



Finlatics
ENABLING INSIGHTS

BUSINESS ANALYST EXPERIENCE PROGRAM

PROJECT -2

Submitted By:

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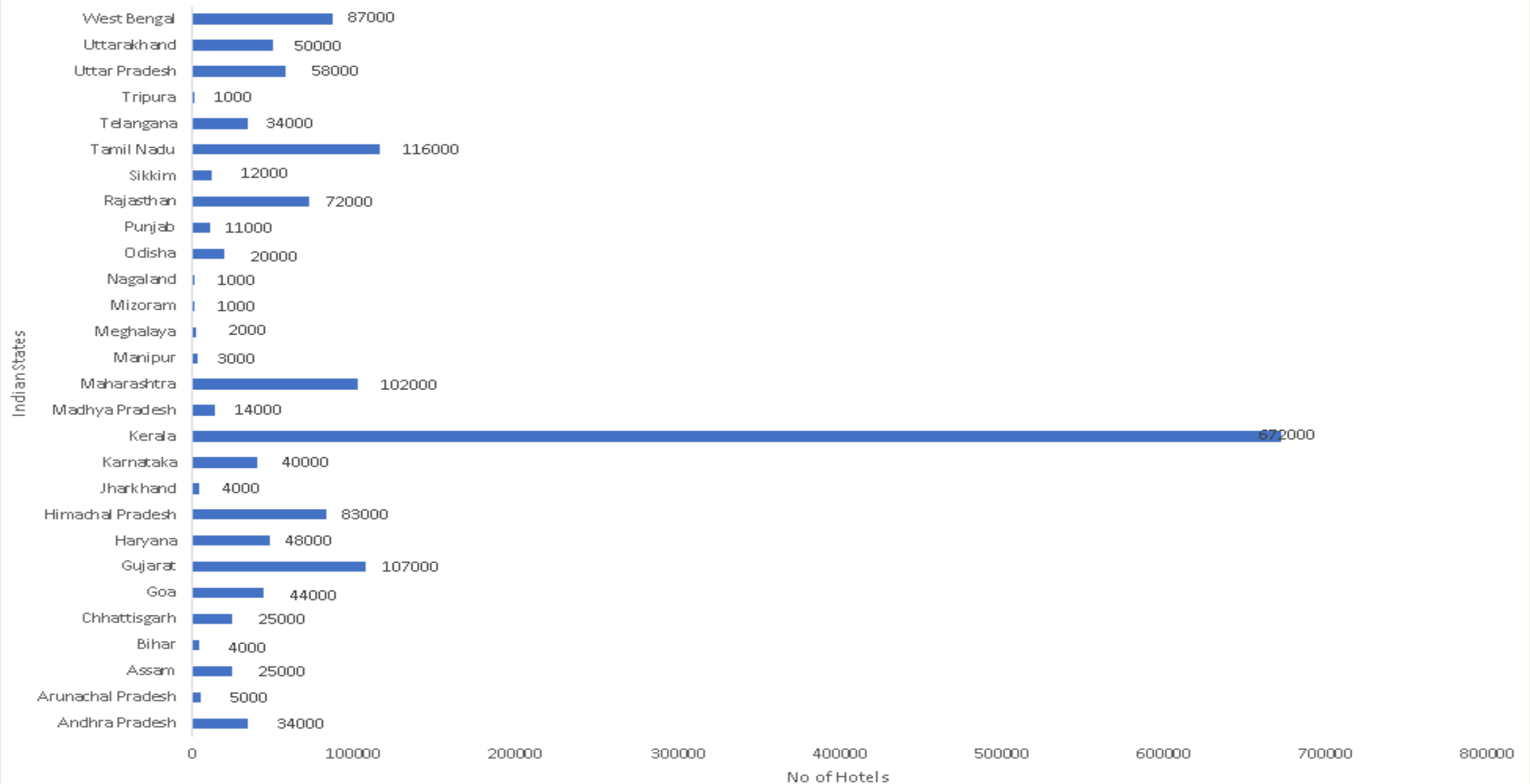
HOTEL DATASET

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



Map showcasing the various seasons and the onset and retreat of the South West Monsoons in the country across various states and regions.

States vs No. of hotels



From the above Bar graph, we can see that 'Kerala' has the highest number of hotels i.e. 672,000 hotels in India followed by Tamil Nadu and Gujarat.

Descriptive Statistics of No. of Hotels in Indian States

Descriptive Statistics	Value
Mean	59821.42857
Standard Error	23641.22563
Median	29500
Mode	1000
Standard Deviation	125097.6074
Sample Variance	15649411376
Kurtosis	23.19289424
Skewness	4.641070382
Range	671000
Minimum	1000
Maximum	672000
Sum	1675000
Count	28
Largest(1)	672000
Smallest(1)	1000
Confidence Level(95%)	48507.78763

States	No of Hotels	Z-Score
Andhra Pradesh	34000	-0.2102
Arunachal Pradesh	5000	-0.44627
Assam	25000	-0.28346
Bihar	4000	-0.45441
Chhattisgarh	25000	-0.28346
Goa	44000	-0.12879
Gujarat	107000	0.38405
Haryana	48000	-0.09623
Himachal Pradesh	83000	0.18868
Jharkhand	4000	-0.45441
Karnataka	40000	-0.16136
Kerala	672000	4.98341
Madhya Pradesh	14000	-0.37301
Maharashtra	102000	0.34335
Manipur	3000	-0.46255
Meghalaya	2000	-0.47069
Mizoram	1000	-0.47883
Nagaland	1000	-0.47883
Odisha	20000	-0.32416
Punjab	11000	-0.39743
Rajasthan	72000	0.09914
Sikkim	12000	-0.38929
Tamil Nadu	116000	0.45732
Telangana	34000	-0.2102
Tripura	1000	-0.47883
Uttar Pradesh	58000	-0.01483
Uttarakhand	50000	-0.07995
West Bengal	87000	0.22125

I have calculated Z-score for the hotel dataset using Formulas tab's functions such as STDEVPA(for standard deviation), AVERAGE in Excel and then applying the Z-score formula using mean and std. deviation.

Diagnostic Analysis

Z-Score Analysis:

1 .Kerala (Z-score: 4.983406)

- Kerala is a significant outlier with a Z-score well above 3.
- This indicates that the number of hotels in Kerala (672,000) is exceptionally higher than in other states.

2. Gujarat, Maharashtra, Tamil Nadu, West Bengal, Himachal Pradesh (Z-scores between 0.1 and 0.5)

- These states have a higher than average number of hotels.
- They are not outliers but are well above the mean.

3. States with Slightly Higher or Lower Hotel Counts (Z-scores between -1 and 1)

- Examples: Andhra Pradesh (-0.210198), Assam (-0.283462), Karnataka (-0.161355), Rajasthan (0.099139), Uttar Pradesh (-0.014827).
- These states are around the average range for hotel counts.

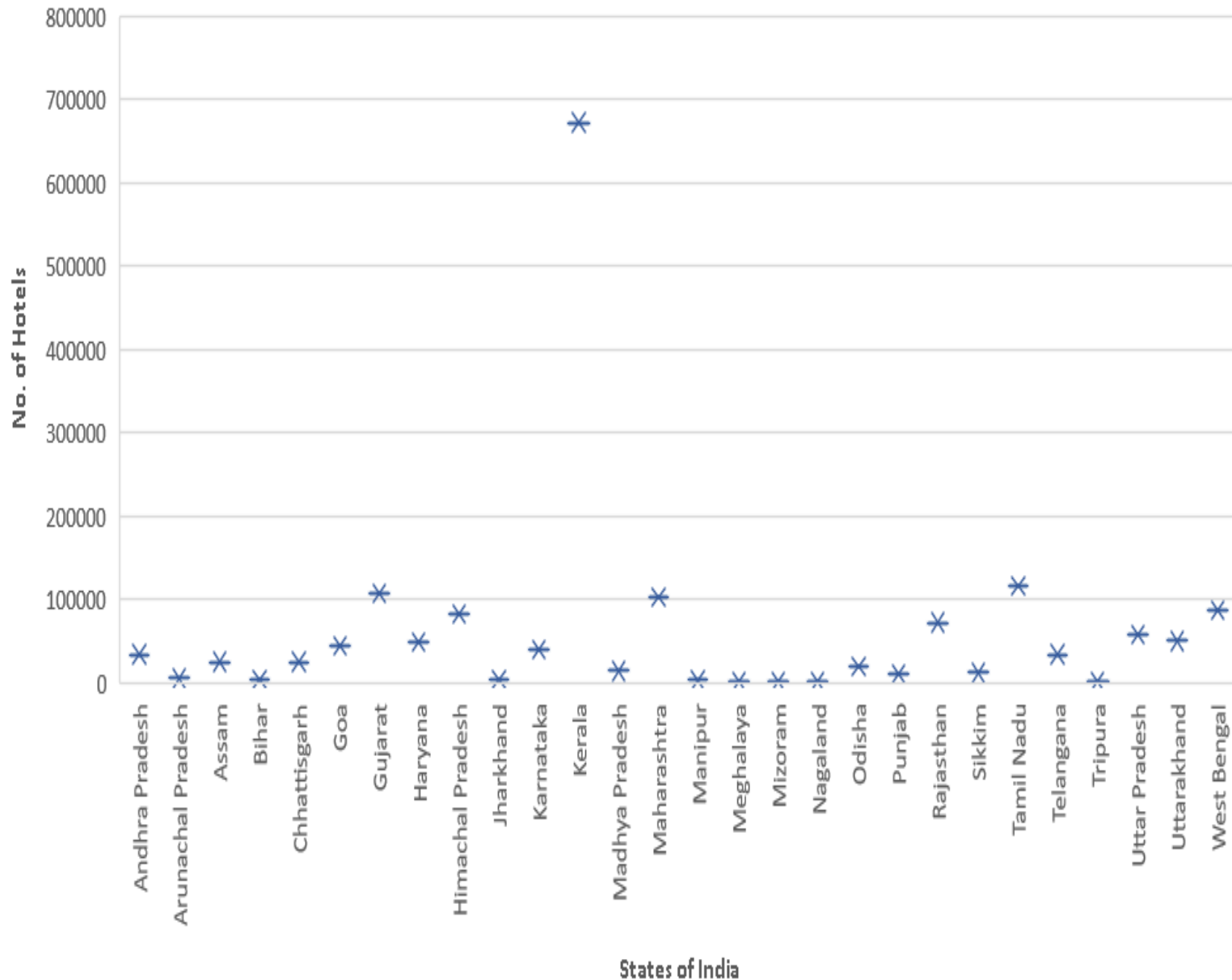
4. States with Lower Hotel Counts (Z-scores between -1 and -0.5)

- Examples: Arunachal Pradesh (-0.446271), Bihar (-0.454411), Jharkhand (-0.454411), Manipur (-0.462552), Meghalaya (-0.470692).
- These states have fewer hotels compared to the average but are not extreme outliers.

5. States with Very Low Hotel Counts (Z-scores close to -0.5)

- Examples: Mizoram (-0.478833), Nagaland (-0.478833), Tripura (-0.478833).
- These states have significantly fewer hotels than average.

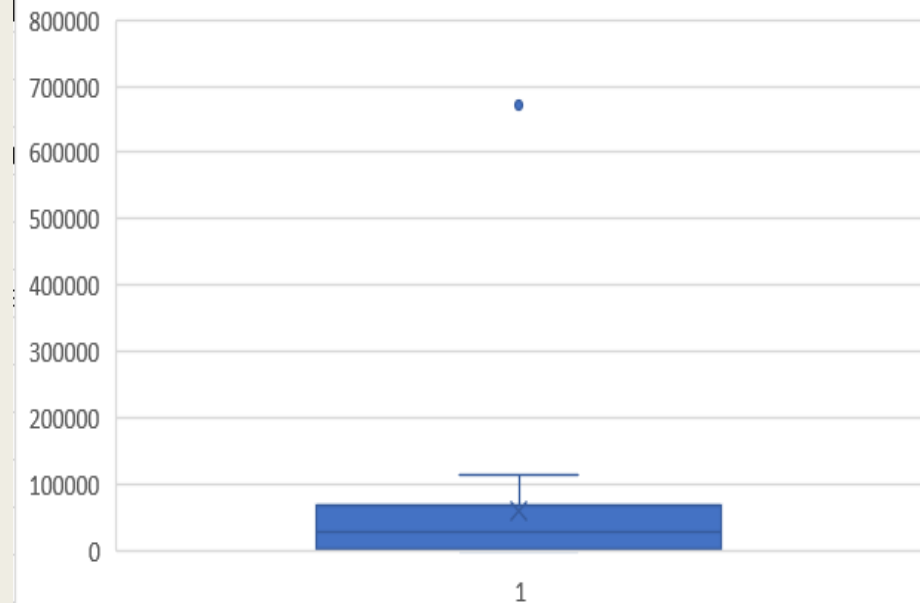
Outliers in the data(Box and Whisker Chart)



Outlier Analysis

By plotting the box and whisker chart and box plot of the hotel dataset, we can see that Kerala with 672,000 hotels is an outlier in the dataset.

Box Plot of No. of Hotels



Conversion of Map to Structured Data

Seasons									
Serial No.	States	No of Hotels	Hot dessert ,						Total No. of Climatic Conditions
			Arid	Mountain climate	Humid subtropical	Arid,Steppe,Hot	Tropical savannah, wet & dry	Tropical Monsoon	
1	Andhra Pradesh	34000	-	-	-	✓	✓	-	2
2	Arunachal Pradesh	5000	-	✓	✓	-	-	-	2
3	Assam	25000	-	✓	✓	-	-	-	2
4	Bihar	4000	-	-	✓	-	-	-	1
5	Chhattisgarh	25000	-	-	✓	-	✓	-	2
6	Goa	44000	-	-	-	-	-	✓	1
7	Gujarat	107000	✓	-	-	✓	✓	-	3
8	Haryana	48000	✓	-	✓	✓	-	-	3
9	Himachal Pradesh	83000	-	✓	✓	✓	-	-	3
10	Jharkhand	4000	-	-	✓	-	✓	-	2
11	Karnataka	40000	-	-	-	✓	✓	✓	3
12	Kerala	672000	-	-	✓	-	-	✓	2
13	Madhya Pradesh	14000	-	-	✓	✓	✓	-	3
14	Maharashtra	102000	-	-	✓	-	✓	✓	3
15	Manipur	3000	-	-	✓	-	-	-	1
16	Meghalaya	2000	-	-	✓	-	-	-	1
17	Mizoram	1000	-	-	✓	-	-	-	1
18	Nagaland	1000	-	-	✓	-	-	-	1
19	Odisha	20000	-	-	✓	-	✓	-	2
20	Punjab	11000	✓	-	-	✓	-	-	2
21	Rajasthan	72000	✓	-	-	✓	-	-	2
22	Sikkim	12000	-	✓	-	-	-	-	1
23	Tamil Nadu	116000	-	-	-	✓	✓	✓	3
24	Telangana	34000	-	-	-	✓	✓	-	2
25	Tripura	1000	-	-	✓	-	-	-	1
26	Uttar Pradesh	58000	-	-	✓	✓	-	-	2
27	Uttarakhand	50000	-	✓	✓	-	-	-	2
28	West Bengal	87000	-	✓	✓	-	✓	-	3

Indian States with Three Types of Climatic Conditions

In the above table, we can see the type of climatic condition of different Indian states and the states having three types of climatic condition have been highlighted using conditional formatting using Excel.

From above table and by also using Pivot Table in Excel. We can see the states having three types of climatic conditions are:

1. Gujarat
2. Haryana
3. Himachal Pradesh
4. Karnataka
5. Madhya Pradesh
6. Maharashtra
7. Tamil Nadu
8. West Bengal

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

Data to Pivot Table

This table is a Pivot Table created in Excel using the structured data of No. of Hotels and Total No. of climatic conditions in different states of India by use of Pivot Table. States are put in row Field and the No. of hotels and climatic conditions in Value field.

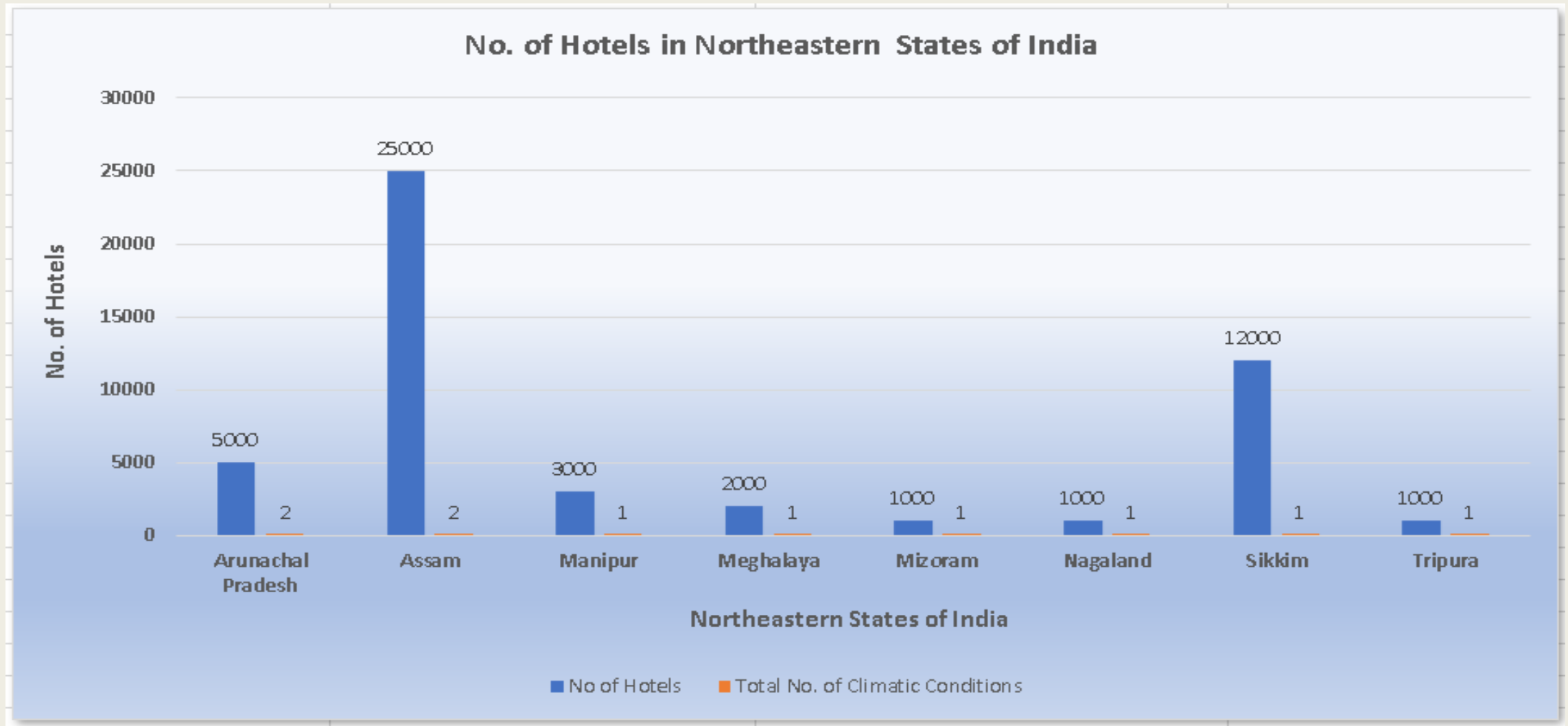
Data on North-Eastern States

Row Labels	Sum of No of Hotels	Sum of Total No. of Climatic Conditions
Arunachal Pradesh	5000	2
Assam	25000	2
Manipur	3000	1
Meghalaya	2000	1
Mizoram	1000	1
Nagaland	1000	1
Sikkim	12000	1
Tripura	1000	1
Grand Total	50000	10

Along with the pivot table , I have used **slicers** to filter the dataset according to north-eastern states of India and their no. of climatic conditions.

The table given above has been created using slicers from Pivot Table Analysis Tab in Excel It includes all the north-eastern states of India with their number of hotels and number of climatic conditions.

North-Eastern States having the Potential for setting up a Hotel



According to the above clustered column chart and below table, the best states to set up a hotel are:-

1. After data interpretation Assam and Sikkim are most likely to have the highest number of tourists attraction as these are the states having the most hotels.
2. But Assam having subtropical humid climate which only attract most tourists in winter season, which decrease the tourist footfall in summers.
3. And Sikkim also have seasonal tourist which only attracts them either in spring or after monsoon due to its heavy rainfall which don't make the visit worthwhile.
4. Best of all the northeastern states is Arunachal Pradesh, as of less competition according to number of hotels and it also has two climatic conditions every year, so it makes the tourist attraction point throughout the year.

States	Climate Conditions		No. of Climate Conditions
Arunachal Pradesh	Subtropical Humid Climate	Mountain Climate	2
Assam	Subtropical Humid Climate	Mountain Climate	2
Manipur	Subtropical Humid Climate		1
Meghalaya	Subtropical Humid Climate		1
Mizoram	Subtropical Humid Climate		1
Nagaland	Subtropical Humid Climate		1
Sikkim		Mountain Climate	1
Tripura	Subtropical Humid Climate		1

Pivot Tables

I have created the following pivot tables in Excel:

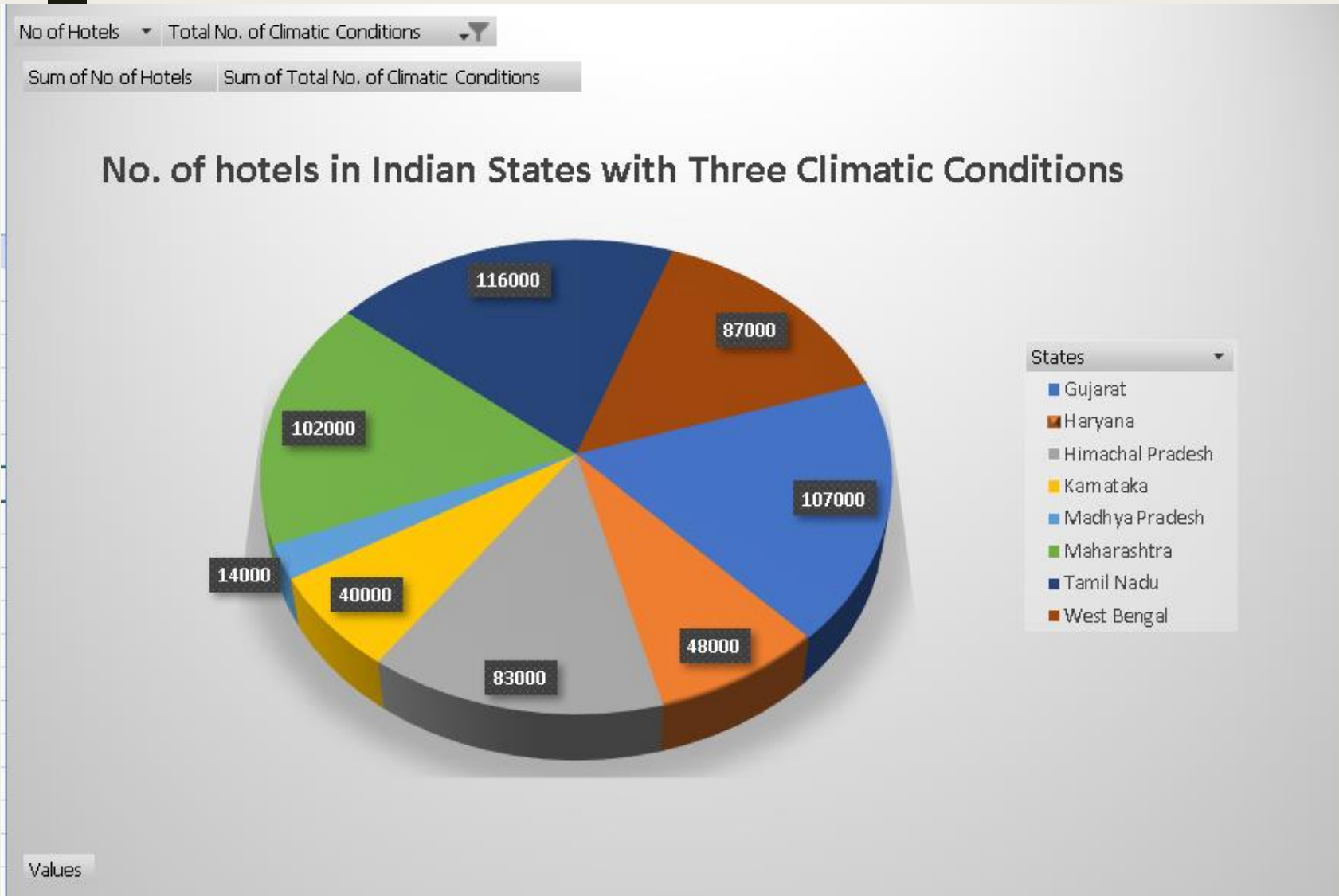
No of Hotels	(Multiple Items)	
Arid,Steppe,Hot	-	
Row Labels	Sum of No of Hotels	Count of Arid,Steppe,Hot
Assam	25000	1
Chhattisgarh	25000	1
Goa	44000	1
Kerala	672000	1
Maharashtra	102000	1
Odisha	20000	1
Sikkim	12000	1
Uttarakhand	50000	1
West Bengal	87000	1
Grand Total	1037000	9

I have made the above pivot table for the states that do not have Arid, Steppe, Hot climate and have hotels greater than 12.000.

I have made the below pivot table for the states that have three types of climatic conditions with number of hotels.

No of Hotels	(All)	
Total No. of Climatic Conditions	3	
Row Labels	Sum of No of Hotels	Sum of Total No. of Climatic Conditions
Gujarat	107000	3
Haryana	48000	3
Himachal Pradesh	83000	3
Karnataka	40000	3
Madhya Pradesh	14000	3
Maharashtra	102000	3
Tamil Nadu	116000	3
West Bengal	87000	3
Grand Total	597000	24

Pivotal Charts



PivotChart Fields

Choose fields to add to report: ⚙️ ▾

Search 🔍

- ☒ **States**
- ☒ **No of Hotels**
- ☐ Hot dessert , Arid
- ☐ Mountain climate
- ☐ Humid subtropical
- ☐ Arid,Steppe,Hot
- ☐ Tropical savannah, wet & dry
- ☐ Tropical Monsoon
- ☒ **Total No. of Climatic Conditions**

Drag fields between areas below:

Filters	Legend (Series)
No of Hotels ▾	Σ Values ▾
Total No. of Climatic ... ▾	

Axis (Categories)	Σ Values
States ▾	Sum of No of Hotels ▾
	Sum of Total No. of Cli... ▾

☐ Defer Layout Update Update

I have made above pie pivot chart with the pivot chart fields shown in the right in Excel. I have then used various chart styles and formatting options such as 3-D effects on the border and on the pie. I have also formatted chart area to make the chart look more attractive.

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

Best State in India having the Potential for Setting up a Hotel

Himachal Pradesh is the best state to set up a hotel as the state having three climatic conditions so its suitable to visit throughout the year and coming on the sixth rank in no. of hotels (as we can see in this table which is sorted according to no. of hotels with state having largest no. of hotels on top) in India which shows its highest tourist footfall. There is also development of tourism. Domestic tourists come to this hill state for a number of reasons, such as to take in the peace and quiet, to escape the oppressive heat of the lowlands, to relax, or to perform pilgrimages. Visitors from other countries are drawn to the hill state because of its historical significance. It is a popular destination among tourists for its beautiful hill stations, sceneries, and adventurous activities like trekking and skiing. Almost everyone in vacations goes to North part of India for relaxing . Since Himachal with three climatic conditions and ranking sixth in no. of hotels it could be the best state among other states having the potential for setting up a hotel in India.

Regions	States	Monsoon Onset	Monsoon retreat	Duration (days)
Northern and North Western	Ladakh	25-Jun	20-Sep	87
	Jammmu and Kashmir	01-Jul	15-Sep	76
	Himachal Pradesh	25-Jun	20-Sep	87
	Punjab	01-Jul	15-Sep	76
	Uttarakhand	20-Jun	25-Sep	97
	Harayana	01-Jul	15-Sep	76
	Rajasthan	01-Jul	15-Sep	76
	Gujarat	15-Jun	15-Sep	92
Central	Uttar Pradesh	15-Jun	01-Oct	108
	Bihar	10-Jun	05-Oct	117
	Jharkhand	10-Jun	05-Oct	117
	Chhattisgarh	05-Jun	15-Oct	132
	Madhya Pradesh	10-Jun	01-Oct	113
	Goa	06-Jun	10-Oct	126
	Maharashtra	10-Jun	01-Oct	113
	Odisha	05-Jun	15-Oct	132
	West Bengal	05-Jun	10-Oct	127
North eastern	Arunachal Pradesh	03-Jun	18-Oct	137
	Sikkim	05-Jun	15-Oct	132
	Assam	01-Jun	17-Oct	138
	Manipur	01-Jun	22-Oct	143
	Meghalaya	01-Jun	17-Oct	138
	Mizoram	01-Jun	20-Oct	141
	Nagaland	01-Jun	22-Oct	143
	Tripura	01-Jun	20-Oct	141
Southern	Karnataka	01-Jun	15-Oct	136
	Telangana	05-Jun	15-Oct	132
	Andhra Pradesh	01-Jun	20-Oct	141
	Kerala	01-Jun	25-Oct	146
	Tamil Nadu	15-May	25-Oct	163
Average days Monoon last in Indian States				119.433

Average Number of Days Rainy Season lasts in India

This figure is created in Excel. I calculated the duration in days for each state by subtracting the Monsoon retreat from the Monsoon Onset column in and then calculated the average number of rainy days using the **AVERAGE** formula.

The average number of days the rainy season lasts in Indian States is around 119 days.

Recommendations for Hotel Industry Investors

1. High Potential Investment Areas:

- **Kerala:** Due to the high number of existing hotels, Kerala is likely a major tourist destination. Investing here might be profitable due to high tourist footfall but could also mean more competition.
- **Tamil Nadu, Gujarat, Maharashtra:** These states have a high number of hotels, suggesting a well-established tourism industry.

2. Moderate Potential Investment Areas:

- **Himachal Pradesh, West Bengal:** These states have a moderate number of hotels and could present growth opportunities.

3. Emerging Markets:

- **Northeastern States (Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura):** Given the lower number of hotels, these states might have untapped potential for tourism development. Assam has a slightly higher number of hotels among these, indicating some existing infrastructure.