

Coursera Capstone

IBM Applied Data Science Capstone

Exploring a place where opening a Shopping Complex would be more beneficial in Delhi NCR, India

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1. Introduction

1.1 Background

Delhi NCR (National Capital Region) in India comprises of holds true as the cultural hub for the youth central location – it has a lot of companies and businesses so a lot of youth from all over the country are here for jobs and much more. Prominent cities of NCR include Delhi, Ghaziabad, Faridabad and Gurugram(also known as Gurgaon) If you love shopping, there is an abundant selection of stores in Delhi NCR. From the stand-alone stores to the malls, the variety of clothing and products seems endless. No matter what your budget, you will find a vendor which caters to your needs. Also there are a lot of eating joints, cafés, pubs, bars which attract people for their beautiful ambience and food. Many of them are located in shopping malls also.

1.2 Business Problem and Targeted Audience

A businessman might want to know where it would be best suitable for opening a shopping mall in Delhi NCR on the basis of the places where the audience footfall is the maximum. Large audience footfall means many brands would like to invest in that area to attract more customers.

2. Data Collection

The data for the analysis was being accumulated by using **Foursquare API**. From Foursquare, the data that was fetched were

1. Name of venue
2. Type of venue
3. Geographical Location
4. City of NCR

The complete data was not available for the free Foursquare account.

The total data comprised of 178 venues.

A Snippet consisting of few observations has been added as shown below

| foursquare_venues | | | | | |
|-------------------|---|-------------------------|-----------|-----------|-----------|
| | name | categories | lat | lng | city |
| 0 | The Imperial | Hotel | 28.625548 | 77.218664 | New Delhi |
| 1 | Tamra | Restaurant | 28.620543 | 77.218174 | New Delhi |
| 2 | Pandey Paan | Smoke Shop | 28.622249 | 77.201075 | New Delhi |
| 3 | The Big Chill Cafe | Italian Restaurant | 28.600686 | 77.227636 | New Delhi |
| 5 | The Leela Palace | Hotel | 28.579923 | 77.189291 | New Delhi |
| 6 | Varq बर्क | Indian Restaurant | 28.604547 | 77.223781 | New Delhi |
| 7 | Naturals Ice Cream | Ice Cream Shop | 28.634455 | 77.222139 | New Delhi |
| 8 | The Lodhi Hotel | Hotel | 28.591669 | 77.238131 | New Delhi |
| 9 | Khan Market खान मार्केट (Khan Market) | Market | 28.600342 | 77.226923 | New Delhi |
| 10 | Lodhi Gardens (लोधी बाग) (Lodhi Gardens) | Park | 28.591424 | 77.220899 | New Delhi |
| 11 | Jamavar Kashmiri Restaurant @ The Leela | Indian Restaurant | 28.580143 | 77.189267 | Delhi |
| 12 | Lantern's | Bar | 28.643183 | 77.177746 | New Delhi |
| 13 | Indian Accent | Indian Restaurant | 28.592026 | 77.238006 | New Delhi |
| 14 | Bukhara | North Indian Restaurant | 28.596914 | 77.173358 | New Delhi |
| 15 | National Crafts Museum राष्ट्रीय शिल्प संग्र... | Art Museum | 28.613598 | 77.242039 | New Delhi |
| 16 | Humayun's Tomb हुमायूँ का मकबरा (Humayun's T... | Monument / Landmark | 28.593197 | 77.246047 | New Delhi |
| 17 | SODABOTTLEOPENERWALA | Irani Cafe | 28.600141 | 77.226273 | New Delhi |
| 18 | Bengali Market बंगाली मार्केट बाश्ना बाज़ार | Indian Restaurant | 28.629498 | 77.232020 | New Delhi |
| 19 | Delhi Golf Club | Golf Course | 28.599968 | 77.233288 | New Delhi |
| 20 | The Oberoi | Hotel | 28.596564 | 77.239634 | New Delhi |

Data Preprocessing

The available data was checked for missing values. There were around 5-6 venues whose cities were not mentioned so instead of imputing the value, the observations were dropped.

Data Analysis

According to the analysis of the available data, it was found that maximum venues are Restaurants, followed by Hotel, then Cafés and then shopping malls, followed by others as shown in the bar graph below.

Out of the total 8 big shopping malls available in the data, 4 are in Delhi and 4 are in Gurgaon.