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Project Title: Best restaurant business model for Inverters.

1. Introduction/Business Problem

Running a successful restaurant is not so easy at this competitive world it needs more passion and good business model to be successful.

Around 40% of the new start-up restaurant business model fails because of not having correct business model with them were in it will fail to meet the customer exception who visits their restaurant.

To be a successful restaurant the priority things is to fulfil the exception of customer based on the locality type of cuisine and costing model will help the inverter to harvest good profit out the business.

This project I will perform a analytic over the data collected from Zomato database and I will propose a predicted suggestions to start a new business.

Business problems with restaurants which I'm going to solve with this project is as below.
- Choosing a best location to open restaurant
- Best cost model.
- Best selling Cuisine.

2. Data

I have collected a data of restaurants at chennai it was limited to 4 postal codes only. The data is been pulled using API call from Zomato database.

I have publishes a data collection code to my github page.
https://github.com/vishnuk88/Coursera_Capstone/blob/master/data_file.csv

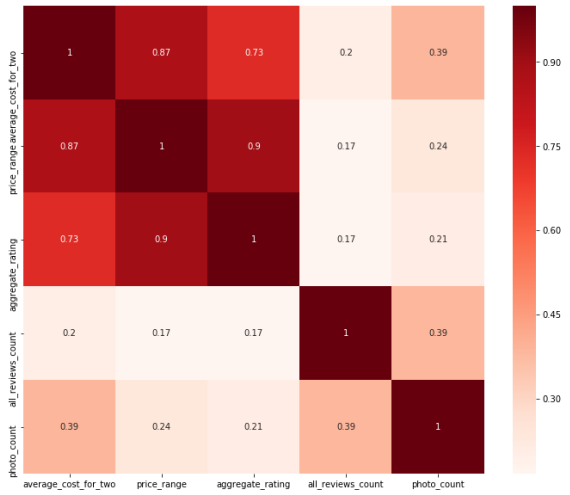
Data munging have been performed using the python code to clean the data's.
Data's been used at this project were as below.

id
name
latitude
longitude
locality_verbose
cuisines
average_cost_for_two
price_range
aggregate_rating
votes
all_reviews_count
photo_count
establishment
establishment_types

3. Methodology & Algorithm used

I have used K Mean algorithm to find centroid and best place to open a restaurant.
For error resection I have used a elbow point analysis and found the best cluster points for the dataset.
To find a correlation for successful restaurant I have used correlation heat map visualization to show the relationship between each data points collected.

Correlation index.



Best place to open restaurant:

	latitude	longitude
0	13.048841	80.208224
1	13.050974	80.212766
2	13.049327	80.211159
3	13.051903	80.209778
4	13.045747	80.213077
5	13.049863	80.214349
6	13.053430	80.211590
7	13.051748	80.207715

4. Results and Discussion

From my Analysis,

- I have been able to identify the Restaurant hotspots in vadapalani.
- I have been able to identify rite cuisine.
- I have been able to identify rite price model.

I have analysed over 500 restaurant data which are operating over 4 postal codes at chennai and I prepared a dataset with various data points like number of reviews,votes,ratings,cuisines etc.

Discovered insights from analysis.
1. I have found that there is a strong correlation b/w price range and rating.
2. Top successful restaurants are selling cuisines with combination of North Indian/ Chinese/ Chettinad/ Seafood & /North Indian/ Continental/ Kebab/ BBQ & South Indian/ Biryani
3. Data point showing which place is suitable to open a restaurant at Vadapalani.

5. Conclusion

This notebook could be used as a staring point for a potential restaurant owner to short-list location for opening a restaurant and choosing best selling cuisine combination at location along with the best suiting price scale for the location.

With this three KPI hope inverter can run a successful restaurant.

6. Appendix

The appendix consists of all the experiments and exploration which were done during the project and is there only as a reference. Some of these explorations, led me to discard data sources, which I thought could be useful in the intial phase, but later found either alternate data sources or not used.