SEAFOOD RESTAURANT EXPANSION IN SC

Analysis of South Carolina Restaurants, Cities, and Towns

Prepared for the Yachtsman Group

Prepared by: S. Forte

INTRODUCTION – PROBLEM STATEMENT

The Yachtsman Group is looking to expand their popular seafood restaurant into South Carolina. They have a couple of models of their restaurant (the Yacht Stop - mid-range menu pricing and the Yacht Club - upscale). They would like to know what the market looks like in the state for restaurants, particularly seafood restaurants. If the market is open for their restaurant models, the business owner will commit to opening two restaurants in the state to start.

I will identify the types of restaurants in the cities and towns. I will use this information along with location information to determine which areas would be the best options to open seafood restaurant(s).

Assumptions before starting data analysis:

- South Carolina is a coastal state, so the market may be oversaturated with seafood restaurants.
- Major coastal, tourist cities would have a higher concentration of seafood restaurants.

Note: *I list the assumptions to see if they hold true at the end of the modeling and analysis.*

DATA SOURCES

I used the following data sources to gather a list of cities, towns, and venues for each. Once the information is gathered I will use different methodologies to analyze the data to summarize the best locations for my clients to open their restaurant(s).

- **Wikipedia** | To find restaurants located in South Carolina, we need a list of all cities and towns. The data is available in the Wikipedia page. In the project, we will scrape the towns and cities table information available from the Wikipedia page.
- Source: https://en.wikipedia.org/wiki/List_of_cities_and_towns_in_South_Carolina
- **Geocoder Nominatim** | To gather the geolocation (latitude and longitude) of all the towns and cities. In order to get this information, I will use the Geocoder Nominatim OpenStreepMap (OSM) API to get the geographical location (latitude and longitude) of each town/city.
- **FourSquare** | Used FourSquare crowdsource data to gather all the restaurant and category details of all the venues of type of *food*. I will use the endpoint – *Venues*.

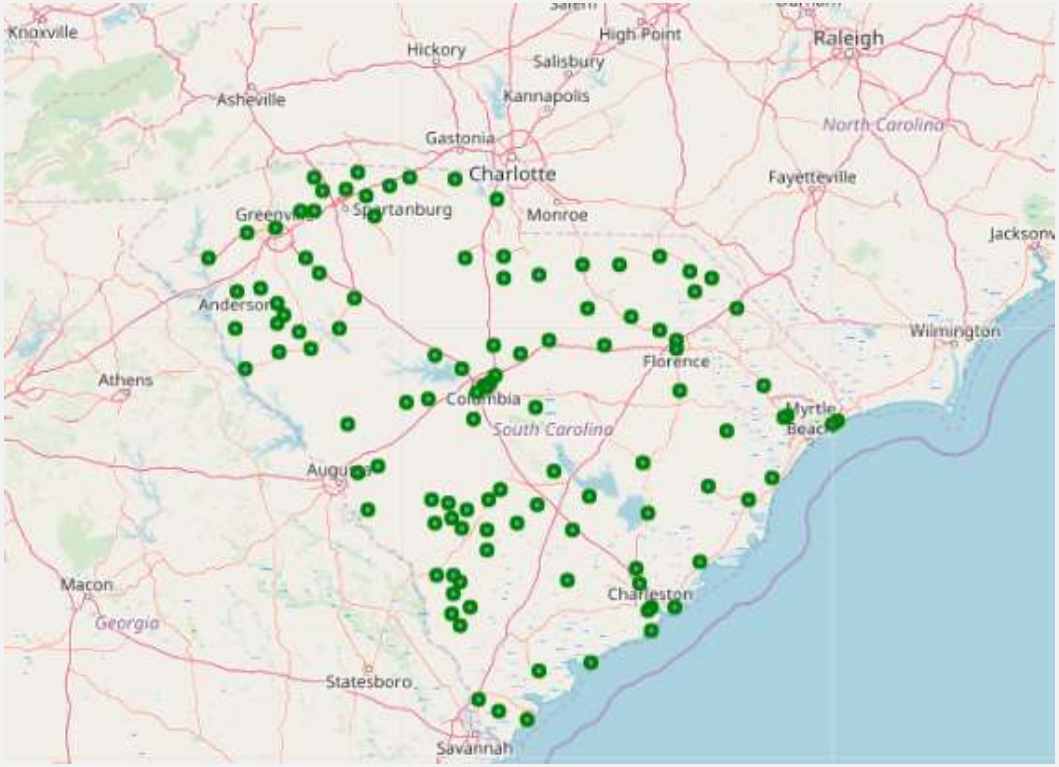
DATA DESCRIPTION / ANALYSIS

I compiled the data into a single data set and obtained location information for each city. Below is a sample of the data gathered:

	Name	latitude	longitude
0	Abbeville, SC	34.177949	-82.379246
1	Aiken, SC	33.559859	-81.721952
2	Allendale, SC	32.963501	-81.340006
3	Anderson, SC	34.506860	-82.650626
4	Andrews, SC	33.451278	-79.560897

DATA ANALYSIS

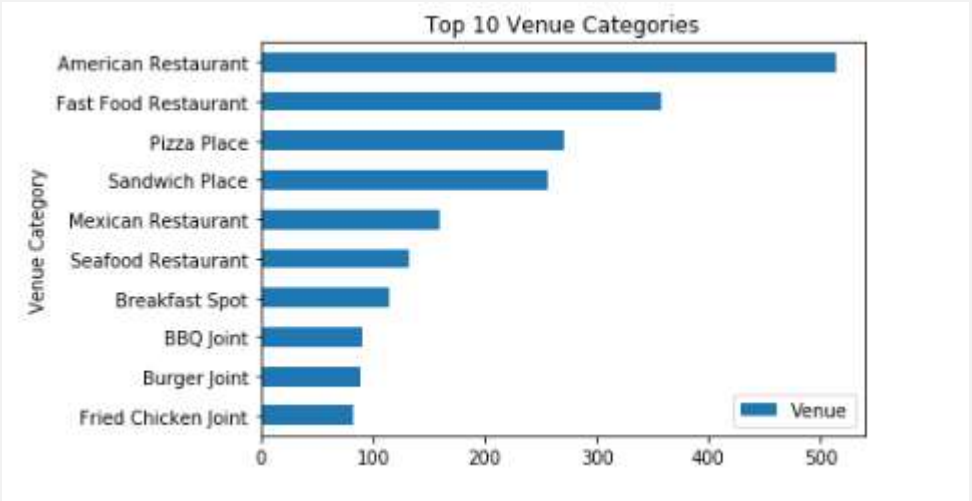
Here is a visual representation of the data set.



TOP RESTAURANT CATEGORIES

The top restaurant categories based on the data.

Venue Category	Venue
American Restaurant	513
Fast Food Restaurant	358
Pizza Place	270
Sandwich Place	257
Mexican Restaurant	160
Seafood Restaurant	133
Breakfast Spot	115
BBQ Joint	90
Burger Joint	89
Fried Chicken Joint	83



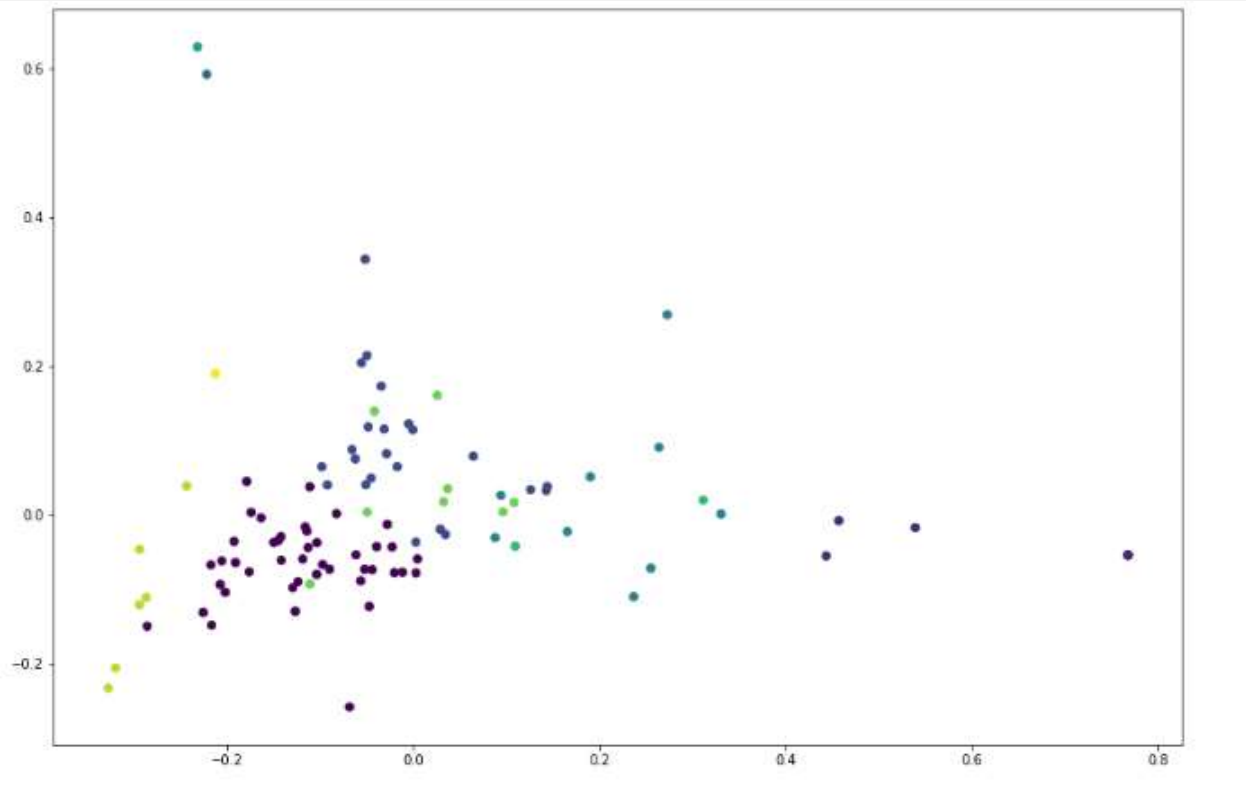
METHODOLOGY

Used K-Means Clustering for an unsupervised data set for 10 clusters. See a sample below:

1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th
American Restaurant	Fast Food Restaurant	Greek Restaurant	Fried Chicken Joint	Southern / Soul Food Restaurant	Pizza Place	Creperie	Café	Sandwich Place	Mex
Sandwich Place	American Restaurant	Pizza Place	Fast Food Restaurant	Fried Chicken Joint	Donut Shop	Sushi Restaurant	Mexican Restaurant	Breakfast Spot	
American Restaurant	Fast Food Restaurant	Pizza Place	Sandwich Place	Diner	Mexican Restaurant	Fried Chicken Joint	Asian Restaurant	Japanese Restaurant	
Sandwich Place	Fast Food Restaurant	Pizza Place	American Restaurant	Mexican Restaurant	Breakfast Spot	Chinese Restaurant	Deli / Bodega	Korean Restaurant	Sea
Fast Food Restaurant	American Restaurant	Breakfast Spot	Italian Restaurant	Sandwich Place	Café	Donut Shop	Chinese Restaurant	Fish & Chips Shop	
Fast Food Restaurant	American Restaurant	Pizza Place	Food Truck	Sandwich Place	Seafood Restaurant	Italian Restaurant	Chinese Restaurant	Mexican Restaurant	
Fast Food Restaurant	Mexican Restaurant	Café	American Restaurant	BBQ Joint	Pizza Place	Fried Chicken Joint	Chinese Restaurant	Breakfast Spot	Japa
Fast Food Restaurant	American Restaurant	Fried Chicken Joint	Burger Joint	Mexican Restaurant	Pizza Place	Greek Restaurant	Sandwich Place	Café	
Fast Food Restaurant	Fried Chicken Joint	Pizza Place	Diner	Sandwich Place	Café	Burger Joint	Breakfast Spot	BBQ Joint	Amer
Fast Food Restaurant	Cafeteria	American Restaurant	Pizza Place	Sandwich Place	Wings Joint	Chinese Restaurant	Fried Chicken Joint	Deli / Bodega	Soutl
Fast Food Restaurant	American Restaurant	Pizza Place	Sandwich Place	Chinese Restaurant	Seafood Restaurant	BBQ Joint	Fried Chicken Joint	Breakfast Spot	Mex
Fast Food Restaurant	American Restaurant	Japanese Restaurant	Sandwich Place	Breakfast Spot	Pizza Place	Fried Chicken Joint	Mexican Restaurant	Burger Joint	Sea

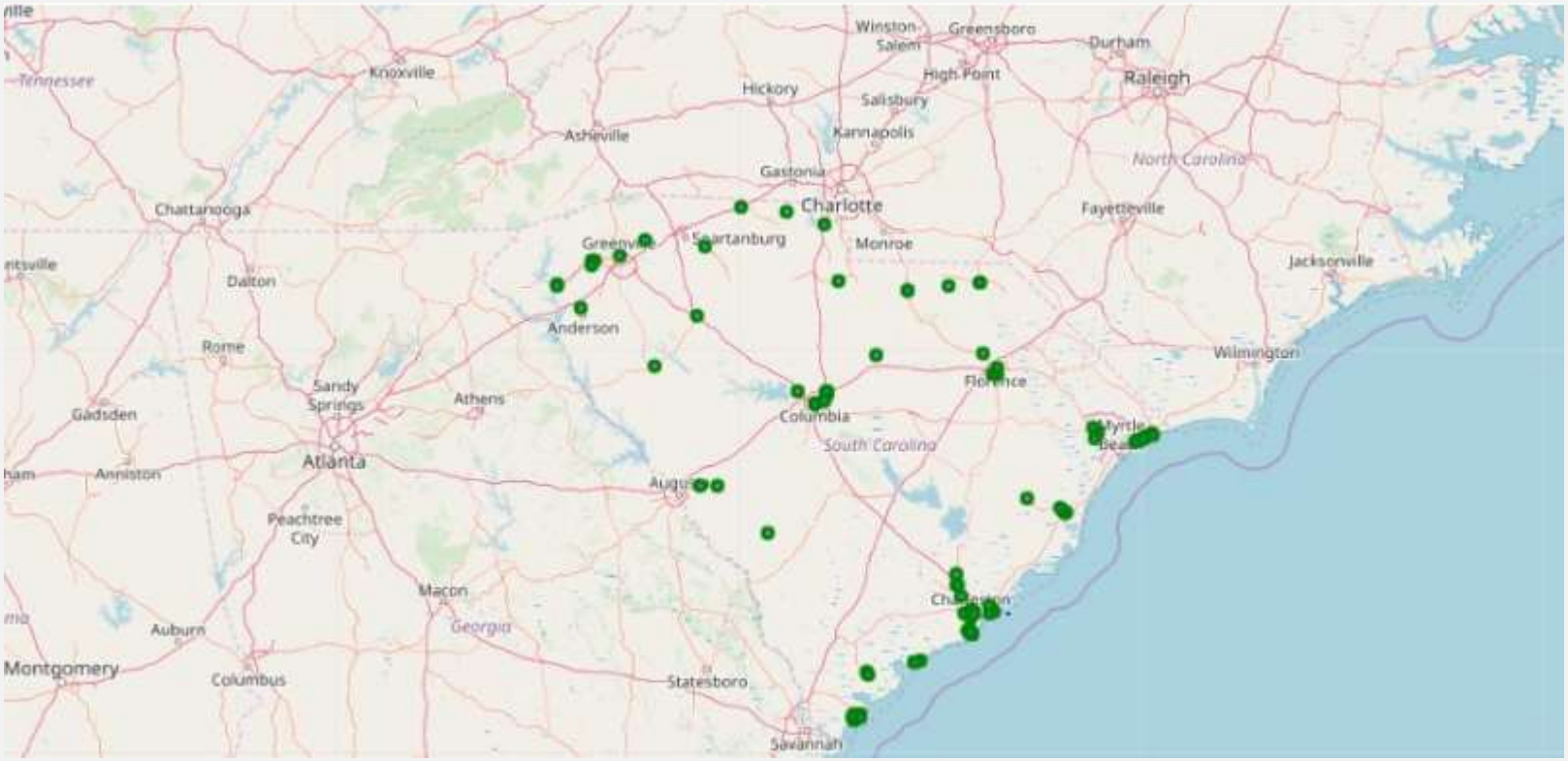
SCATTER PLOT RESULTS

Scatter plot representation of the clusters.



MAP OF SEAFOOD RESTAURANTS

Shows the location of seafood restaurants throughout the state.



RESULTS

The areas with seafood restaurants as the most common venue.

ıe	latitude	longitude	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Mos Commo Venu
d, C	34.650058	-80.141784	5	Seafood Restaurant	Wings Joint	Caribbean Restaurant	French Restaurant	Food Truck	Food Stand	Food Court	Fish & Chips Shop	Fast Foo Restaurar
to C	32.479355	-80.334823	2	Seafood Restaurant	Pizza Place	American Restaurant	Sandwich Place	Breakfast Spot	Food Truck	Food Court	Fish & Chips Shop	Fast Foo Restaurar
h, C	32.654997	-79.940609	2	Seafood Restaurant	American Restaurant	Sandwich Place	Mexican Restaurant	Café	Food Truck	Breakfast Spot	Irish Pub	BBQ Joir
n, C	33.376834	-79.294496	0	Seafood Restaurant	American Restaurant	Fast Food Restaurant	Pizza Place	Japanese Restaurant	Deli / Bodega	Sushi Restaurant	Chinese Restaurant	Dine
n, C	34.649889	-80.389540	2	Seafood Restaurant	Steakhouse	Southern / Soul Food Restaurant	American Restaurant	BBQ Joint	Creperie	Cuban Restaurant	Deli / Bodega	Dine

CONCLUSION

It is surprising there aren't more seafood restaurants in the state considering how close it is to the coast and fresh seafood. The areas that I expected to have the higher concentration of seafood restaurants didn't make the top 10 list.

I expected Charleston and Myrtle Beach to be in the top 10 because of their closeness to the ocean and high volume of tourist traffic. Instead, an inland city (Chesterfield) led the list.

Recommendation

Because of the data, I would recommend that Yachtsman Group expand both restaurant models (the Yacht Stop - mid-range menu pricing and the Yacht Club - upscale) into South Carolina.

After looking at the data and visualizations my recommendations for expansion would be to look at an inland city: perhaps Columbia, Florence, Rock Hill or Spartanburg. These are all large cities that are not currently oversaturated with seafood restaurants. They are also close enough to the coast to receive fresh seafood shipments regularly.

I would also suggest a coastal city such as Charleston, Myrtle Beach, or Hilton Head. These cities have great populations but also see a high volume of tourists, which may appeal to a business owner.