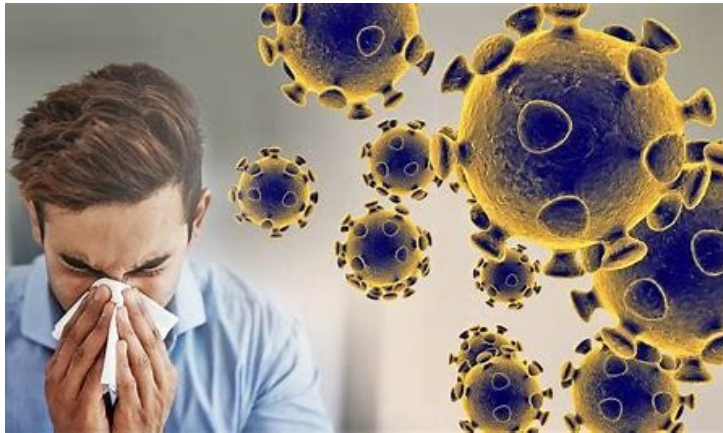# Data Technology for Business Analytics

By: Max Brown, Zach Ryan, Jill Schloff, Patrick Stanek

Team Pink

Question

How did average income by zip code affect Yelp reviews before and after the COVID-19 pandemic?

Hypothesis

The average Yelp review rating decreased in higher income zip codes more than lower income zip codes after the start of the pandemic (unit of measure: percentage change)
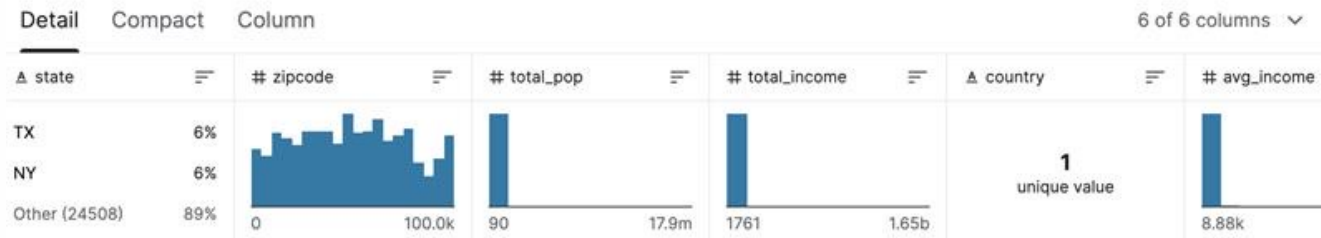
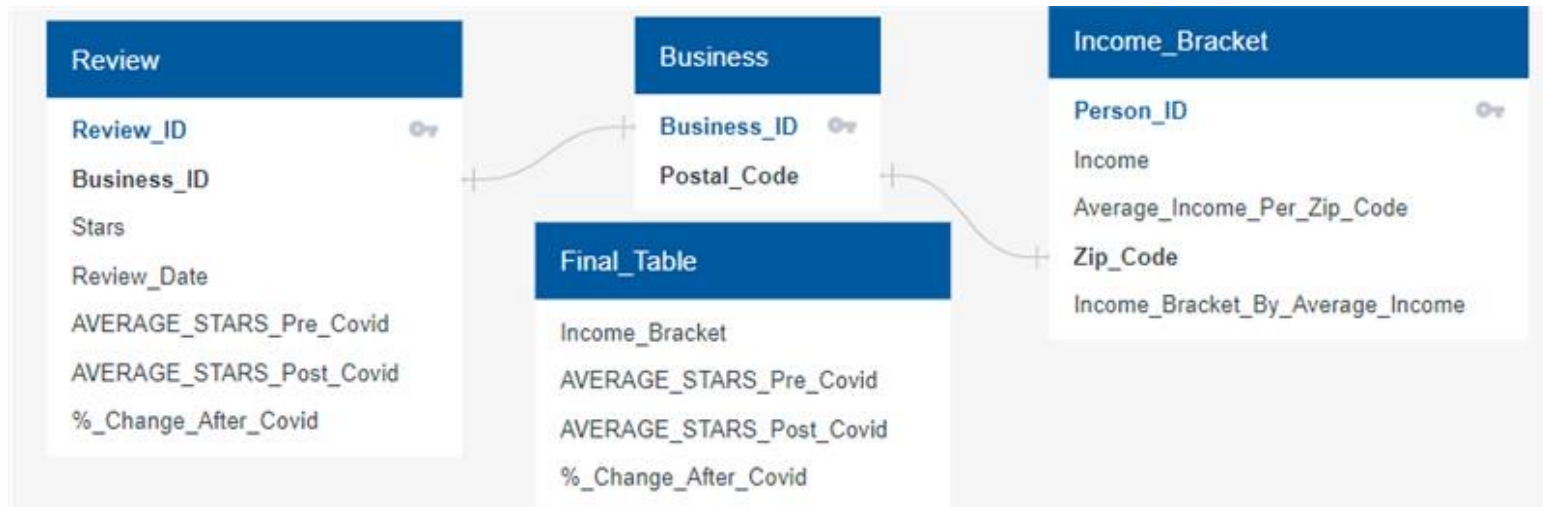- Assumption: Reviews were affected as of January 2020

Obtained Data Sets

Yelp Trust & Safety Report 2021

```
5 •    USE yelp;
6 •    SELECT COUNT(*) FROM business; -- expected output: 150346
7 •    SELECT COUNT(*) FROM category; -- expected output: 668592
8 •    SELECT COUNT(*) FROM user; -- expected output: 1987897
9 •    SELECT COUNT(*) FROM review; -- expected output: 6990280
```

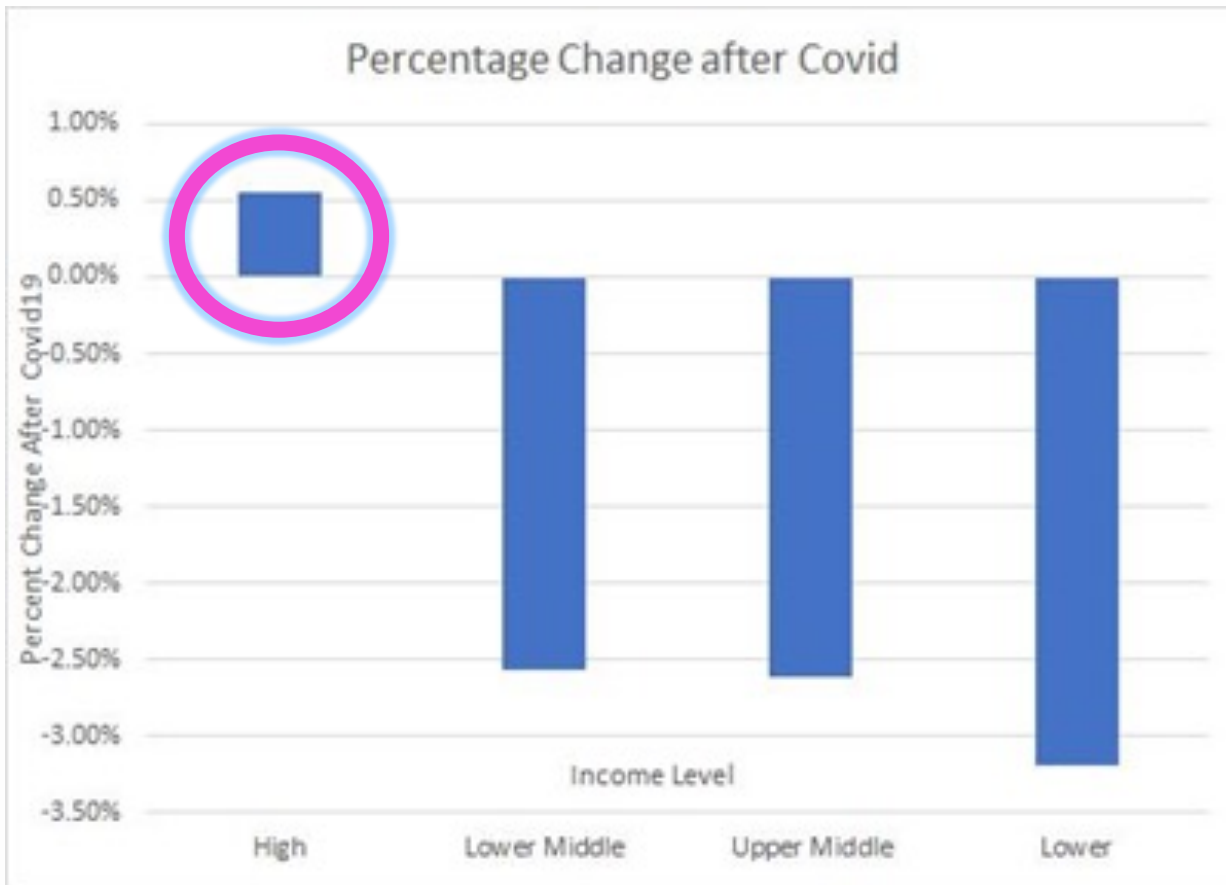| Detail Compact Column					6 of 6 columns ∨
A state	# zipcode	# total_pop	# total_income	A country	# avg_income
TX 6%					
NY 6%				**1** unique value	
Other (24508) 89%	0 100.0k	90 17.9m	1761 1.65b		8.88k

Logical Design

Challenges

- No meaningful data for COVID-19 closure date by zip code

- Identifying how to properly classify income brackets (*i.e.*, high-income bracket vs low-income bracket)

Results

Conclusion

Team Pink cannot reject the NULL hypothesis
- High-income bracket average ratings increased after January 2020
- All other income bracket average ratings decreased after January 2020