Capstone Business Problem

1. Although the true rate of failure of restaurants are significantly lower then reported, this industry is known to have the highest failure rates. This report will examine Boulder, Colorado and will attempt to recommend optimal locations to open a restaurant. The audience I would target is potential restaurant owners and I believe that they would care about this given topic as there are numerous variables which can factor into the success of a restaurant. If statistics can be used to lower the risk of failure based on the location of their restaurant, I believe the targeted audience would care.

In order to recommend potential locations for a restaurant, we must understand the potential impacts that a location will have on the restaurant. Parsa et al. (2005) studied the failure in the restaurant industry, and concluded that size and type of operation, competition (or concentration of competitors), and restaurant concept are three factors that contribute to the failures. As expected from the concept of perfect competition, with a high concentration of restaurants the failure rates are greater. This is commonly seen in downtown locations, which has significantly higher restaurant failure rates compared to suburban locations. An inappropriate segment (type of food served) in the market is a common factor that results in failure. In Parsa et al. (2015) it was determined that Mexican style restaurants, sub shops, bakeries, coffee shops, and pizza restaurants reported the highest failure rates (in descending order) respectively. Parsa et al. (2015) used the U.S. Census data for Boulder, Colorado for 2000 and 2010 and the health department records for the Boulder County Health Department during the 10-year span. In 2010 it was estimated that Boulder's population was 118,400, which was distributed across five ZIP codes. Let it be noted that moving forward Parsa et al. (2015) does not use the results of ZIP code 5 in dues to the small population.

Reference ID	ZIP Code	# of Failure	Total Restaurants	Failure %
1	80301	41	143	28.67
2	80302	48	225	21.33
3	80303	21	74	28.17
4	80304	12	41	29.27
5	80305	2	13	15.38

Table 1: Failing Restaurants in Boulder, Colorado sorted by the U.S postal ZIP codes.

From Table 1, ZIP codes 1, 3 and 4 had the highest failure rates, of these three ZIPs codes 1 and 4 also had over 66% of its population owning a house. This indicates that contrary to popular belief, homeownership does not correlate to an increase in success of restaurants. ZIP code 2, which has the highest success rate of the 4 considered ZIP codes also has the highest proportion of renters at 62.14%. This suggests that regions with high percentage of renters could be beneficial to restaurant industry. Another characteristic analyzed in Parsa et al. (2015) is the neighborhood's age group, as seen in Table 3 the ZIP codes in which the percentage of population was 25 and older had the highest restaurant failure rate. The Zip code in which had the highest percentage of individuals between 18 and 24 had the lowest restaurant failure rate. These results suggest that geographical areas with a family dominant presence does not promote longevity for the restaurant industry.

Reference ID	Owner Occupied %	Renter Occupied %
1	66.66	33.34
2	37.86	62.14
3	45.40	54.60
4	67.37	32.63
5	62.68	37.32

Table 2: The breakdown of owner versus renter occupied homes across the 5 ZIP codes in Boulder, Colorado.

Another variable to account for in the failure rate of restaurants in Boulder, Colorado is the total family income. From Table 3 we see that ZIP code 2 has the largest population of individuals of earn less than $10,000 and between $10,00 and $49,999. It was previously noted in Table 1 that ZIP code 2 had the lowest failure rate, these findings suggest that both the middle- and lower-income individuals support the restaurant industry. Another notable statistic from Table 3 is that ZIP code 4 has the highest percentage of individuals who earns $100,00 - $149,999 and $150,00 and more. ZIP code 4 was determined to have the highest failure rate, which suggests that having the percentage of high-income families results in restaurant success.

Reference ID	< $10,000 (%)	$10,000 - $49,999 (%)	$50,000 - $99,999 (%)	$100,000 - $149,999 (%)	$150, 000 or more (%)
1	5.22	39.68	30.61	15.60	8.89
2	14.96	47.59	20.77	8.77	7.91
3	9.19	36.90	30.74	13.02	7.45
4	4.97	36.80	31.94	13.88	12.41

Table 3: The representation of total family incomes in Boulder, Colorado based on the 4 ZIP codes.

2. I plan to use data collected from the Health Department of Boulder, the current Census data and Foursquare location data in order to recommend locations best suited for a restaurant. As previously mentioned in the background information, there are numerous variables which could result in a restaurant failing. Using the collected data, I intend to determine regions in the city in which the type of food served is desired, to prevent inappropriate segmentation. I then plan to examine the concentration of competition in the viable regions to determine which region is least saturated. Once completed, I plan to geographically breakdown the remaining viable regions based on previous restaurant failure rates, the percentage of homeowners versus renters and the total family income breakdown. After completing the analysis, I would hope to have potential locations suited for a new restaurant.

References

Parsa, H. G., J. Self, D. Njite, and T. King. 2005. Why restaurants fail? Cornell Hotel and Restaurant Administration Quarterly 46 (3): 304-22.

Parsa, H., van der Rest, J., Smith, S., Parsa, R., & Bujisic, M. (2015). Why restaurants fail? part IV: The relationship between restaurant failures and demographic factors. *Cornell Hospitality Quarterly, 56*(1), 80-90. doi:10.1177/1938965514551959