

Helping Yelp!

Aug 12, 2019
Group Project





1-year
performance:

YELP:

25.49%

NASDAQ tech:

7.63%

Russell 1000:

2.37%

Yelp starts international
expansion

Scaps overseas
expansion plan, cuts 5%
of workforce

Salty institutional
investor bashes Yelp in
public letter

Senior management
changes and updated
growth targets

Quick update on Yelp



What does 2019-2020 for current employees?

- Lots of new KPI targets
- Lots of performance reviews

Shift emphasis to most **efficient sales channels**

Hold Local sales headcount steady and **drive rep productivity**

Relocate sales out of San Francisco to **save ~\$10 million/year** once complete

Optimize consumer marketing spend to **save ~\$15 million in 2019**

Reduce / **control other corporate expenses**

~95% of Revenues

194K Paying Advertising Accounts⁵

Inconsistent growth



~\$400 Monthly Advertising Subscription⁵

In transition due to business model change



~5% of Revenues

Subscription Revenues from Reservation Software

Growing about 30%



Transaction Revenues from GRUB+Eat24 Partnership

Growing about 30%



~\$1B in Recurring Revenues

2019 Street expectation: 11% growth

(source: SQN investors open letter to Yelp)

What does this mean for Yelp's employees?



"Product Doesn't Work / Extreme pressure sales"



Former Employee - Account Executive in New York, NY

Doesn't Recommend Negative Outlook Disapproves of CEO

Cons

This is an extreme high pressure sales job. Your role is to push a business owner to buy through any means necessary. Often it will border on unethical or cross the line totally. Their advertising program simply does not work. I was over quota ever month I was there but nearly every client canceled within the first month. The company only requires you have a client retention rate of 19% which is less than 1 in every 5. That's LOW. Most of the businesses that I called have been reached out contact by email or calls over 100 times in the last year or 2. Many of those business owners are frustrated

Common themes:

- Don't feel in control
- Calling the same businesses over and over again
- Bad PR & relationships so most businesses cancel within a month



"Great Gig Out of College"



Former Employee - Account Executive in Chicago, IL

Doesn't Recommend Negative Outlook No opinion of CEO

Cons

-Toxic work environment at times, managers will definitely make you feel bad over things you just can't control. -Essentially this job is having you call local business owners (usually in very small towns) and make them stop what they're doing in the middle of the day and get them to a computer to pitch them for around 30-45 minutes and then push them to spend around \$300-\$450 dollars a month on a product that *most...

Confirming our hypotheses on Glassdoor

Business Problem and Scope





Intended users: Yelp sales reps

- *Don't feel in control*
 - >> Build a model that highlights dying businesses
 - >> Sales reps can decide to skip those businesses
- *Calling the same businesses over and over again*
- *Bad PR & relationships so most businesses cancel within a month*
 - >> Utilize the time saved from calling less companies to building relationships and improving retention
 - >> Train our model on different business categories to see if results are transferable

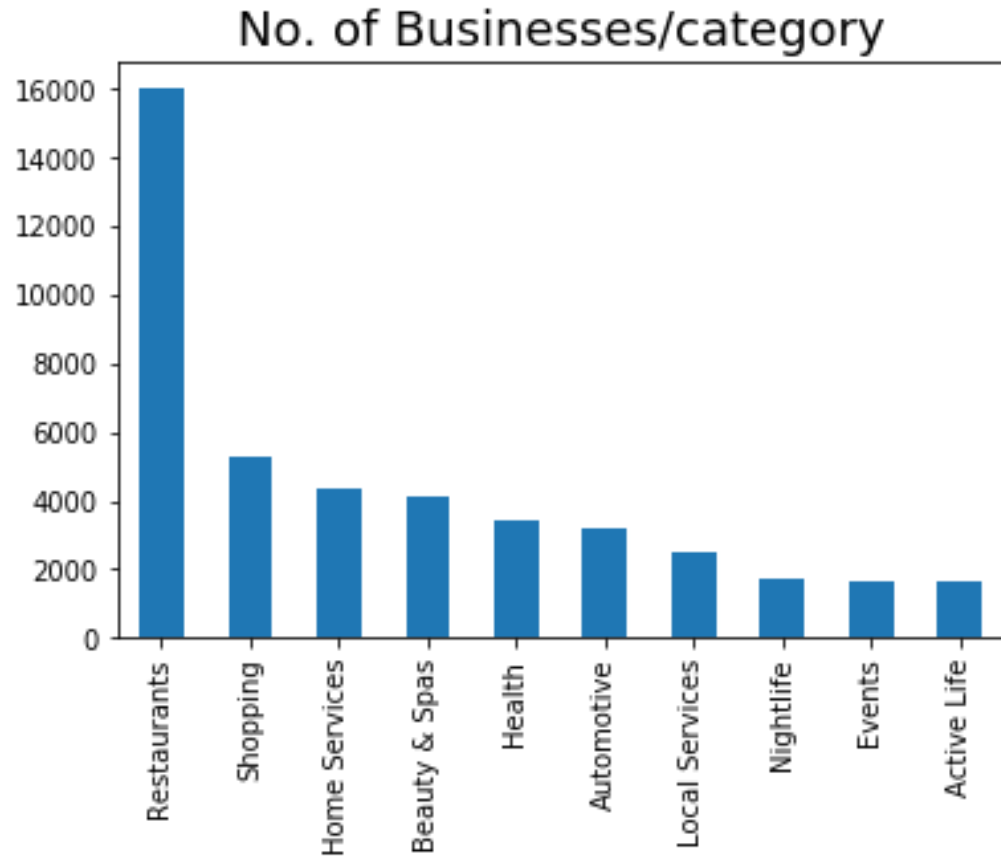
How do we plan to help?

Exploratory Data Analysis : Yelp business





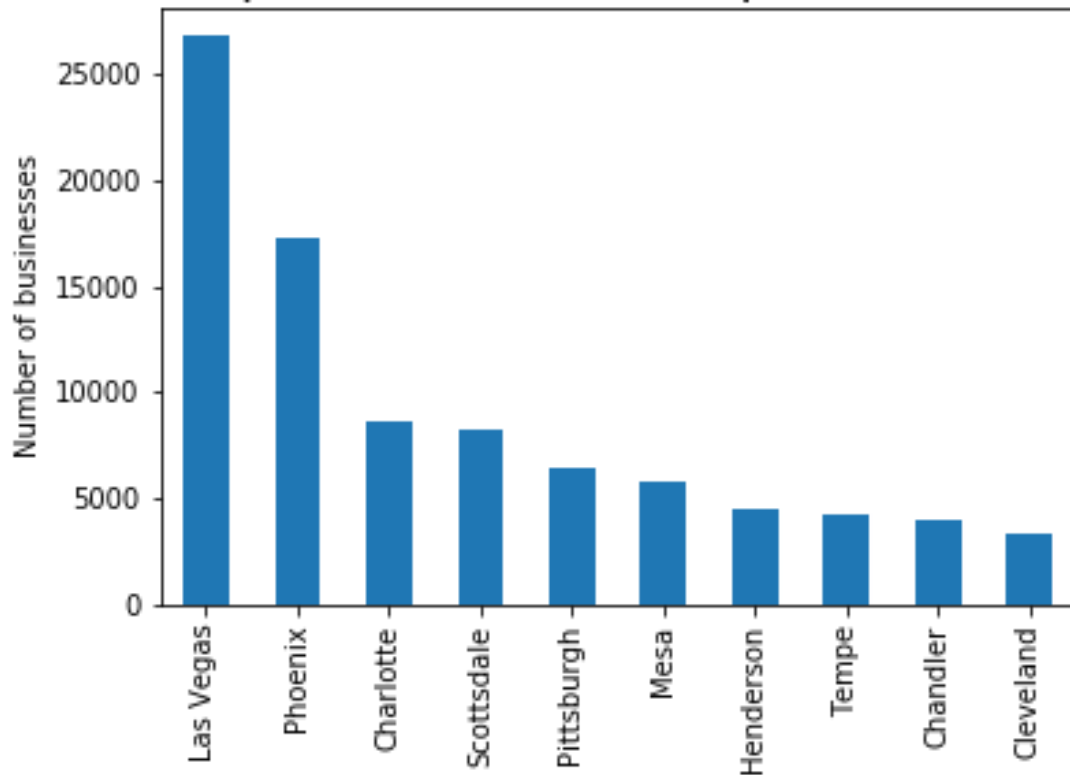
Is Yelp just about Restaurants?



Mostly Restaurants... and a lot more!



Top 10 locations of Yelp businesses



	average_stars	review_count	total_count	ratio
city				
Las Vegas	3.709905	1604161	26774	59.914880
Tempe	3.729885	162772	4263	38.182501
Scottsdale	3.948529	308529	8228	37.497448
Henderson	3.789362	166884	4465	37.376036
Phoenix	3.673793	576709	17213	33.504270
Chandler	3.753380	122343	3994	30.631698
Pittsburgh	3.629819	179471	6355	28.240913
Cleveland	3.589103	92280	3322	27.778447
Charlotte	3.571554	237115	8553	27.723021
Mesa	3.636024	130883	5760	22.722743

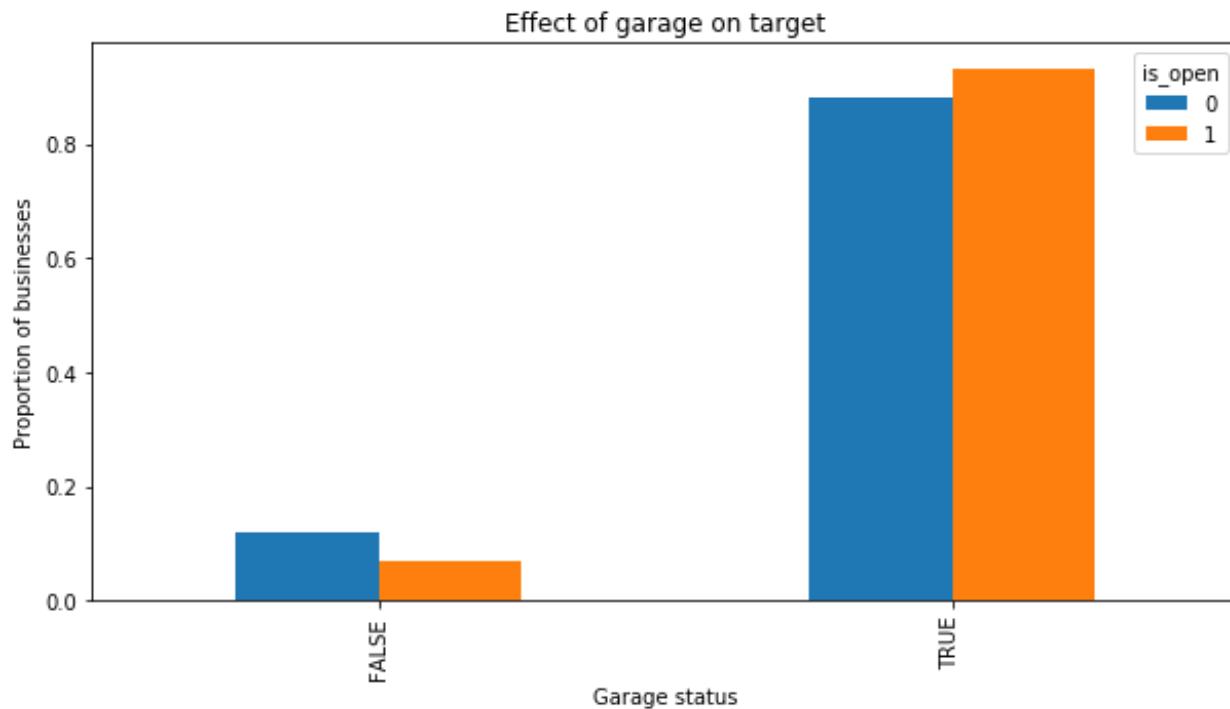
69% of Yelp businesses are from these locations



Which businesses stay open?

Exploratory Data Analysis : Business Attributes





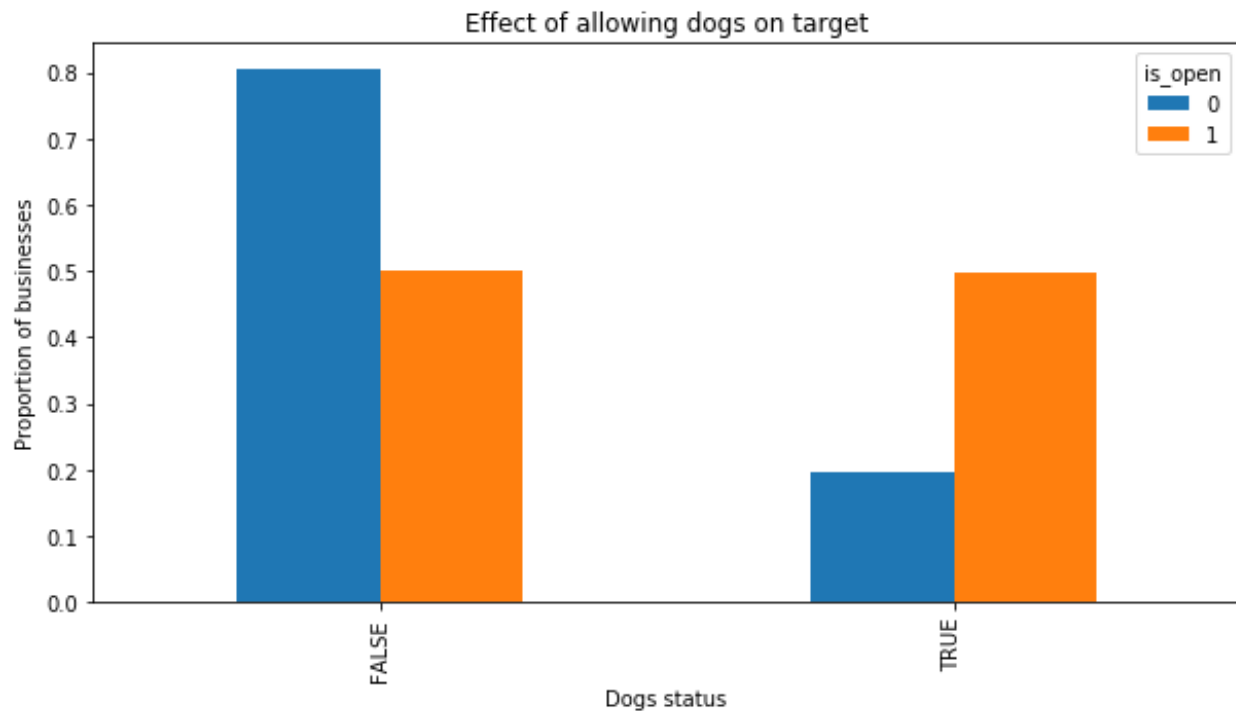
More business info

Parking **Private Lot**

Outdoor Seating **Yes**

Wi-Fi **Free**

Relation of garage available with open/closed



More business info

Takes Reservations **No**

Delivery **No**

Take-out **No**

Accepts Credit Cards **Yes**

Accepts Cryptocurrency **No**

Bike Parking **Yes**

Wheelchair Accessible **Yes**

Good For Happy Hour **No**

Outdoor Seating **Yes**

Wi-Fi **No**

Has TV **No**

Dogs Allowed **Yes**

Waiter Service **No**

Relation of allowing dogs with open/closed

Modelling





To predict: Open/close status based on attributes of a business

To test whether our results are transferable across industries we deal with data from top two categories separately:



RESTAURANTS



SHOPPING

Model Selection



Restaurants

	Model			
	Baseline	Logistic regression	KNN (n=29)	Random Forest (n=29)
Accuracy score	70.39%	70.96%	71.22%	70.96%

Shopping

	Model			
	Baseline	Logistic regression	KNN (n=11)	Random Forest (n=11)
Accuracy score	83.13%	82.93%	83.41%	83.33%

Baseline: The model assumes all restaurants are open.

Model Selection - Accuracy

Insights





- **Top features of shopping malls are highly correlated** than restaurants' features. However, it also means that non-parametric models are better suited for predicting shopping mall success.
- Yelp's overall strategy shifting their focus away from local restaurants seems to be a step in the right direction, because it is **harder to build long-lasting relationships with customers** in an industry where business life cycles are shorter
- Even though **KNN works best** for our data, it doesn't give us information about the direction and magnitude of each feature, so we'll explain variable importance with regression coefficients instead



RESTAURANTS

- BYOB
- Happy Hour
- Delivery



SHOPPING

- Dogs allowed
- Wheelchair access
- Business accepts credit cards

Important Features per category