IBM Data Science Capstone Project: Analysis of Singapore's Premium Product Shop Placement

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January 5, 2020

Executive Summary

1. More than 70% of Singapore residents purchase premium products in store rather than online.

2. Using condomium rental data in Singapore, I find out the areas where Singapore residents are paying more for housing rental.

3. I use foursquare API to look for potential competitors in premium products.

4. Clustering algorithm is used to cluster 174,780 rental data into 100 groups based on location and rental per room.

5. Illustration using folium package allows us to determine the best location — where there are many rich residents but little competitors.

1 Introduction

Despite its small size, Singapore is one of the richest country in the world with more than 180,000 millionaires residing in the little red dot.[1] Interestingly, a market survey by The Nielsen Company shows that more than 70% of Singapore residents are purchasing premium products from local store rather than online.[2] This provides a great opportunity for businesses to set up physical premium stores in Singapore.

In this report, I will leverage the foursquare API to look for existing premium stores in Singapore and use condominium rental data to determine

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[1]https://www.straitstimes.com/business/economy/number-of-millionaires-in-singapore-up-11-to-183737-in-year-to-mid-2018-credit

[2]https://www.nielsen.com/sg/en/insights/article/2019/popularity-of-the-premium/

potential areas for new businesses to set up their premium stores. This report will be of interest to premium stores retailer such as Hermes and Louis Vuitton.

2 Data

I will be using two kinds of data in this report:

1. Foursquare location data

2. Condominium rental data from Urban Redevelopment Authority (URA)[3]

In particular, I will only use the venues data from Foursquare, which is obtainable simply by using API calls to Foursquare.

A Appendix here

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[3]https://www.ura.gov.sg