PREDICTING HUBS OF STUDENT POPULATION IN LONDON FOR TARGETED MARKETING

CAPSTONE PROJECT - THE BATTLE OF NEIGHBORHOODS

ESTABLISHING THE NEED FOR THIS ANALYSIS

Why London?

Students are a sizable demographic in London since the city has an abundance of world class colleges and universities.

Why are students a lucrative target?

More open to exploring and experimenting with new products.

College and University students are generally stagnant for an average period of 4 years.

Their age is impressionable which means that once they like a product, they can become loyal lifetime customers

High school students are a big target market for universities as possible future students

Possible Stakeholders

Companies looking to introduce new products and packages especially for students in their college and university years

Educational institutes looking to target high school students as possible future students

DATA ACQUISITION AND PRE-PROCESSING

- Data Details:

Data regarding neighborhoods in London	Scraped from Wikipedia source
Data regarding Education Institutes	Obtained from Foursquare 'search' query

- Data pre-processing:

  - Data regarding OS Grid references in the Wikipedia source was used to obtain location coordinates for neighborhoods in London.

  - The location coordinates were fed into the Foursquare search query to obtain information regarding education institutes in each neighborhoods

  - A total of 531 neighborhoods and 127 categories of education institutes were identified which were then shortlisted and further analyzed.

  - Data from above sources was cleaned

  - Data columns deemed irrelevant for analysis were dropped

MAP OF LONDON WITH RELEVANT NEIGHBORHOODS
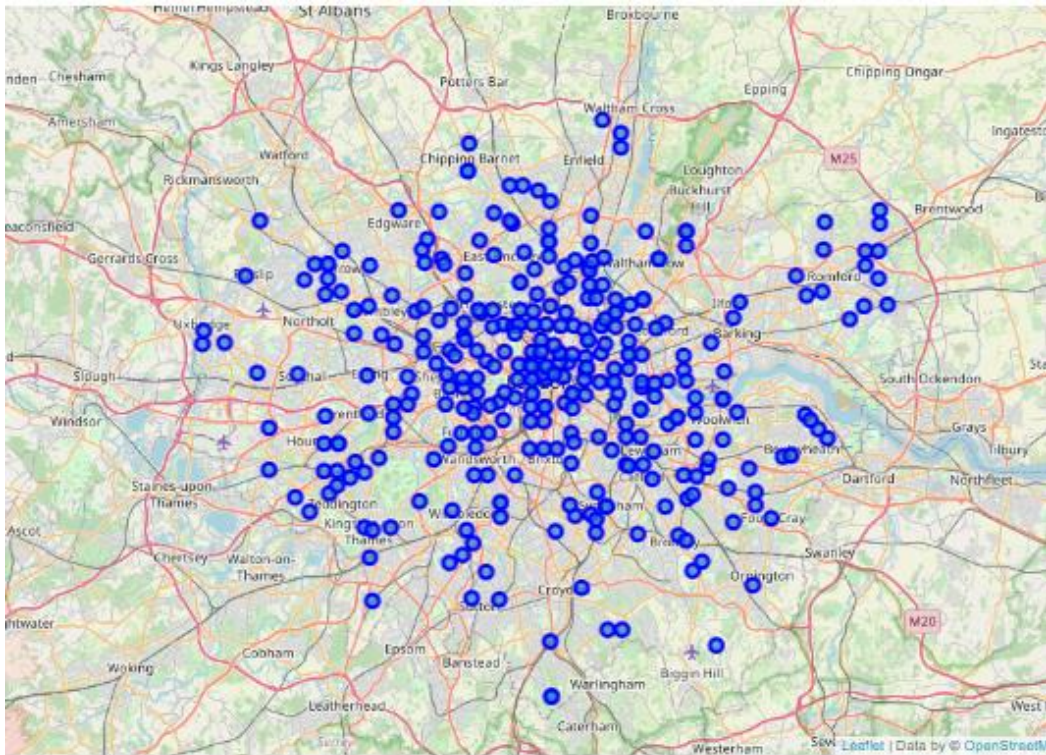
Neighborhoods containing the following categories of education institutes were plotted:

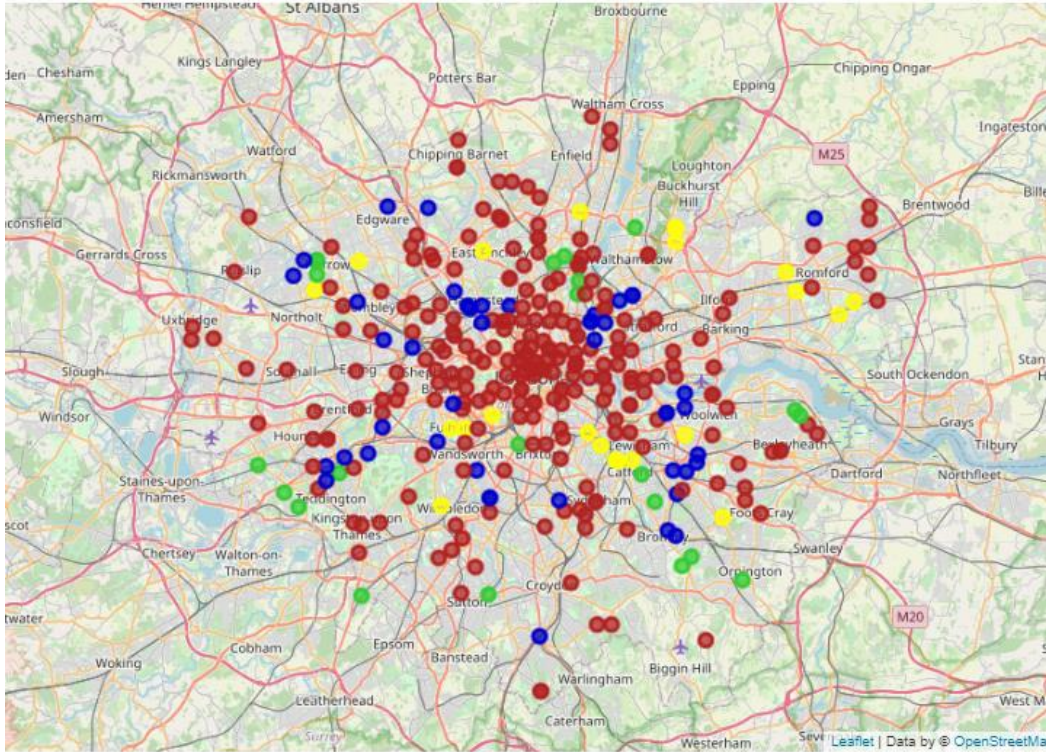|	
Adult Education Center	Law School
Community College	Medical School
College Residence Hall	Music School
Coworking Space	Private School
General College & University	Residential Building
Government Building	School
High School	Trade School
Language School	

K-MEANS CLUSTERING

- A total of 4 clusters were made
- Cluster count:

Cluster 0	248 neighborhoods
Cluster 1	45 neighborhoods
Cluster 2	22 neighborhoods
Cluster 3	22 neighborhoods

Cluster 0:
General Colleges and Universities

Venue Categories for Cluster 0

Venue Categories for Cluster 1
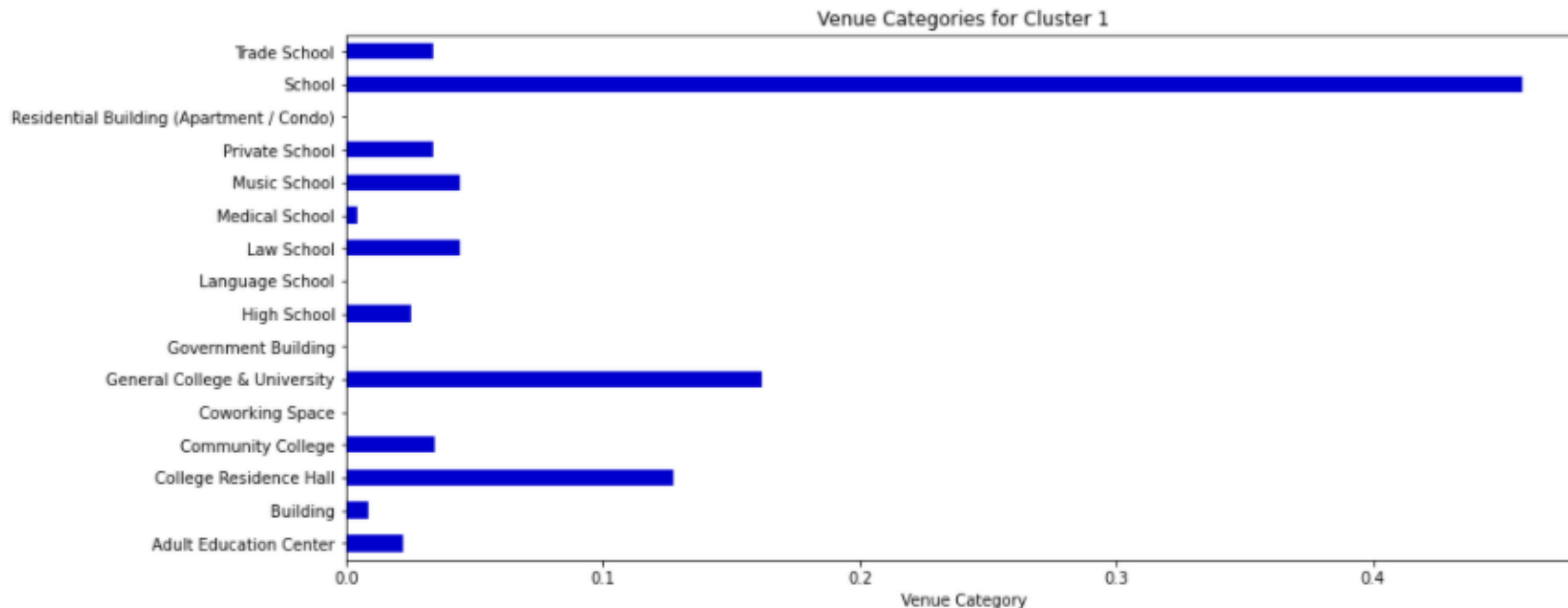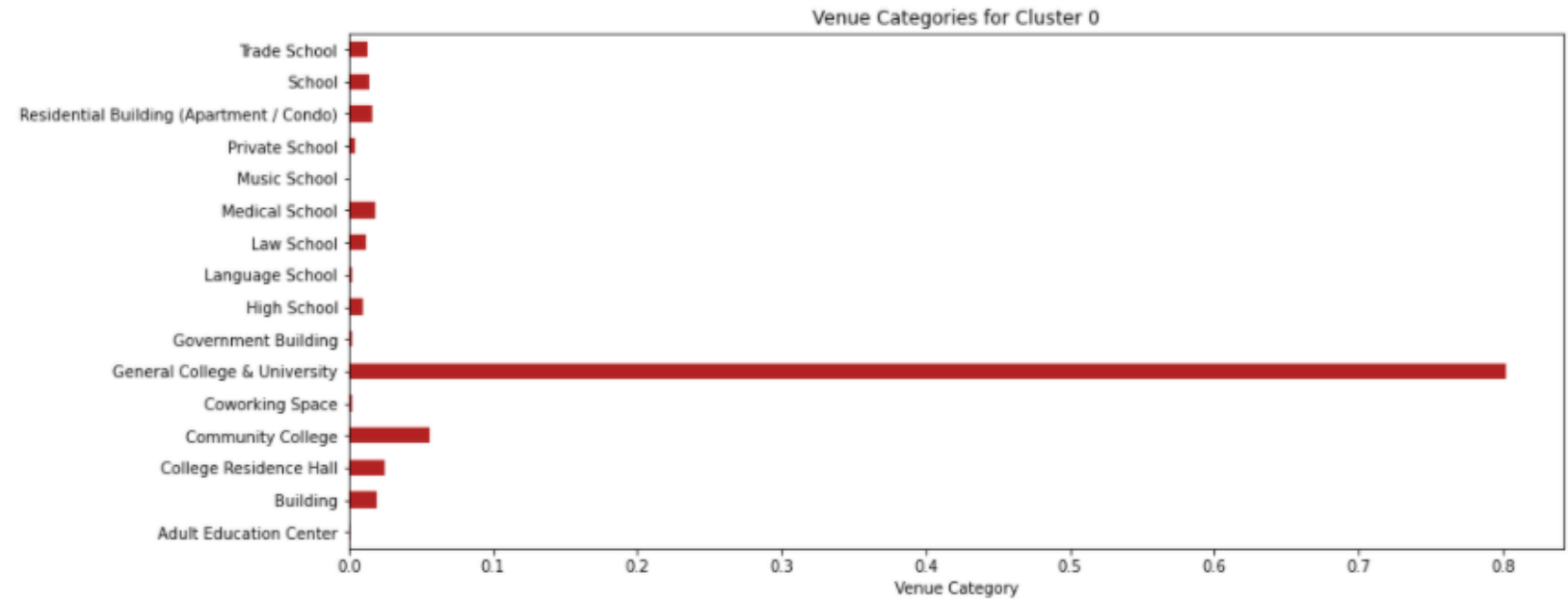
Cluster 1:
- Combination of venues which are smaller in number
- Predominantly schools

Venue Categories for Cluster 2

Cluster 2:
Community Colleges

Venue Categories for Cluster 3
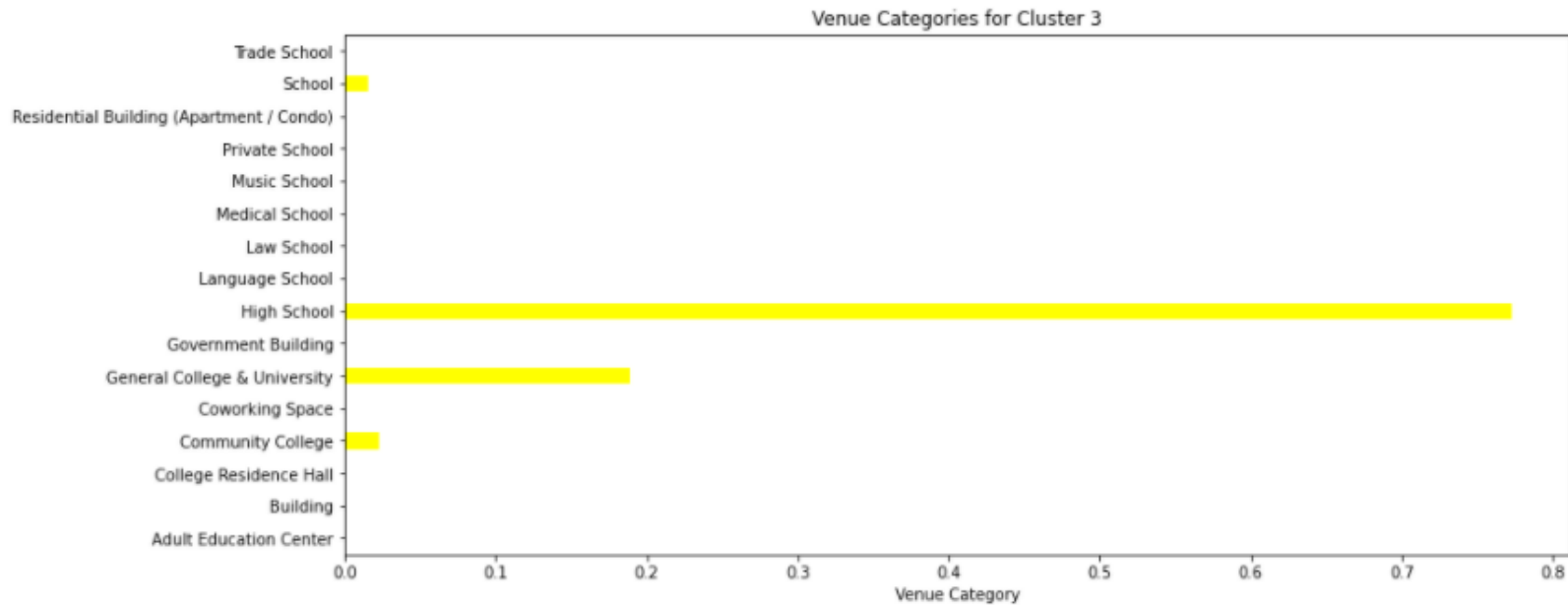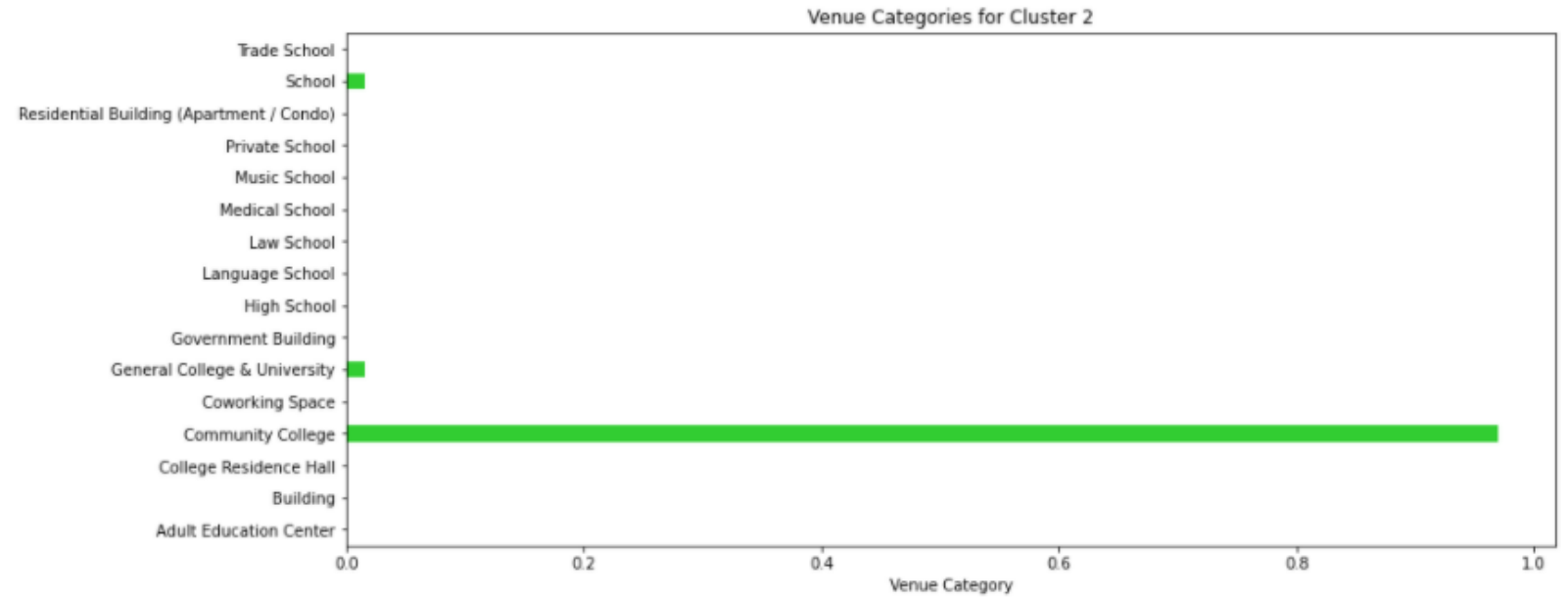
Cluster 3:
• Predominantly high schools

CONCLUSION

- Hubs of student population in London were defined for targeted marketing based on the assumption that the presence of educational institutes is indicative of the presence of students

- From a broad perspective, neighborhoods of interest are concentrated towards central London

- Colleges and Universities are concentrated towards the center of the city

- Community Colleges are located towards the peripherals of the city.

- Schools are scattered throughout the city.