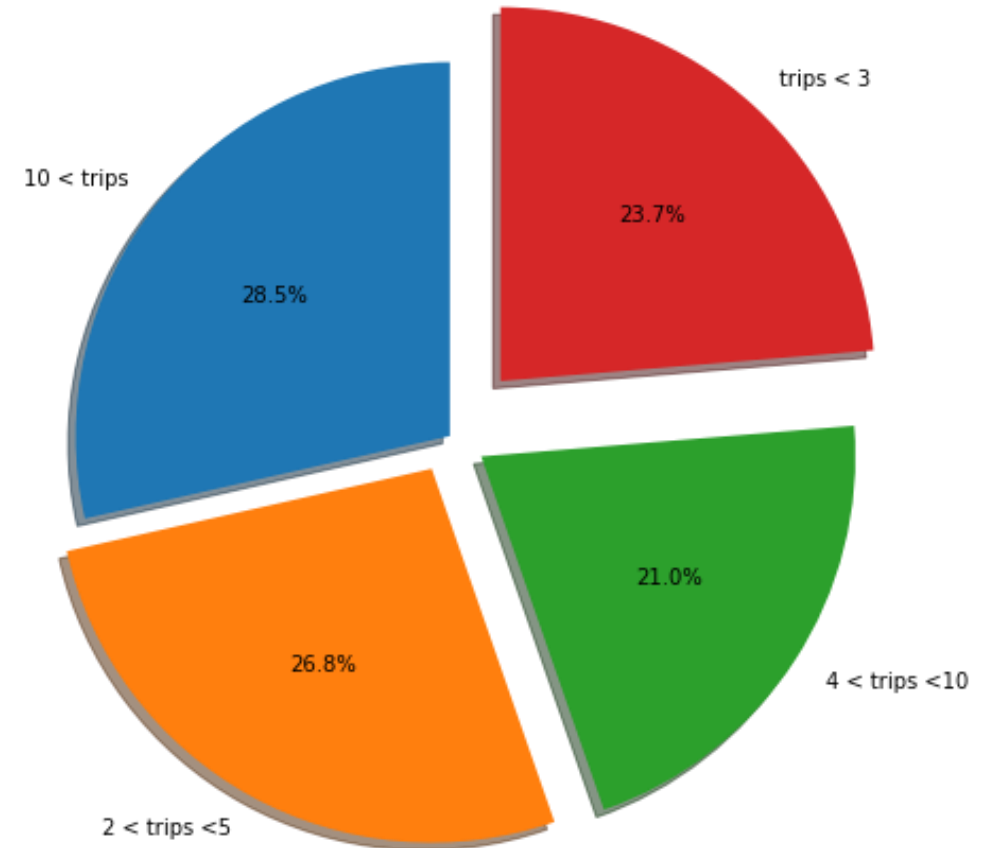
Customer Retention

Percentage of Customers - Trips (Total)



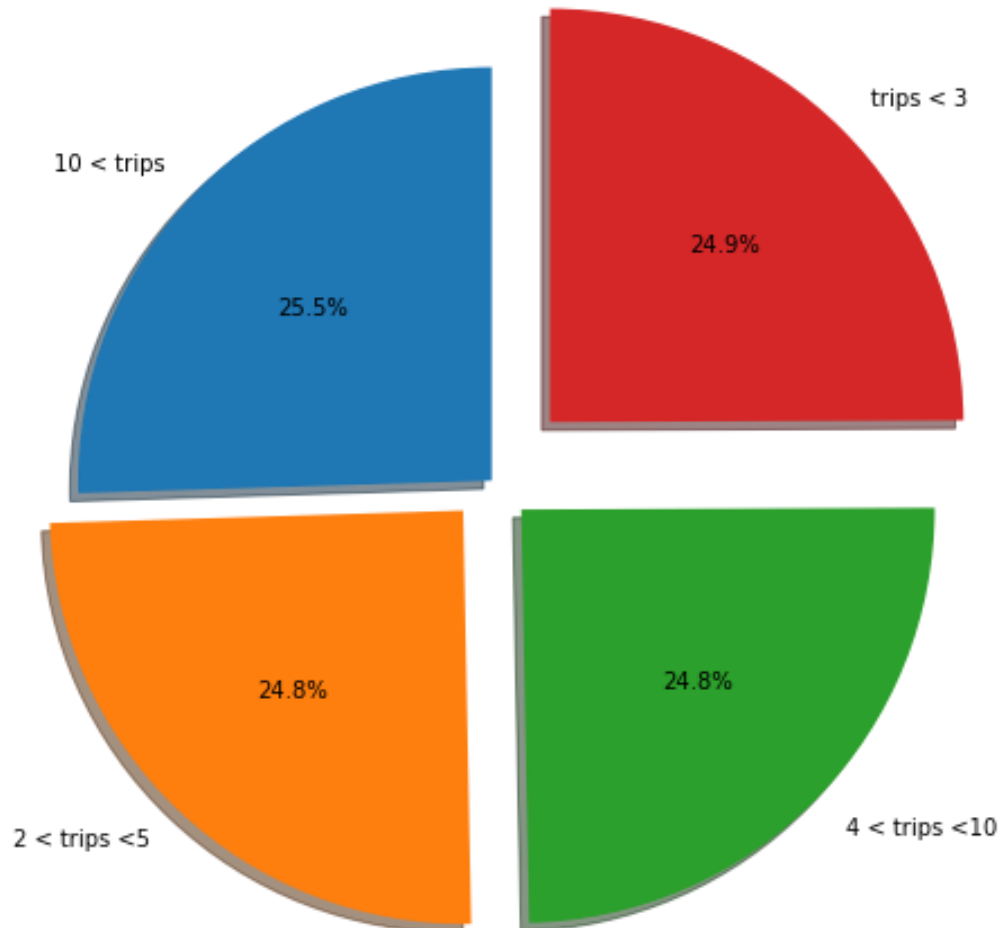
Almost one third of customers has more than 10 trips in the market creating 28.5% of Profit. But near 40% has less than 3 trips wcreating ith just 23.7% profit.

Percentage of Profit - Trips (Total)

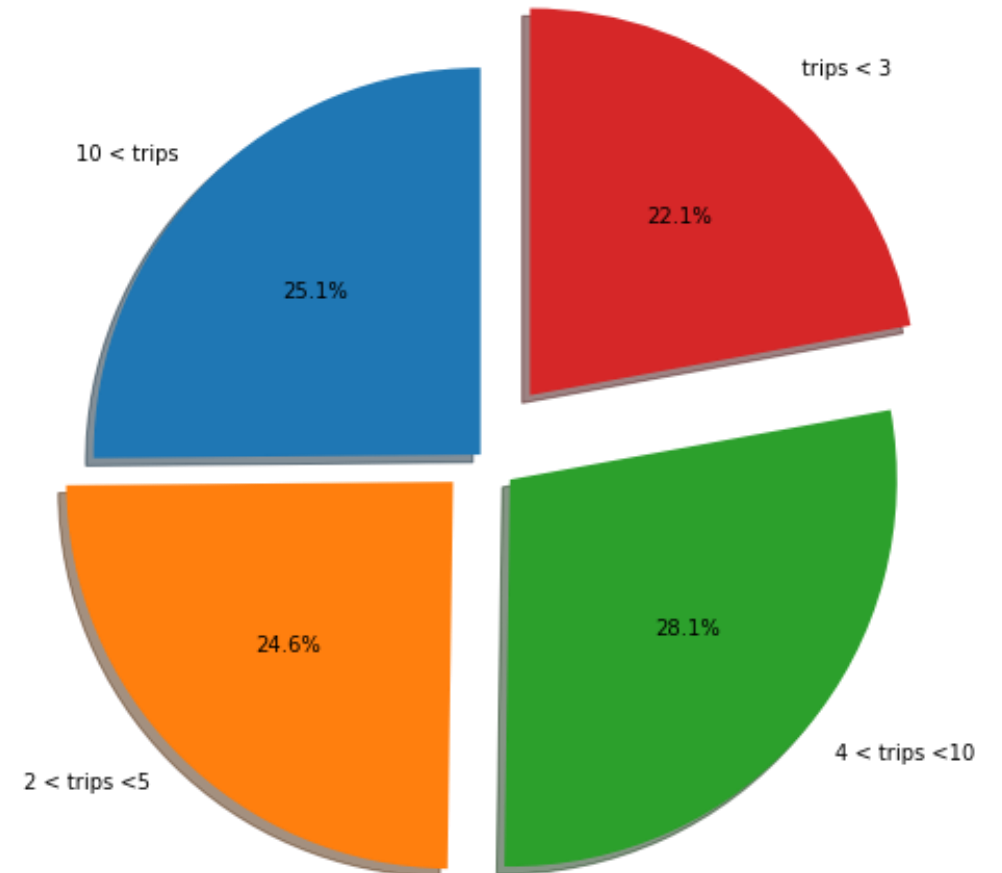


Customer Retention

Percentage of Customers - Trips (Pink company)



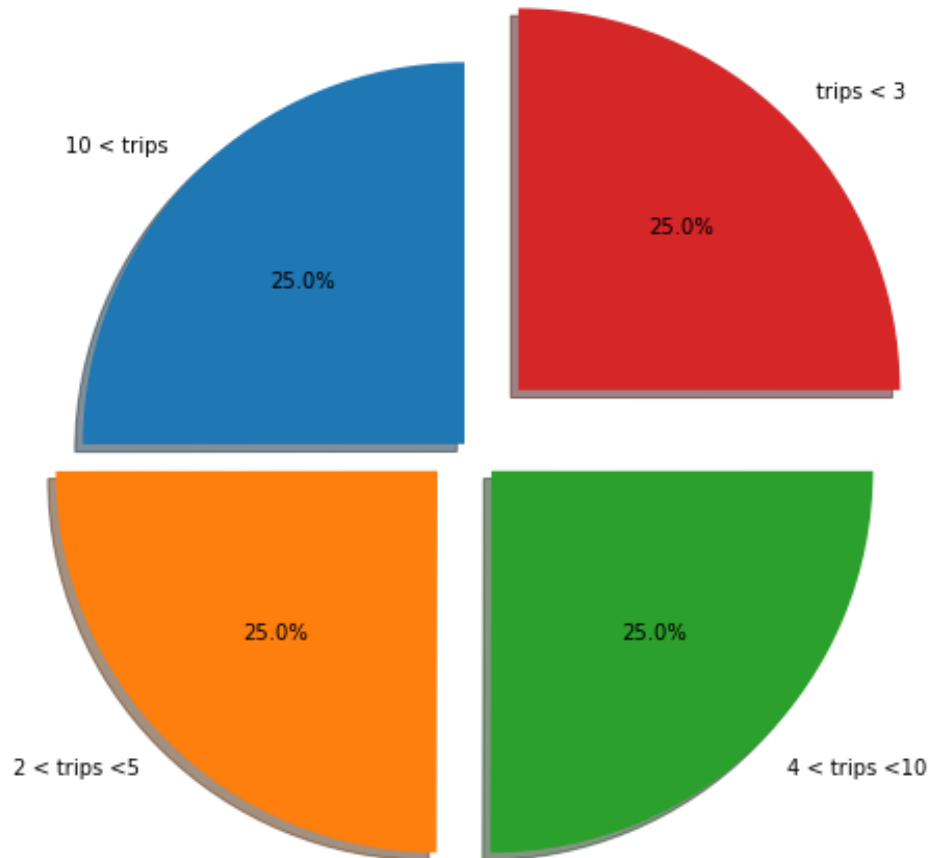
Percentage of Profit - Trips (Pink company)



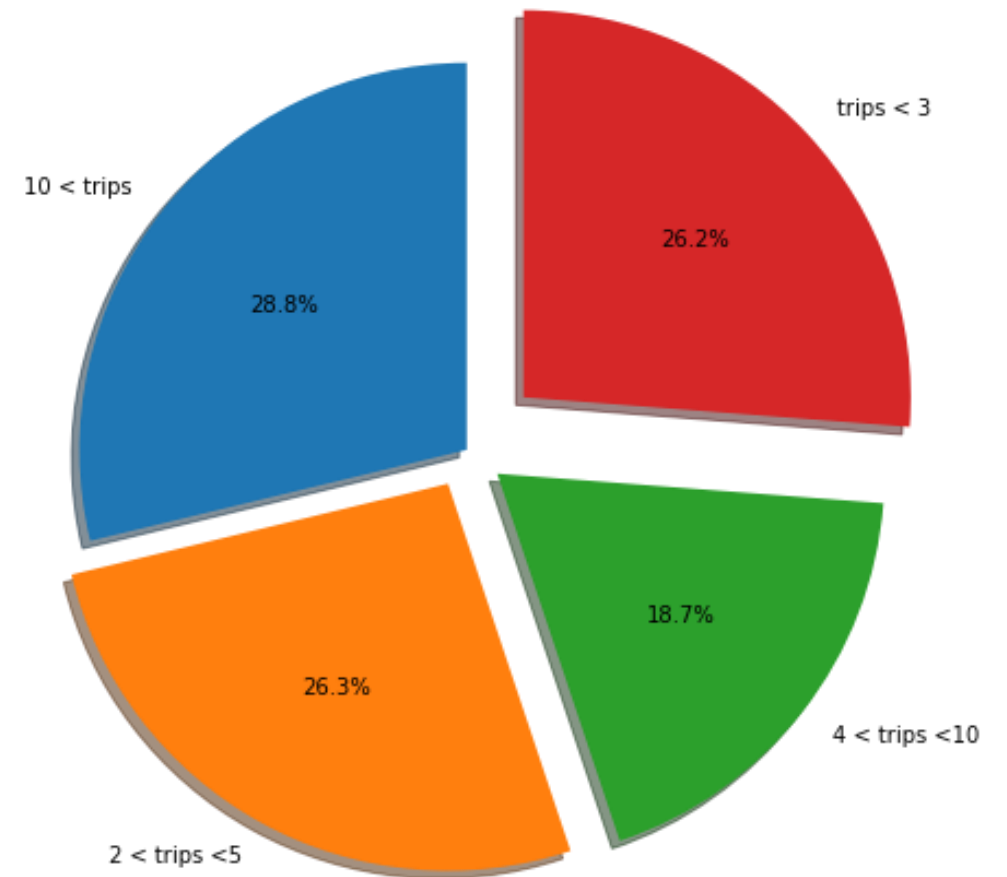
Pink company has similar performance in terms of percentage of customer retention and the percentage of their realised profit

Customer Retention

Percentage of Customers - Trips (Yellow company)

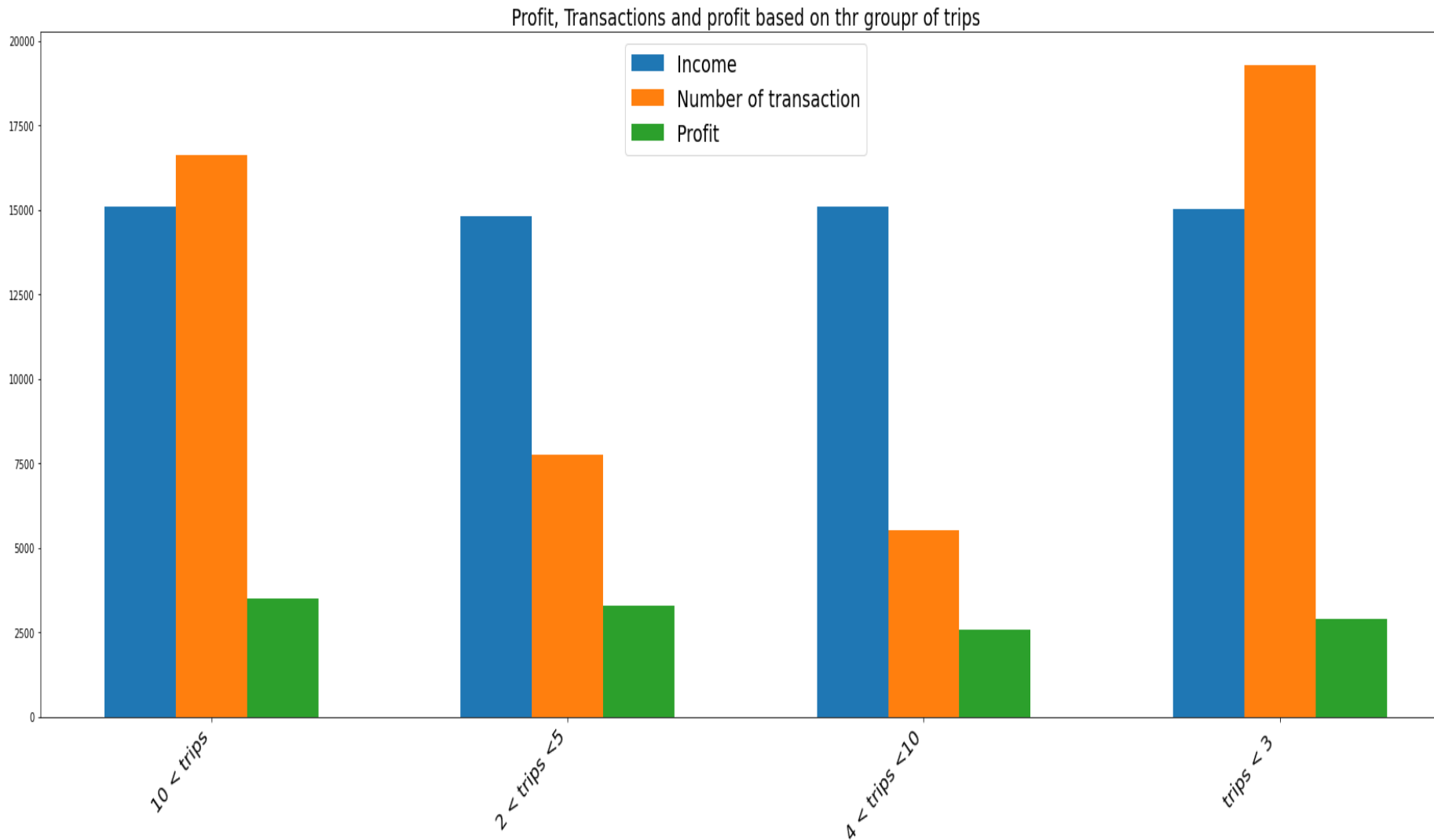


Percentage of Profit - Trips (Yellow company)



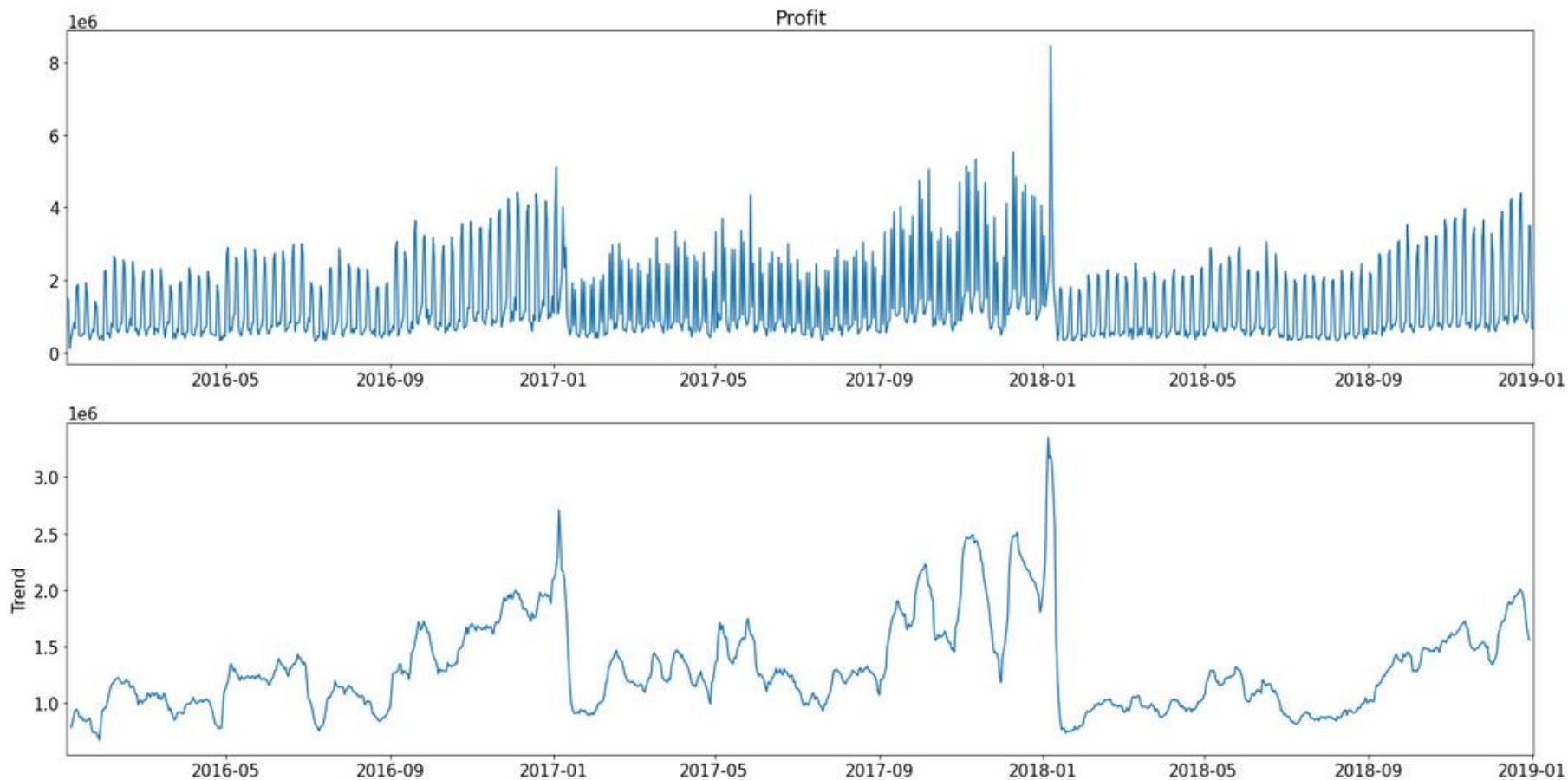
Yellow company has earned one third of its Profit from customers with more than 10 trips.

Customer Income & Number of Transactions



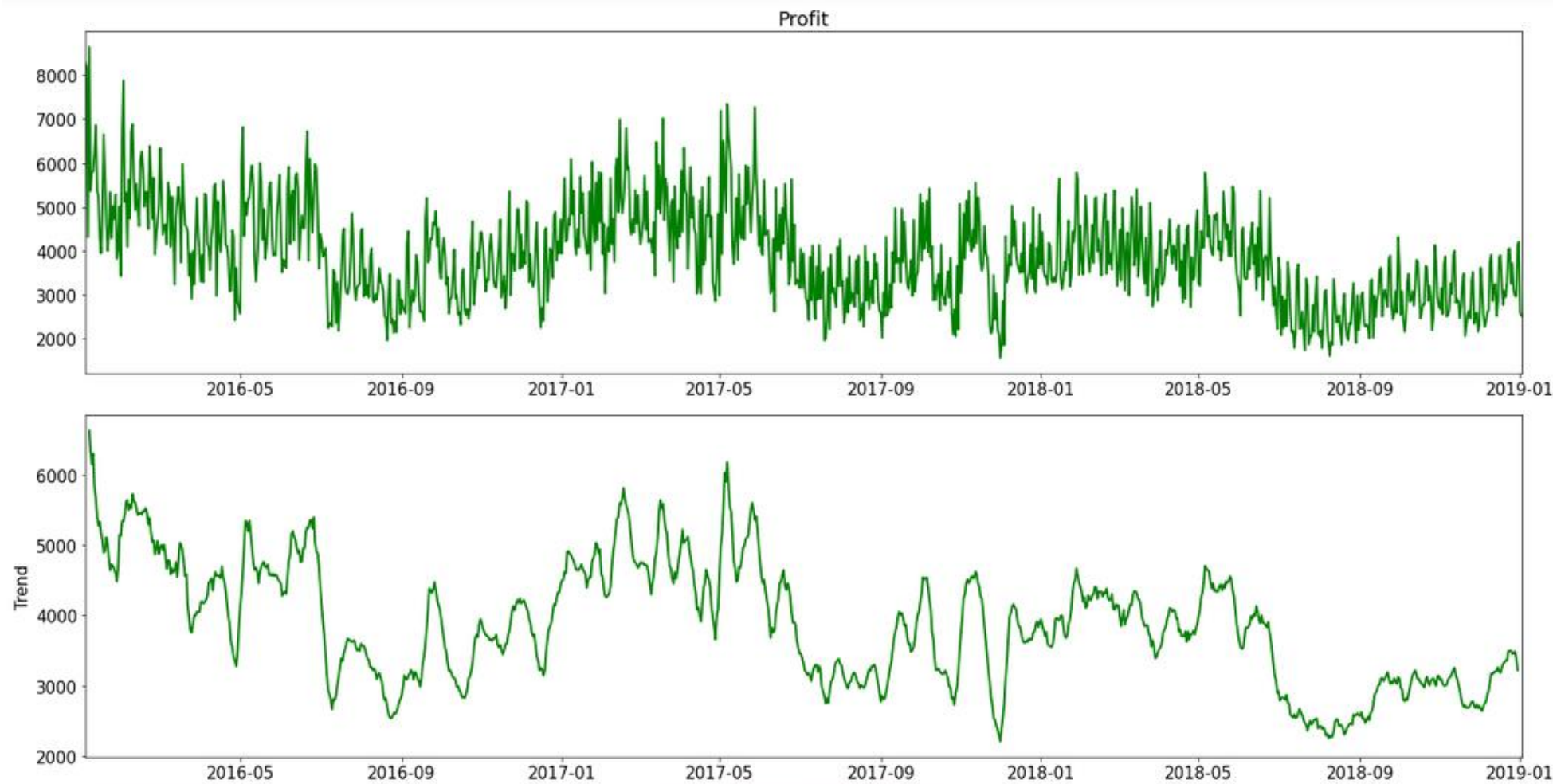
While average income of customers and the profit they made for companies based on the group of trip numbers, number of transaction has no relationship or correlation with other items.

Seasonality in Total Profit



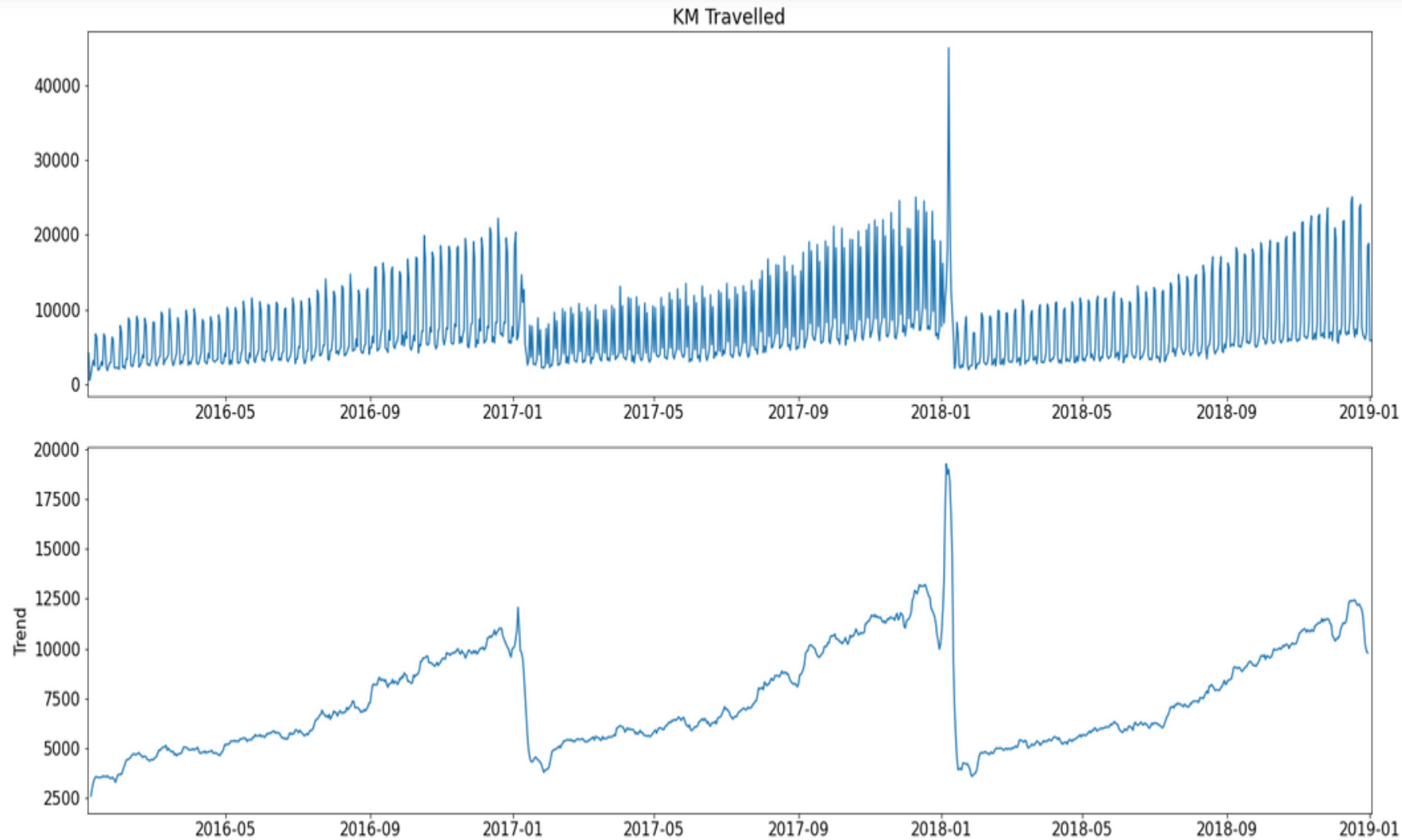
Profit has repeated a similar pattern across seasons of different years, but a noise has occurred before starting the second quarter of the second year.

Seasonality in Average Profit



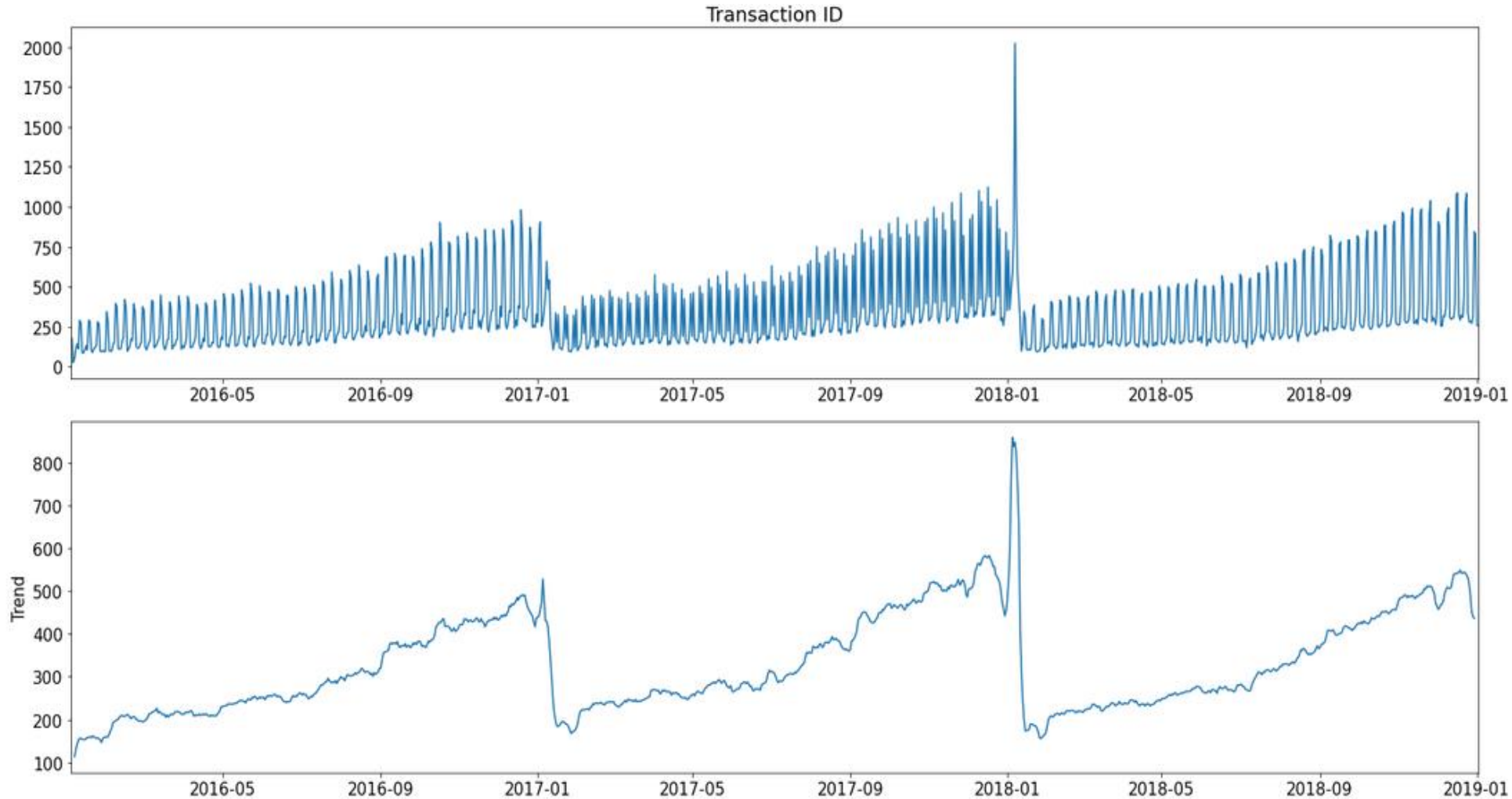
Profit average has weak uptrend and downtrend in the first half and second half of each year respectively.

Seasonality in the Distance Traveled



There is a similar seasonal pattern between Profit and travel distance, but distance travel has a more visible trend across seasons.

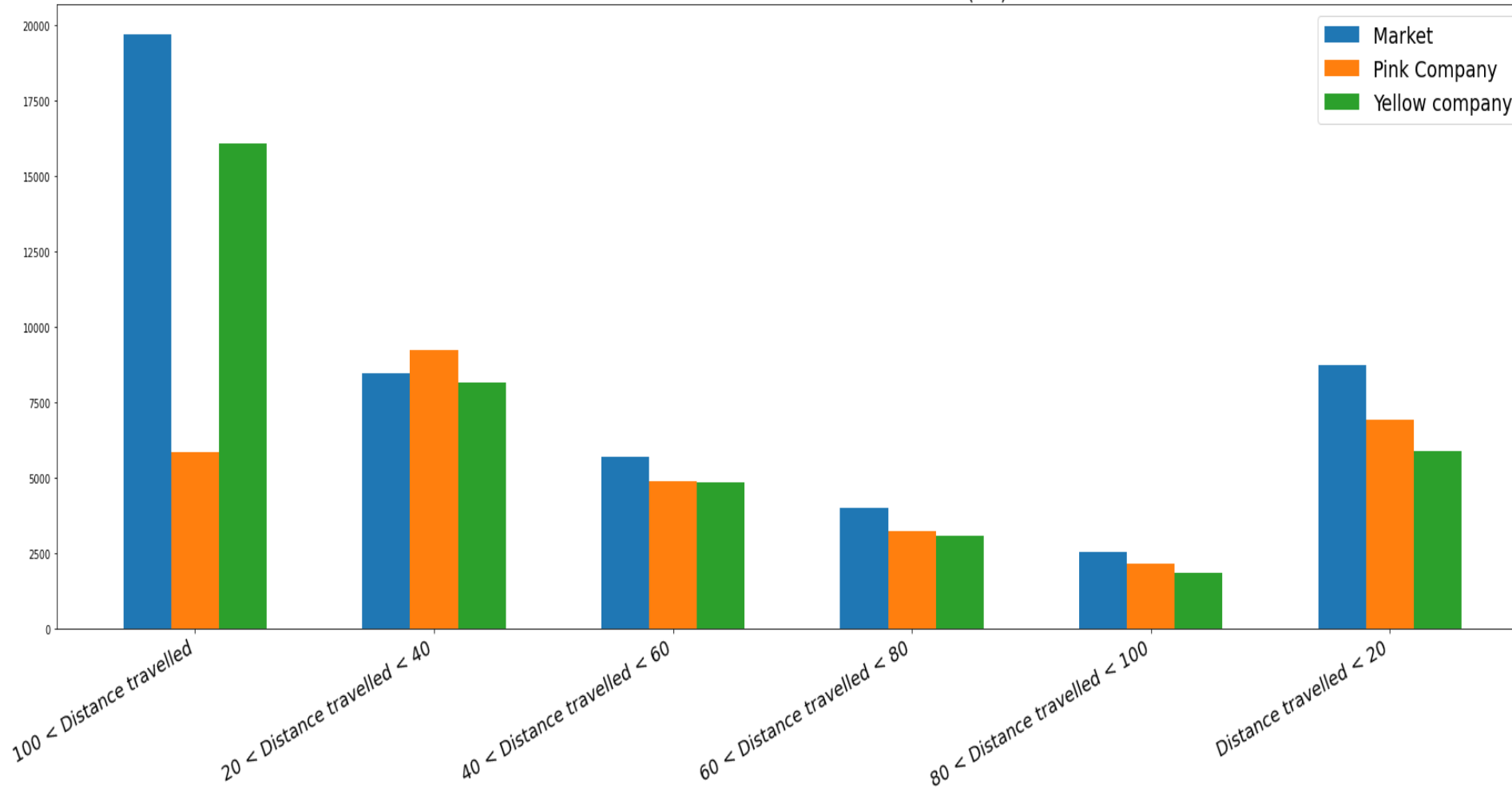
Seasonality in the Number of Transaction



There is a similar seasonal pattern between Profit and travel distance, but distance travel has a more visible trend across seasons.

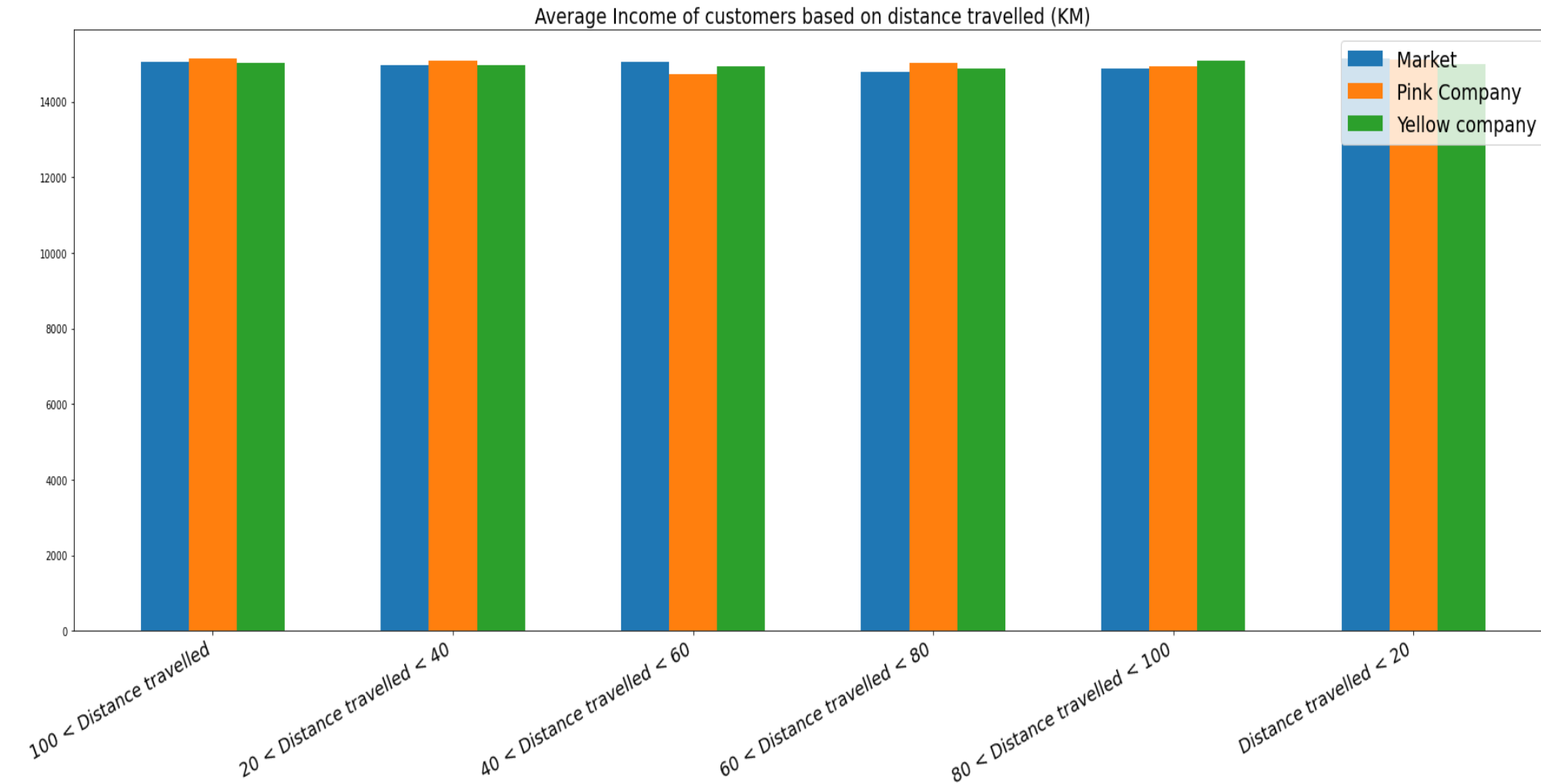
Distance Travelled and The Number of Customers

Total customers based on distance travelled (KM)



Yellow company has more customers with total distance travelled greater than 100 kilometers than Pink company. (Note that some customers are for both Pink and Yellow companies)

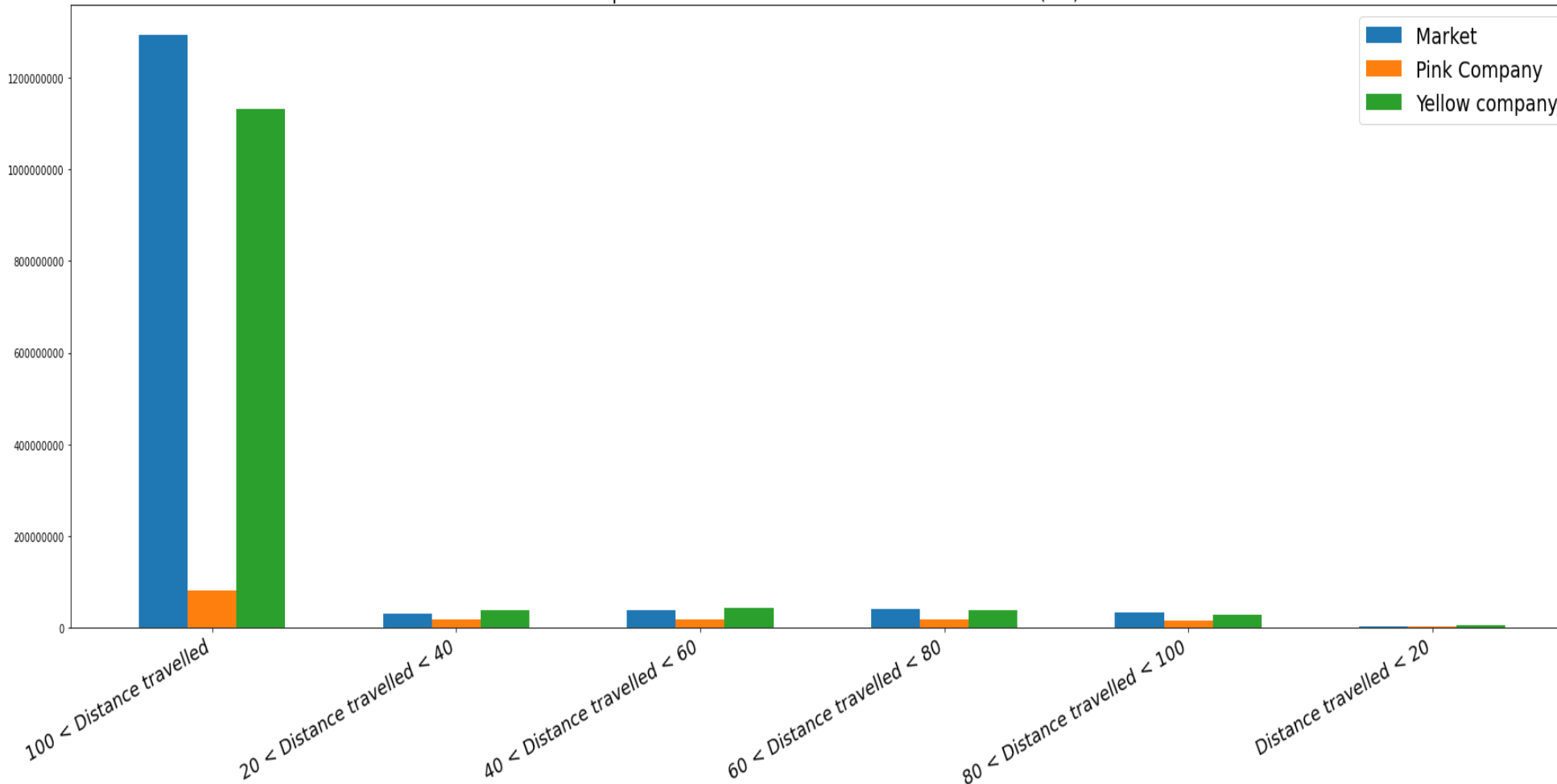
Distance Travelled and Average Income of Customers



Obviously there is no relationship between the distance travelled by the customers and their average income.

Distance Travelled and Average Income of Customers

Total profit of customers based on distance travelled (KM)



Most of the profit are allocated to the customer with total distance travelled more than 100 Kilometers , especially Yellow company.

Recommendation

The results of this analysis are:

- New York has a big and incomparable market that show the importance of trade centers to enter as an investment in the cab industry for the future.
- Yellow company has a better performance compared to pink company in terms of customer average profit mainly due to distance of travels of its customers.
- There is no relationship between age groups in terms of the number of transactions or distance traveled.
- There is no relationship between income of customers and theirs distance traveled.
- Customer retention had an important role as a source of income and most of the profit has been created from the customers with a high number of trips by both of the companies especially Yellow.
- Yellow is the better option to choose to invest in.

Thank You