Opening A New Restaurant in Leeds (UK) – A Location Analysis

Lewis Lawton
May 2020

Introduction

The city of Leeds is located in the north of England, 272 km north west of the capital city London. In fact, it is the largest city in the county of West Yorkshire and has become the largest legal and financial centre outside of the capital. It first began as a small borough in the 13th Century, but by the 18th Century it had become a major hub for the production and trading of many goods, such as wool. By the mid-20th Century; Leeds had expanded and absorbed the surrounding villages, leading the city to sit amongst the fourth-most populous urban area in England – with a population of roughly 2.6 million.

Known for its wide array of food and drink and in such a highly populous area; there are, of course, many restaurants to be found in the city of Leeds. The city is also served by 5 universities, ultimately lowering the average age of its residents compared to the rest of Yorkshire or England as a whole. Roughly 10% of the residents of Leeds are between the age of 20 - 24, many of which are likely to go out to eat regularly. Leeds is constantly growing. With a bustling city centre, a young demographic and vibrant nightlife, it is a great choice in which to set up a new business.

The question that remains, however, is where would be the best place in Leeds to locate a new restaurant? Leveraging the Foursquare location data API, this report will endeavour to answer this question. It will also aim to inform any future strategy for people considering Leeds as a potential area to set up a new and developing restaurant business.

Data

The data used to attempt to answer this question will be very simple. A web scrape of the Wikipedia article containing the postcodes (LS) for the Leeds area forms the basis of the investigation. The link to the Wikipedia article can be viewed here. The latitude and longitude for each postcode was obtained in CSV format from the freemaptools.com website, linked here.

The Foursquare Places API was utilised to determine nearby venues located within each postcode, in order to determine the frequency and type of similar businesses or locations. From this, a clustering approach using the K-means clustering algorithm was taken to discover how the different areas

around Leeds city centre clustered together. Residual analysis was completed to determine the correct number for K. All statistical and exploratory analysis was completed within a Jupyter Notebook running the 3.6 version of Python.