



SCHOOLS AVAILABILITY CORRELATION WITH SOCIO- DEMOGRAPHICS IN SAO PAULO CITY

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INTRODUCTION

São Paulo, Brazil is a sprawling vibrant metropolis, with great disparity of social-economic conditions and educational opportunities.

This study will try to analyze the social-economics of each of São Paulo 95 districts and correlated it with school/children ration

DATA AQUISITION

Data Set1: Government Census



More than Socio-Demografic 200 indexes for the 1595 microregions inside Sao Paulo

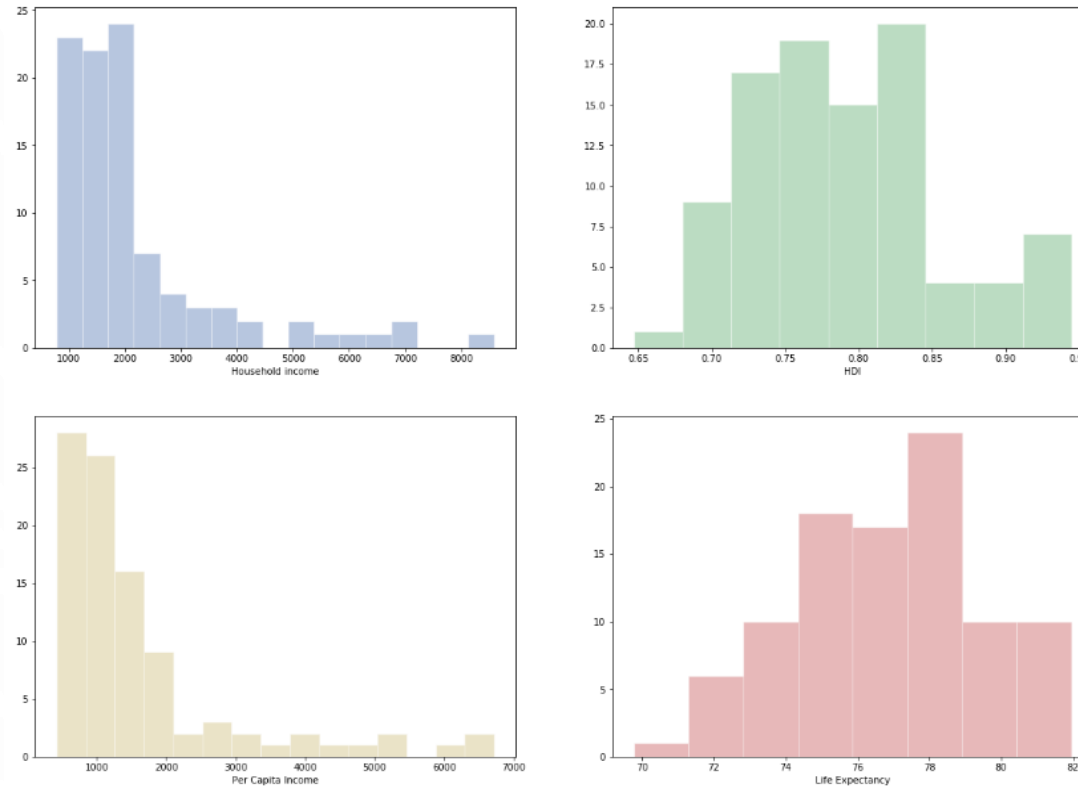
Data Set2: Foursquare API



Number of Elementary, High and Private Schools on a 2km radius of each distric

DATA ANALYSIS 1

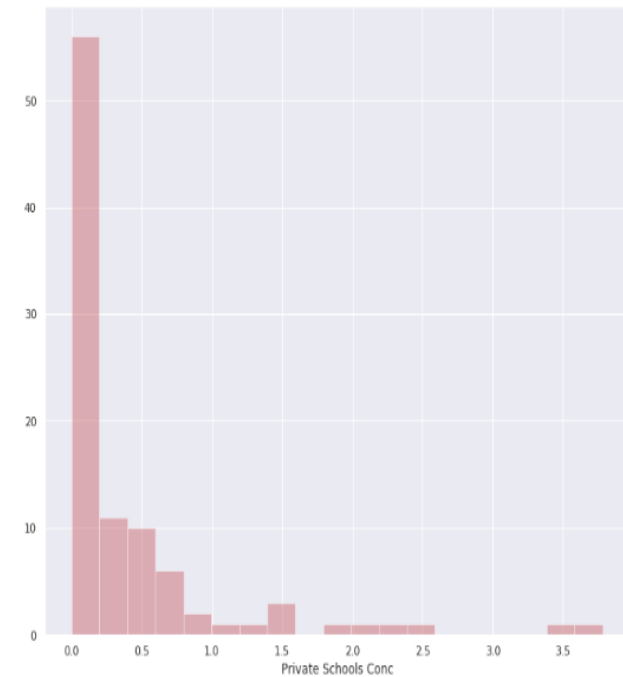
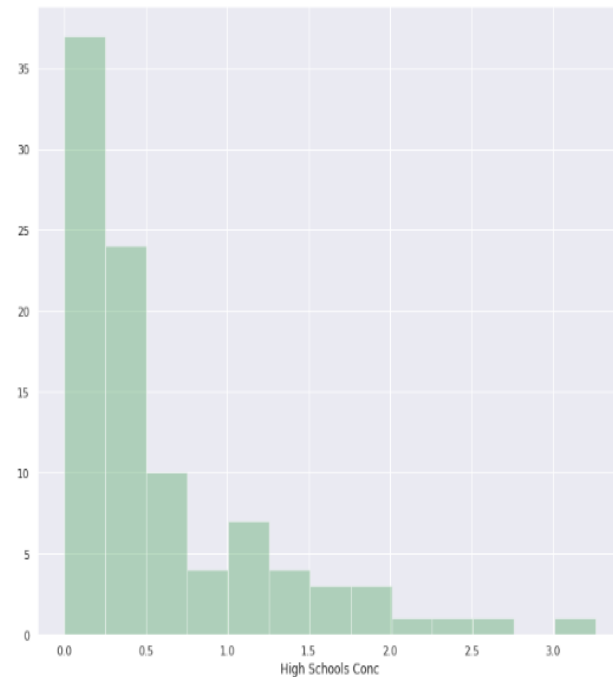
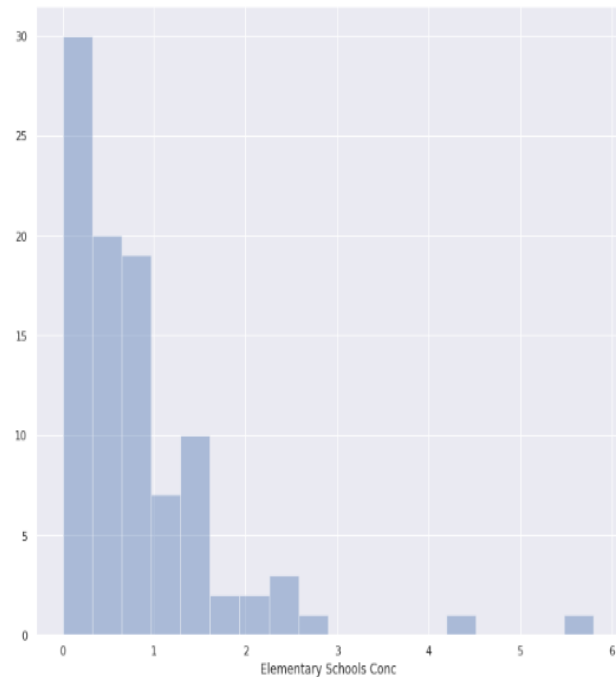
Socio-economic Indexes



There is big disparity on average income between the districts, with most districts staying at the lower end

DATA ANALYSIS 2

School Availability

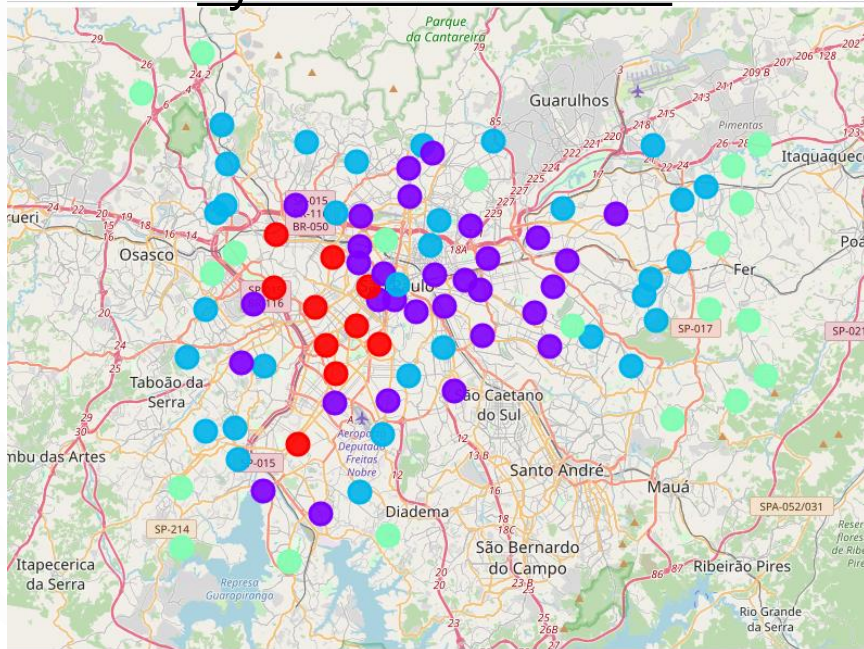


Similar to previous indexes, there is a big variation in school availability with most districts below 1 school/1000 child

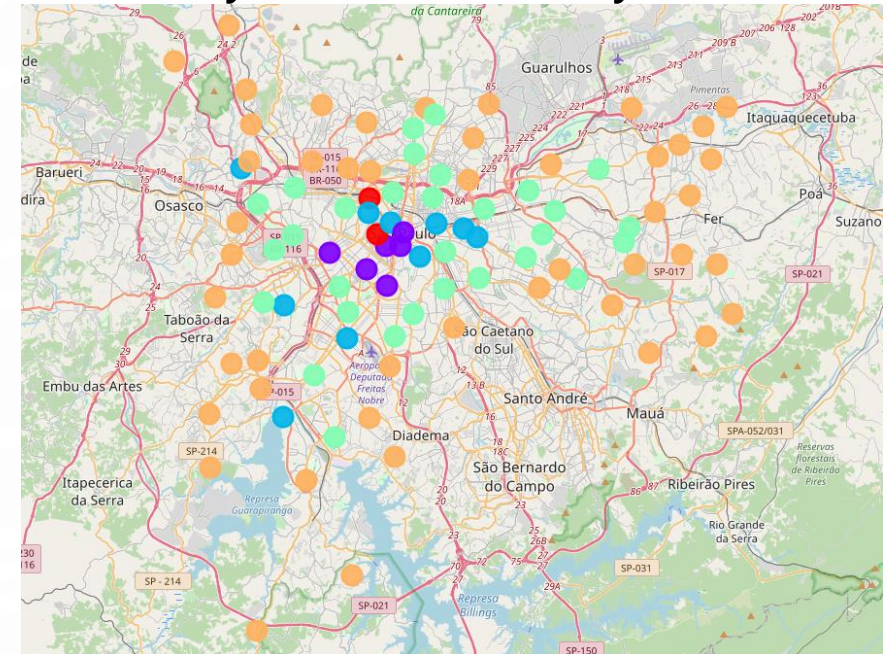
MODELING

K-mean algorism was used to cluster the districts in 5 categories based on social-economic indexes and school availability

by social-economics

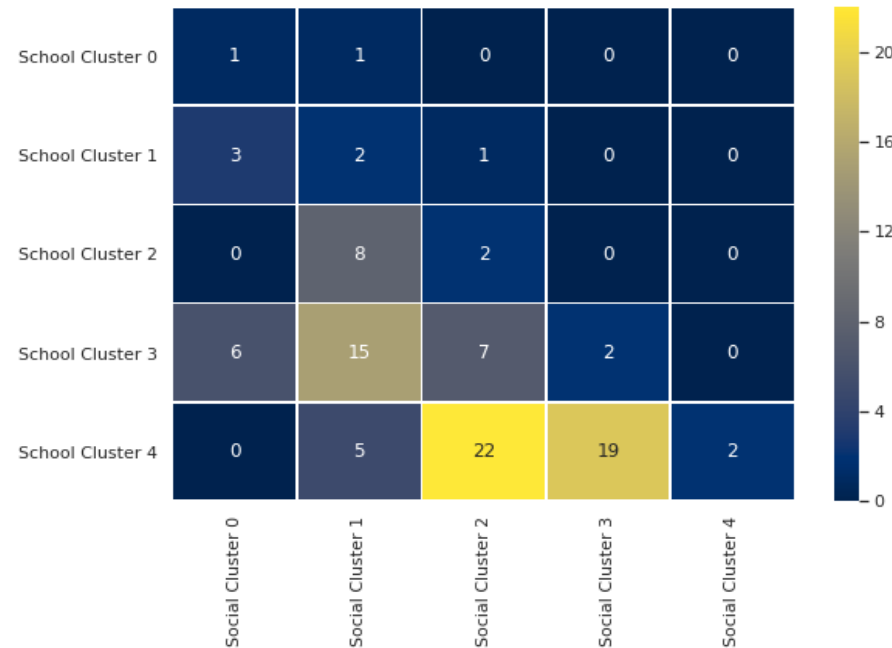


by school availability



It showed that the districts near the financial center of the city is more wealthy and has better schools availability

CORRELATION MATRIX

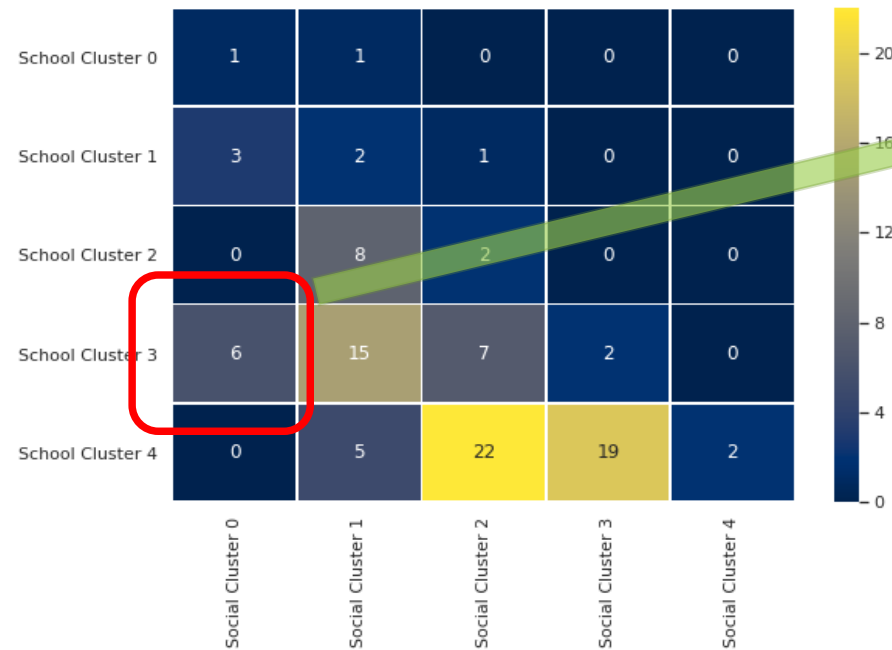


Legend

Number	Social Cluster	School Cluster
0	Highest Education, Highest Income, Highest Health	High number of private Schools and public schools
1	Medium Education, High Income	High number of private Schools
2	Medium Education, Medium Income	Medium number of public schools
3	Low Education, Low Income	Low number of schools
3	Lowest Education, Lowest Income, Lowest Health	Lowest number of schools

- Most districts are on the lower spectrum of schools availability. 82% (78 out of 95) are on either cluster 4 or 3.
- The districts on Social-economic cluster 0, 1 and 2 follow the diagonal line, where there is a correlation between both clusters

CORRELATION MATRIX



Exception

	District Name	Development Cluster	School Cluster
0	Alto de Pinheiros	0	3
32	Itaim Bibi	0	3
46	Lapa	0	3
51	Moema	0	3
59	Perdizes	0	3
70	Santo Amaro	0	3

Those 6 affluent districts have potential for new private or public schools installation

CONCLUSION

- Clustering showed that the districts near the financial center of the city is more wealthy and has better schools availability
- There is a great disparity in school availability between districts, where most districts situated on the lower 2 tiers.
- More affluent district have more schools available, either public or private. There are 6 districts that are exception for this trend