



Evaluating The Joint Chiropractic Inc.: Cracking into the Chiropractic Industry

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Introduction

- Background:
 - Franchising offers entrepreneurs an opportunity to invest in proven business model
 - The Joint Chiropractic provides affordable chiropractic care with monthly plans
- Business Problem:
 - Does a K-means analysis provide insight on what constitutes a "Good" Joint Chiropractic location?
 - What tools can be used to help gauge customer impressions of the Joint Chiropractic as a brand and assess the overall impression of this franchise in the United States?
- Interest:
 - Potential Investors could hire an independent Data Scientist to help decide if they should invest in the Joint Chiropractic, Inc.



Data Sources & Modules Used

- Collect Two Types of Data:
 - Nearby Venue Data
 - Customer Satisfaction Data
- Data Sources: Web Scraping – BeautifulSoup4
 - Clinic Location – The Joint Website
 - Nearby Venue Data – Foursquare
 - Customer Rating Data – Google Places API
- Modules Used for Analysis:
 - Web Scraping – BeautifulSoup4
 - GeoCoding Data – ArcGIS
 - Nearby Venue Data – Foursquare
 - K-means - Sklearn
 - Histograms & Tie Plots – Pandas & Numpy



Methodology

- Scrape the Vendor Web site
- Obtain Geocoding Data
- Visualize current Franchises
- Use Foursquare to obtain Nearby Venue Data and Summarize
- Apply K-means for Classification after finding acceptable K via Elbow Method
- Obtain User Rating Data and Summarize
- Share Conclusions

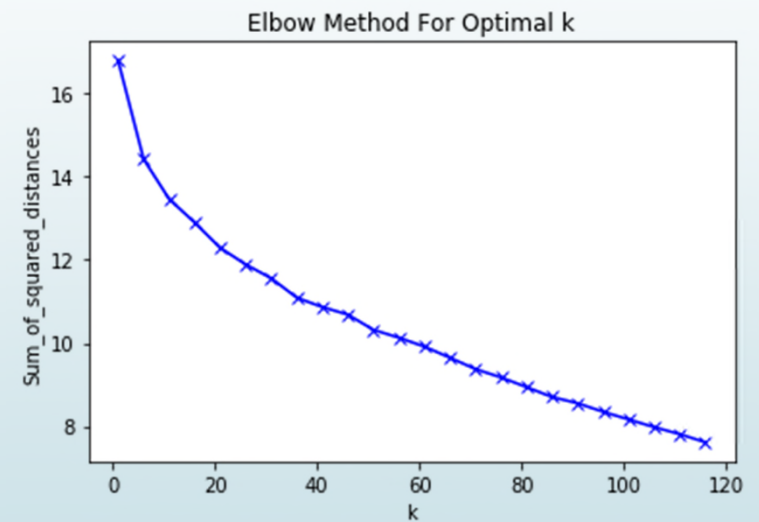
Results – Mean Number of Nearby Venues

- Benchmark what makes a “good” Joint Location
 - Approximately 37 nearby venues on average
 - Clinics situated Near retail

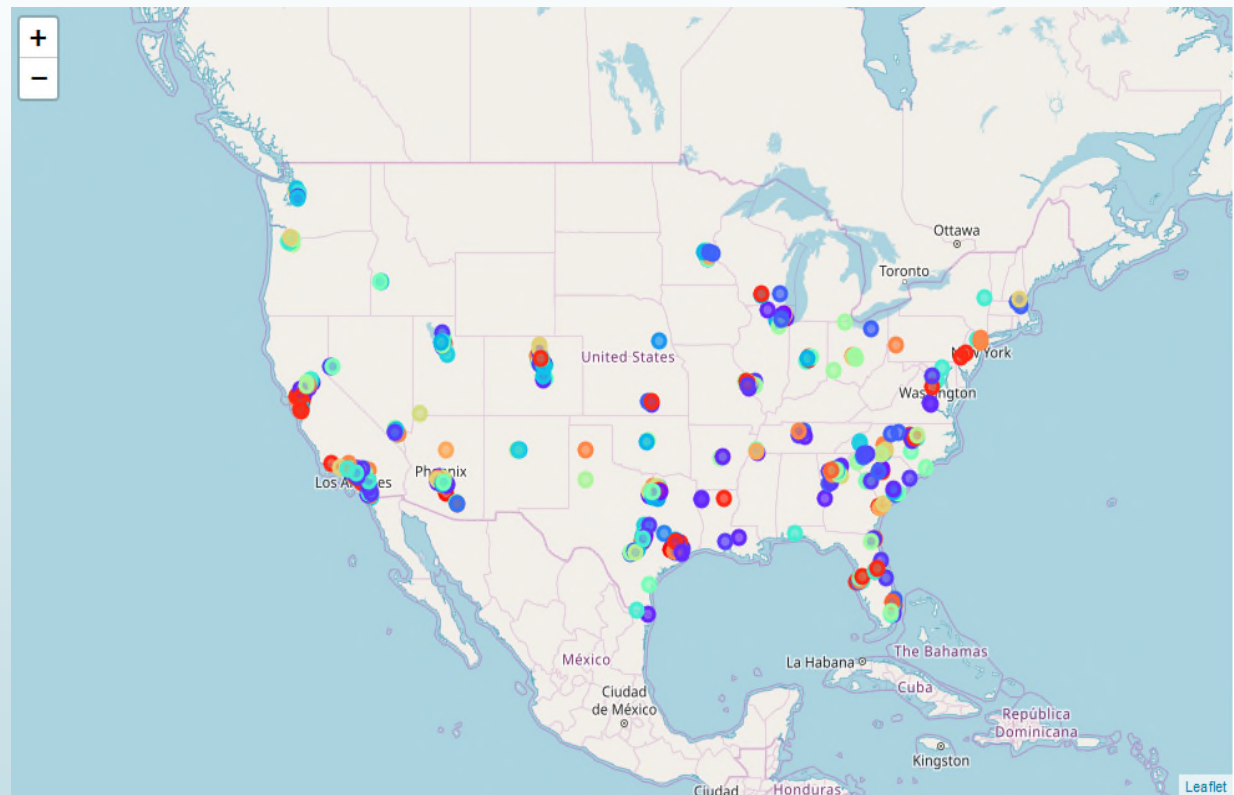
| Nearby Venues - Summary | |
|-------------------------|------------|
| count | 473.000000 |
| mean | 37.171247 |
| std | 17.419374 |
| min | 2.000000 |
| 25% | 25.000000 |
| 50% | 34.000000 |
| 75% | 47.000000 |
| max | 100.000000 |

Results – Mean Number of Nearby Venues

- Analysis Summary:
 - Determine Top 20 Venues for all 474 Joint Clinics
 - Venues must be within 500-m Radius
 - Select Accept K-cluster value based on Elbow Method
 - Visualize k-clusters on Map



Results - K-Means Analysis

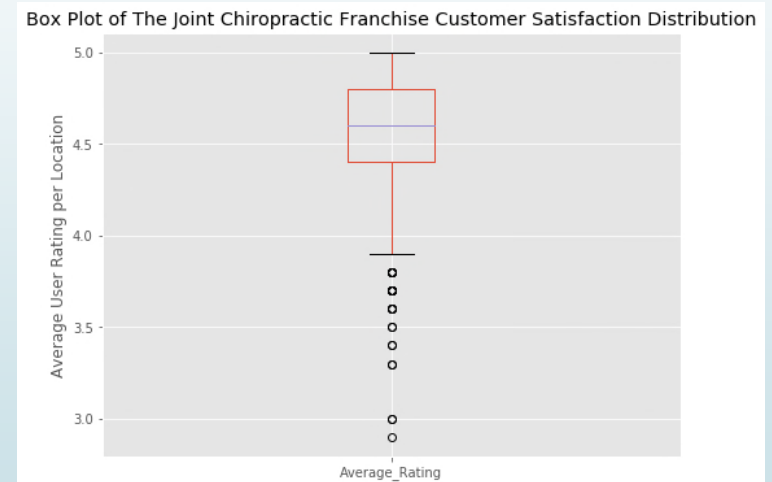
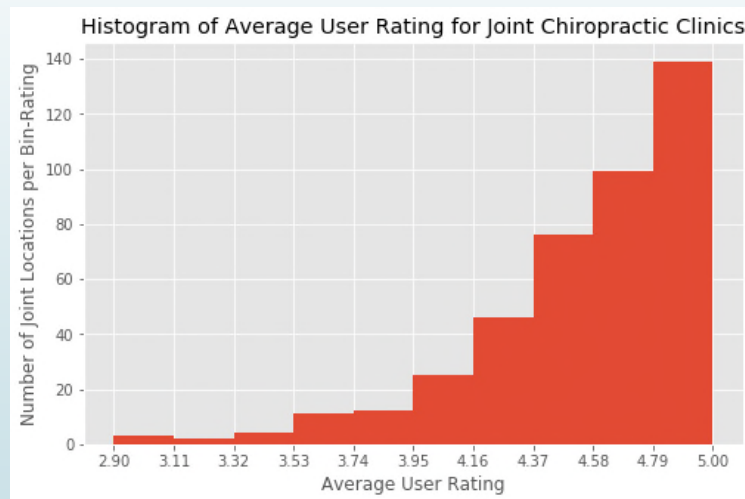


Results – Customer Satisfaction Results

- Analysis Summary:
 - Determine Average User Rating and Number of Ratings for each Clinic
 - Assess overall consumer sentiment
 - Only use Joint Franchises that have at least five Total ratings
 - Visualize Consumer Satisfaction with Histograms and Box Plot

| | Average_Rating | Ratings_Total |
|-------|----------------|---------------|
| count | 417.000000 | 417.000000 |
| mean | 4.540528 | 44.438849 |
| std | 0.379287 | 36.757348 |
| min | 2.900000 | 5.000000 |
| 25% | 4.400000 | 20.000000 |
| 50% | 4.600000 | 32.000000 |
| 75% | 4.800000 | 59.000000 |
| max | 5.000000 | 236.000000 |

Results – Customer Satisfaction Visualization





Conclusion

- Key Takeaways:
 - “Good” clinic has 37 nearby Venues within 500m
 - Joint Chiropractic clinics are well received:
 - Average consumer rating of 4.54 out of 5.00
 - Underperforming locations are outliers
- Next Steps:
 - Select an area in local Atlanta – Market
 - Potential candidates include Mableton, Smyrna, or Marietta
 - Incorporate User ratings into K-means evaluation