PERTH RESTAURANT LOCATION STUDY

(Week 1 – Introduction and Data Only)

Abstract

To be completed

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CONTENTS

1.0 INTRODUCTION

Perth, the capital of Western Australia, is a fast-growing multicultural city with an economy that is underpinned by the resources sector (mining, oil and gas). The client is a new immigrant from Singapore who seeks to open a new Asian restaurant as a family business.

A key part of the planning process is deciding where to locate the business. In this regard, the strategy is to open in a suburb that already has similar businesses. The rationale is as follows:

1. The suburb has a track record of supporting such a business, hence a new business is able to tap into an existing market.
2. Establishing near competitors can actually be advantageous as the increased choice would raise the level of customer interest and enlarge the size of the overall market. For further details, see https://toughnickel.com/industries/Competitive-Advantage-Why-Its-Good-to-be-Near-Competitors.

The business problem that this project aims to address is the need to compare a range of suburbs in regard to their existing business types and identify the best candidate(s) for locating the new restaurant. It is initially assumed that the analysis will be focused on an inner-city zone of nominally 3 km radius from the city centre (Perth Central Business District i.e. CBD) as this zone is known for being a hub of commercial activity (high customer traffic).

2.0 DATA

The analysis in this project is based on the following data.

2.1 Suburb Coordinates

Table 2-1 shows the suburbs surrounding the Perth city centre within ~3 km. In general, the coordinates are obtained by the geocoding tool https://geocode.xyz/AU; the suburb names are supplied as input and the tool produced a single .csv file with the coordinates. However, the originally generated points for Perth and West Perth require shifting approximately 500 m southwards to better reflect the centres of the suburbs and avoid overlaps in the regions later applied to the Foursquare GET requests (see Section 2.2).

Table 2-1 Suburb Coordinates Used to Retrieve Venue Information

	Suburb	Latitude	Longitude
1	Perth	-31.956000	115.859000
	Original values:	*-31.95057*	*115.85866*
2	Northbridge	-31.946537	115.856594
3	Nedlands	-31.979600	115.806140
4	Subiaco	-31.949560	115.823210
5	West Perth	-31.950000	115.843000
	Original values:	*-31.9452*	*115.8467*
6	East Perth	-31.953490	115.876810
7	Crawley	-31.977330	115.820730
8	North Perth	-31.927160	115.853230
9	Victoria Park	-31.975820	115.894760
10	South Perth	-31.979360	115.865460
11	Burswood	-31.959800	115.896370
12	Highgate	-31.939989	115.870257
13	Maylands	-31.933093	115.898772
14	Lathlain	-31.967610	115.906320
15	West Leederville	-31.938620	115.833620
16	Leederville	-31.931690	115.842390

2.2 Venue Information

Foursquare (https://foursquare.com/) is used as the source of location data related to the individual businesses. For each suburb, the coordinates of the suburb are supplied as the main inputs in a GET request and data is retrieved for all venues within a 500 m radius. This radius is selected to maximise the number of venues captured while avoiding duplicates due to venues appearing in multiple GET requests.

For this study, the main features of interest in the data returned by Foursquare for each venue are the venue name, latitude, longitude and venue category. A sample is given in Table 2-2

Table 2-2 Example of Foursquare Data

Venue	Venue Latitude	Venue Longitude	Venue Category
COMO The Treasury	-31.955622	115.860350	Hotel
Alfred's Pizzeria & Smallbar	-31.954890	115.859901	Pizza Place
Petition Beer Corner	-31.955622	115.859919	Beer Bar
Petition Kitchen	-31.955222	115.860066	Bistro
Telegram Coffee	-31.955811	115.860185	Coffee Shop

2.3 Perth City Map

The Python library Folium is used to generate maps of Perth to visualise the results of the analysis.

3.0 METHODOLOGY

To be completed

4.0 RESULTS

To be completed

5.0 DISCUSSION

To be completed

6.0 CONCLUSION

To be completed