

Module 3: Presentation 2

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Group 7

Quick Background

Goal :

Analyzing Breakfast/Brunch Restaurants from Yelp Business and Yelp Review Data Set

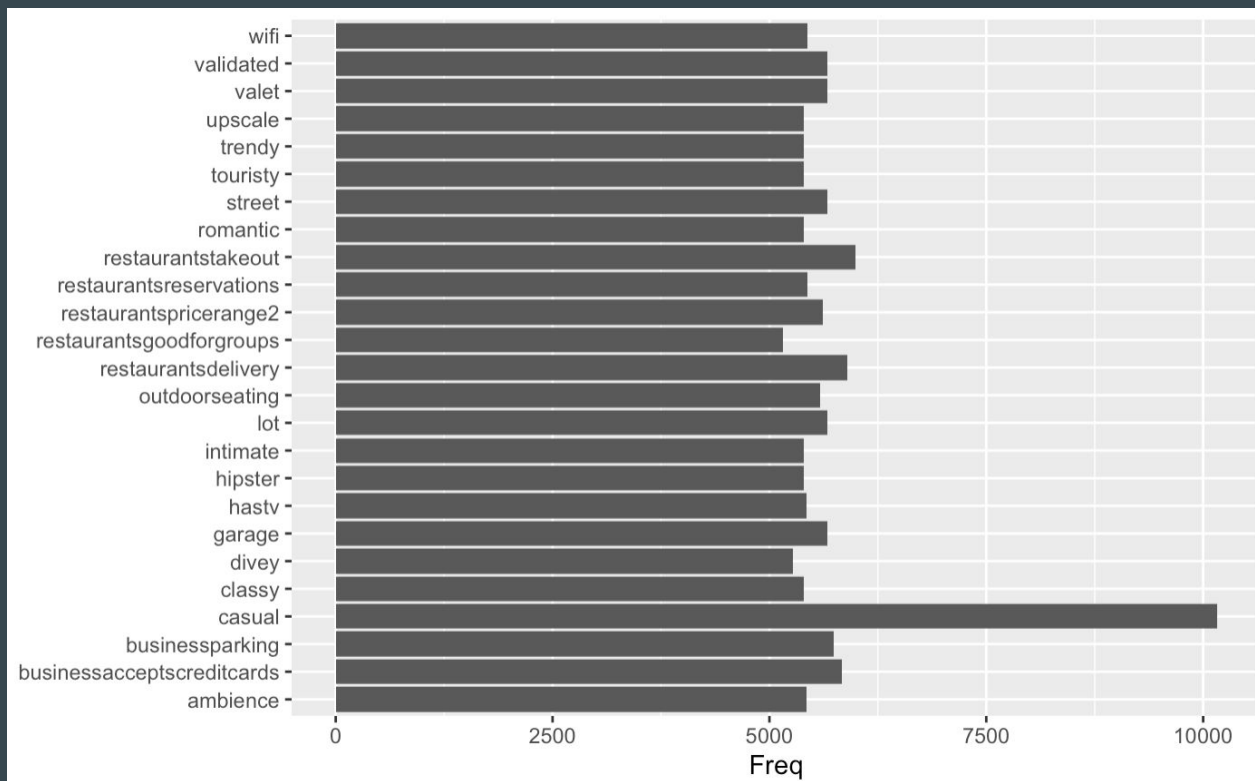
- Filtered Yelp Business Category to Breakfast/brunch
- Filtered Yelp Review to match business ids filtered business
- Filtered yelp review to only reviews with 6+ votes

Question/Motivation:

Analyze breakfast and brunch restaurants across the country on what attributes affect rating? What can we learn from the reviews, such as customer satisfaction of popular foods?

Business Attribute Analysis

Looked at the most
Frequently Mentioned
Attributes of our selected
Businesses.



Business Attribute Analysis

Performed Two Sample T Test on Attributes “Casual” , “Outdoor Seating”, “Good For Groups” , “Restaurant Takeout”

Ho: Casual True = Casual False

Ha: Casual True > Casual False Rating

Results: Casual, Outdoor Seating and Takeout True greater impact in rating

Business Recommendation based on Business Attribute Analysis.

Impact Rating: Takeout, Casual, Outdoor Seating

- Recommendation: Invest in Outdoor Seating:
 - Why? Avg rating of -.45 stars vs -.958 : 95% CI (.2595, inf)
- Recommendation: Offer a Takeout option/menu
 - Why ? avg rating -.66 stars vs -1.2 : 95% (.47133, inf)
- Recommendation: Encourage a casual environment
 - Why ? -.55 vs -.85 : 95% (.49556 , inf)

Don't Impact Rating: Good For Groups

- Recommendation: don't spend resources on this attribute
 - Was not significant

Topic Model Analysis

Our analysis with LDA Topic Mode found that our reviews can be categorized into four topics:

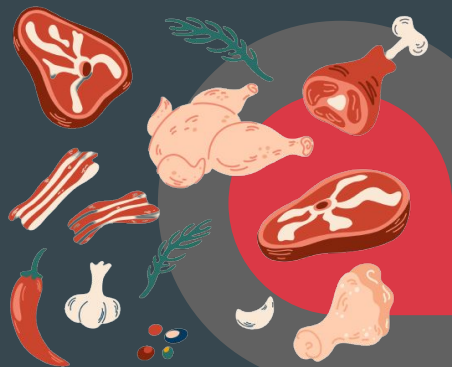
01	Food Quality	meal, menu, delicious, hot, recommend
02	Serving Speed	wait, service, time/times, experience, stuff
03	Staff Attitude	nice, love, service, people, night
04	Customer Loyalty	time/times, service, delicious, experience, spot, day

Top Frequent foods in each topic

01

Food Quality

chicken,
sandwich, pork,
bacon



02

Serving Speed

salad, toast,
soup



03

Staff Attitude

coffee, bagel,
pancake



04

Customer Loyalty

sauce, bread,
dessert,
potatoes



Business Recommendation Based on Topic Modeling

1. **For those who feel the need of improving food quality on a tight budget:**

Starting with entrees with chicken or pork rather than sweets will spend less while achieving more.

2. **For those whose main business is coffee and bakery:**

Investing more on staff training to make the atmosphere more friendly will be of higher priority than serving new items.

3. **For those who just started their business and want to gain loyal customers:**

Paying attention to details and quality control will be more effective than incline the limited resources to improve a certain aspect.

Shiny App

Link

- Details of data

Our Shiny app was built based on the analysis topics, it tells users the details of the data we used, such as locations and foods that are talked most by customers.

- What is influential

Users can check what foods are mentioned in reviews, and use that information to improve their ratings on Yelp platform.

Shiny App (continue)

- Recommendation

Users can also check how each topic plays its role in user's experience, staff attitude tends to affect more in low stars reviews, where for high stars reviews customer loyalty and serving speed affects more.

- Skim of raw data

The Shiny app we build also give users a glimpse of the data we got from analysis.