



Capstone Project:

Goibibo

Indian Hotels Analytics

Comprehensive analysis of **8.5 lakh hotel reviews** across **7,500+ properties** in India's hospitality sector.

Our analytics focus on optimizing pricing strategies, amenity offerings, competitive positioning, and customer satisfaction ratings using advanced PostgreSQL data mining techniques.

Hotel Footprint & Strategic Tiering

city text	hotel_count bigint	avg_price numeric	median_price numeric	price_tier text
Mumbai	838	3186.27	2137.50	Mid
udaipur	729	2911.01	1750.00	Mid
Manali	645	2804.89	2282.00	Mid
Varanasi	507	2166.50	1813.00	Low
Mahabaleshw...	439	4832.76	2486.00	High
Coorg	404	4089.45	2979.00	High
Agra	393	1559.11	1288.00	Low
Rishikesh	388	3619.28	2885.00	High
Chandigarh	378	1988.72	1485.00	Low
Wayanad	347	3487.37	2686.00	High
Shimla	317	3231.13	2492.00	Mid

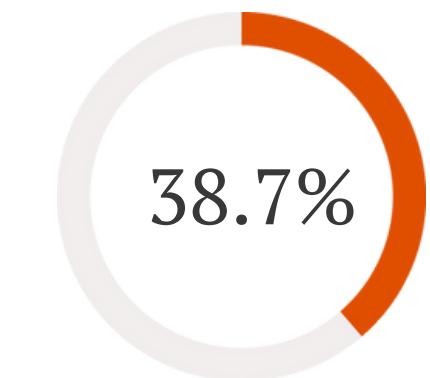
Key Market Insights

- Mumbai and Udaipur dominate with highest hotel concentrations
- Geographic distribution indicates market saturation patterns
- City-level capacity benchmarking reveals strategic pricing opportunities
- Pricing tier variations: Mumbai positioned as **mid-tier**, Mahabaleshwar commands **premium rates**

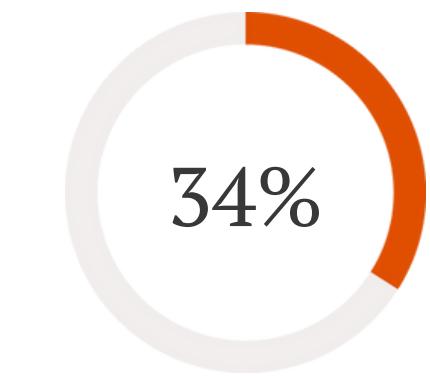


Price Distribution Landscape

price_bucket	hotel_count	avg_price	median_price
Very Low (<1000)	1575	746.00	764.00
Low (1000-1999)	3996	1487.72	1475.00
Mid (2000-4999)	4502	3101.31	2899.00
High (5000-9999)	1076	6712.52	6375.00
Very High (>=10000)	407	17756.79	14514.00



Mid-Tier Hotels
₹2,000-4,999 price range dominates
the market



Budget Segment
Low-price hotels under ₹2,000
show strong presence



Ultra-Luxury
VeryHighsegment (10,000+)
represents niche market

The pyramid structure reveals **affordable dominance** in India's hospitality market, with median pricing aligning to middle-class purchasing power.

Detailed Price Segmentation Analysis

	amenity text	price_tier text	hotels_with_amenity_in_tier bigint	pct_within_amenity numeric
1	access control system	High	38	38.38
2	access control system	Low	34	34.34
3	access control system	Mid	27	27.27
4	activity centre	High	408	57.46
5	activity centre	Low	125	17.61
6	activity centre	Mid	177	24.93
7	aerobics	High	8	40.00
8	aerobics	Low	6	30.00
9	aerobics	Mid	6	30.00
10	aerobics (free)	High	8	66.67

Budget Foundation

₹1,000-1,999 range forms the **widest base**, catering to price-sensitive travelers and business segments

Mid-Tier Strength

₹2,000-4,999 segment shows **consistent demand**, balancing affordability with quality expectations

Luxury Niche

₹10,000+ ultra-premium market remains **highly selective**, serving exclusive clientele

City-Level Service Competitiveness

Amenity Leadership

- Housekeeping and reception lead as most offered amenities
- Mumbai showcases **800+ hotels** with standardized housekeeping services
- Strong service standardization across tier-1 cities
- Pricing premiums exist despite similar amenity offerings

	city text	amenity text	hotels_offering bigint	avg_price numeric	hotels bigint
1	Mumbai	housekeep...	800	3155.41	786
2		reception	764	3057.78	751
3	udaipur	housekeep...	685	2886.40	677
4		reception	628	2705.20	620
5	Manali	housekeep...	593	2747.33	585
6		reception	547	2651.19	540
7	Varanasi	housekeep...	445	2180.71	442
8		power bac...	443	2243.22	439
9	Mahabaleshwar	housekeep...	399	4783.25	396
10		seating area	325	4921.03	322



landmark_type	character varying
landmark_city	character varying
Religious	
Recreation	
Religious	
Religious Place	Abu
Religious Place	Abu
Religious	Agra
Religious	Agra
Religious	Ajmer
Religious Place	Ajmer
Religious Place	Alleppey
Religious Place	Alleppey
	Almora
	Almora
	Binsar

review_text

text

its really a good h

My first experience

very good hotel in

this hotel is very

nice hotal and all

nice hotal and all

Good area, neat a

nice location, pric

The stay was ver

The stay was ver

Amazing scenic t

Landmark Proximity Premium Effect



Religious Landmarks

Hotels near sacred sites in Ajmer consistently achieve near-perfect 5-star ratings, leveraging spiritual tourism demand



Historical Sites

Agra properties benefit from Taj Mahal proximity, commanding premium rates with excellent guest satisfaction



Natural Attractions

Alleppey backwaterhotels excel in ratings, with 1km proximity driving positive guest sentiment and pricing power

Brand Performance Spectrum

Boutique Excellence

Smaller brands like **North Star**, **Vrindavan**, and **Peak View** consistently achieve perfect 5-star ratings despite limited listings.

Personalized service and unique experiences drive exceptional guest satisfaction, proving that **quality trumps scale** in hospitality.

3.8★

Chain Average
Large brand performance

5★

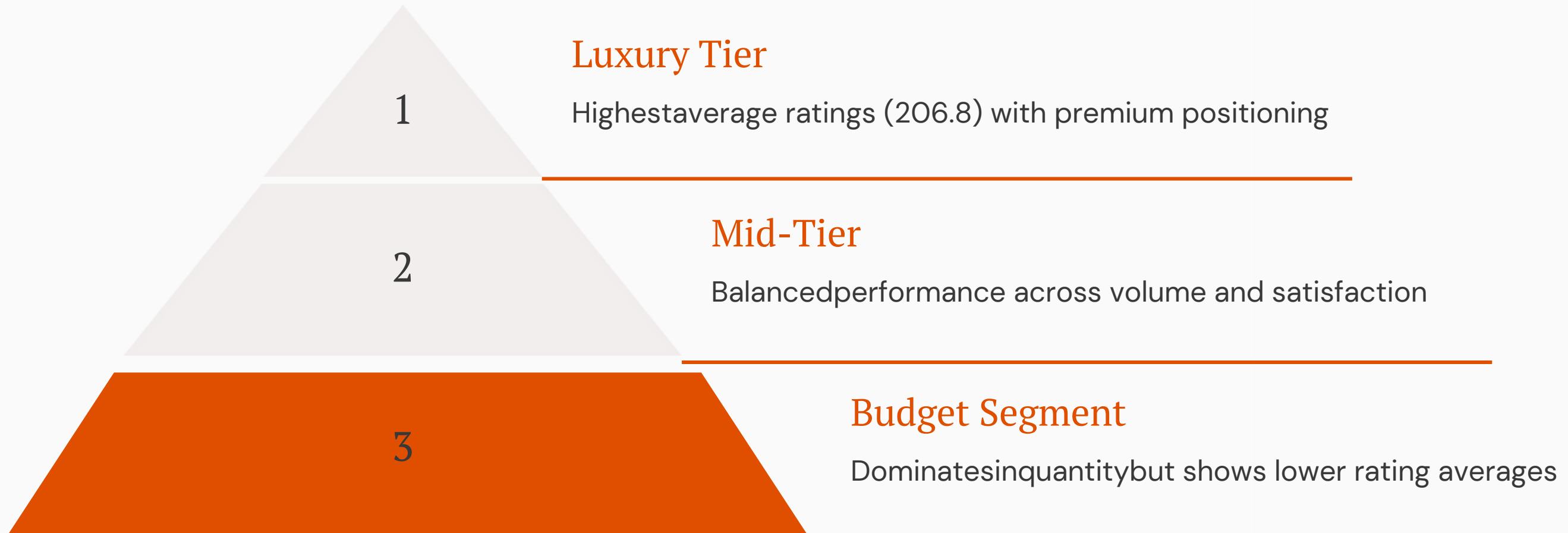
Boutique Average
Perfect rating consistency

brand	listings
North Star	3
Vrindavan	3
Peak View	3
Blue Diamond	2
Paradise Villa	2
Skylarc	2
Aditya Guest House	2
White Mountain	2
Pratap	2
Jeet	2
Sun Shine	2

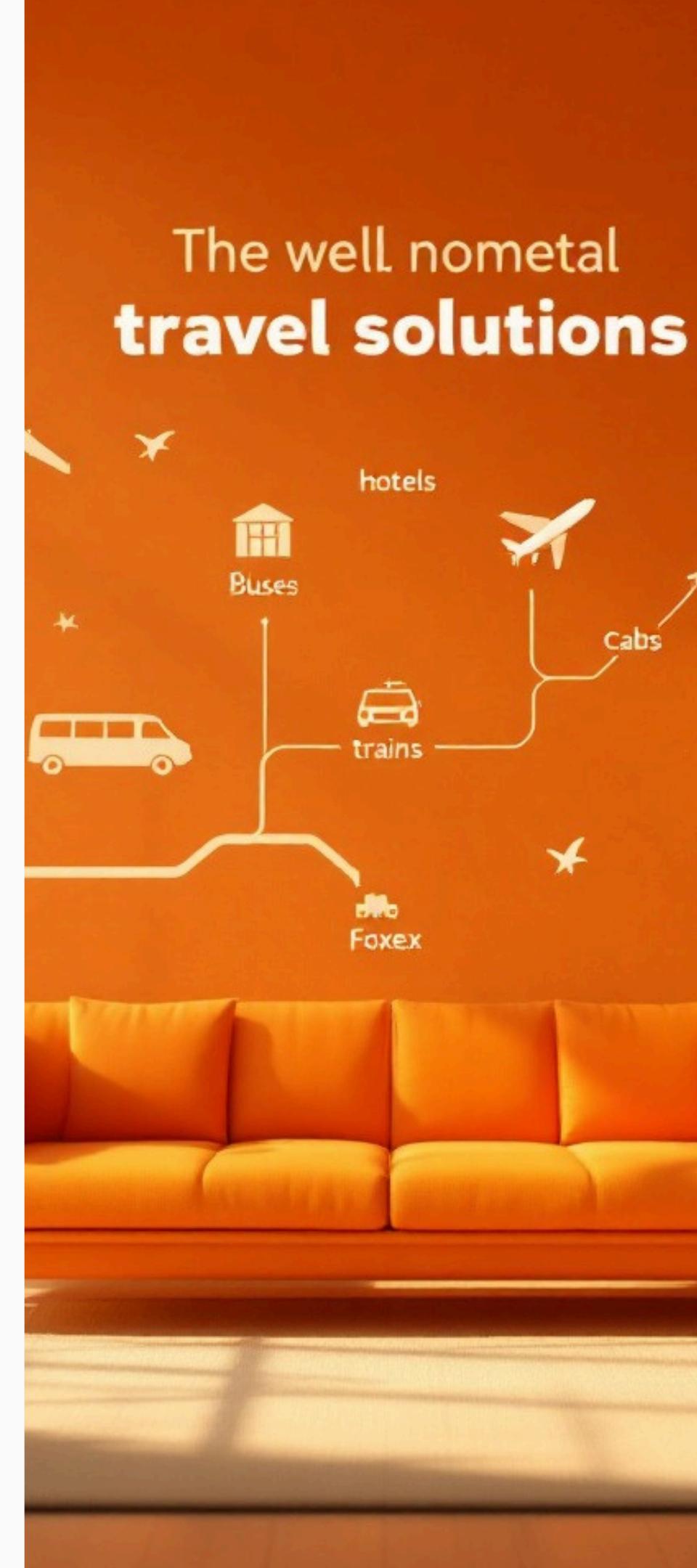
brand	avg_rating
North Star	5.00
Vrindavan	5.00
Peak View	5.00
Blue Diamond	5.00
Paradise Villa	5.00
Skylarc	5.00
Aditya Guest House	5.00
White Mountain	5.00
Pratap	5.00
Jeet	5.00
Sun Shine	5.00

brand	median_price
North Star	1435.0
Vrindavan	2939.0
Peak View	2657.0
Blue Diamond	1831.0
Paradise Villa	5067.0
Skylarc	4006.0
Aditya Guest House	802.0
White Mountain	1947.0
Pratap	672.0
Jeet	540.0
Sun Shine	1136.0

Budget vs Luxury Performance Matrix



price_tier	hotel_count	avg_totalrating	median_price
budget	3751	194.37	1067.0
mid	6549	193.60	2448.0
luxury	1513	206.80	7291.0



Review Volume Leadership Analysis

	hotel_cc	hotel_name	total_reviews	avg_rating	median_rating	std_rating	recent_9	rating_trend_per_year	trend_r	n_for_trend
	bigint	character varying (100)	bigint	numeric	numeric	numeric	bigint	double precision	double	bigint
1	4018	Vasota Fort Agro Tourism (River Camping)	8312	3.771	4.000	1.380	162	-0.00898591963026739	0.00011	8312
2	4018	Sweet Memories Homestay	8312	3.771	4.000	1.380	162	-0.00898591963026739	0.00011	8312
3	4018	Cottage On The Rocks Carved in Red Stone	8312	3.771	4.000	1.380	162	-0.00898591963026739	0.00011	8312
4	4018	Hotel Sai Palace	8312	3.771	4.000	1.380	162	-0.00898591963026739	0.00011	8312
5	4018	StayVista at Status Villa	8312	3.771	4.000	1.380	162	-0.00898591963026739	0.00011	8312
6	4018	Bridge Corner Villa	8312	3.771	4.000	1.380	162	-0.00898591963026739	0.00011	8312
7	4018	Hotel Kings Inn	8312	3.771	4.000	1.380	162	-0.00898591963026739	0.00011	8312
8	4018	Hotel Gitanjali	8312	3.771	4.000	1.380	162	-0.00898591963026739	0.00011	8312
9	4018	ILIF 2025 MOUNTAIN CAPITAL MAHABALES...	8312	3.771	4.000	1.380	162	-0.00898591963026739	0.00011	8312
10	4018	Hotel Rama Executive	8312	3.771	4.000	1.380	162	-0.00898591963026739	0.00011	8312
11	4018	Golden hill resorts	8312	3.771	4.000	1.380	162	-0.00898591963026739	0.00011	8312

Volume Champions

- BasantPalace(Pushkar) leads with 24,000+ reviews
- Siddharth Resort maintains consistent high volume engagement
- Rating stability around **3.7–4.0** despite massive review counts
- Sustained guest experience quality across multiple years

High review volumes indicate strong market presence but don't guarantee premium ratings, suggesting operational consistency matters more than popularity.

Emerging Markets Growth Trajectory

hotel_name	city	total_reviews	avg_rating	median_rating	std_rati	rating_trend_per_year	trend_r_squared	years_of_data
character varying	text	bigint	numeric (6,3)	double precision	numeric	double precision	double precision	bigint
Basant Palace	Pushkar	24936	3.771	4	-0.0025488144764599287	9.519475104441316e-06		8
Siddharth Resort	Pushkar	24936	3.771	4	-0.0025488144764597557	9.519475104439965e-06		8
Babu Homestay	Madikeri	16624	3.771	4	-0.0025488144764596113	9.519475104438941e-06		8
Nakshatra Homestay-3 BHK Homestay	Madikeri	16624	3.771	4	-0.002548814476459777	9.519475104440154e-06		8
Cauvery suites Coorg	Madikeri	16624	3.771	4	-0.002548814476459909	9.519475104441096e-06		8
Kannike Cauvery Homestay-2 BHK Homestay	Madikeri	16624	3.771	4	-0.0025488144764598646	9.519475104440844e-06		8
PARAMPARA RESORT & SPA- COORG	Madikeri	16624	3.771	4	-0.0025488144764597917	9.519475104440292e-06		8
Cliff Top Club Resort	Auli	16624	3.771	4	-0.002548814476459872	9.519475104440866e-06		8
YEDAMAKKY PLANTATIONS	Madikeri	16624	3.771	4	-0.0025488144764597848	9.519475104440197e-06		8
Shyam- YRR Home Stay	Auli	16624	3.771	4	-0.0025488144764598307	9.519475104440549e-06		8
Rajni Homestay	Auli	16624	3.771	4				



New Market Entry

Smaller cities show accelerated hotel openings, driving momentum beyond traditional hubs



Rating Parity

Emerging markets achieve comparable satisfaction levels to mature destinations



Expansion Opportunity

8-year trend analysis confirms gradual but steady improvement in customer satisfaction nationwide

Recommendations



Dynamic Pricing Strategy

Use city-level competitiveness insights to set optimal rates.



Amenity Optimization

Focus on high-demand amenities like Wi-Fi, housekeeping, and reception.



Brand Building

Encourage hotels to join strong chains/brands to improve ratings.



Focus on Emerging Cities

Invest in Udaipur, Rishikesh, Wayanad where growth ratios are promising.



Customer Sentiment Integration

Leverage review trends for real-time service improvement.



SQL Queries Reference

All the SQL queries used in this project have been compiled separately due to their length and complexity. To review the complete set of queries, please visit the following link:

→ https://github.com/sujalupadhyay1/Goibibo-sql-powerBI--python/blob/main/sql_questions

This document contains all query scripts organized by topic, including data extraction, transformation, exploratory analysis, and final reporting.

go

Q Search



City



All

Amenities



All

Hotel



All

Date

**3.76**

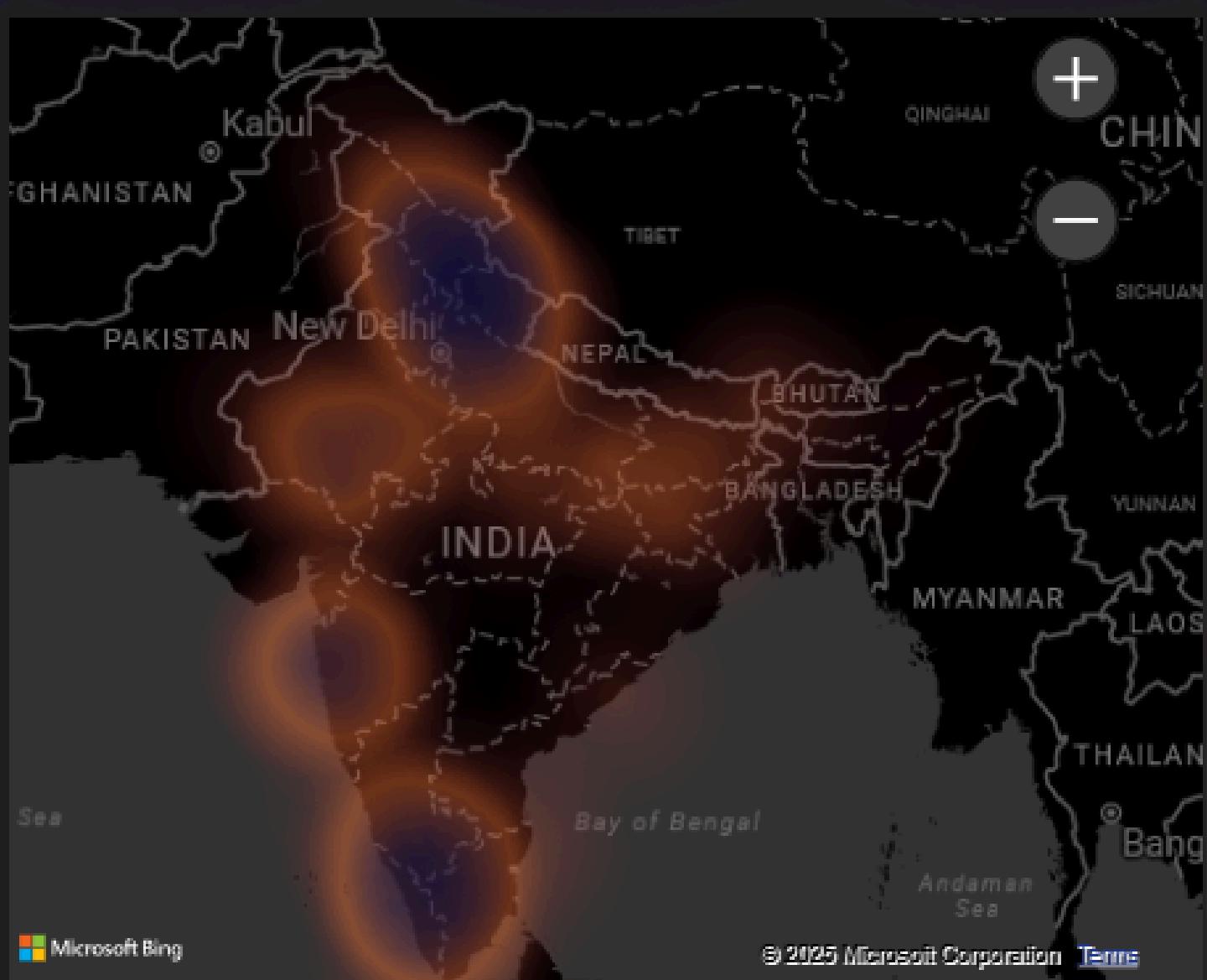
Avg Rating (Reviews)

11K

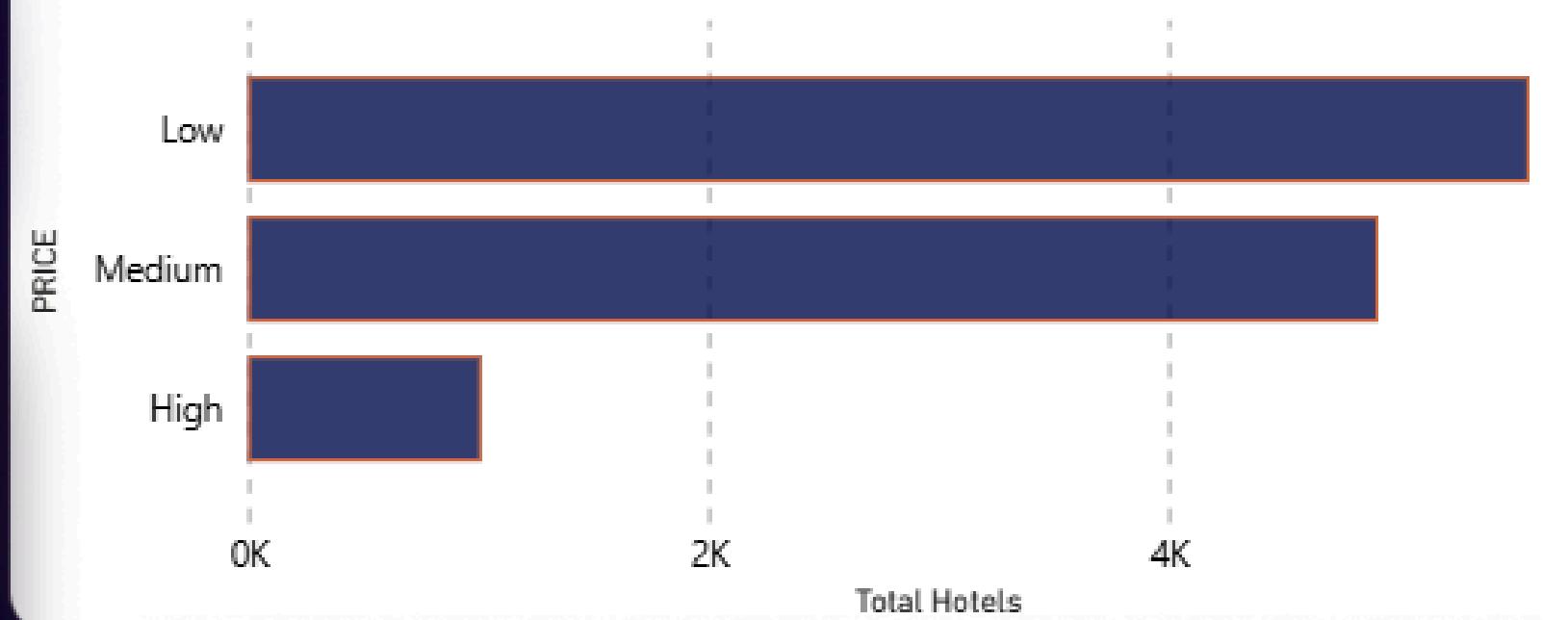
Total Hotels

₹ 3,073

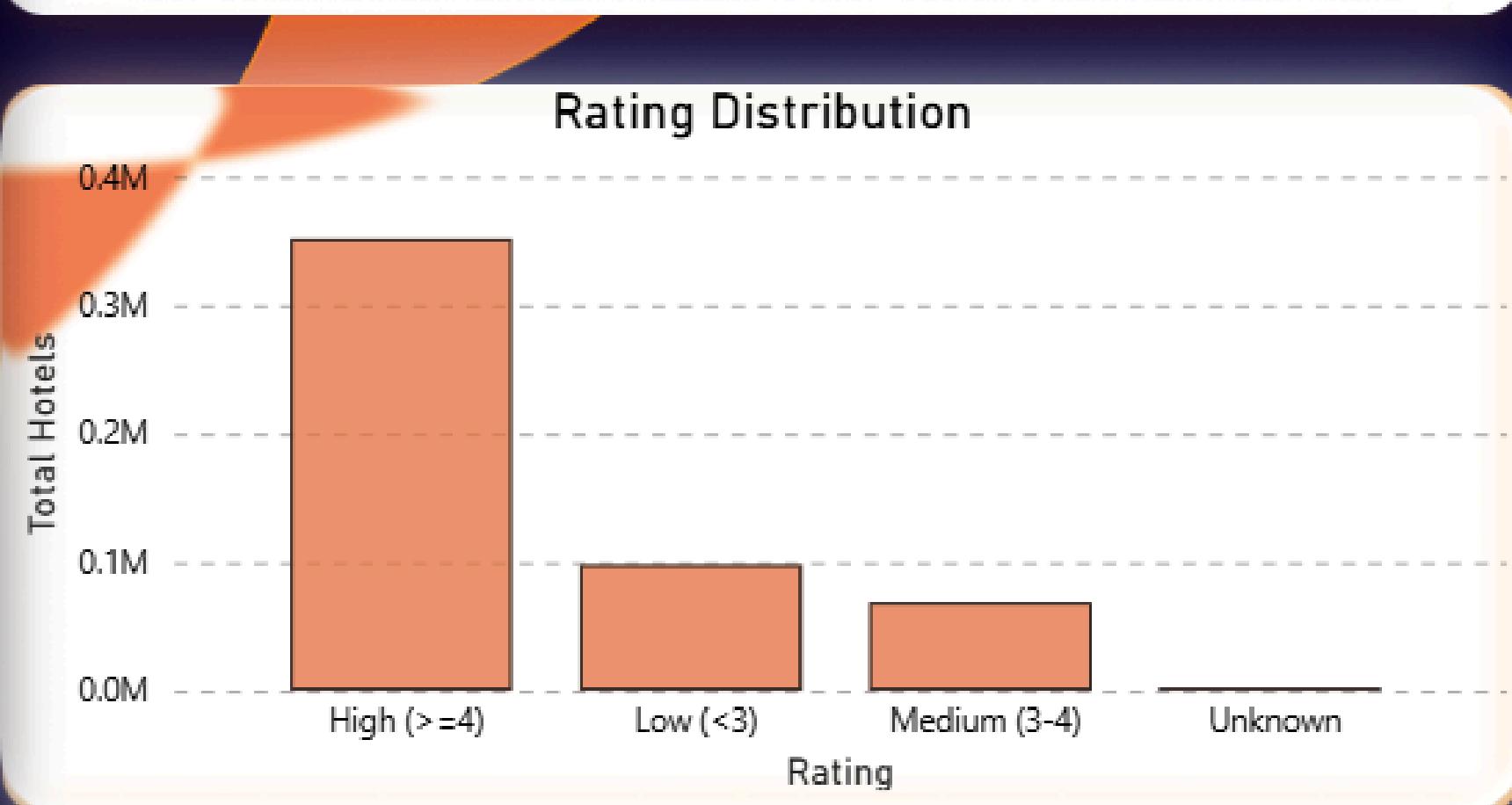
Avg Price



Total Hotels by Price



Rating Distribution



Market Overview

Amenities & Pricing

Competitive Landscape

Sentiment Insights

Emerging Markets

Others

High

Low

Medium



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Q Search



city



City Amenities



Hotel

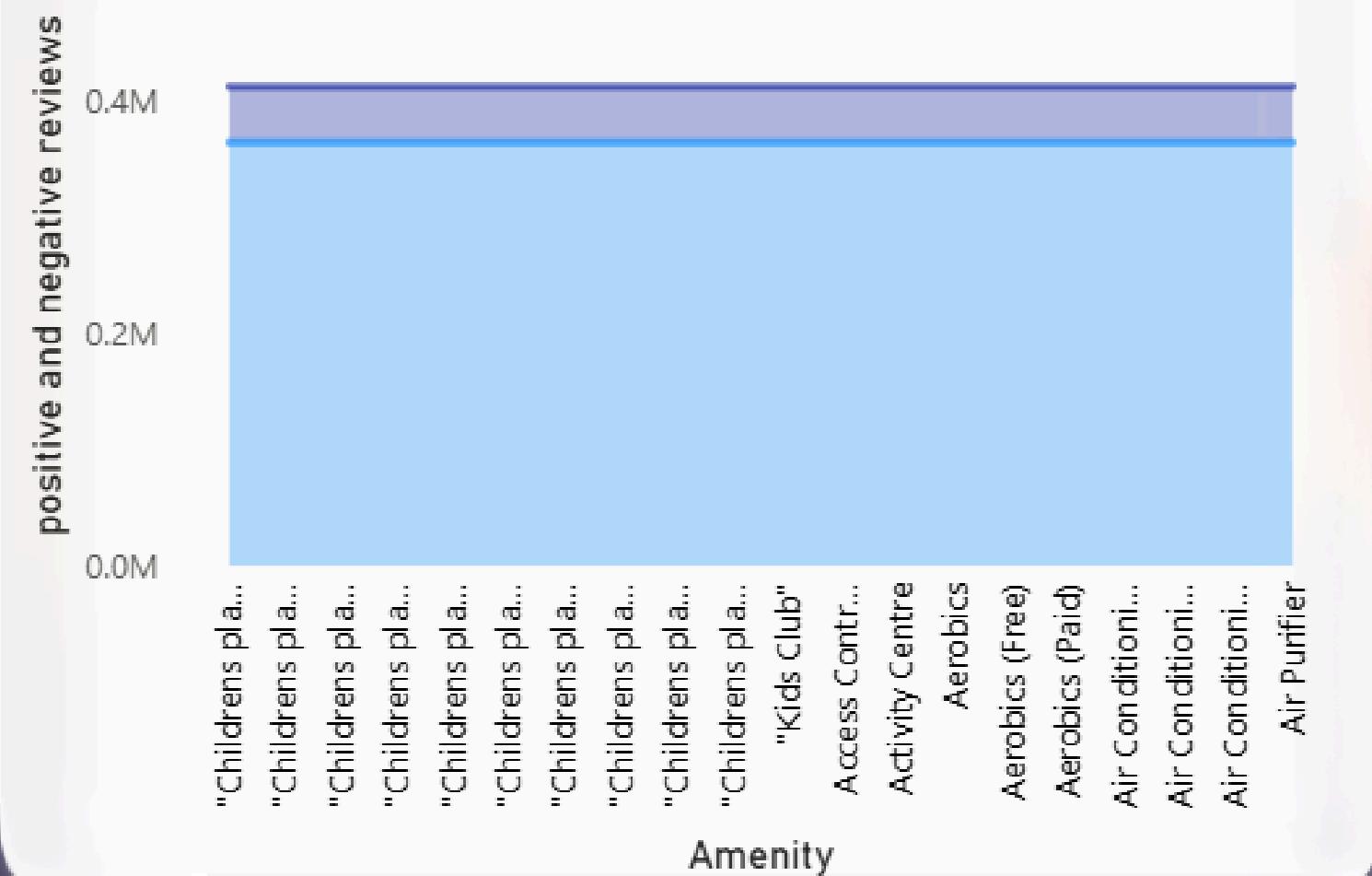


Date

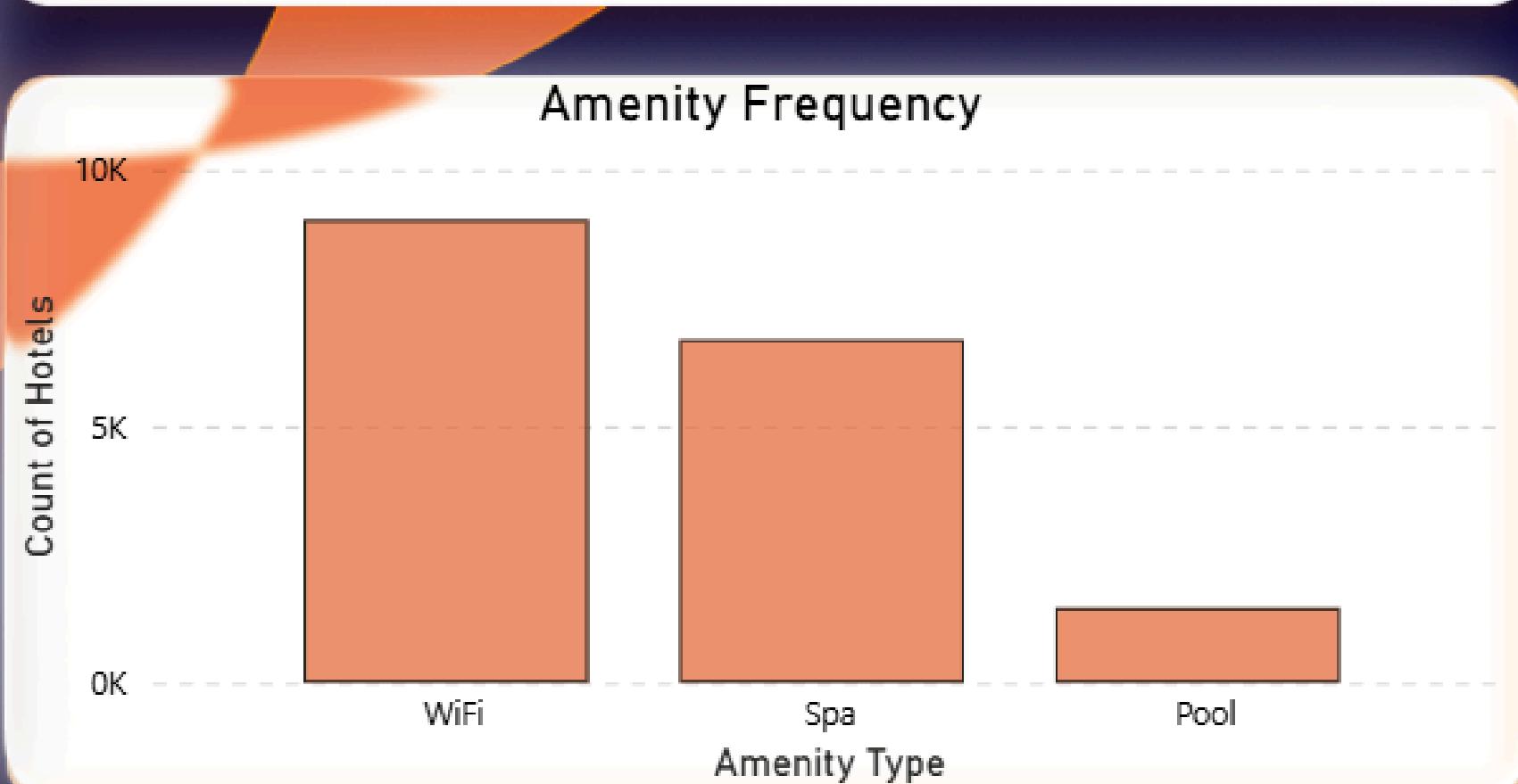


Positive Reviews and Negative Reviews by Amenity

● Positive Reviews ● Negative Reviews



Amenity Frequency



go

Q Search



City



Amenities

Hotel

Date



All

All

All

Last

1

Select

₹ 3,073

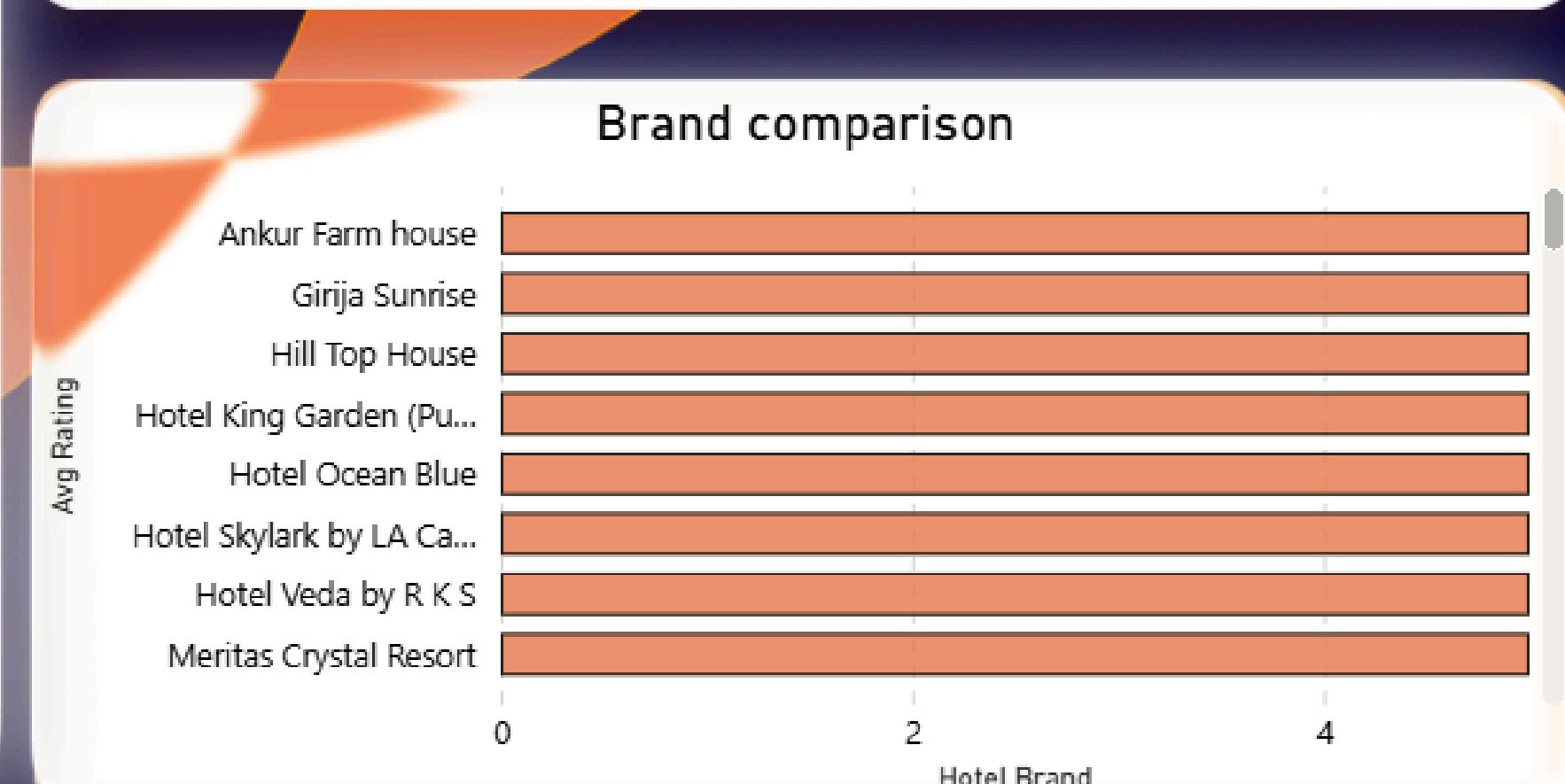
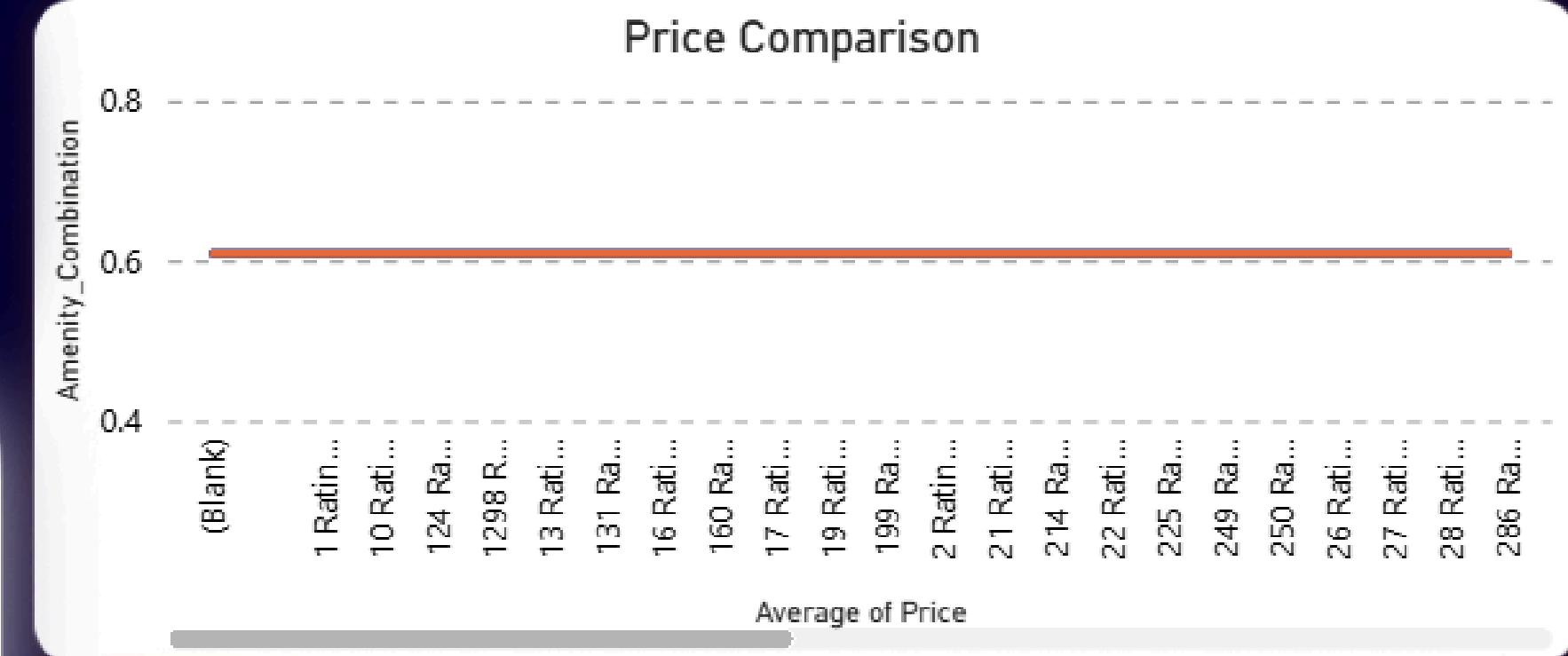
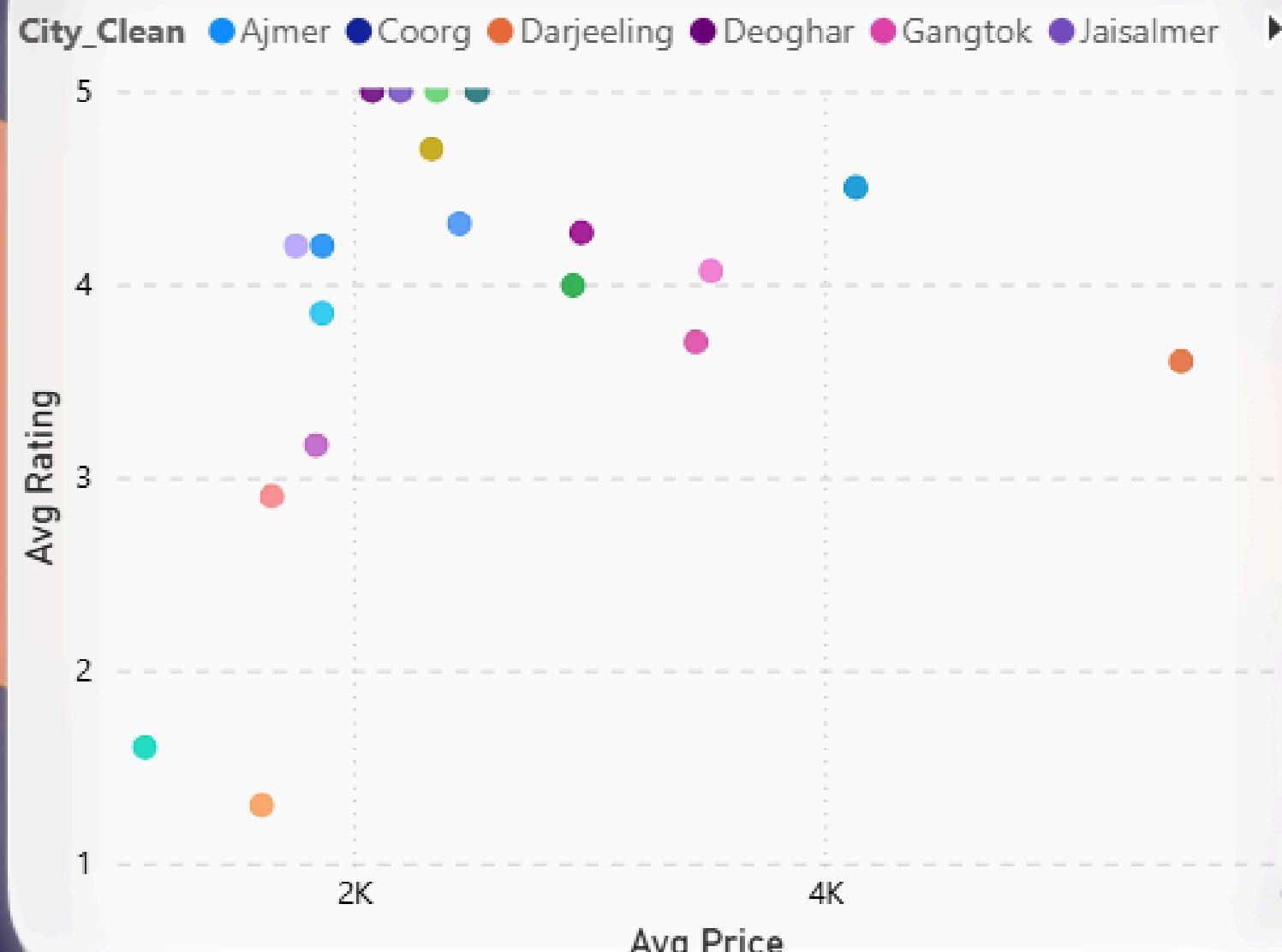
Avg Price by City

1

City Rank by Avg Rating

Ranikhet

City Name by Rank

city-wise scatter of price vs rating

Market Overview

Amenities & Pricing

Competitive Landscape

Sentiment Insights

Emerging Markets

0.61

Avg Sentiment by Rating

3.76

Avg Rating



go

Q Search



citytv

10

Amenities



Hotel



rate

↓



0.61

Avg Sentiment

3.76

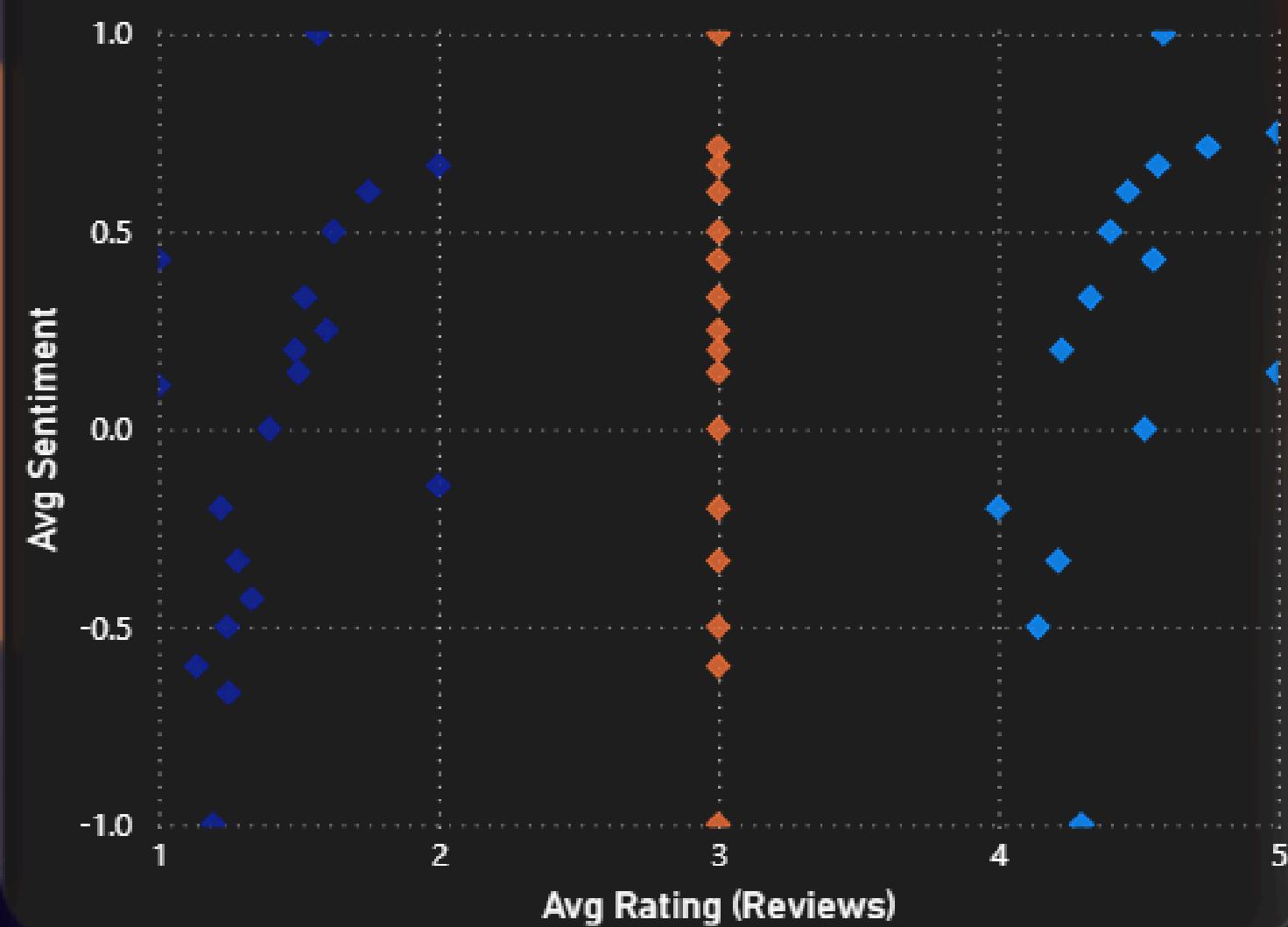
Avg Rating (Reviews)

518K

Sentiment Volume

sentiment vs star-rating scatter

Rating Band ♦ High (>=4) ♦ Low (<3) ♦ Medium (3-4)



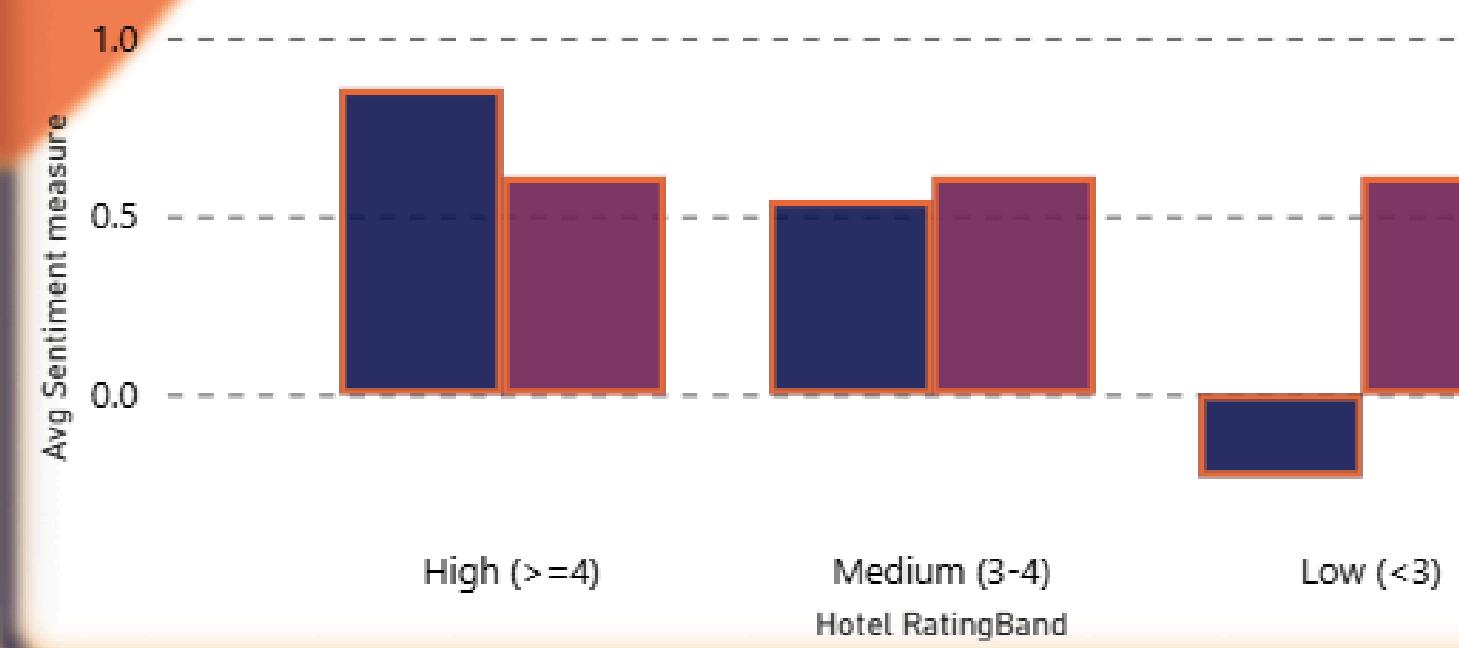
Sentiment over time

● Avg Sentiment ● Avg Rating (Reviews)



Sentiment chart

- Avg Sentiment
- Avg Sentiment by Rating



go

Search



City

Amenities

Hotel

Date



All

All

All

Last

1

Select

City_Clean	City Rank LY	Listings LY	Avg Price	City Rank Cu
Abu	1	125	₹ 3,085	
Agra	1	391	₹ 1,564	
Ajmer	1	153	₹ 2,053	
Alleppey	1	246	₹ 4,819	
Almora	1	55	₹ 3,320	
Auli	1	42	₹ 3,766	
Bankura	1	15	₹ 3,487	
Binsar	1	30	₹ 3,223	
Chandigarh	1	378	₹ 1,989	
Cherrapunji	1	8	₹ 2,836	
Chopta	1	18	₹ 3,732	
Coonoor	1	44	₹ 5,653	
Coorg	1	404	₹ 4,089	
Dalhousie	1	135	₹ 2,602	
Darjeeling	1	190	₹ 3,391	
Deoghar	1	36	₹ 1,386	
Dhanaulti	1	45	₹ 3,902	
Gangtok	1	207	₹ 2,812	
Gaya	1	49	₹ 1,454	
Gokarna	1	79	₹ 2,163	
Gulmarg	1	14	₹ 7,865	
Hampi	1	49	₹ 2,562	
Hazaribagh	1	8	₹ 2,066	
Jabalpur	1	113	₹ 1,921	
Jaisalmer	1	189	₹ 2,672	
Jodhpur	1	287	₹ 2,598	
Total	1	11495	₹ 3,073	



Golbibo Hotels — Portfolio Actions

Pricing and mix: Keep Low/Medium price tiers as the volume engine, and pilot premium bundles only in cities consistently ≥ 4.0 rating; anchor tests around ₹2K–₹4K where high ratings cluster on the city price–rating scatter.

City focus: Shift budget and supply toward top-rating cities and pull back on the Bottom-10 cities by rating until service fixes land; use the ranking visuals to guide monthly reallocations.

Amenity strategy: Treat WiFi and Spa as hygiene to maintain conversion; deploy Pool selectively as a premium differentiator where ratings are already strong to support higher ADR.

Brand partnerships: Prioritize inventory growth with the highest-rated brands and feature them in city pages and filters to lift click-through and trust signals.

Sentiment playbook: Monitor “Sentiment over time” for drops; trigger a 7-day action loop to address top complaint themes, then reassess pricing and placement post-fix.



Machine Learning – Predictive Modeling

Github Link for Machine Learning project here

<https://github.com/sujalupadhyay1/Goibibo-sql-powerBI--python/tree/main>

