



Data Glacier

Your Deep Learning Partner

Exploratory Data Analysis

Virtual Internship

17/12/2022

G2M Insight for Cab Investment Firm

- **Problem Statement:** XYZ is a private firm in US. Due to remarkable growth in the Cab Industry in the last few years and multiple key players in the market, it is planning for an investment in the Cab industry and as per their Go-to-Market(G2M) strategy they want to understand the market before making a final decision.
- **Objective:** provide insight into which company to invest in based on the available data
- **Approach:**
 - Analyse and understanding the data sets (e.g. no. of rows, column data types, column headers, Primary Keys, identifying duplicate rows and null values, relationships, etc.)
 - Create hypotheses and determine their accuracy by engaging and analysing the data
 - Profit Analysis (compare company profits across the two year period across different customer segments)
 - Recommendation based on the analyses

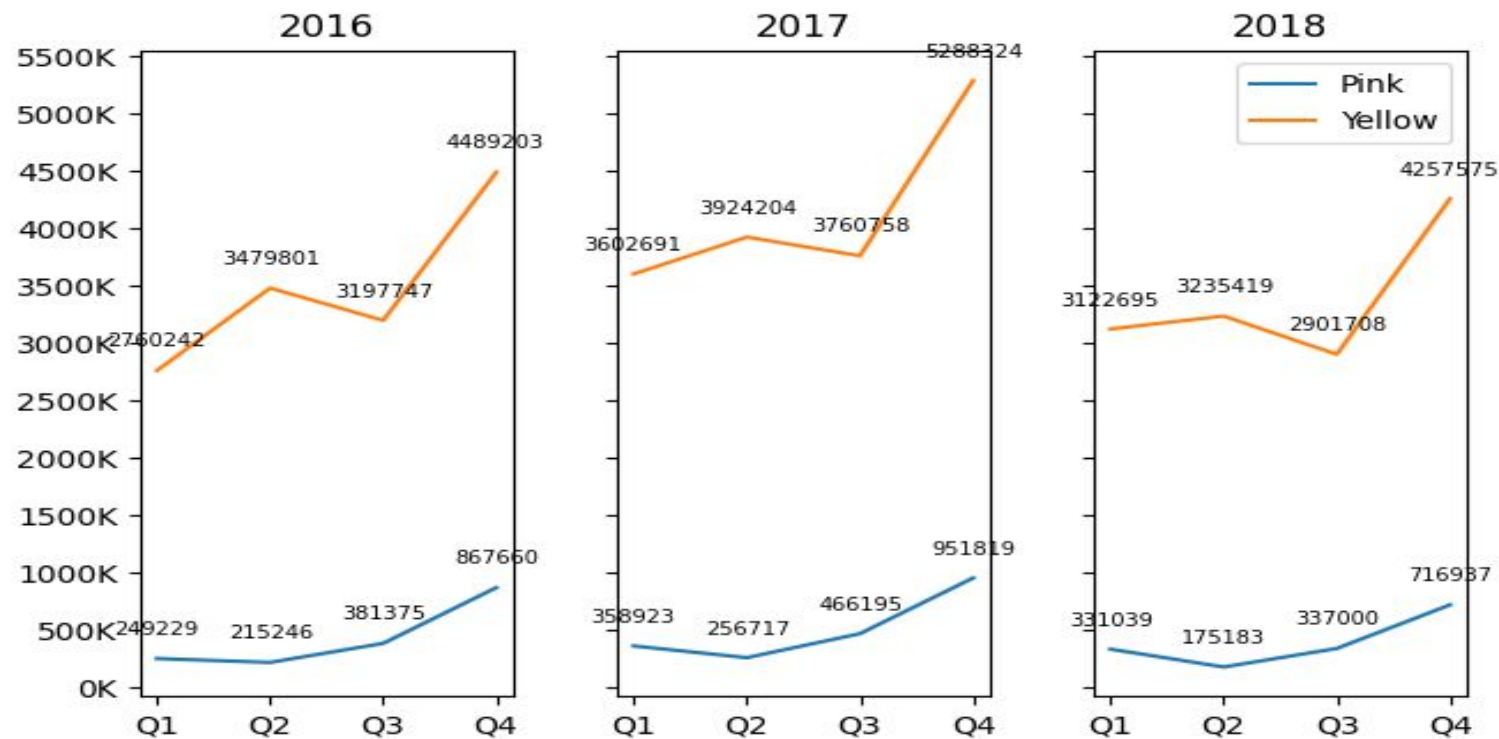
Data Exploration

- Analysed data across 4 distinct data sets:
 - Cab_Data.csv
 - City.csv
 - Customer_ID.csv
 - Transaction_ID.csv
- 21 Features(including 7 derived features)
- Timeframe of the data: 2016-01-31 to 2018-12-31
- Total data points (distinct rows): 848681

- Assumptions:
 - Profit calculated as the differential of Price_Charged and Cost_of_Trip features (company will likely have other business costs not accounted for in the cost of the trip e.g. advertisement)
 - There is a consumer trend towards an entirely digital ecosystem and that companies should transition to meet this demand. Also, that a higher number of card payment transactions indicates easier transition to an entirely digital service.

Profit Analysis

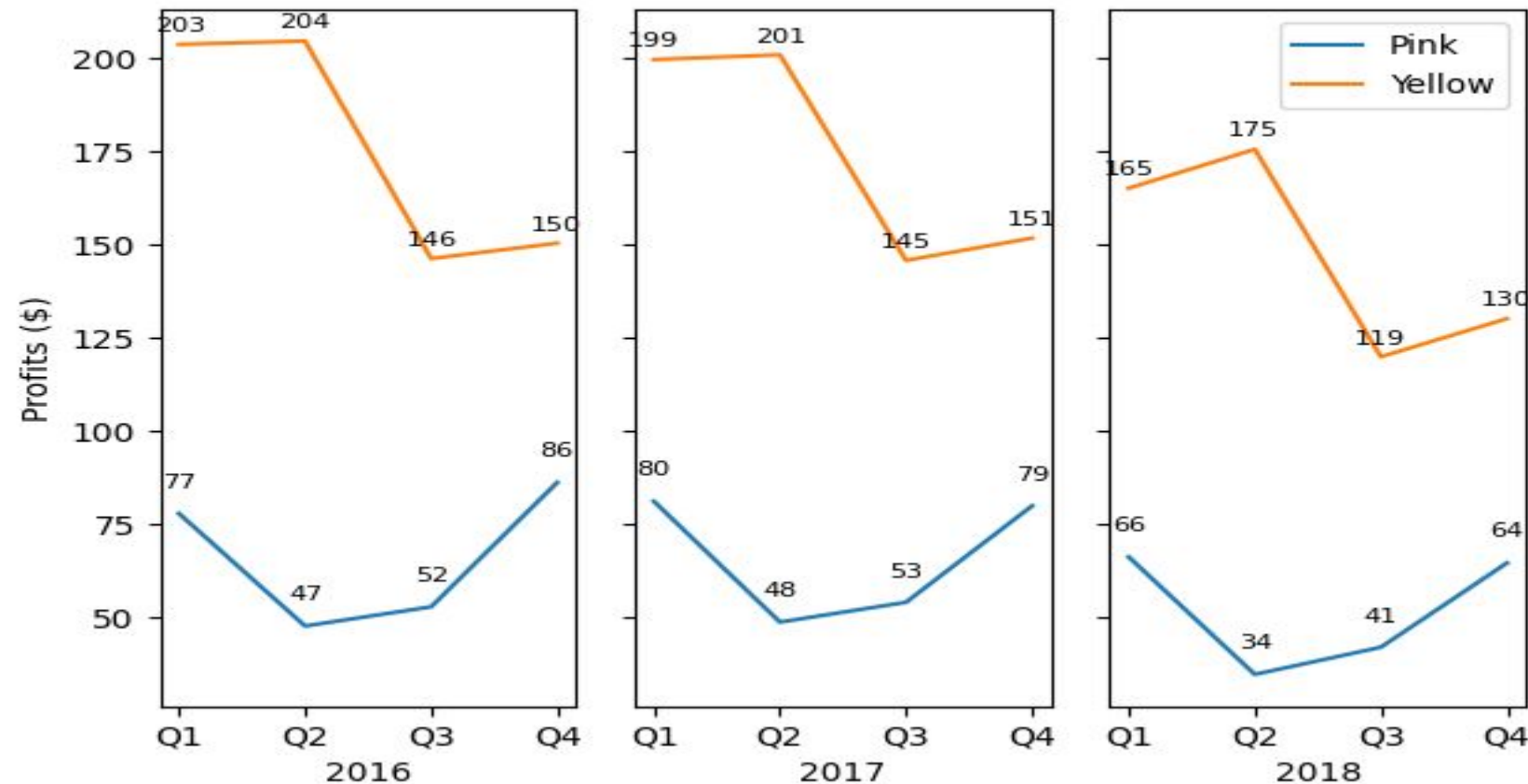
Company quarterly profits



Yellow cab consistently achieved higher profits at each quarter across the two year span

Profitability per ride

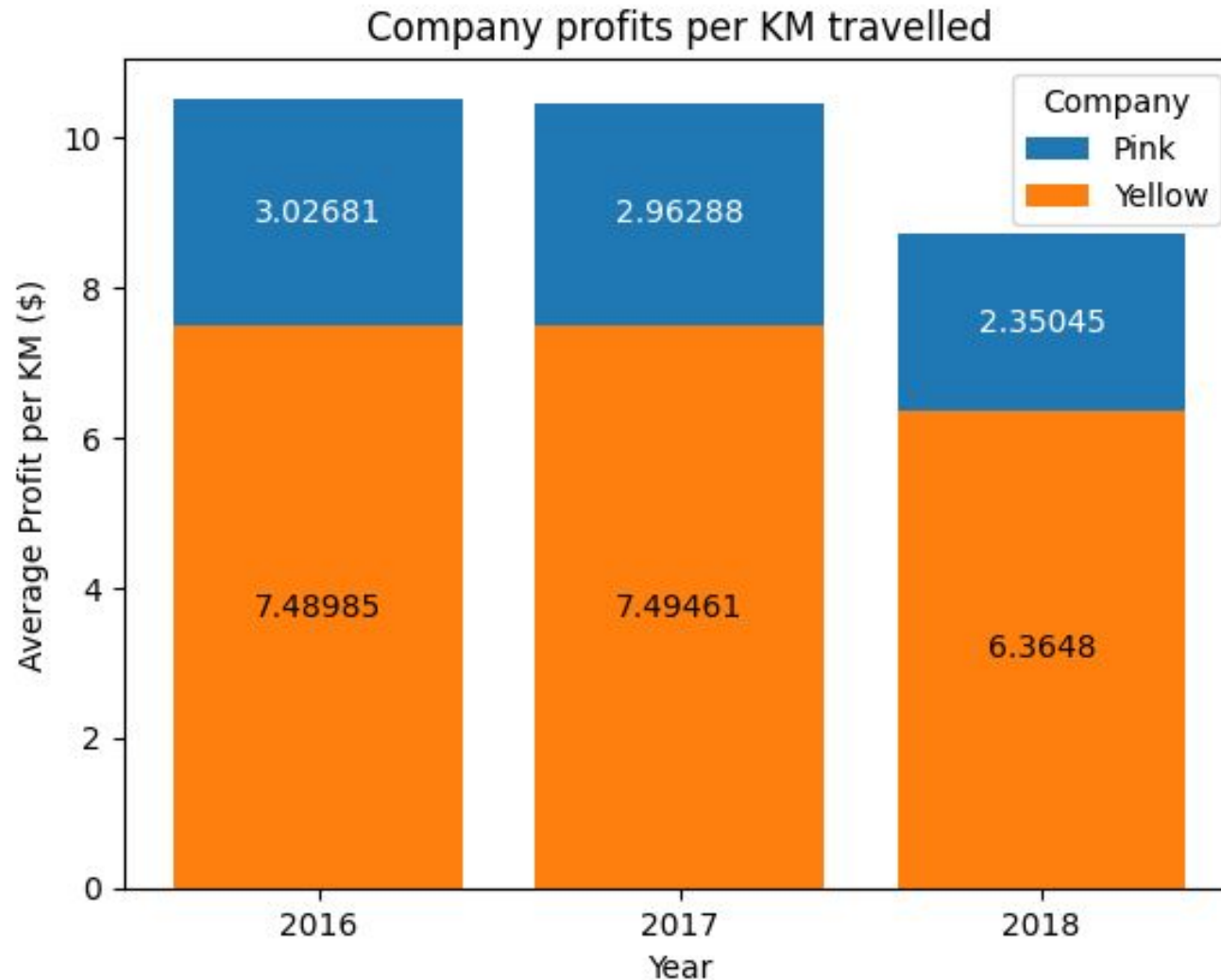
Company profitability per ride



Profitability per ride was looked at to uncover whether the Pink Cab company could realise higher profits if they could service more rides.

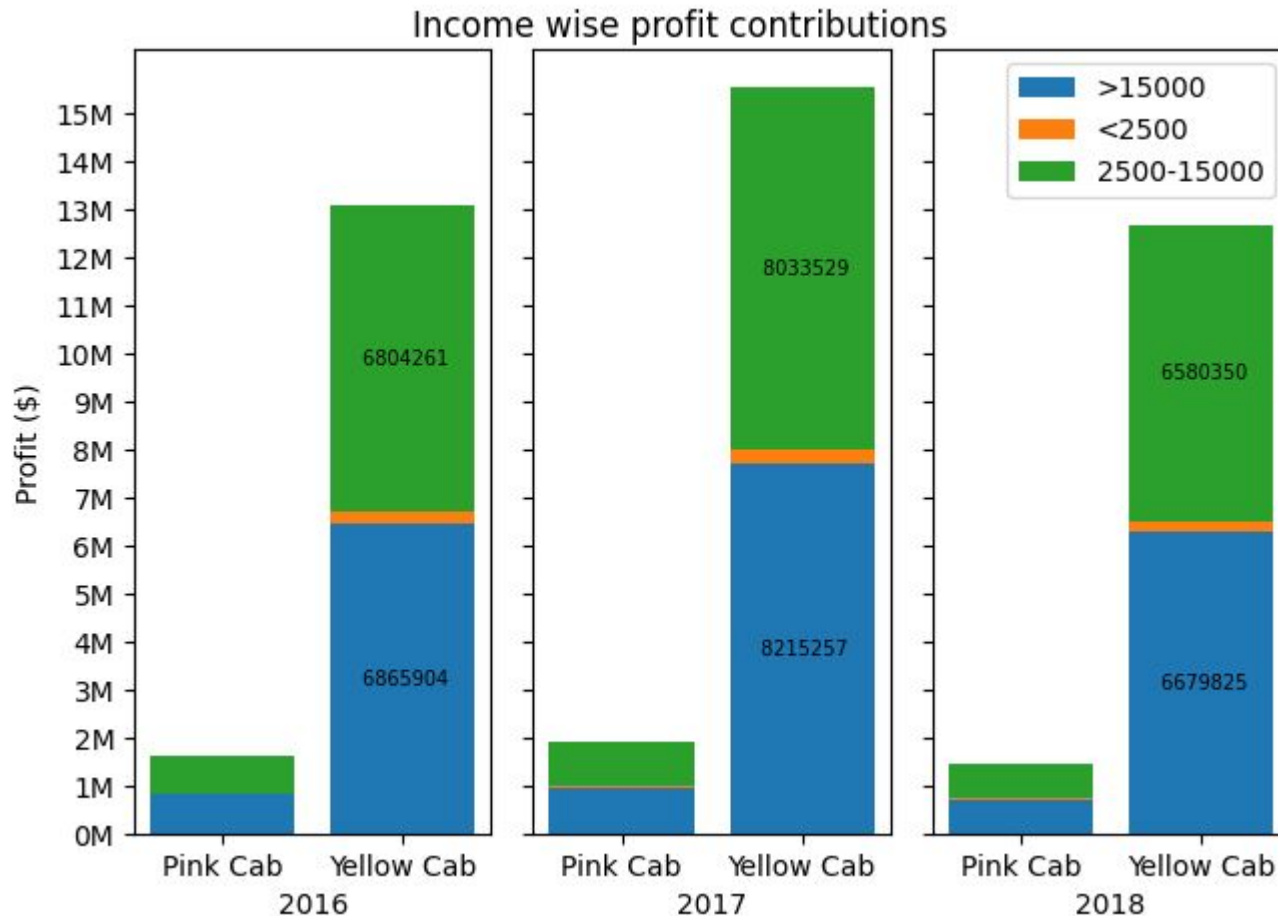
However, the Yellow Cab consistently has a much higher profit per ride.

Average profit per KM travelled



Yellow excels according to this metric also, averaging 157% higher profitability per KM over the two year span

Customer Segmented Profit: Profits by income group



Both companies have approximately equal profit contributions from upper and middle class groups.

Yellow cab company caters to more low income people.

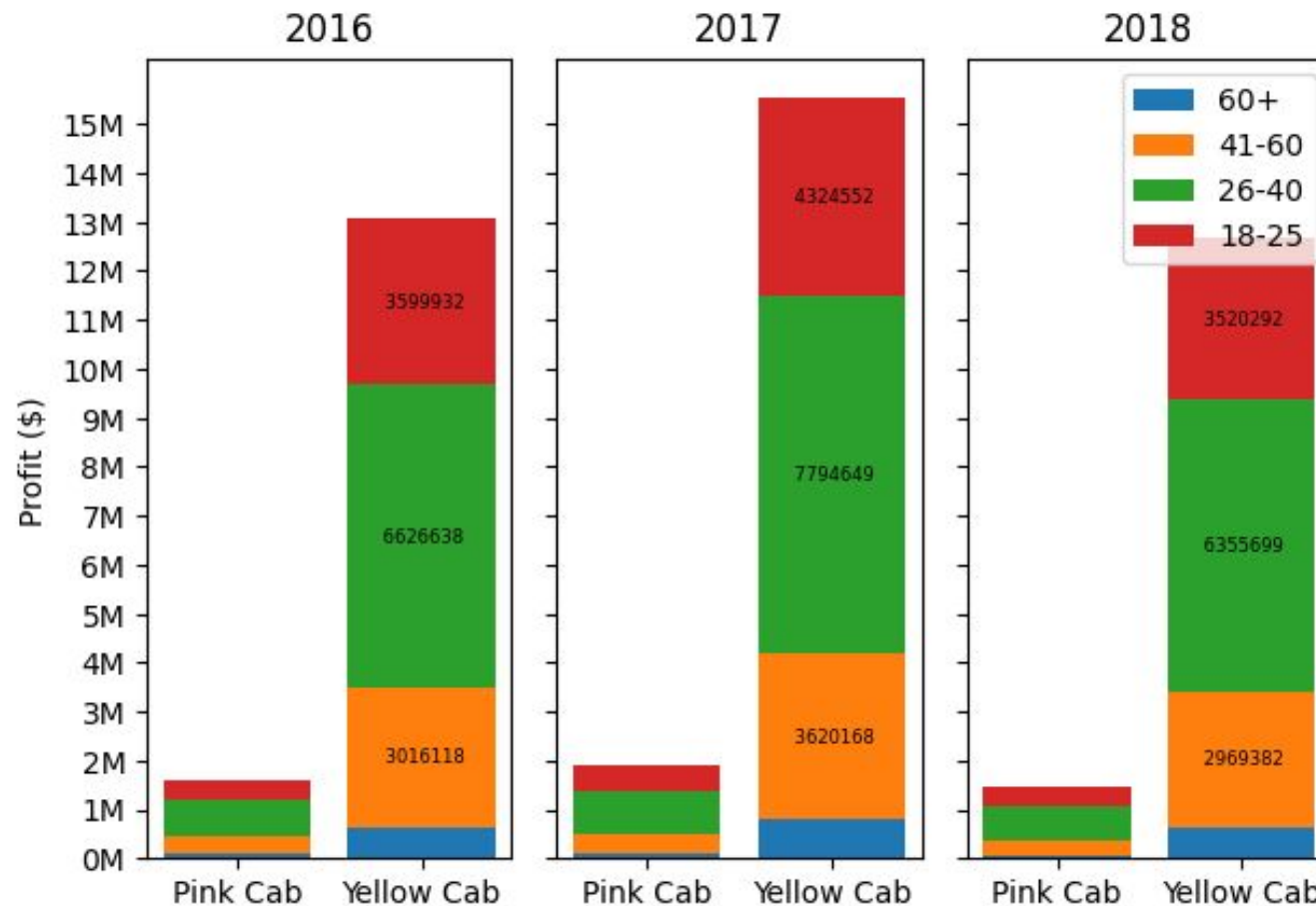
Customer Segmented Profit: Profits by gender



They perform similarly in this regard with almost identical profit contributions from each gender.

Customer Segmented Profit: Profits by age

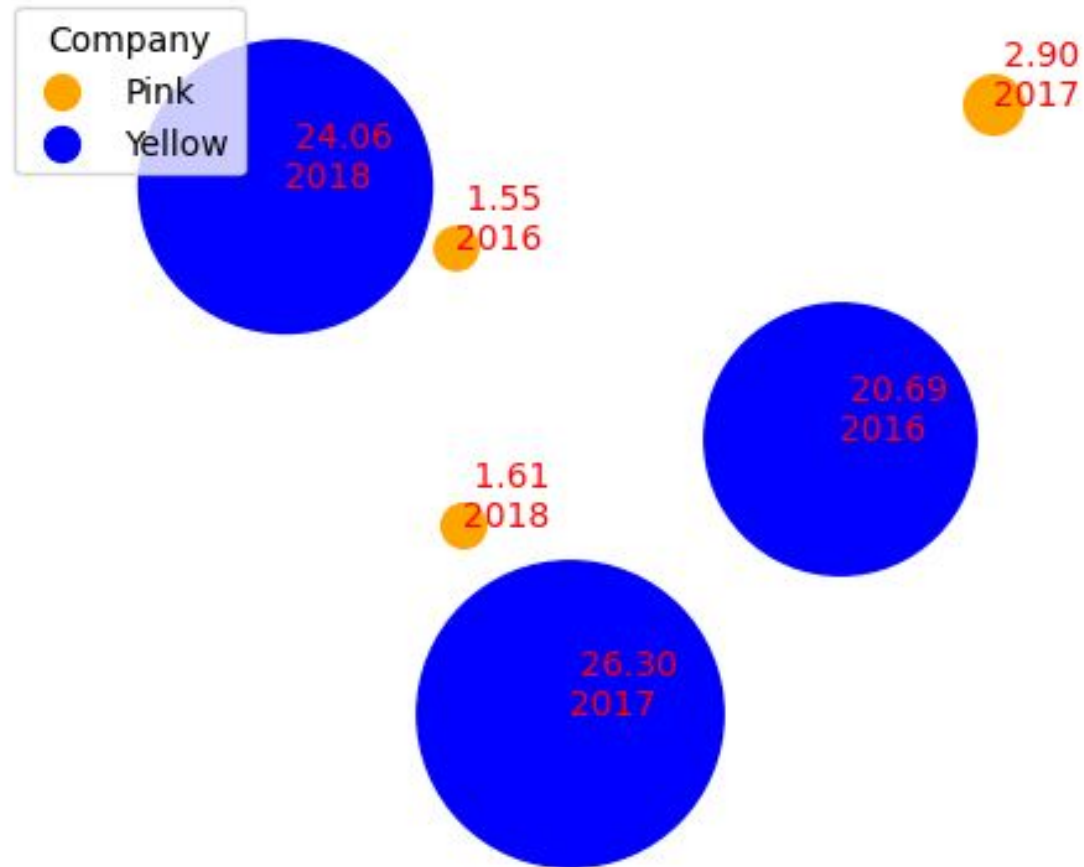
Agewise profit contribution comparison between companies



Yellow cab performs slightly better here serving more elderly people (60+ category) but they offer comparable proportions to other age groups.

Customer Retention

Customer retention rates (at least 5 customers)

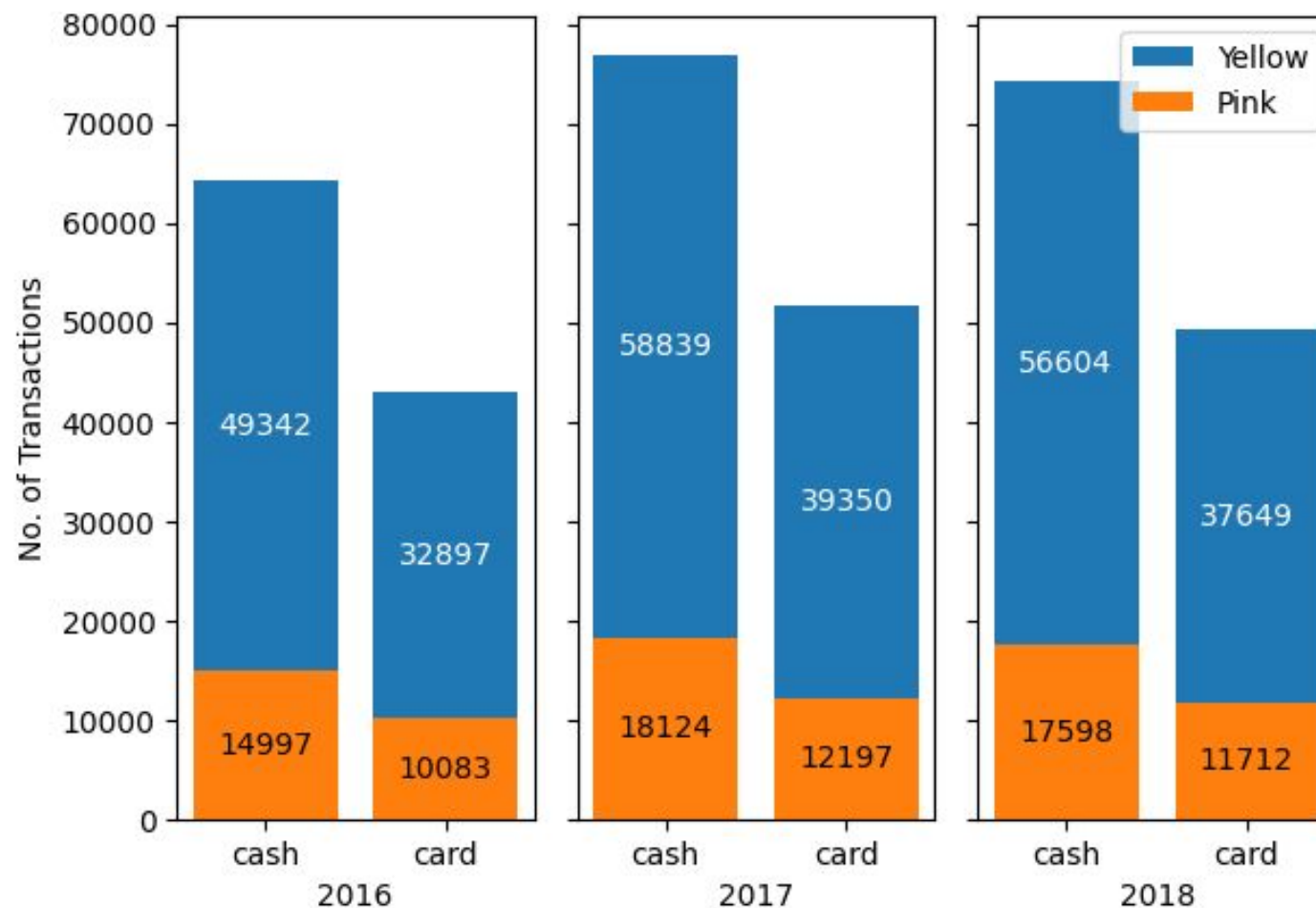


Clearly the Yellow cab has a far better retention than the Pink cab.

Achieving an order of magnitude higher customer retention year-on-year.

Transaction Types

Transaction payment modes



Yellow cab facilitated a higher number of card transactions, congruent with an increasing popularity of digital services

.It also suggests the yellow cab company already has the infrastructure in place to support large volumes of digital infrastructure.

Recommendations

In summary, we have compared the cab companies across the following metrics:

- **Overall profitability:** yellow cab consistently attained **higher profits** across the two year span
- **Profits per ride:** yellow cab consistently attained **higher profits per ride** across the two year span
- **Profit contribution by age group:** yellow cab caters to **more elderly people** and is comparable among other age groups
- **Customer retention:** Yellow cab has an order of magnitude **higher customer retention**
- **Transaction types:** Yellow Cab facilitates **more card transactions**, indicating greater ability to transition to an entirely digital ecosystem in the future

Using the above, I recommend investment in the yellow cab company.

Thank You