CAPSTONE PROJECT – REAL ESTATE ANALYSIS REPORT IN NAIROBI BOROUGH

Clinton Oyogo David

1. Business Problem

The real estate sector in Kenya has seen a tremendous growth in the recent past and Nairobi, the capital city of Kenya, sits at the top among the towns that are experiencing a rebirth of property development. In short, real estate investment is the talk of the town and it seems as though everyone is up for grabs for this 'cake'. However, much as it's that promising, not everyone is savvy as to where to begin, also, much care should be observed when making decisions as to what kind investment to make and which location has good prospects in the returns on investment otherwise a miscalculated investment can turn out to be a bitter pill to swallow . Take for example an investor who would like to make investment in the real estate sector, but they don't know how and where to begin, some of the questions that they could be asking are where should I buy land? What should I develop on the property? And many other similar questions that demand for a response.

It would be hectic to make a visit to every single property on sale and have a view of its location and venues around it if there be any, similarly , to page through every single page of some given real estate agency website to check on available properties on sale and there location. Hence, a quick analytical tour through every property would prove to be of help in the decision-making process.

2. Data

2.1 Data acquisition

To solve the problem, I obtained the following datasets:

1. A list of properties on sale which I obtained from RentProperty Kenya website through web scrapping.

some of the features I scrapped from the website are;

  - Size

  - Price

  - Location

  - Type of property

2. A shapefile of Nairobi county (Borough) districts. This I downloaded from

3. A csv of cytonn research.

   - I'll pick return on investment data from Nairobi Metropolitan Residential Report 2017 carried out by Cytonn.

4. Geospatial data of the property locations.

   - To get this I will use geopy to geocode the property addresses.

5. List of Venues around property locations.

   - This I will obtain from Foursquare API

2.2 Data cleaning

The details I scrapped from rentproperty Kenya website were;

- The property type
- Price
- Location
- Size

The scrapped data did not have column names, so I assigned them, removed the new line character from the columns.

The column for price column had KES string attached to the price figures, I had to remove it so that I can convert the column into float type.

3. Results

Integrating the choropleth map and the resulting data frame from clustering not only shows the spatial distribution

of the property locations, with a click on the points one can get the details of the property i.e. price and location but then more to it the Choropleth helps in telling the prospects of returns if one should invest in that

particular property.

The map gives someone a quick and concise understanding of the data and in such a way that one can do some comparisons on the fly.

4. Discussion

4.1 Comparison of prices of property types:

　　　- Uncategorized land

　　　- Commercial land

　　　- Residential land

A quick view of the prices of properties on sell reveals that commercial land was generally expensive as compared to Residential and land with no category.

However, there now remains the question, what about the returns, if an investor invests in commercial land does it promise good returns?

Secondly, between property location and property type, which factor determines the return on investments?

4.2 *Visualizing Area with High Return on Investments*

Areas with High Return
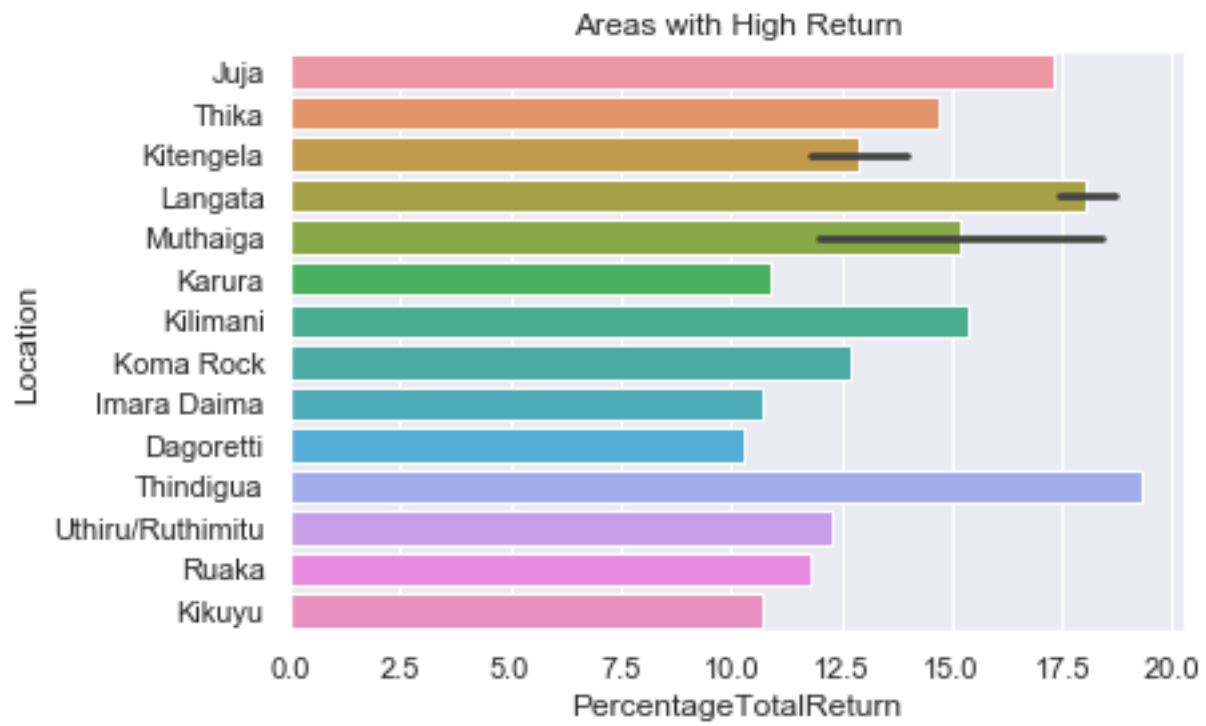
From the data from research on investment returns, I filtered observations that had more than 10 percent total return on investments and plotted a bar graph of locations with respect to the percentage total return.
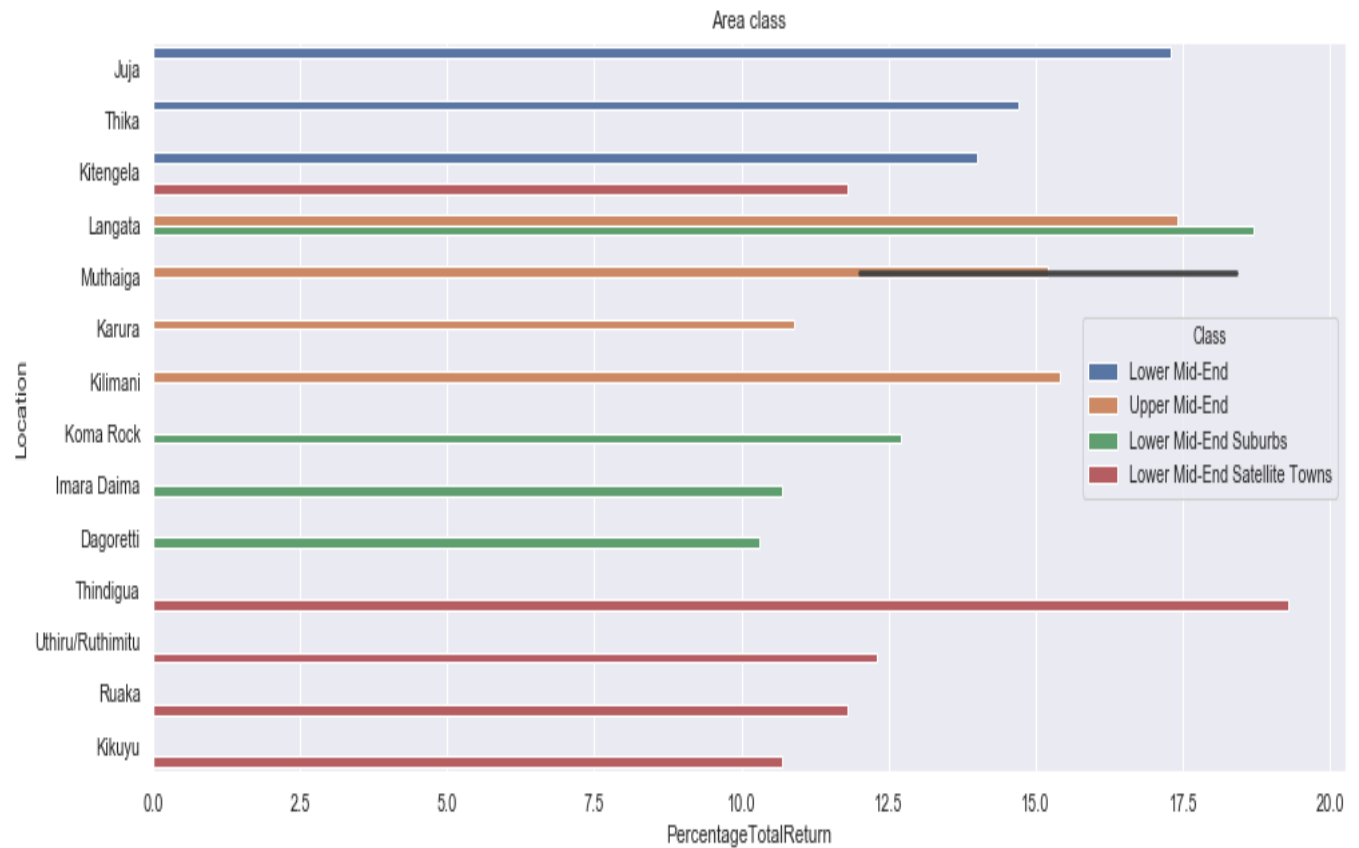
4.3 Type of Investments

- Detached Units i.e Bungalows and Massionattes.
- Apartments
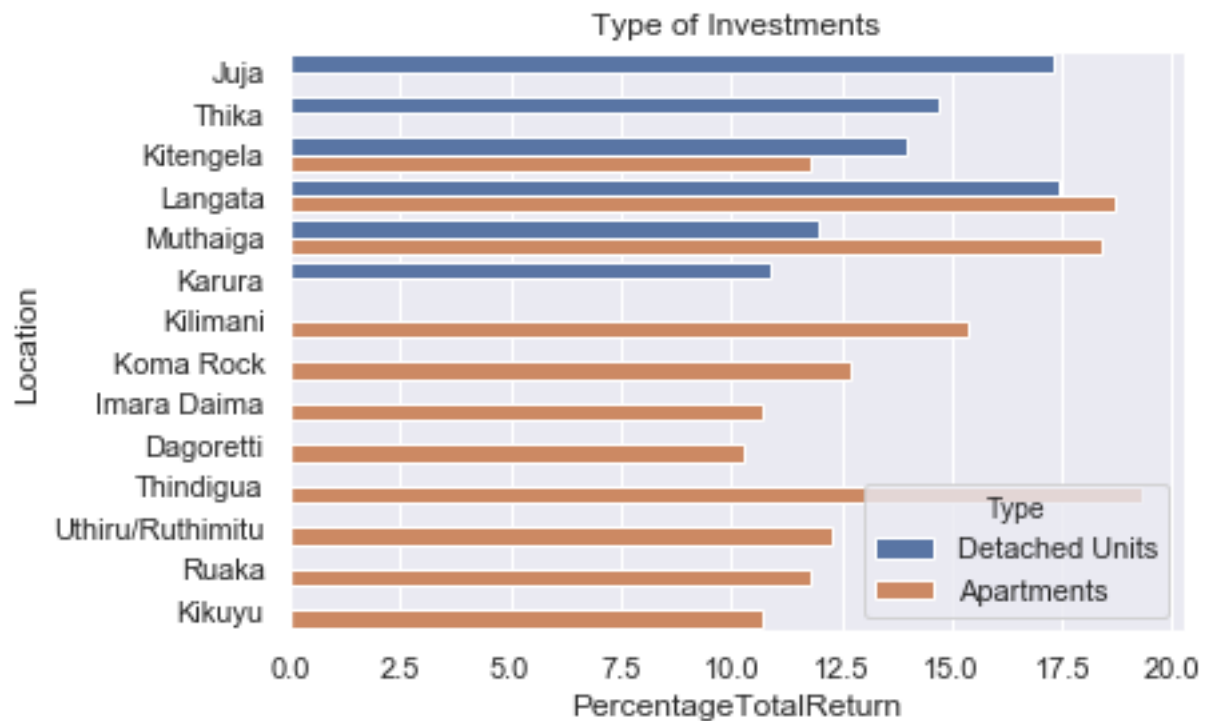
In most of the areas, investors developed apartments as compared to Detached units i.e Bungalows, massionattes.

4.4 Area Class

From the above graph, its evident that the area class had little significance in determining the return on investments.

5. Conclusion

Just by merely looking at some given data, you cannot get insights that are crucial in the decision-making process, further analysis does help in revealing that which is mostly hidden from naked eyes.

Subjecting data through some analytical process is inevitable if you're to get good conclusions about the data in question.

Refences:

Cytonn research: https://www.cytonn.com/uploads/downloads/residential-research-report-vf.pdf

Rent property Kenya : https://www.buyrentkenya.com/info/about

Foursquare API: https://foursquare.com/developers/