

# **LOCATION ANALYSIS FOR A NEW RESTAURANT IN BRISBANE**

PSHINTODEWI

IBM Applied Data Science Capstone Project

## INTRODUCTION/ BUSINESS PROBLEM

As a capital city of Queensland State, Brisbane offers a more manageable lifestyle and affordable cost of living.

Choosing a right location for business requires research and planning about the area, demographic and market profiles of the location.

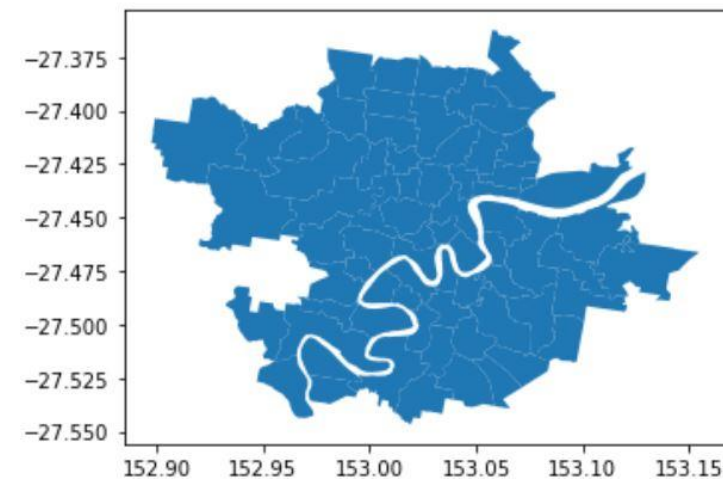
Location analysis offers a high-level assessment of potential suburbs for investors looking for locations for their new restaurants.

## GEODATA

Suburbs within 10km radius from Brisbane and socio-economic index (decile) sourced and downloaded Australian Bureau Statistics (ABS).

	suburb	decile	centr_lon	centr_lat	geometry
0	Murarie	8	153.108225	-27.454160	POLYGON (((153.11606 -27.44674, 153.11606 -27.4...
1	Tingalpa	7	153.127041	-27.473598	POLYGON (((153.11540 -27.46355, 153.11541 -27.4...
2	Everton Park	7	152.987377	-27.400759	POLYGON (((152.97981 -27.40682, 152.97980 -27.4...

Centroids of polygon boundaries were calculated using Python used to plot the data.



## VENUE DATA

Using Foursquare API to get venues within the suburbs.

	Suburb	Suburb Latitude	Suburb Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
0	Murarrie	-27.45416	153.108225	7-Eleven	-27.456864	153.105710	Convenience Store
1	Murarrie	-27.45416	153.108225	Rivergate Marina	-27.453302	153.107398	Harbor / Marina
2	Murarrie	-27.45416	153.108225	QX Labour	-27.450552	153.109460	Event Service

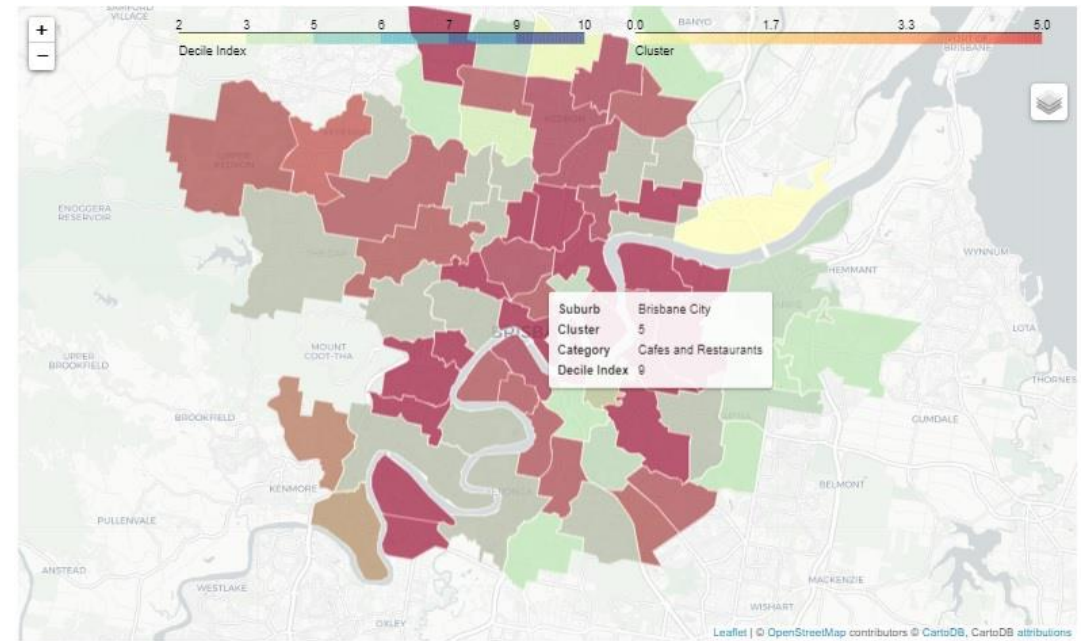
## METHODOLOGY

## 1. One-hot Encoding

## 2. k-means clustering

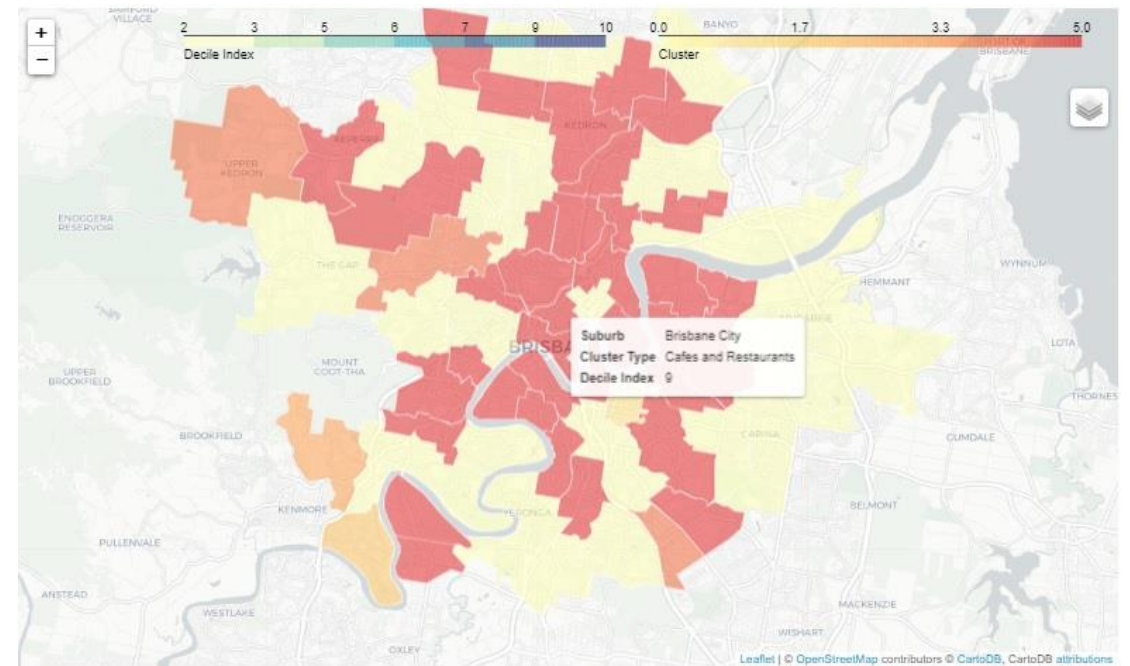
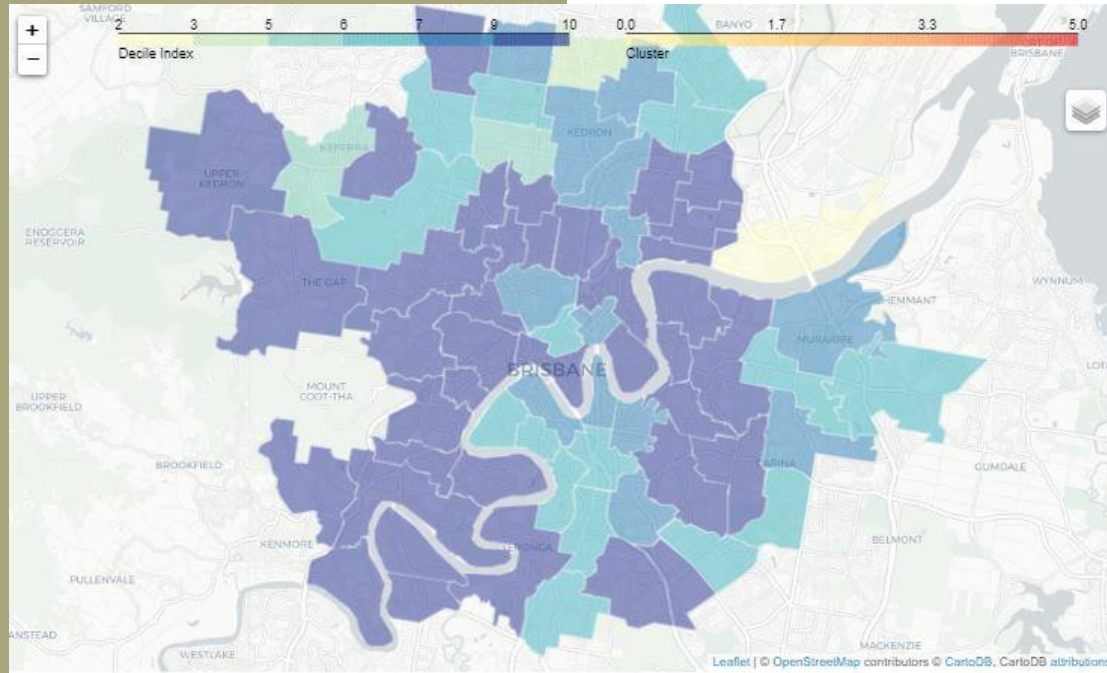
### 3. Mapping

	Cluster	Suburb	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
0	5	Albion	Café	Liquor Store	Cricket Ground	Sporting Goods Shop	Comedy Club
1	0	Alderley	Pizza Place	Grocery Store	Supermarket	Thai Restaurant	Train Station
2	5	Annerley	Café	Pizza Place	Camera Store	Sandwich Place	Supermarket
3	5	Ascot	Pizza Place	Burger Joint	Thai Restaurant	Flea Market	Café
4	4	Ashgrove	Park	Bus Station	Yoga Studio	Event Space	Flower Shop



## RESULTS

6 Cluster (Venue) Types   71 Suburbs   815 Venues   169 Unique Venue Categories



The analysis outcomes presented on the map provides overview of potential suburbs for a new café or restaurant based on socio-economic suburb profile and cluster of venues. Investors are able to turn on/off the data layers to find areas of interest as a first step when choosing locations for business.