

Estimate Optimal Store Locations

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1. Introduction

1.1 Background

With the fast development of China consumer market, a global fast-fashion brand plans to enter China market. And they have chosen Shanghai, the most fashion city in China, as their first entered city. At first stage, the company plans to open about 8~10 stores, based on their judgments of the market and company's financial ability.

1.2 Business Problem

The business problem is where are the best locations to open those stores. Without considering rent costs, the company should open a store in the most popular place, where bring stores high traffic and target customers. Therefore, we must know where the company's target customer mostly like to visit. It can be breakdown to two questions. First, how to find the place our target customers like to visit. In this case, our customer is those 18~30 girls who like fashion clothes, shoes, and bags. Second, where is the most popular places among all the places they like.

Another problem is to decide the store opening sequence and the possible shopping malls near those optimal locations to open those stores. Maybe we can rank those popular places according to their popularity and open store according to this rank. And we can find nearby shopping malls as a list to give the

1.3 Interest

Those companies with similar target customer market and plans to enter China market may have an interest.

2. Data Acquisition

2.1 Relevant Data

2.1.1 Store Locations of Similar Brands in Shanghai

We want location data stands for places that our target young ladies like to visit. Stores which have similar target market may be a good one. Even those brands may have different products to sell, as long as they target fashion young ladies, their store locations can be our reference. Those young ladies may be interested in clothes, shoes, and bags. Therefore, I selected those brands in Shanghai as similar brands, please see the table. Then store locations of these brands are good reference as places young ladies like to visit.

Products Categories	Brands
Clothes	UNIQLO, ZARA, H&M, GAP, Urban REVIVO, ONLY, Vero Moda, Peacebird

Shoes	Clarks, Bella, Hotwind
Bags	Mar

2.1.2 Shopping Mall Locations in Shanghai

Compared with store locations, shopping mall locations can reflect places with high traffic. Therefore, I also used shopping mall locations as relevant data.

2.1.3 Transportation Station Locations in Shanghai

Shanghai is a big city with many metro lines. In some extent, metro station locations stand for popularity. Central business places often have more lines and stations. And those central places are also where the company want to open their store.



2.1.4 Shopping Mall Locations near Estimated Optimal Locations

After deciding optimal locations to open store, we have to find nearby shopping malls to open those stores. Therefore, we need shopping mall locations near those optimal locations we estimate.

2.2 Data Source and Data Cleaning

2.2.1 Gaode Map API

I get store locations, shopping mall locations and metro station locations in Shanghai through Gaode map API. You can find their web here: <https://lbs.amap.com/dev>.

One row in the metro station data stands only one station. If two metro lines cross and there is just one station. However, I want the station appears twice to better stands the popularity. Therefore, I cleaned this part of data.

2.2.1 Foursquare API

I get shopping mall locations near estimated optimal locations through Foursquare API.

Because I search the venue use the keyword 'Shopping Mall' , and there are several output venues not fit my criteria, such as 'Starbucks'. Therefore, I filtered the output venues to make sure they are really shopping malls.