

# Comparative Analysis of Cities in the UK

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## Abstract

We will perform a cluster analysis of major cities in the United Kingdom, based on house price, crime, business activity, population, age distribution and presence of various amenities.

## 1 Introduction

One of the decisions growing businesses have to make is which city they would like to expand to. Which cities have the most similar characteristics to enable a business potential?

The current project provides a first attempt at a solution to the above, by grouping similar cities in the UK based on population, age distribution, crime level, business activity, house prices as well as the presence of various amenities.

Aside from the abovementioned use case we could imagine this analysis also being useful for other purposes. For instance, advertisement companies would be able to advertise more cost-efficiently, rather than paying large sums for nationwide advertisements.

## 2 Data

All our data used are both free and publicly available. The following data sets have been downloaded from the Office of National Statistics ([www.ons.gov.uk](http://www.ons.gov.uk)):

1. All houses sold in the UK by postcode, 2018
2. Crimes recorded in the UK by police force area, 2018
3. Number of VAT and/or PAYE based enterprises by parliamentary constituency and employment sizebands, 2018
4. Population in major UK cities and towns by sex and age, 2015

Furthermore, we will be using a database containing all postcodes in the UK together with their latitudes and longitudes, which can be found at [www.doogal.co.uk](http://www.doogal.co.uk). Lastly, to get

### **3 Methodology**

[tba]

### **4 Results**

[tba]

### **5 Discussion**

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### **6 Conclusion**

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