FIND BEST LOCATION FOR NEW OFFICE

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INTRODUCTION

These days IT Services are much in demand, more and more new start-up companies arise. Most of the IT Service Companies in the Asia targets USA as Development Cost of Asian Companies are less than the US. Moreover, USA Business Persons are interested in getting IT Service done remotely at cheaper rates but as there are might Point of Contacts or Office in USA for support, sometimes they avoid dealing with which is ultimately loss to the Sales of IT Service. To increase their sales by having a new marketing office in USA we need to select the best place for their office where more people are exposed to the office and marketing team can get the potential targeted audience.

PROBLEM

As we are looking for a perfect potential location in the USA, we need to know the high density areas where people spend more and where they spend more, so that, the people can marketing office and marketing team can contact them for the lead generation and can have a good sales conversion.

So, to increase the ultimate lead generation and sales it is required to analyze the best place to start a Marketing Office.

INTEREST

The CEO of IT Company is interested in starting a new marketing office in the best locality of all the cities in United states. According to him, following constraints defines a best locality.

- Population density of a locality
- Per Capita income
- Population of each location
- Venues in each locality

The category of the venues that he's interested in are,

- Shops & Service
- Professional & Other places

DATA

To find the best location for marketing office, we need to get the data from the following sources:

- List of all the cities in United States with population density and coordinates:

  https://en.wikipedia.org/wiki/List_of_United_States_cities_by_population

- List of all the cities in United States with Per Capita Income:

  https://en.wikipedia.org/wiki/List_of_United_States_counties_by_per_capita_income

- Using FourSquare API to get the following:
  - List of all venues in each city.
  - List of all venues in each locality in the selected city.
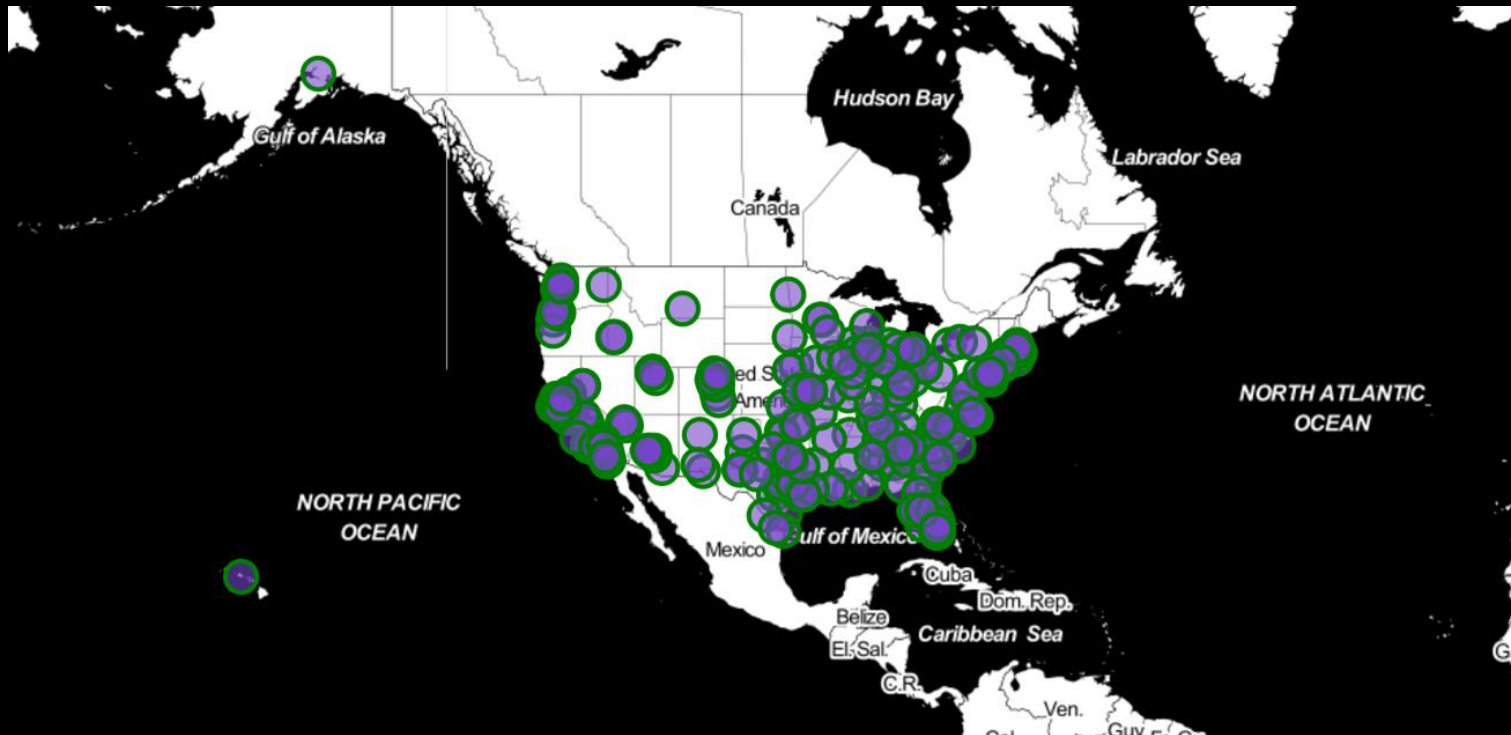
DATA AFTER CLEANING FOR POPULATION DENSITY

	City	State	Population density in Km2	Location	Radius
0	New York[d]	New York	10,933/km2	40.6635°N 73.9387°W	17.363755
1	Los Angeles	California	3,276/km2	34.0194°N 118.4108°W	21.649480
2	Chicago	Illinois	4,600/km2	41.8376°N 87.6818°W	15.076472
3	Houston[3]	Texas	1,395/km2	29.7866°N 95.3909°W	25.248762
4	Phoenix	Arizona	1,200/km2	33.5722°N 112.0901°W	22.750824

DATA AFTER CLEANING FOR PER CAPITA INCOME

	Country-equivalent	State	Per capita income	Population
0	New York County	New York	$62,498	1,605,272
1	Arlington	Virginia	$62,018	214,861
2	Falls Church City	Virginia	$59,088	12,731
3	Marin	California	$56,791	254,643
4	Alexandria City	Virginia	$54,608	143,684

VIEW NEIGHBOURS ON MAP

1. Get Data from Wiki

2. Get data from FourSquare API

3. Remove Unwanted Properties

4. Prioritize Venue Category

5. Normalize data using MinMaxScaler

6. Get Best City & State

7. Get Lat, Lng of Best City

8. Find Best Venues in the city

9. Prioritize Venue Category

10. K-Means algorithm to cluster venues
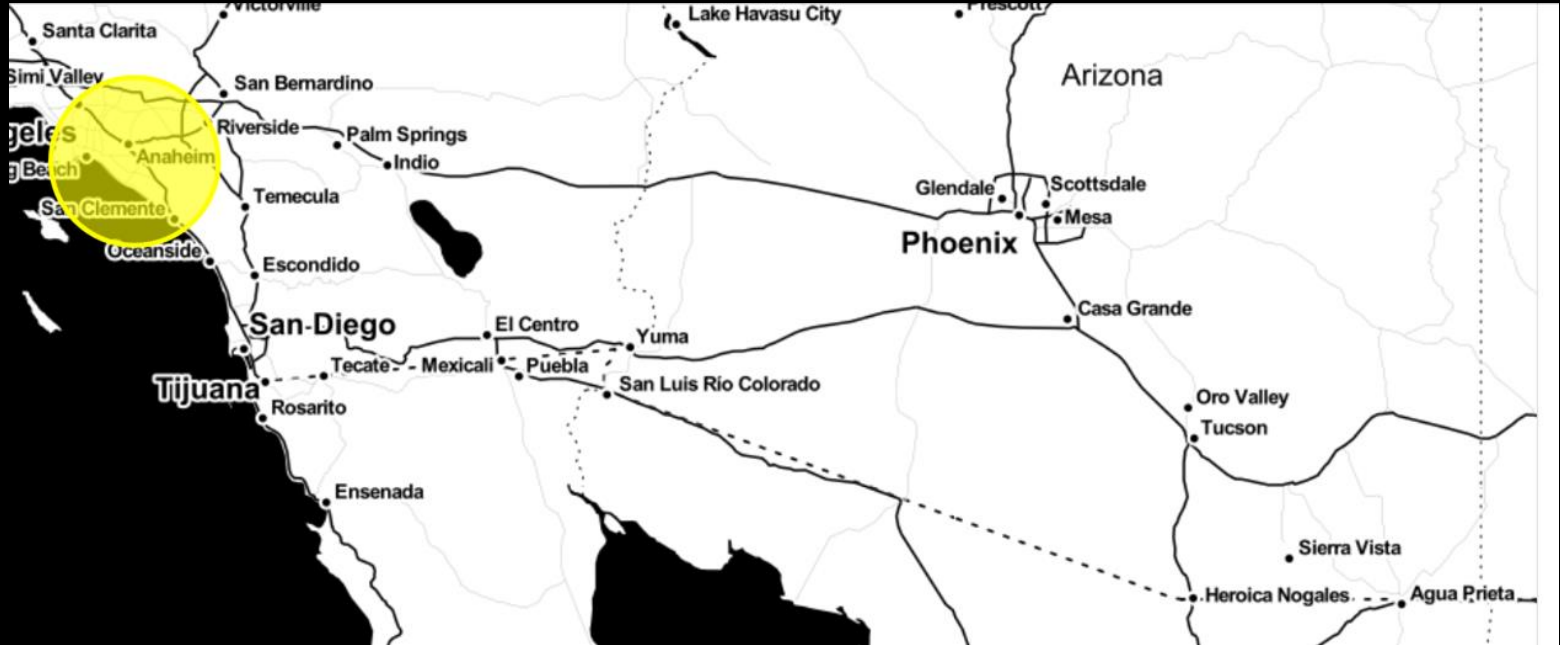
11. Group the list by cluster mean.

12. Get lat, lng with the mean weight

13. Plot the final map

RESULT

Based on the given constraints, a new marketing office should be in a place closer to the center of the circle to attract a greater number of diverse and potential customers to get huge revenue.

Thank You