

# FINLATICS - Business Analyst Experience Program

## Case Project – 2

Submitted by:

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### Problem Statement:



The above-mentioned map showcases the various seasons that are experienced across states in India. A key focus of the map is on the onset and retreat of the South West Monsoons in the country across various states and regions.

The climates of India are mainly divided into four different groups. The classification of these groups is based on the Koppen climate classification system.

- **Tropical Wet (Humid):**

The tropical wet (humid) climate group in India is separated into two subparts: the tropical wet and dry climate, often known as the savannah climate, and the tropical monsoon climate. A tropical monsoon climate prevails in the Western Ghats, the Malabar Coast, southern Assam, Lakshadweep, and the Andaman & Nicobar Islands. It has seasonally significant rain and moderate to high temperatures. The wettest months are May through November, and the rain that falls during this time is more than enough for vegetation to grow all year. The most typical climate in the nation is the savannah climate or a tropical wet and dry climate. Except for some areas of the Western Ghats, it is most prevalent throughout the country's inland peninsula. The humid summer months last from June to September, and they are extremely hot.

- **Tropical Dry:**

There are three subgroups of the tropical dry climate group: (a) tropical semi-arid (steppe), (b) subtropical arid (desert), and (c) subtropical semi-arid (steppe). The tropical semi-arid (steppe) climate is found in Karnataka, central Maharashtra, some regions of Tamil Nadu, and Andhra Pradesh. In this type of environment, rainfall is quite unpredictable, and the hot, dry summers last from March through May. Western Rajasthan experiences a subtropical arid (desert) climate with irregular and sparse rainfall. The sub-tropical semi-arid (steppe) climate is present in the tropical desert regions that stretch from Punjab and Haryana to Kathiawar. In this environment, the summertime high temperature can reach 40°C, while rains are unpredictable and typically fall during the summer monsoon season.

- **Subtropical Humid Climate:**

The majority of northern and northeastern India experiences this climate. Summers are quite hot, and winters can see temperatures as low as 0°C. The majority of the time, rain falls in the summer, however certain places also have snowfall or sporadic rain throughout the winter. The hottest months are May and June, while frost can sometimes be found in the winter for a few months.

- **Mountain Climate:**

In the Himalayas, the temperature drops by 0.6°C for every 100 m of elevation gain, resulting in a variety of climates, from tropical to tundra. The northern side of the western Himalayas, known as the trans-Himalayan region, is chilly, dry, and windswept. In contrast to the well-exposed slopes, the leeward side of the mountains experiences less rain. The months of December through February saw the most snowfall.

**Answer the following questions based on data collection and visualization of data, using MS-Excel.**

Q1. Which state has the highest number of hotels? Depict this via a bar graph that compares all states.

Q2. Which states have three types of climatic conditions? (convert the map, an unstructured data, to an Excel file in a structured format and mention the number of climates along with the state)

Q3. Among the northeastern states which are best to set up a hotel? Use Clustered Column Chart and give recommendations for hotel industry investors.

Q4. Customize the pivot charts to add/change the fields in the fields list with other fields and by using chart styles to customize the charts. (choose the data and parameters according to your choice)

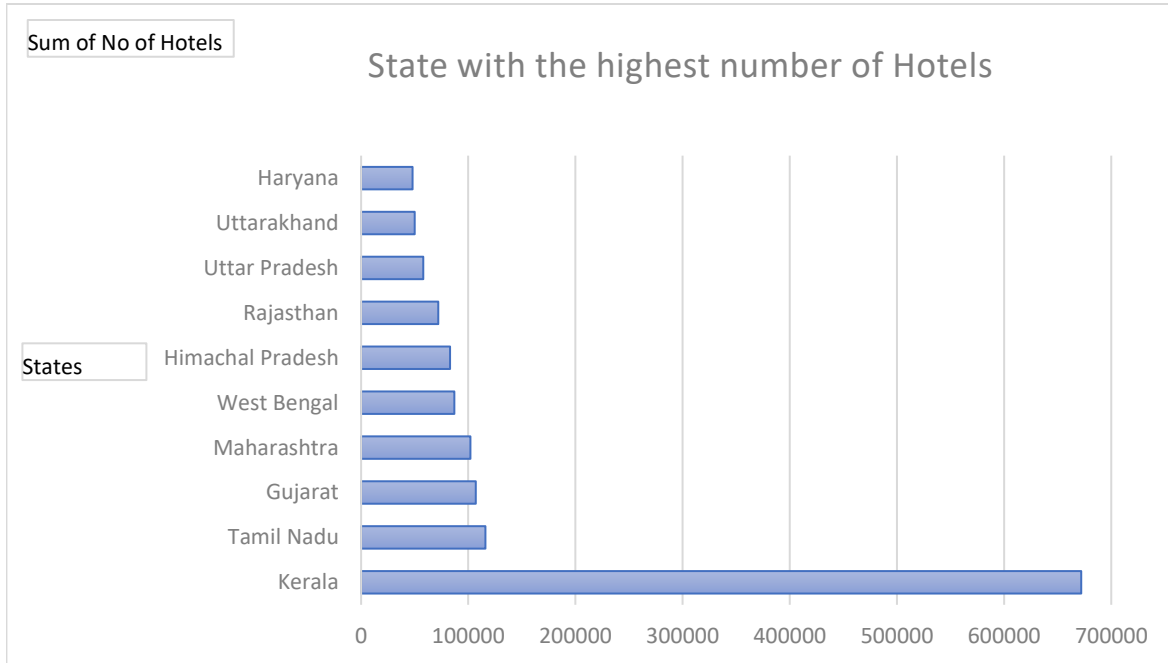
Q5. Which is the best state for setting up a hotel? Why?

Q6. What is the average number of days the rainy season lasts in Indian states?

Q1. Which state has the highest number of hotels? Depict this via a bar graph that compares all states.

Answer:

Using the bar graph we can say that Kerala has the highest number of hotels.



The table for top 10 states with the highest number of hotels:

Row Labels	Sum of No of Hotels
Kerala	672000
Tamil Nadu	116000
Gujarat	107000
Maharashtra	102000
West Bengal	87000
Himachal Pradesh	83000
Rajasthan	72000
Uttar Pradesh	58000
Uttarakhand	50000
Haryana	48000
Grand Total	1395000

Q2. Which states have three types of climatic conditions?

Answer:

The states which have three types of climatic conditions are:

- 1) Karnataka:
  - a) Tropical Dry Climate: Central areas
  - b) Subtropical Semi-Arid (Steppe) Climate: Some regions of Karnataka, especially in the central and northern parts
  - c) Subtropical Humid Climate: Certain parts of Karnataka, particularly in the Western Ghats and coastal areas
- 2) Maharashtra:
  - a) Tropical Dry Climate: Central Maharashtra
  - b) Subtropical Semi-Arid (Steppe) Climate: Some regions of Maharashtra, particularly in the central and eastern parts
  - c) Tropical Wet (Humid) Climate: Western Ghats and coastal regions
- 3) Tamil Nadu:
  - a) Tropical Dry Climate: Interior regions
  - b) Subtropical Semi-Arid (Steppe) Climate: Some regions of Tamil Nadu
  - c) Tropical Wet (Humid) Climate: Coastal areas, particularly along the Bay of Bengal
- 4) Madhya Pradesh:
  - a) Tropical Dry Climate: This climate is predominant in many parts of Madhya Pradesh, especially in the central and western regions
  - b) Subtropical Semi-Arid (Steppe) Climate: Some areas of Madhya Pradesh, particularly in the central and northwestern parts, experience this climate type
  - c) Subtropical Semi-Arid (Steppe) Climate: Some areas of Madhya Pradesh, particularly in the central and northwestern parts, experience this climate type
- 5) Gujarat:
  - a) Tropical Dry Climate: Some areas in Gujarat, especially in the northwestern and western parts, experience this climate type
  - b) Subtropical Semi-Arid (Steppe) Climate: This climate is found in certain regions of Gujarat, particularly in the northern and central parts
  - c) Subtropical Humid Climate: Coastal areas of Gujarat along the Arabian Sea may have characteristics of this climate

Q3. Among the northeastern states which are best to set up a hotel? Use Clustered Column Chart and give recommendations for hotel industry investors.

Answer:

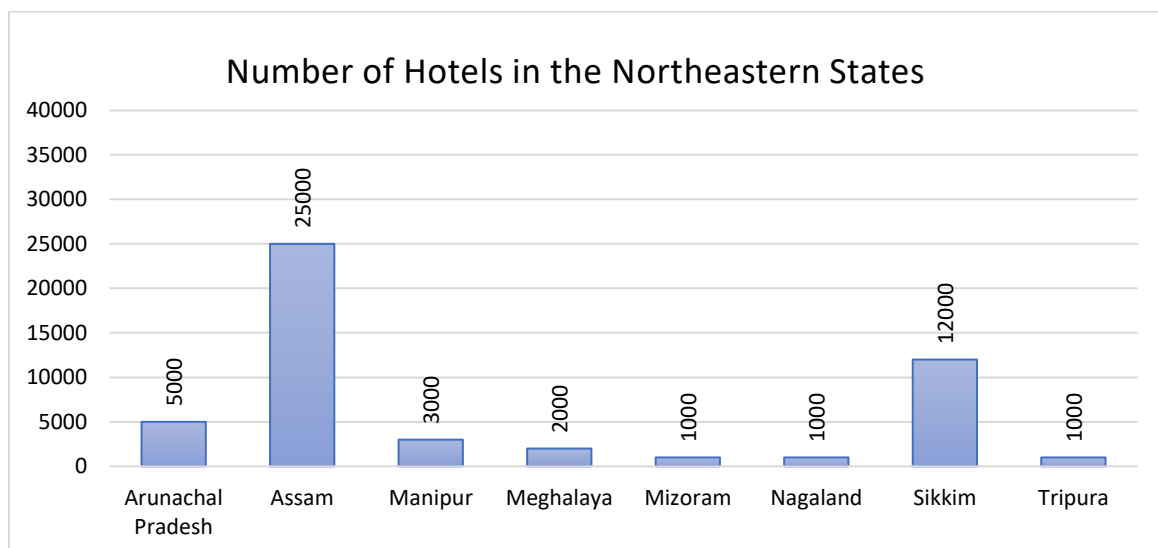
Taking both the climate and the number of hotels into account, Sikkim stands out as a strong candidate for setting up a hotel. It has a Subtropical Humid Climate, which is favorable for tourism, and a relatively high number of hotels (12,000) compared to the other northeastern

states in the dataset. This suggests that there may be a reasonably established tourism industry in Sikkim.

Another state for setting up a hotel in the northeastern region would be Assam. Assam has a Subtropical Humid Climate, which is generally favorable for tourism. Additionally, it has a relatively high number of hotels (25,000) compared to the other states in the dataset. This suggests that there is an established tourism industry in Assam.

#### Recommendations for Hotel Industry Investors:

- 1) Investing in Sikkim:
  - a) Sikkim's natural beauty and adventure opportunities are major attractions.
  - b) The state offers a peaceful and serene environment, appealing to those seeking tranquility.
  - c) Diverse cultures, including Bhutia, Lepcha, and Nepali communities, enrich the tourist experience.
  - d) Sikkim's commitment to eco-friendly practices aligns with global trends in responsible travel.
  - e) Government support and incentives further encourage tourism-related investments.
- 2) Investing in Assam:
  - a) Assam's rich cultural heritage provides a wide range of cultural experiences for tourists.
  - b) World-famous tea plantations offer unique opportunities for tea tourism.
  - c) The renowned Kaziranga National Park attracts wildlife enthusiasts and nature lovers.
  - d) Better road and air connectivity in Assam facilitate tourist arrivals.
  - e) The state's diverse cuisine is an attraction for food-loving travelers.
  - f) Assam's developing infrastructure and urban centers create potential for business and conference tourism.



Q5. Which is the best state for setting up a hotel? Why?

Answer:

The best state for setting up a hotel is Maharashtra. Maharashtra's dynamic landscape, encompassing bustling metropolises, UNESCO World Heritage sites, and scenic hill stations, provides a wealth of attractions for travelers. The state's varied climates, including tropical dry, subtropical semi-arid, and tropical wet, offer diverse experiences throughout the year. Maharashtra's impressive count of 102,000 hotels in the dataset reflects a thriving and diverse tourism industry, making it a promising choice for hotel investments.

Q6. What is the average number of days the rainy season lasts in Indian states?

Answer:

On average, the monsoon season typically lasts for about 100 to 120 days in most parts of India. However, some states may experience longer or shorter rainy seasons. For instance:

- a) Southern States like Kerala, Karnataka, and Tamil Nadu tend to have longer monsoon seasons, often extending from June to September.
- b) Northern States like Punjab, Haryana, and parts of Rajasthan usually experience a shorter monsoon season, typically from July to September.
- c) Eastern and Northeastern States like Assam, West Bengal, and the northeastern states tend to have a more extended monsoon season, often starting earlier in June and lasting until October.
- d) Western States like Gujarat and parts of Maharashtra may experience a shorter monsoon season, with rains concentrated from late June to September.
- e) Central States like Madhya Pradesh and Chhattisgarh usually have a monsoon season from June to September.

The dataset used:

S.no.	States	No of Hotels	Type of Climate
1	Andhra Pradesh	34000	Tropical Wet (Humid)
2	Arunachal Pradesh	5000	Subtropical Humid
3	Assam	25000	Subtropical Humid
4	Bihar	4000	Subtropical Humid
5	Chhattisgarh	25000	Tropical Dry
6	Goa	44000	Tropical Wet (Humid)
7	Gujarat	107000	Tropical Dry
8	Haryana	48000	Subtropical Semi-Arid (Steppe)
9	Himachal Pradesh	83000	Subtropical Humid
10	Jharkhand	4000	Subtropical Humid
11	Karnataka	40000	Tropical Dry, Subtropical Semi-Arid (Steppe), Subtropical Humid
12	Kerala	672000	Tropical Wet (Humid)
13	Madhya Pradesh	14000	Tropical Dry, Subtropical Semi-Arid (Steppe), Subtropical Humid
14	Maharashtra	102000	Tropical Dry, Subtropical Semi-Arid (Steppe), Tropical Wet (Humid)
15	Manipur	3000	Subtropical Humid
16	Meghalaya	2000	Subtropical Humid
17	Mizoram	1000	Subtropical Humid
18	Nagaland	1000	Subtropical Humid
19	Odisha	20000	Subtropical Humid
20	Punjab	11000	Subtropical Semi-Arid (Steppe)
21	Rajasthan	72000	Tropical Dry, Subtropical Semi-Arid (Steppe)
22	Sikkim	12000	Subtropical Humid
23	Tamil Nadu	116000	Tropical Dry, Subtropical Humid
24	Telangana	34000	Tropical Dry
25	Tripura	1000	Subtropical Humid
26	Uttar Pradesh	58000	Subtropical Humid
27	Uttarakhand	50000	Subtropical Humid
28	West Bengal	87000	Tropical Wet (Humid), Subtropical Humid