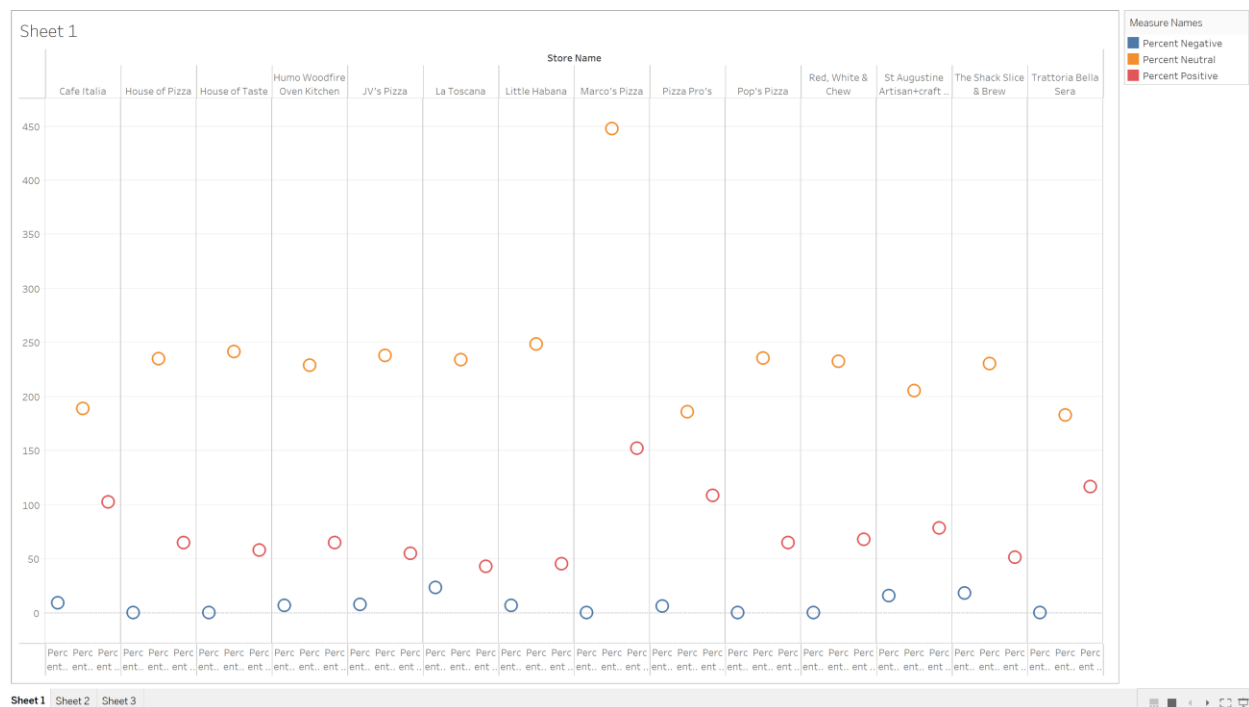


When it comes to starting a business, you always want to find ways to differentiate yourself from your competitors to get an edge, even more so in the food industry. In order to find ways in which to improve it can be useful to see what customers are saying about your competitors. The parameters for this search will be the city of El Paso, Texas. We will be searching through businesses that serve pizza. Of these businesses we will be viewing the 15 highest rankings to have substantial information to prove from. Using the Yelp Fusion API, I hope to find surface level insights into which competitors with high ratings may also have positive and negative reviews. In doing so a further analysis of the reviews can take place to possibly see what the cause was of leaving such positive or negative reviews. To accomplish this I will be using the Vader Sentiment package. This package allows us to easily set values to otherwise qualitative objects, in this case the text of the reviews. The Vader Sentiment package will give the text a value for negative(neg), positive (pos), neutral (neu) and compound. Compound represents the standardized sum of all the other metrics.<sup>1</sup>

After running the data retrieval and producing an analysis we are left with visuals to help see and understand the data. Using Tableau, we can easily see the results of the 15 highest ranking businesses.



This visual shows the sum of positive, neutral, and negative sentiments found in the reviews. Overall, most businesses receive neutral reviews, and very few negative reviews. We can also see that Marco's Pizza positive review is much higher than the rest of the businesses. From this we

<sup>1</sup> <https://www.geeksforgeeks.org/python-sentiment-analysis-using-vader/>

may want to see why Marco's Pizza has such high positive sentiment ratings along with other businesses. To do this we add a filter to Tableau to see the most positive sentiment ratings.

Store Name	Review Text	
Cafe Italia	I love it!! To start, the bread was stuffed with flavor, and the Antipasto was good! Our waiter was pretty nice. They make their pizza ingredients in-store....	37.80
	Service is super attentive	
	Food is excellent EVERY SINGLE TIME (I go there every Friday)..	40.90
House of Pizza	Best in town guaranteed!!! Love the food atmosphere and staff. Only issue is only cash.	41.60
Marco's Pizza	Delicious!! Hit and fast delivery and the pies were so good!!! Will order again. We got a supreme and a cheese.	40.40
	Marco's has become our favorite choice for our sandwiches, wings and pizza. The service is also great the staff is very professional and kind. Awesome food...	40.30
Pizza Pro's	This pizza is sooo good, freshly baked as well. It's a bit doughy but overall pretty good! The wings are the BEST they have very yummy flavor and are cooked...	49.90
Pop's Pizza	Great pizza & service for SUPER cheap! Ordered over the phone and it was ready in abt 15 min! Didn't eat in but loved the drive-thru feature :)	42.60
St Augustine Artisan+craft Beer	Best pizza and service	
	Chill place to go for a talk ..	39.30
	Great quality ingredients and very delicious pizza. I've had several of their pizzas on the menu and loved every single one of them. Will definitely go back	39.00
Trattoria Bella Sera	Delicious food. We always feel like family when we eat here. The restaurant is beautiful. Friendly service and staff.	47.00

From this we can see that several factors are reoccurring in the positive sentiment. They are speedy service, customer service, and consistent delicious pizza. This is only half of the equation as negative sentiments can be just as important to see what should be avoided.

Sheet 3		SUM(Percent Negative)	
Store Name	Review Text		
Cafe Italia	Cute place, nice ambiance, outdoor patio, and fast service. The bread is hot from the oven and so tasty. Portions are substantial. The only criticism I...	8.90	
House of Pizza	Best in town guaranteed!!! Love the food atmosphere and staff. Only issue is only cash.	0.00	
Humo Woodfire Oven Kitchen	We are passing through Texas and El Paso was our 2nd stop. We wanted pizza in a chill environment and we found the perfect place. When we entered, there was...	6.50	
JV's Pizza	To say their crust is amazing is an understatement. Damn, you take a bite and the crust melts in your mouth. Crunchy on the outside and so soft on the...	7.80	
La Toscana	Extremely bad service at the Ejército Nacional location we were ignored by staff members and our pizza never arrived we decided to leave and asked for the...	23.30	
Little Habana	I stayed across the street at Home2Suites. I didn't feel like going far for dinner, and this was a great choice! This is a family run establishment and...	6.50	
Pizza Pro's	Pizza and wings are always good. Cheap prices. Customer service is a hit or miss, but overall we recommend	5.80	
St Augustine Artisan+craft Beer	First the atmosphere: it seems as though the air conditioner is broke, it was VERY hot inside - even more hot than outside because of the wood fire grill...	16.10	
The Shack Slice & Brew	If you're interested, my initial review on yelp was a 5 star. I've visited this place multiple times since my initial visit. After today, I will no longer...	7.10	
	Stopped in for lunch yesterday, and enjoyed their Thursday special: \$8 for up to 3 topping personal pizza. I'm not gonna lie, I was a little nervous when...	11.00	

The negative sentiments seem to have a very common tune just as was found in the positive. Here the most blatant issue is customer service. The most negative sentiment with a rating of 23.3 even goes to say they never got their pizza due to such poor service.

The do's and don'ts of a business can sometimes be considered common sense, but it is reassuring to have data to fall back upon when opening a business. In these analyses we can see the reasons many establishments are succeeding and possibly thriving with their customer base. For the success of your business make sure to have impeccable customer service, speedy service and delicious pizza. Future analyses of the lowest rated pizza places could be more informative as to the don'ts, however from this analysis we can conclude that maintaining a great customer service experience is key to a successful enterprise.