Uber Eats US&C Strategic Operations Final Round Case Strategy

Presenter: Anthony Chen

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About Me/ Background

- M.S. in Data Science from New York University
- BBA in Statistics & Quantitative Modeling from Macaulay Honors College at CUNY Baruch College

Why I am a Great Fit at Uber Eats

- I bring both business acumen and data driven approaches to any industry (Relevant coursework: Probability and Statistics, Big Data, Machine Learning, Reinforcement Learning)
- I’ve worked at a large global organization before serving millions of customers (Samsung Electronics America)
- Uber’s organization represents diverse viewpoints, a go-getter attitude, and constant learning environment (market changes)

Recent Project/ Achievement I am Proud of

Samsung Electronics America’s MLAI department had Machine Learning model outputs of customer segmentations

I was tasked with helping them visualize their results

Utilized HiveQL and shell scripts

Asked fellow data scientists and data engineers about certain tables, documentation sources (Confluence), what stakeholders would like to see as a final deliverable

Presented my weekly progress using JIRA/ SCRUM methodologies

Quickly got up to speed to deliver multiple interactive dashboards using Tableau

Streamlined their backtesting process to automate the generation of future reports

Growing Uber Eats in U-City

Current business problem & Market

Investment of time and resources into business in U-City (Food & Transportation)

How to accelerate growth in this new market?

U-City key details:

- Large metropolitan city center, multiple suburban areas surrounding it (**affluent**).
- Quick overview of age demographics: Millennials (**age 25-34**) make a third of population in this region. Gen Z (**age 18-24**) make up 15%. Almost half of the population is **employed** 46%. Majority are **Urbanites** (61%)
- Competitor has 82% of Market Share and has been in the market 1.5 years longer (If I had more knowledge of the competitor, I would investigate what they are doing to consistently keep a high market share; weaknesses)

Heatmap of Correlations Among Variables in Dataset

- The more franchised, the higher the order defect rate (.16), smaller avg. basket size (-0.16), slightly less 1st timers (-0.05), slightly lower marketplace fee (-0.02 weak relation), slightly more trips (0.07), slightly lower popularity (-0.03 weak relation).
- The more trips, the higher the order defect rate (0.28)
- The more popular a brand is, the slightly longer the courier wait time (weak relation).
- The more net commission Uber earns, the higher the order defect rate (0.31), the higher the Avg. courier wait time (0.15), slightly lower marketplace fee (-0.07), the more popular a location is (0.1).
- Marketplace fees are negatively correlated with refunds (-0.15). A lower marketplace fee means more refunds, more annualized trips (-0.18), and more net commission (-0.07).

Franchised	→ Order Defect	Avg. Courier Wait Time (Min)	Annualized Trips	Marketplace Fee	Popularity
High	High	Negligibly Lower	Slightly More	Negligibly Lower	Negligibly Lower

Growth Strategy

Recommendations to accelerate growth in marketplace (KPIs/ Supply & Demand); How would you operationalize it.

1) **Build with existing franchises (along with SMBs) that Uber currently has partnerships with to create quick, affordable, and enticing menu expansions.**

- Work with their internal staffing/ business operations to expedite courier wait times* [as much as possible], such as through renting low activity restaurants for space or building more low maintenance"virtual kitchens" (*Appendix: Slide 17)

-Maintain relations with couriers who live close to the respective area, and retain high quality workers out of the city's courier supply

-Promote new products with ads, monitor recommendations on Uber Eats platform (Merchants with offers see a 50% increase in orders)

1) **Create personalized customer loyalty programs starting at a young age, and let it spread via organic word of mouth or social media.**

-Portion of monthly Eats passes, or university student group passes goes to sustainability donation causes, encouraging long-lasting relations

-Uber is planning on achieving net zero carbon emission by 2040, visibility, inspiration

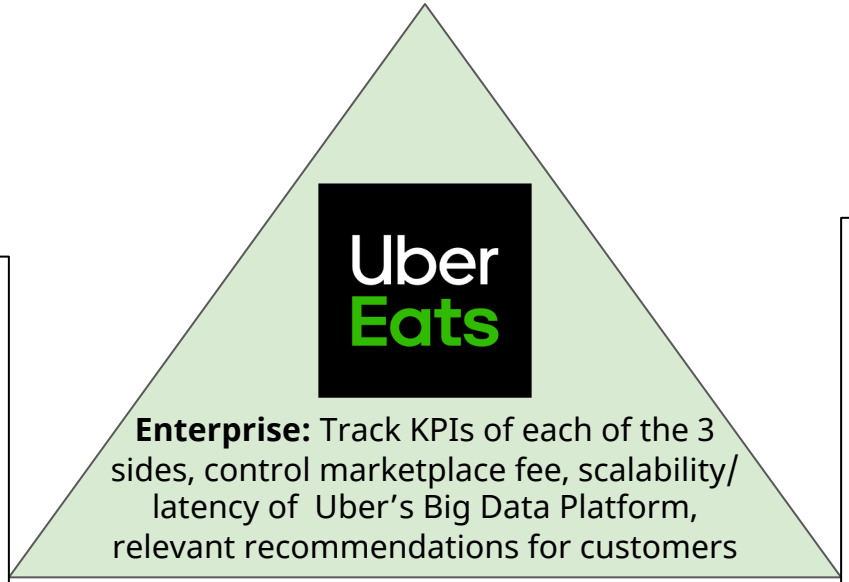
Critical Metrics/ KPIs:

Eater Demand (Age Group, Segmentation)	Courier Supply	Restaurant Supply	SMBs	Enterprise
• Orders (Frequency) • Avg. Basket Size • Customer Ratings of Service	• Drivers Personal Ratings • Frequency of On-Time Delivery • Order Accuracy • Acceptance Rate	• Revenue • Quantity of Orders • Cost of Goods Sold • Active Locations (Popularity Frequency)	• (~ from Restaurant Supply KPIs) • Customer Acquisition Cost • Customer Churn Rate	• Net Commissions (ROI) • Daily Usage Rate • Users Retained • Avg. Delivery Time • Order Defect Rates • Run times to measure latency/ scalability • Market Share • Orders/View (Conversion)

Impact on Sides of Marketplace with Recommendation

Theme: Optimization of food delivery fundamentals (food preparation, quality service) to maximize customer retention

Customer: Heavy focus on achieving their satisfaction and retention requires idealistically high quality of the food, top tier delivery handling, expedited delivery times, and *perceived value* (Avg. Basket Size)



Courier: Spending more on quality courier services means less funding for marketing, assistance in expansion, and constrains Uber's courier budget. Avg. Courier Wait Time needs to be reduced, while also gauging their service quality after more deliveries, and their motivation to continue accepting orders.

Merchants:
Uber Eat's increased investments into food suppliers with high quality ingredients, and expediting food preparation requires awareness of trade offs in food quality, allowing merchants to maintain profit margins will be a challenge, along with limits on the brand's staff to serve the needs of customers

Project Plan to Execute Growth Strategy

Order of operations:

1. **Goal clearly conveyed to current merchants**: Increase market share for Uber's current brands on its Eats platform through a balance of culinary diversification or expansion, and quality control of Uber's delivery service
2. **Understand current consumer demographics**: Current highly favorable businesses will improve upon their marketing strategy: Product, Price, Place, Promotion. Ex: Most young people (16-35) want healthy choices that are convenient and low priced.
3. **Expansion of food preparation & quality:** Low activity restaurants can rent their space for food prep in exchange for Eat's services or a fee, if it benefits Uber's ROI for its current brands. Begin speaking with restaurants who have highly active locations to work with the local community (gauge student affordability). Seek food suppliers with high-quality ingredients.
4. **Start promotions to potentially younger customers:** Utilize social media platforms (referrals that lead to free delivery, discounts on next delivery), and partner with celebrities or influencers popular among young customers in the area to create specialized orders.
5. **Attract quality couriers:** Offer competitive wages to couriers in the city to incentivize better service
6. **Begin launching menu expansion:** During periods of increased popularity frequency, along with highly rated courier services.
7. **Monitor performance:** Track KPIs, market share, and see if new menu items are successful. Analyze customer feedback.
8. **Evaluation:** If not successful, review mishaps, causes, and re-adjust the operational step, repeat evaluation. If successful, see other ways to acquire new brands that are popular among customers to add into Uber Eat's portfolio.

Functional stakeholders I would need to work with to operationalize my recommendations:

Customers, Restaurant Owners/Management, Restaurant Staff, Suppliers and Vendors, Uber Eats platform, Food Regulatory Agencies, Investors and Shareholders, Local Community

Merchant Prioritization Quantitative Qualities in Uber Eats Feed

Diversify portfolio of merchants based on following main qualities:

Annual Refunds, Net Annual Commission, Popularity, Avg. Courier Wait Time (min), % Franchised

- **High Annual Refunds** (Refund Percentile)
- **High Net Annual Commission** (>$325000) = Net Annual Commissions - Annual Refunds
- **High Popularity** (Activity Frequency >50%) = Active loc. / Total loc.
- **Low Avg. Courier Wait Time (min)** (<10 minutes)
- **High % Franchised** (>50%)

Restaurant Revenue = Annualized trips * Avg. Basket Size
Annual Commission = Marketplace Fee % * Restaurant Revenue
Annual Refunds* = Order Defect Rate * Annualized trips * Avg. Basket Size
Net Annual Commissions = Annual Commission - Annual Refunds

Considered after the prior metrics above:

- **High % of orders from first time eaters** (word of mouth, popularity begins from 1st experience), but this requires other assumptions**

*Assumed a full refund to mitigate customer complaints, and increase customer satisfaction
**Appendix: Slide 21

Top 10 Merchants to Prioritize in Uber Eats Feed

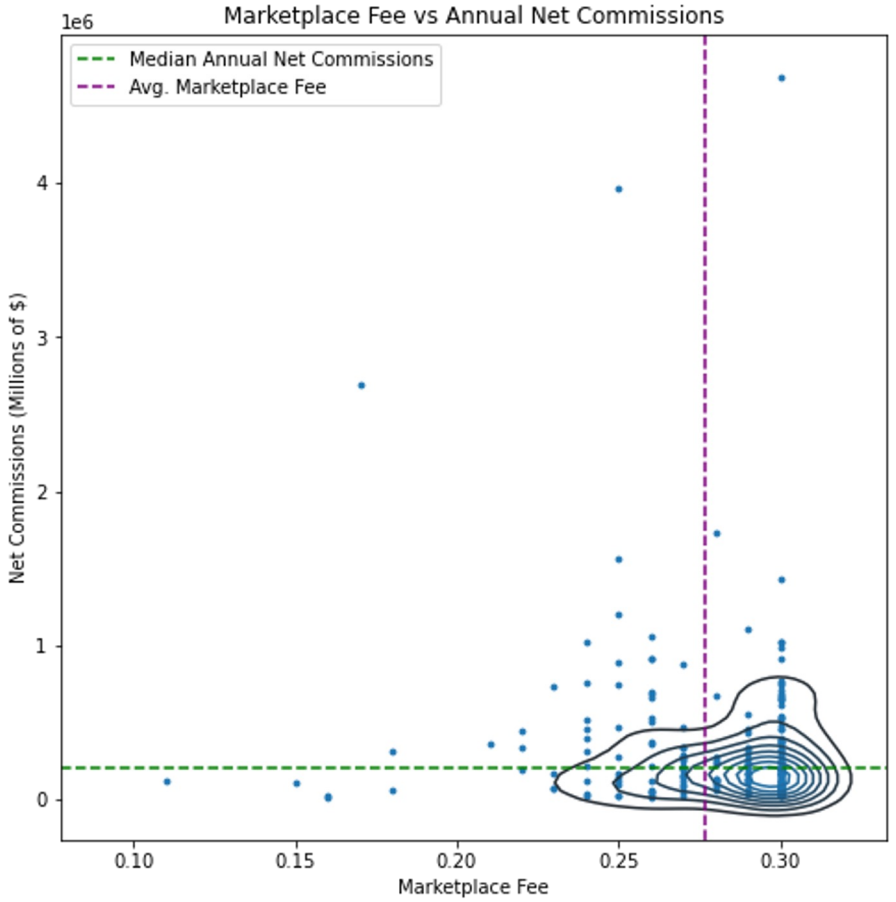
Merchant Name	Refund Percentile	Net Annual Commissions	Popularity Score	% Franchised	Avg. Courier Wait Time (min)
Baja Fresh Mexican Grill	98.5	$2,691,447.19	71%	96%	4
Carl’s Jr. Restaurants	87	$918,545.74	91%	76%	5
Wings Over	87.5	$1,022,351.62	83%	68%	3
Original Tommy’s Hamburgers	99.5	$3,967,109.21	64%	69%	7
Sarpino’s Pizzeria	73.5	$357,269.26	86%	83%	5
P.F. Chang’s China Bistro	76	$333,290.30	93%	71%	5
Donato’s Pizza	90.5	$531,518.93	58%	100%	9
Firehouse Subs	74.5	$380,957.69	87%	55%	6
Fun Eats and Drinks	78.5	$468,856.63	71%	50%	6
Manhattan Bagel	60	$325,485.13	69%	62%	4

Changes to Current Marketplace Fees to Maximize ROI

The correlation matrix from before showed a negative correlation between marketplace fees and annualized trips (-0.18), along with net commission (-0.07). Net commission can be used as a preliminary estimate of ROI.

Idea:

- ***Increase marketplace fees of high commission/ activity generating restaurants (Set A) "surge marketplace fees"*** (more demand, loyal customers who are willing to pay more for a new menu item; cross-sell), create low-cost, high-impact marketing campaigns while offering it as a service to support upward fees. Track customer retention on the platform, and feedback from customers and restaurants/ SMBs while doing this.
- ***Decrease marketplace fees for new up and coming restaurants, "catalyst discounts" (Set B)***, but only if there is a net increase in revenue after these fee decreases due to increased popularity of pricing (more trips), while accounting for the adjustment above. This allows Set B (SMB merchants to place more ads, usually 28% more increase in customers during 1 fiscal quarter).
- These would be implemented biweekly or monthly to observe cumulative changes



Simulation Experiment Using Dataset

To test this out, I separated the dataset by a marketplace fee (MBF) = 27%, then calculated averages of the other variables within each A or B Set that are needed to calculate net commission: Annualized trips, Avg. Basket Size, Order Defect Rate. There were on average, twice more annual trips per brand in Set B compared to trips per brand in Set A. There are more brands in Set A (125) compared to Set B (55).

Set A of brands had an original net commission of $296,621.89, Set B had an original net commission of $593,309.36.

Assuming after boosting after an original Set A marketplace fee of 27.1% to 28.1% and lowering the original Set B marketplace fee of 26.9% to 25.9%, there is realistically a shift in demand: 28% of the average annual trips from Set A brands move to add to Set B's average annual trips, since brands in Set B can now expend extra resources on marketing after the marketplace fee discount.

After calculating the net effect, there was a ***9.68% increase in net commission for Set B***, but a ***25.13% decrease in the net commission for Set A***

Playing around with these adjustments, ***it would be be necessary to increase Set A's marketplace fee*** to offset any further losses of profit from the marketplace fee discount for Set B, thus ***an additional marketing campaign for Set A is needed*** to make sure Set A receives more customers, while not eating into the ROI

	MPF Discount for Set B and Increase for Set A	MPF Discount for Set B and Increase for Set A & additional Marketing for Set A	% Changes in Net Commission
Above 27% MPF Individual Brand Net Commission	$222,071.85	$308,433.12	-25.13% (After Ads to generate 28% more trips) +3.98%
Below 27% MPF Individual Brand Net Commission	$650,794.38	$650,794.38	+9.69%
Total Net Commission Change for entire Brand Portfolio	-$6,157,078.10	$4,638,081.39	

Options to Improve Unit Economics to Drive Profitability

Customers: Upselling & cross-selling promotions, personalized marketing campaigns, customer service (refunds), low latency chatbots

- Inflows: Order revenue (first-time experience optimization)
- Outflows: Customer acquisition costs, product development costs

Restaurants: Predicting the right number of orders a restaurant may receive (limiting a certain number of couriers); Having the right number of couriers available in the area

- Inflows: Expenses saved from have the right number of couriers in the area, or shift to autonomous vehicle delivery
- Outflows: Operating expenses (Delivery logistics, Uber Eats app maintenance, payment processing fees)

Food Supply: Sourcing high-quality ingredients, negotiating with suppliers on food costs, inventory management

- Inflows: Food order volume (Potential increase in commission revenue)
- Outflows: Cost of goods sold (Minimization of food waste costs)

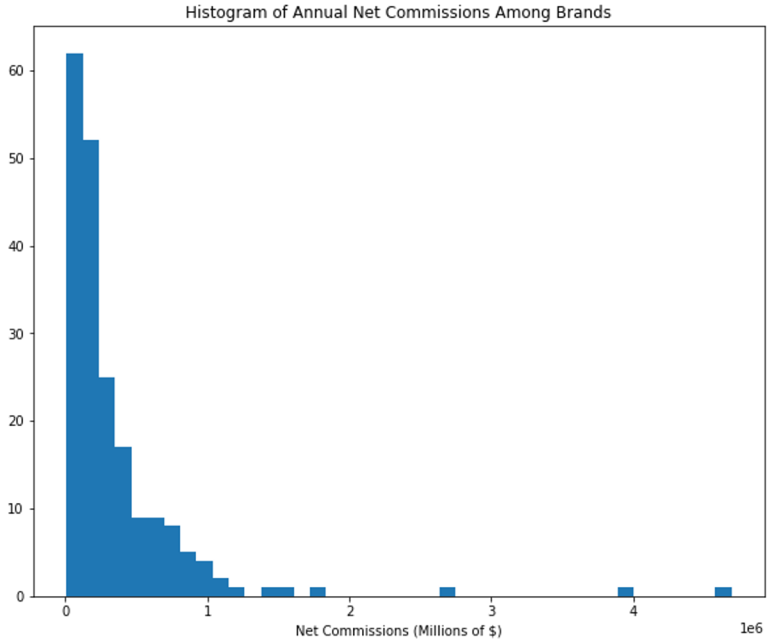
Couriers: Accurate forecasting of eater order traffic during peak hours; schedule the right surge times for deliverers; autonomous vehicles (Aurora ~26% stake in 2021)

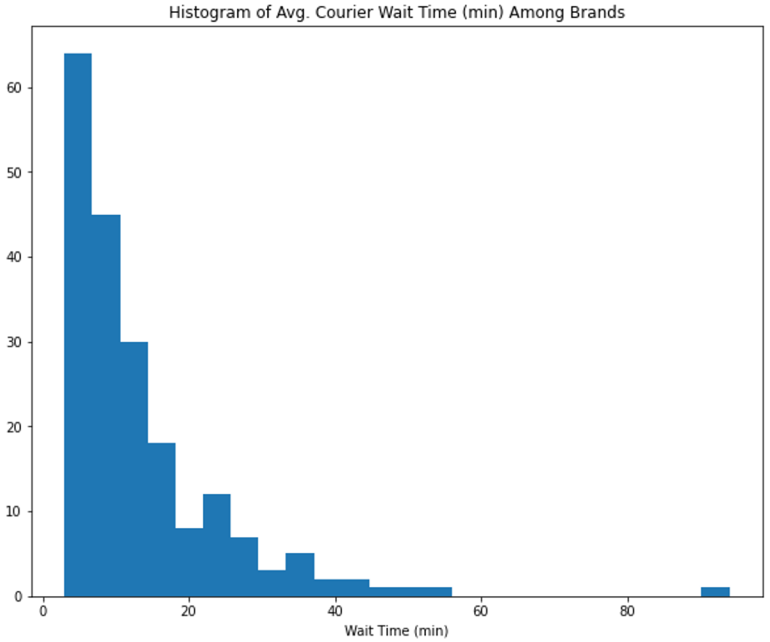
- Inflows: Expenses saved from have the right number of couriers
- Outflows: Operating expenses (courier earnings; insurance costs, background checks, training & support)

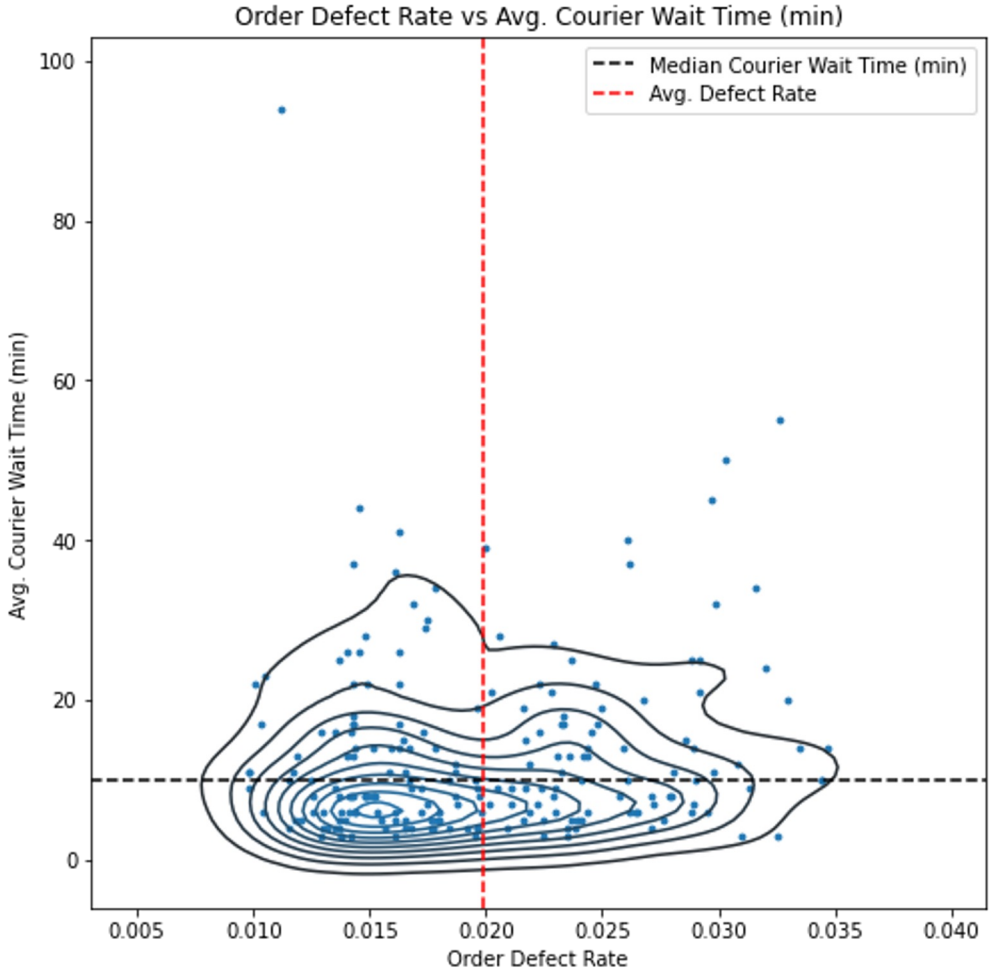
Appendix

Data Overview

~$72 million in Annual Commission Earned from all the Brands, ~$6.7 million lost to Refunds

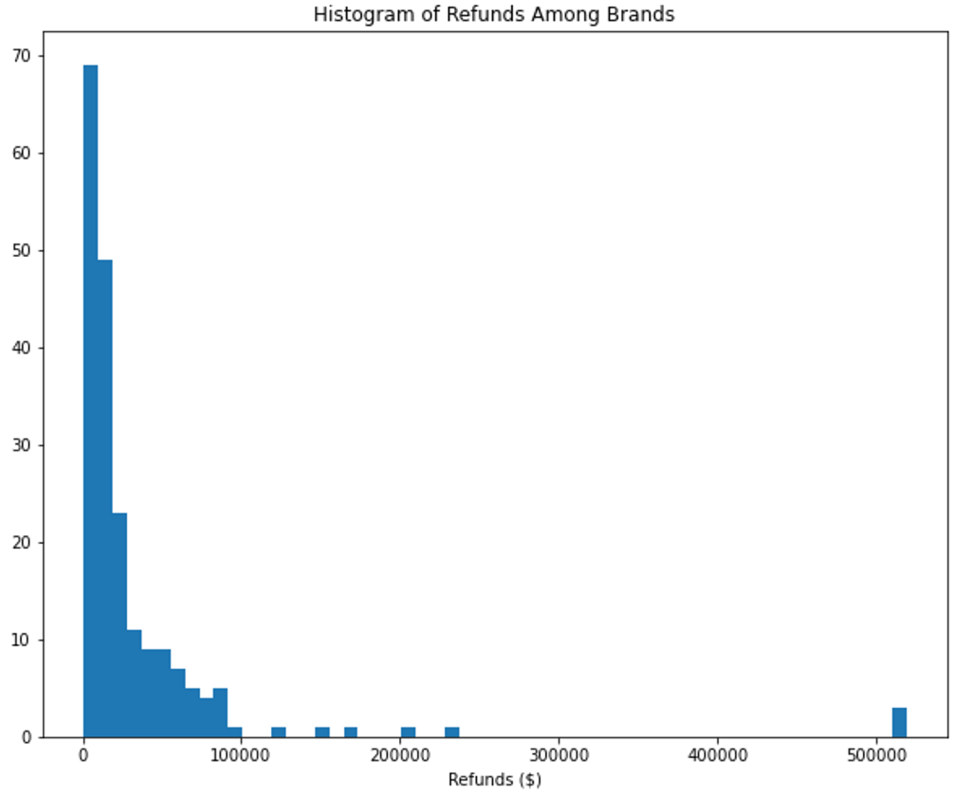






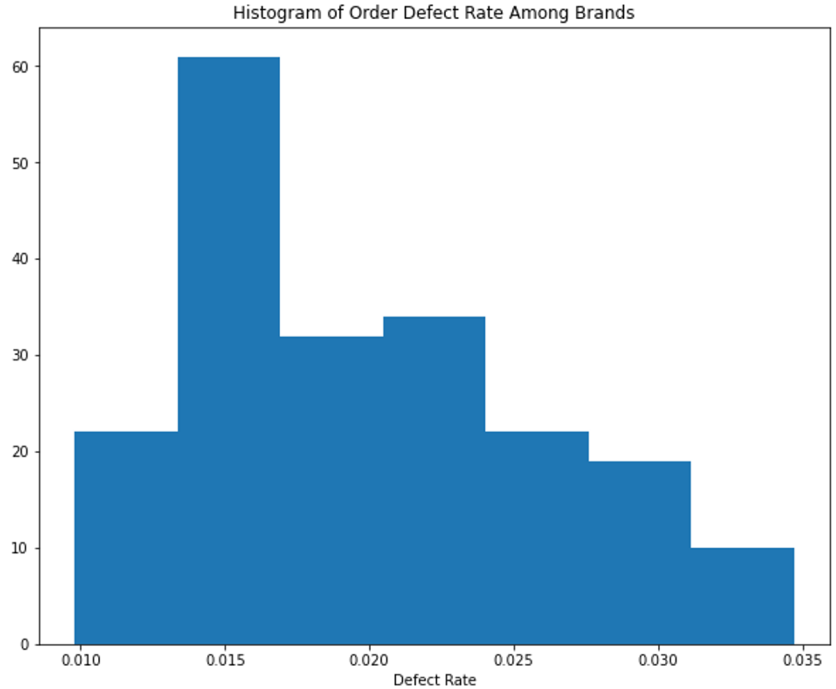
Dense pockets of 1.5% defect rates at roughly under 10 minutes. Assumptions of increase in defect rate as wait time increases: Couriers get fatigued, or hungry, restaurants get overwhelmed with requests and are understaffed to meet the needs of many customers.

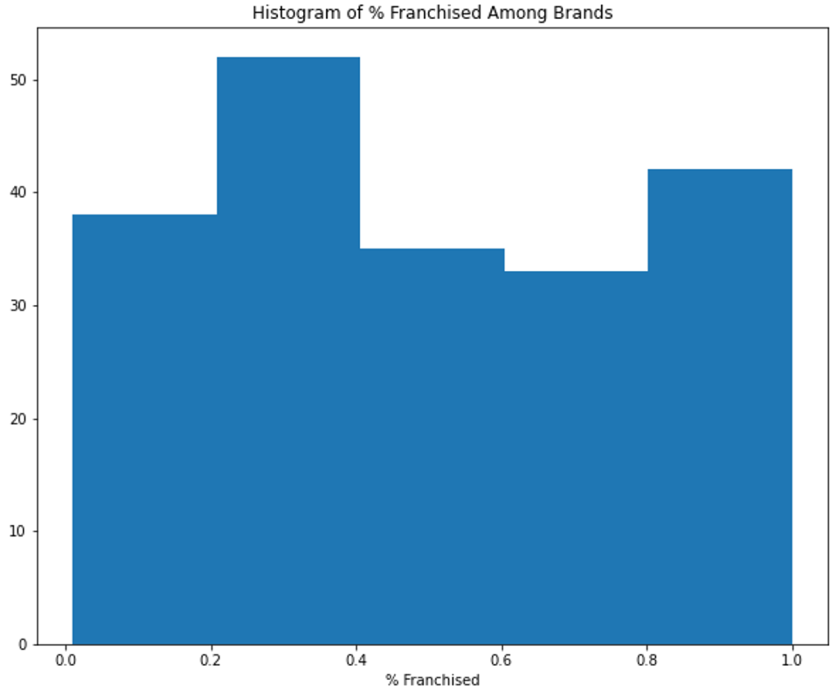
Data Overview Continued

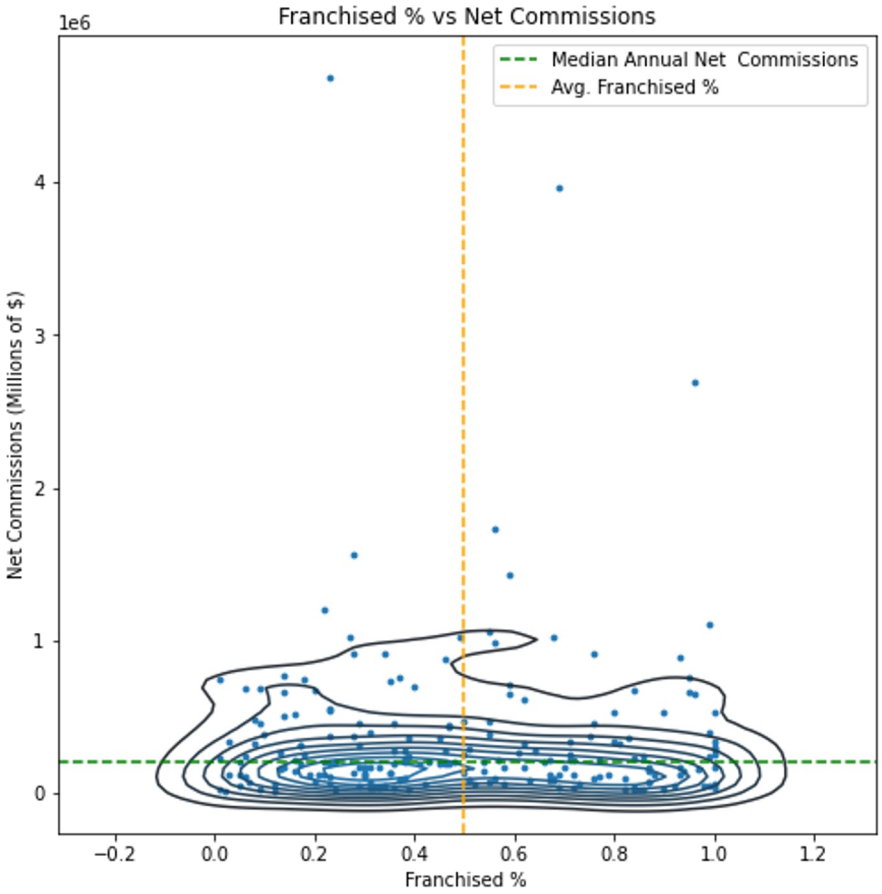


Data Overview Continued

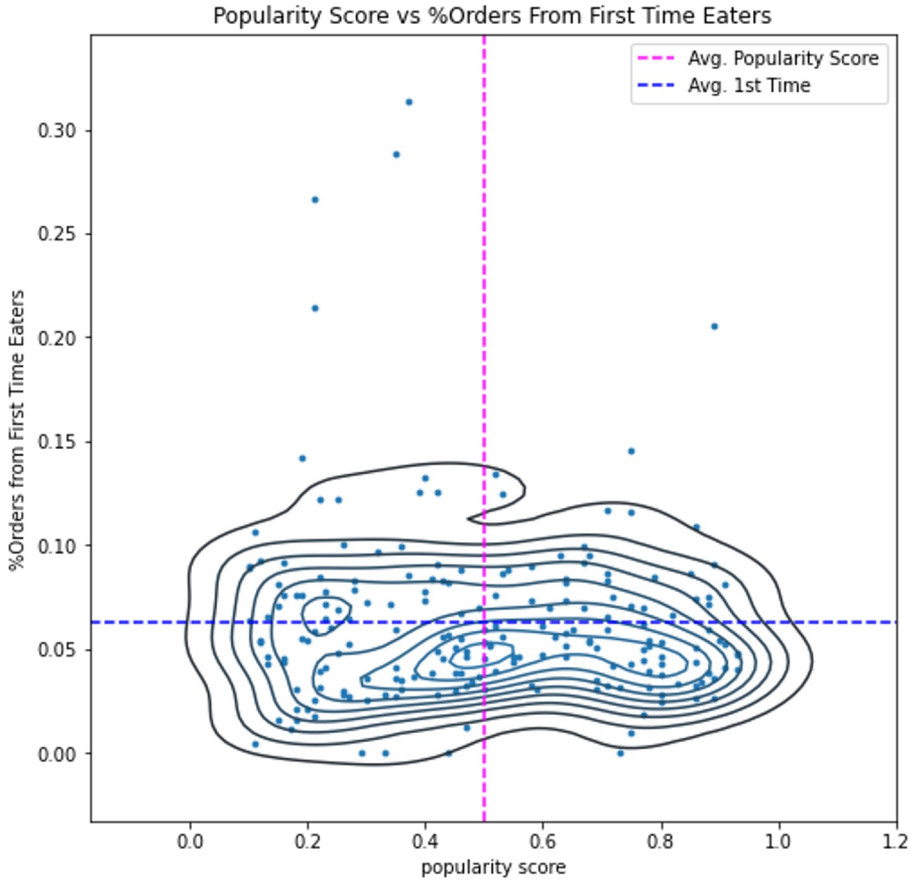
The average defect rate is ~1.99‰



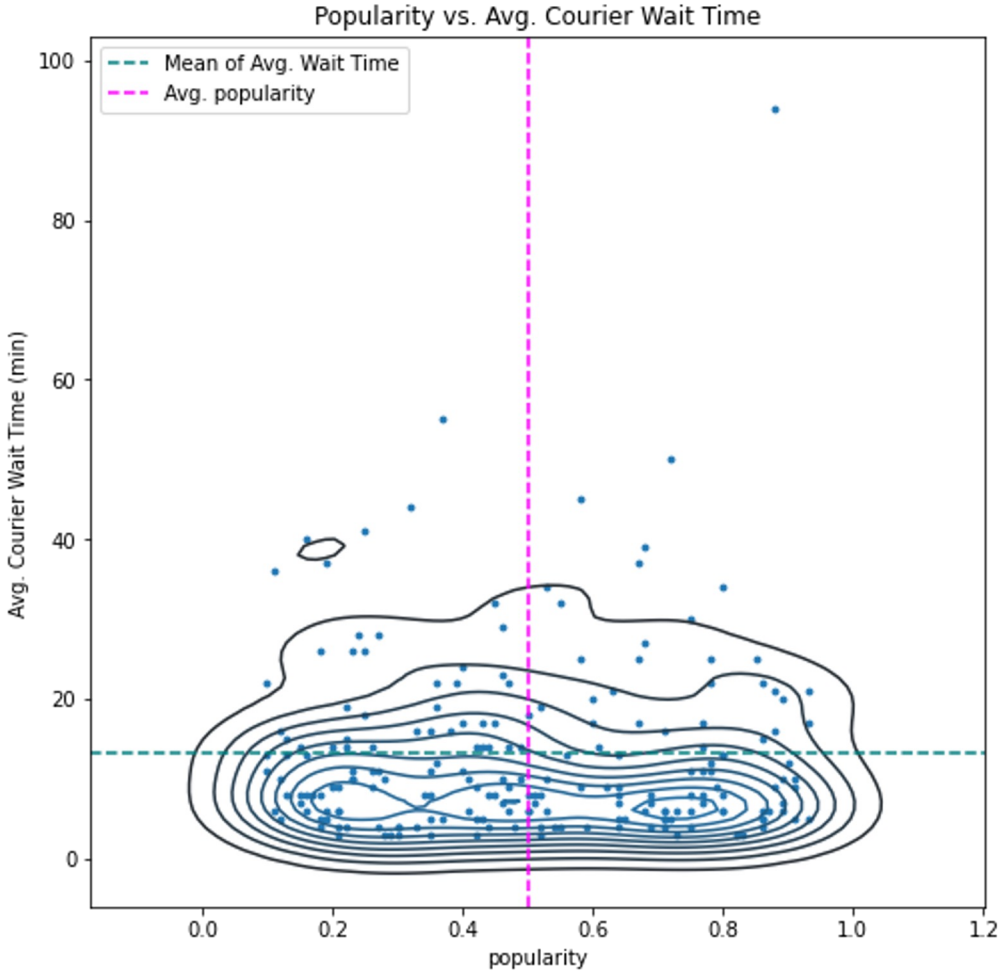




We can see 2 density pools here of franchised % , approxim. 30%, and 70% franchised brands with Uber's Net Commissions earned of under $205,060. An approach may be to lower marketplace fees for brands that are >= 70% franchised to help them expand customer base with more capital.



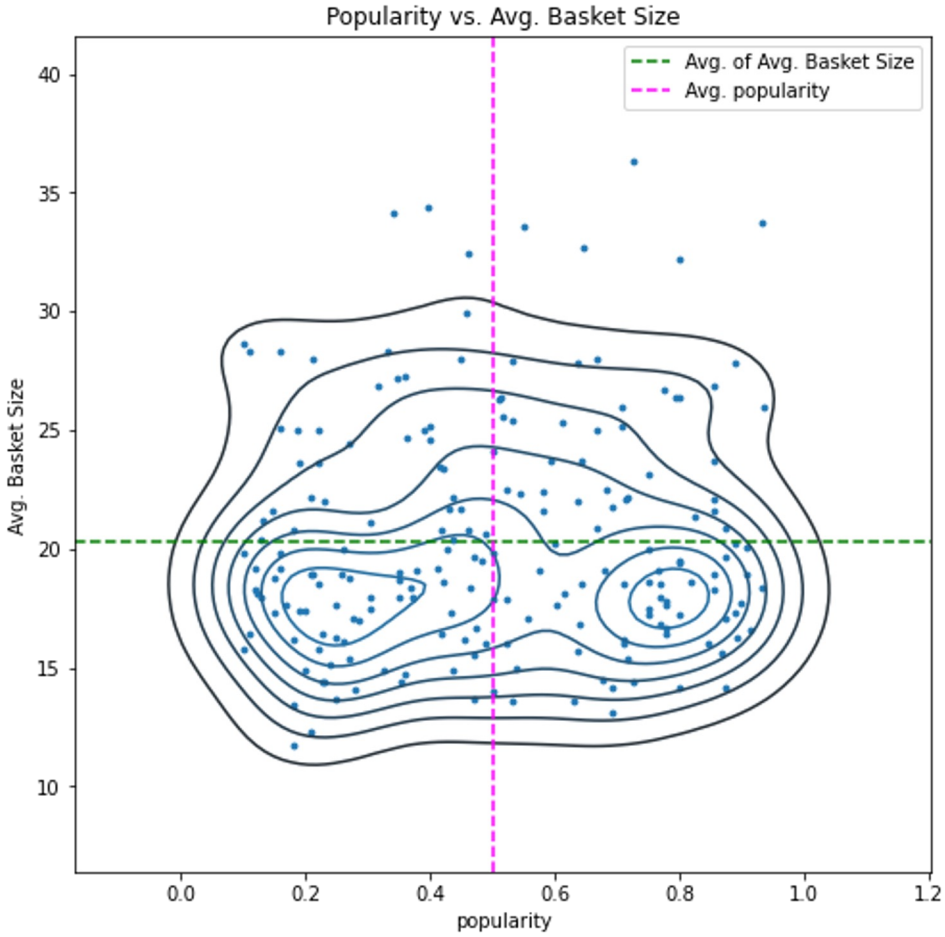
Negative correlation between popularity and %Orders from 1st time eaters which makes sense because the less popular a place is, the more first time visits will occur. The more popular a place is, the more customer loyalty, and fewer 1st time eaters. This also brings awareness that the brands here that are popular, attract fewer new eaters. The demographics like to explore, but also bring to light that bad reviews (less active locations) means fewer returning customers, thus a bulk of their orders will be from 1st timers.



It can be seen the data points accounting for both popularity and courier wait times are clustered below 13.5 minutes.

Quick Thoughts on Sides of Marketplace

- **Eater Demand**: Customer segmentation
- **Courier Supply:** Better wages, but takes a toll on profitability; Seek quality couriers that are used prominently in the region; the package and delivery is crucial, quality service brings back customers, restaurant commission, feedback loop
- **Restaurant Supply:** Merchants my competitors are losing, but are popular with those demographics
- **SMBs**: Partnership with Uber Eats to provide culinary options, new authentic cuisines
- **Enterprise:** Scalability of data on Uber Eats platform, latency of chain of delivery requests from customer to restaurant to courier, valid recommendations to Eaters


Popularity vs. Avg. Basket Size
Avg. of Avg. Basket Size
Avg. popularity
Avg. Basket Size
popularity
40
35
30
25
20
15
10
0.0
0.2
0.4
0.6
0.8
1.0
1.2