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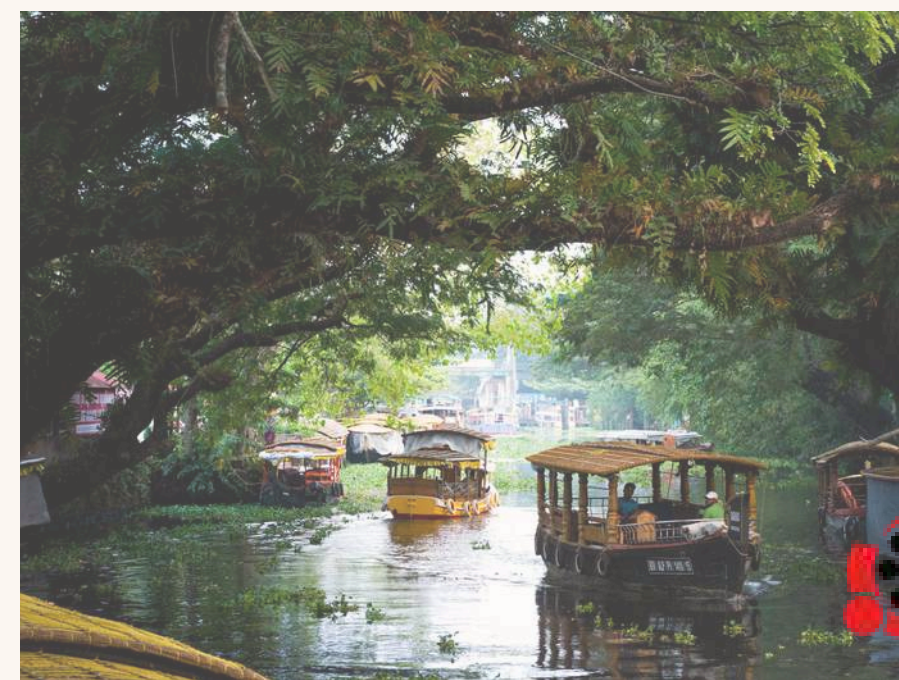
INNOVATION. AUTO**MAT**ION. ANALY**TICS**

PROJECT ON

Exploratory Data Analysis of Indian Touring Packages

TRAVEL TRIANGLE

"Unveiling Travel Trends with Exploratory Data Analysis"

GOA

COORG

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TEAM MEMBERS

V MAHESH	BTECH - CSE
A. KEERTHI	BSc
CH. JAHNAVI	BTECH - IT
AKSHAY	BTECH - AI&ML

BATCH 381

PROBLEM STATEMENT

The Indian tourism industry offers diverse travel packages with varying durations, destinations, and price ranges. Understanding the impact of discounts, hotel ratings, and package pricing on customer preferences is crucial for optimizing marketing strategies. This analysis aims to identify key trends in pricing, discounts, and destination popularity to enhance profitability and customer engagement.

OBJECTIVE

- **To analyze and uncover trends in tour packages using exploratory data analysis (EDA), identifying actionable insights for improving product offerings, pricing strategies, and customer satisfaction.**
- **This analysis aims to empower travel companies to better tailor their packages to meet market demands and boost their competitive edge.**

DATA COLLECTION

Website url

https://traveltriangle.com/tour-packages/india

Popularity ∨

Add To Compare ☐

Upto 2 Stars | Meals | Sightseeing | +2 more

Most Reasonable Goa Honeymoon Tour Packages

5 Days & 4 Nights | Customizable

Starting from: **13% Off** ⓘ | Hot Pick

₹ 7,999/- ~~₹ 9,142/-~~ | Water Activities

Per Person on twin sharing

Hotel included in package:
○ 3 Star ● 2 Star ○ 4 Star

Check out TravelTriangle's list of 4 nights 5 days Goa honeymoon tour packages. Click here....

Cities: Goa (5D)

View Details | **Customize & Get Quotes**

Add To Compare ☐

Upto 3 Stars | Meals | Sightseeing | +2 more

Fantastic Andaman Honeymoon Package

5 Days & 4 Nights | Customizable

Starting from: **17% Off** ⓘ | Corbyn's Beach Co...

₹ 15,599/- ~~₹ 18,811/-~~ | Adventure

Per Person on twin sharing

Hotel included in package:
● 3 Star

Spend your dream honeymoon by booking this 4 nights, 5 days Andaman honeymoon p....

Cities: Port Blair (3D) → Havelock (2D)

View Details | **Customize & Get Quotes**

Add To Compare ☐

Add To Compare ☐

WEB SCRAPING PROCESS

- **Inspecting structure of the website**

- **Selecting various appropriate tags for extracting various categories.**

- **Used libraries:**

  - **Requests: to get response from website**

  - **BeautifulSoup: for parsing the html data/content and extracting data in a readable and in a structured format.**

  - **Regex(re): For extracting and cleaning specific patterns of text from the raw HTML.**

AFTER SCRAPING / BEFORE DATA CLEANING

	Package Name	Durations	Cities Covered	Actual Price	Offer Price	Discount(%)	Hotel_rating
0	Most Reasonable Goa Honeymoon Tour Packages	5 Days & 4 Nights	Goa (5D)	â�¹ 9,142/-	â�¹ 7,999/-	13% Off	2
1	Fantastic Andaman Honeymoon Package	5 Days & 4 Nights	Port Blair (3D)Havelock (2D)	â�¹ 18,811/-	â�¹ 15,599/-	17% Off	3
2	Romantic Mussoorie Tour Package From Delhi	3 Days & 2 Nights	Mussoorie (3D)	â�¹ 12,000/-	â�¹ 10,500/-	13% Off	3
3	Coorg Package For 2 Nights And 3 Days	3 Days & 2 Nights	Coorg (3D)	â�¹ 15,934/-	â�¹ 14,500/-	9% Off	3
4	Best 4N 5D Andaman Sightseeing Tour Package Fo...	5 Days & 4 Nights	Port Blair (4D)Havelock (1D)	â�¹ 36,484/-	â�¹ 33,200/-	9% Off	3
5	Mesmerising Manali Trip Package From Chandigarh	3 Days & 2 Nights	Manali (3D)	â�¹ 10,440/-	â�¹ 9,500/-	9% Off	3
6	Hills & Houseboat: Munnar and Alleppey Honeymo...	6 Days & 5 Nights	Munnar (2D)Thekkady (1D)Alleppey (1D)Kochi (2D)	â�¹ 24,444/-	â�¹ 22,000/-	10% Off	3
7	Top Family Holiday Packages in Goa for an Idea...	5 Days & 4 Nights	Calangute (5D)	â�¹ 10,868/-	â�¹ 9,999/-	8% Off	3
8	Most Affordable 1 Night 2 Days Uttarakhand Tou...	2 Days & 1 Nights	Rishikesh (2D)	â�¹ 3,360/-	â�¹ 2,800/-	17% Off	2

SUMMARY OF THE DATA

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 3689 entries, 0 to 3688
Data columns (total 8 columns):
 #   Column               Non-Null Count  Dtype
---  ------               --------------  -----
 0   Package Name         3689 non-null   object
 1   Duration (Days)      3689 non-null   int64
 2   Duration (Nights)    3689 non-null   int64
 3   Cities               3688 non-null   object
 4   Actual Price         3687 non-null   float64
 5   Offer Price          3689 non-null   int64
 6   Discount (%)         3687 non-null   float64
 7   Hotel Rating         3676 non-null   float64
dtypes: float64(3), int64(3), object(2)
memory usage: 230.7+ KB
```
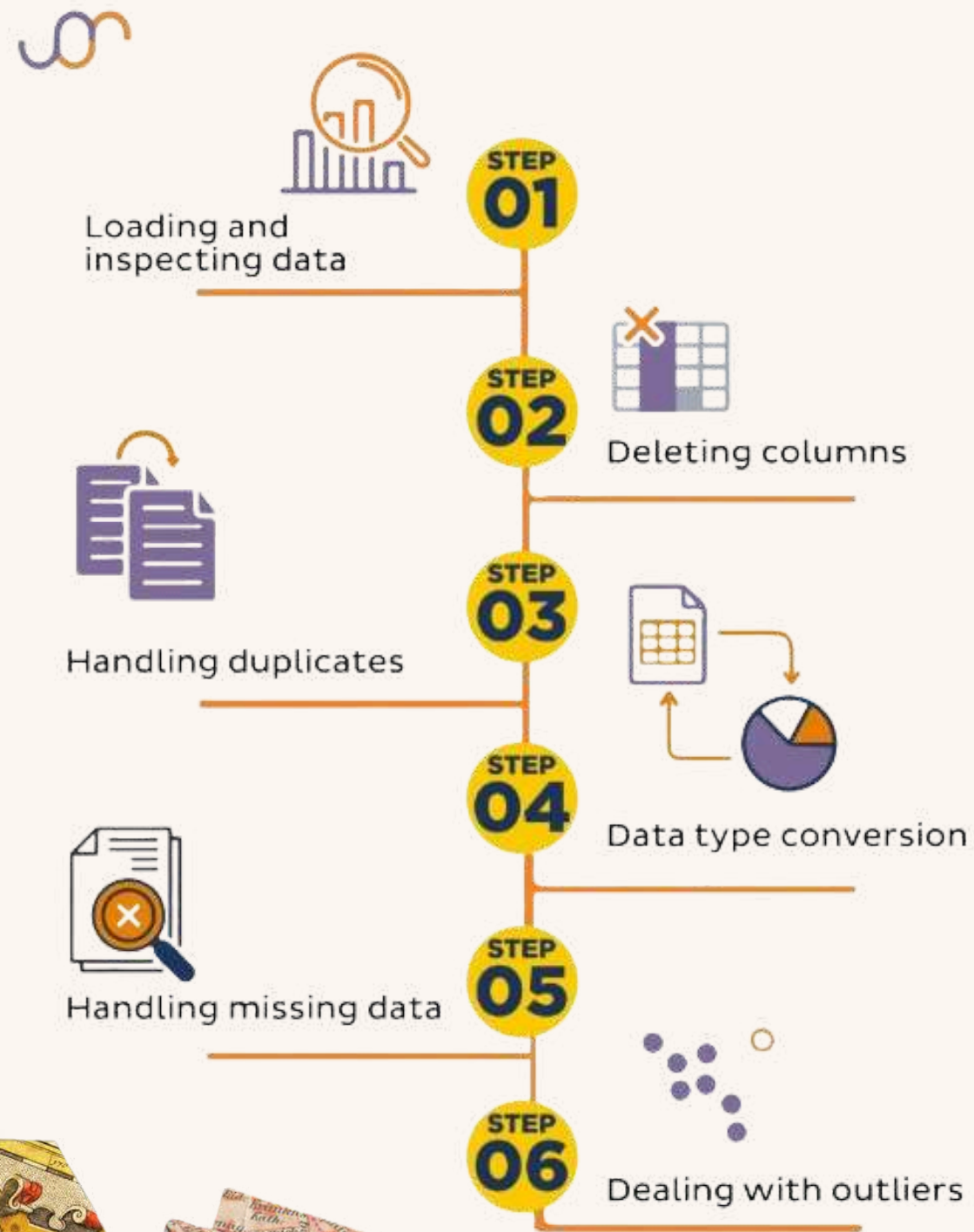
DATA CLEANING STEPS

Loading and inspecting data — STEP 01

Deleting columns — STEP 02

Handling duplicates — STEP 03

Data type conversion — STEP 04

Handling missing data — STEP 05

Dealing with outliers — STEP 06

- Split Price into individual entries for detailed analysis.
- Split duration into individual entries for detailed analysis.
- Dropping the unnecessary columns.
- Fill the null values into numerical columns and categorical columns.
- Converted the 'Actual Price', 'Discount (%)', and 'HotelRating' columns to integer data type.

AFTER DATA CLEANING

	Package Name	Duration (Days)	Duration (Nights)	Cities	Actual Price	Offer Price	Discount (%)	Hotel Rating
0	Most Reasonable Goa Honeymoon Tour Packages	5	4	Goa (5D)	9142	7999	13	2
1	Fantastic Andaman Honeymoon Package	5	4	Port Blair (3D)Havelock (2D)	18811	15599	17	3
2	Romantic Mussoorie Tour Package From Delhi	3	2	Mussoorie (3D)	12000	10500	13	3
3	Coorg Package For 2 Nights And 3 Days	3	2	Coorg (3D)	15934	14500	9	3
4	Best 4N 5D Andaman Sightseeing Tour Package Fo...	5	4	Port Blair (4D)Havelock (1D)	36484	33200	9	3
5	Mesmerising Manali Trip Package From Chandigarh	3	2	Manali (3D)	10440	9500	9	3
6	Hills & Houseboat: Munnar and Alleppey Honeymo...	6	5	Munnar (2D)Thekkady (1D)Alleppey (1D)Kochi (2D)	24444	22000	10	3
7	Top Family Holiday Packages in Goa for an Idea...	5	4	Calangute (5D)	10868	9999	8	3
8	Most Affordable 1 Night 2 Days Uttarakhand Tou...	2	1	Rishikesh (2D)	3360	2800	17	2

SUMMARY OF THE DATA

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<class 'pandas.core.frame.DataFrame'>
Int64Index: 3303 entries, 0 to 3688
Data columns (total 8 columns):
 #   Column             Non-Null Count   Dtype
---  ------             --------------   -----
 0   Package Name       3303 non-null    object
 1   Duration (Days)    3303 non-null    int64
 2   Duration (Nights)  3303 non-null    int64
 3   Cities             3303 non-null    object
 4   Actual Price       3303 non-null    int64
 5   Offer Price        3303 non-null    int64
 6   Discount (%)       3303 non-null    int64
 7   Hotel Rating       3303 non-null    int64
dtypes: int64(6), object(2)
memory usage: 232.2+ KB
```
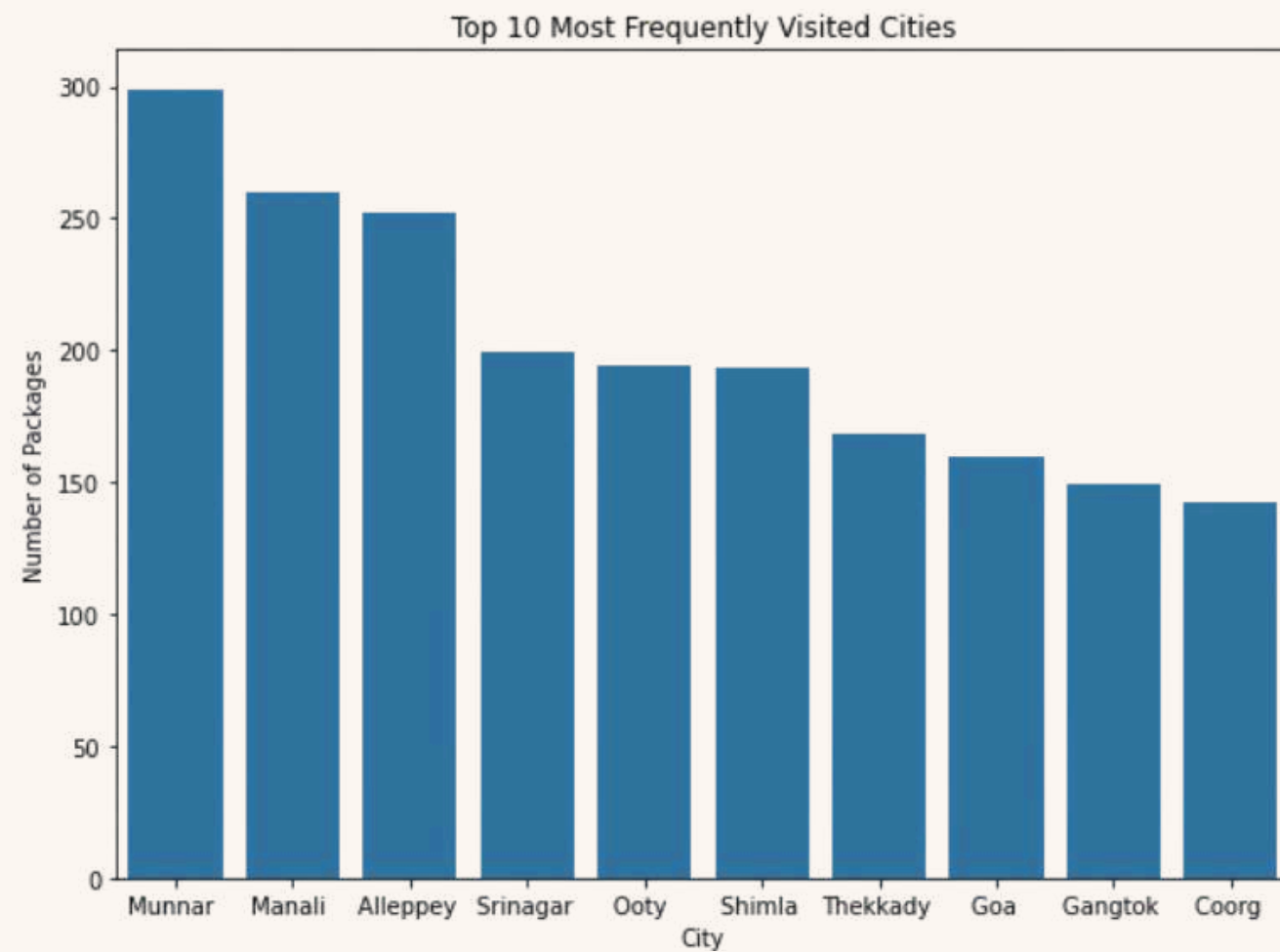
Most Featured Travel Destinations

Top 10 Most Frequently Visited Cities

Munnar, Manali, and Alleppey emerge as the most frequently featured destinations in travel packages, reflecting their strong appeal and consistent demand in the tourism market.

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Price Distribution of Travel Packages

- **Most travel packages are priced under ₹50,000, making them accessible to a wide range of customers.**
- **Both actual and offer prices are heavily skewed to the right, showing that higher-priced packages are less common.**
- **A small number of packages are priced above ₹100,000, suggesting a niche market for premium travel experiences.**
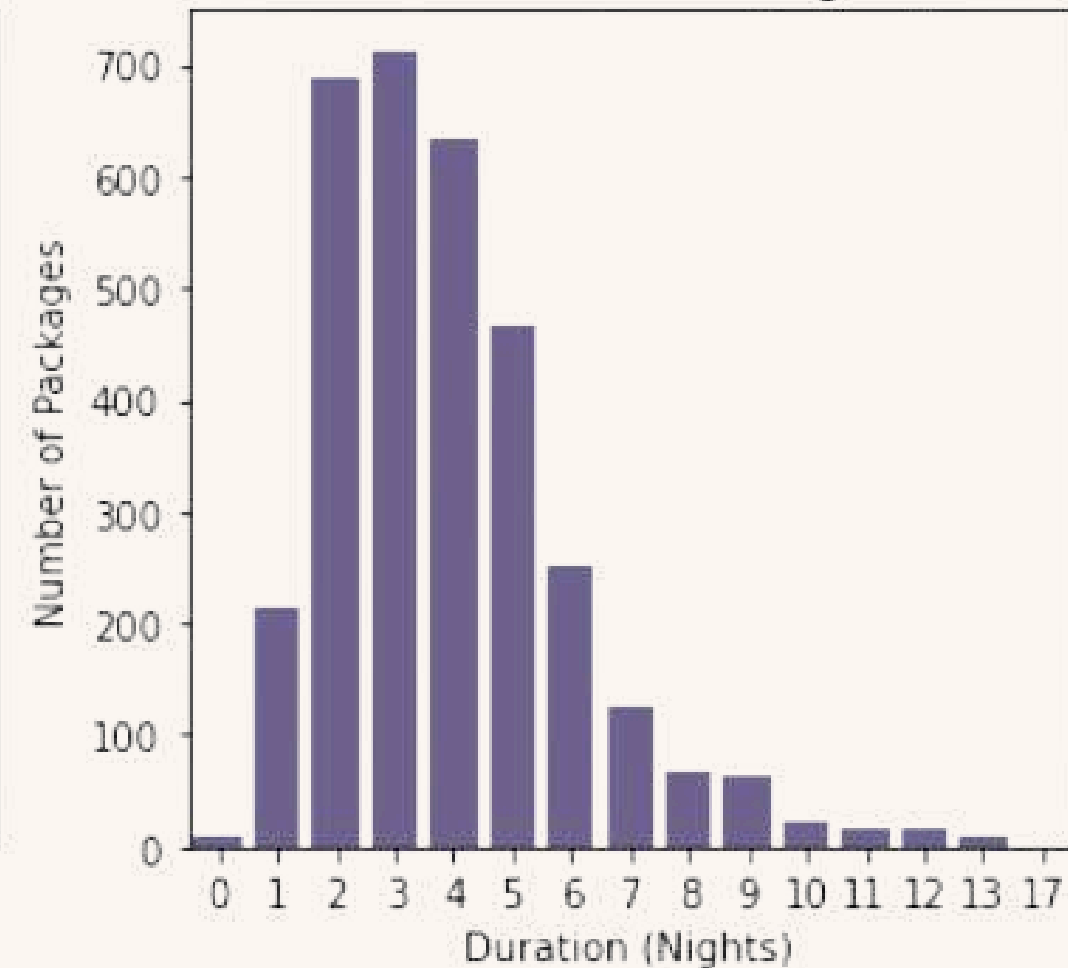
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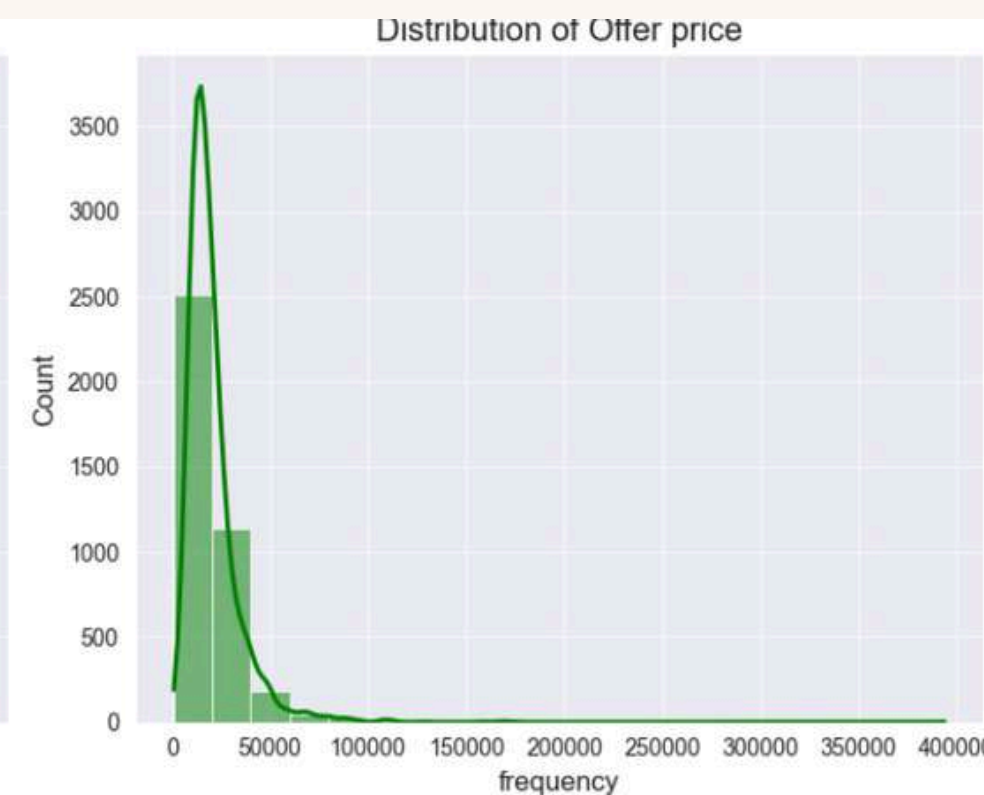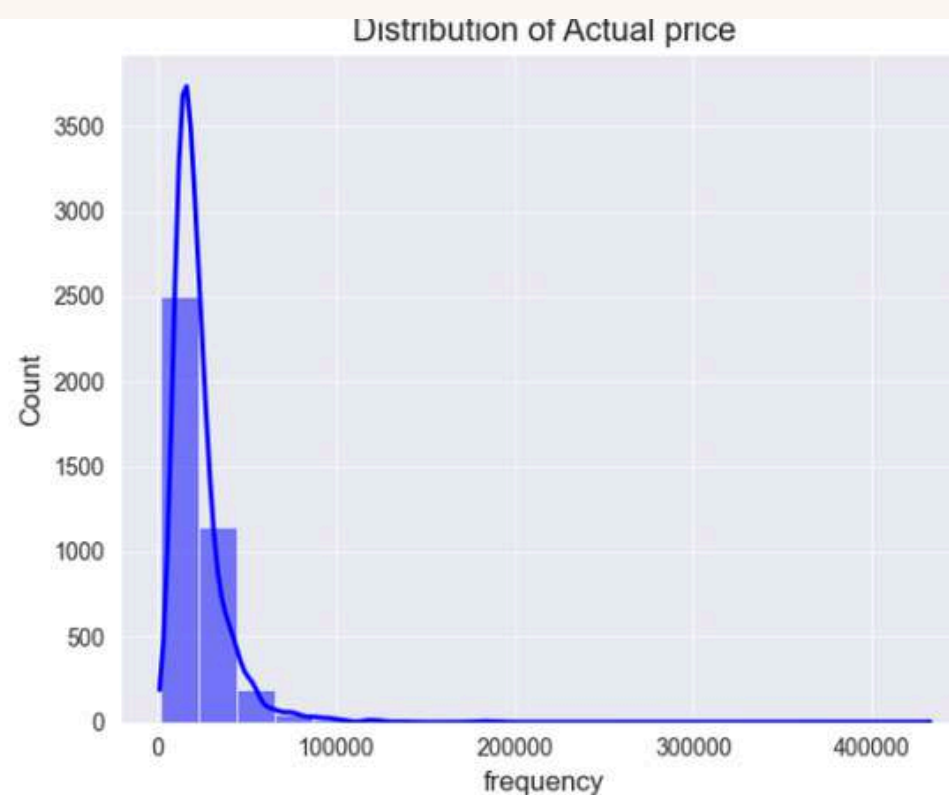
Duration Preferences

Bar Plot: Duration (Days)
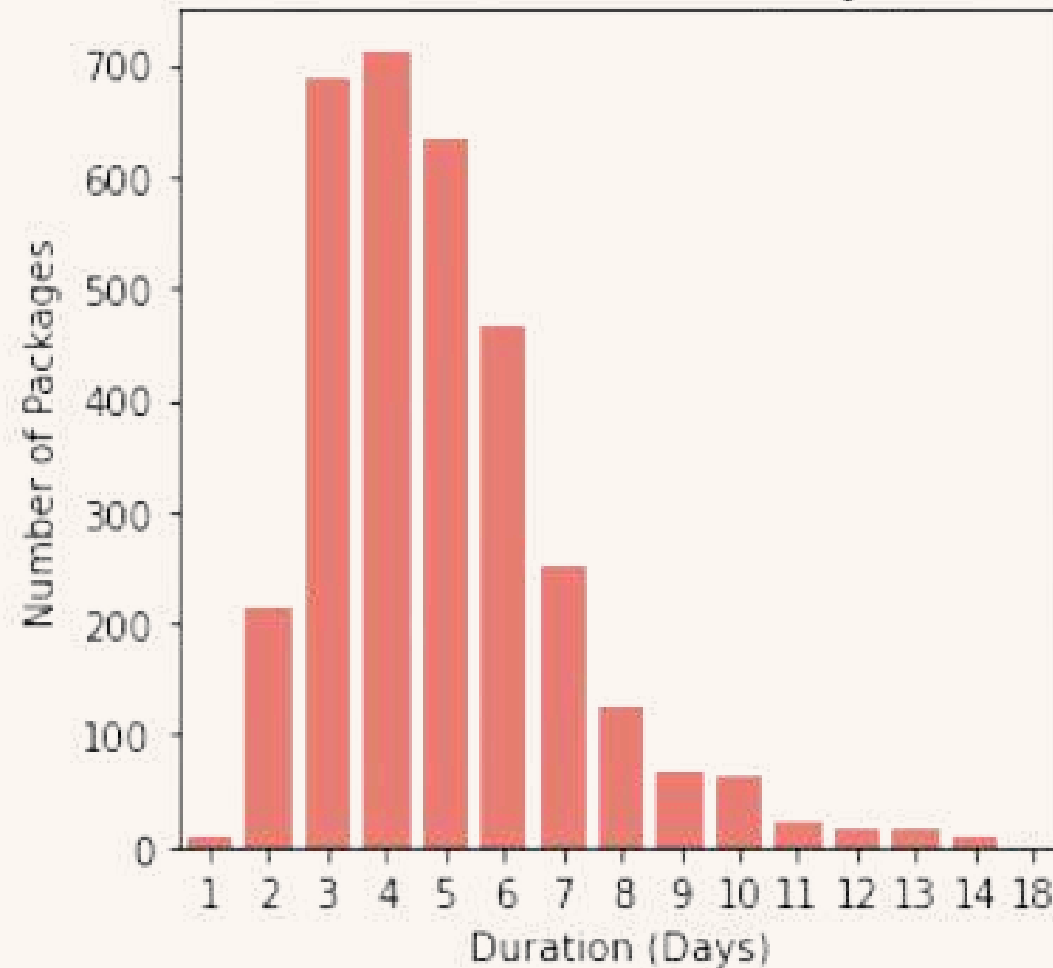
Bar Plot: Duration (Nights)

- The most popular trip durations are 3-5 days and 2-4 nights, indicating a preference for short trips among travelers.
- Travel companies should focus on 3-5 day packages while offering attractive deals for longer stays to encourage extended travel.

Discount Trends Over Varying Durations

Discount (%) vs. Duration (Days) with Regression Line
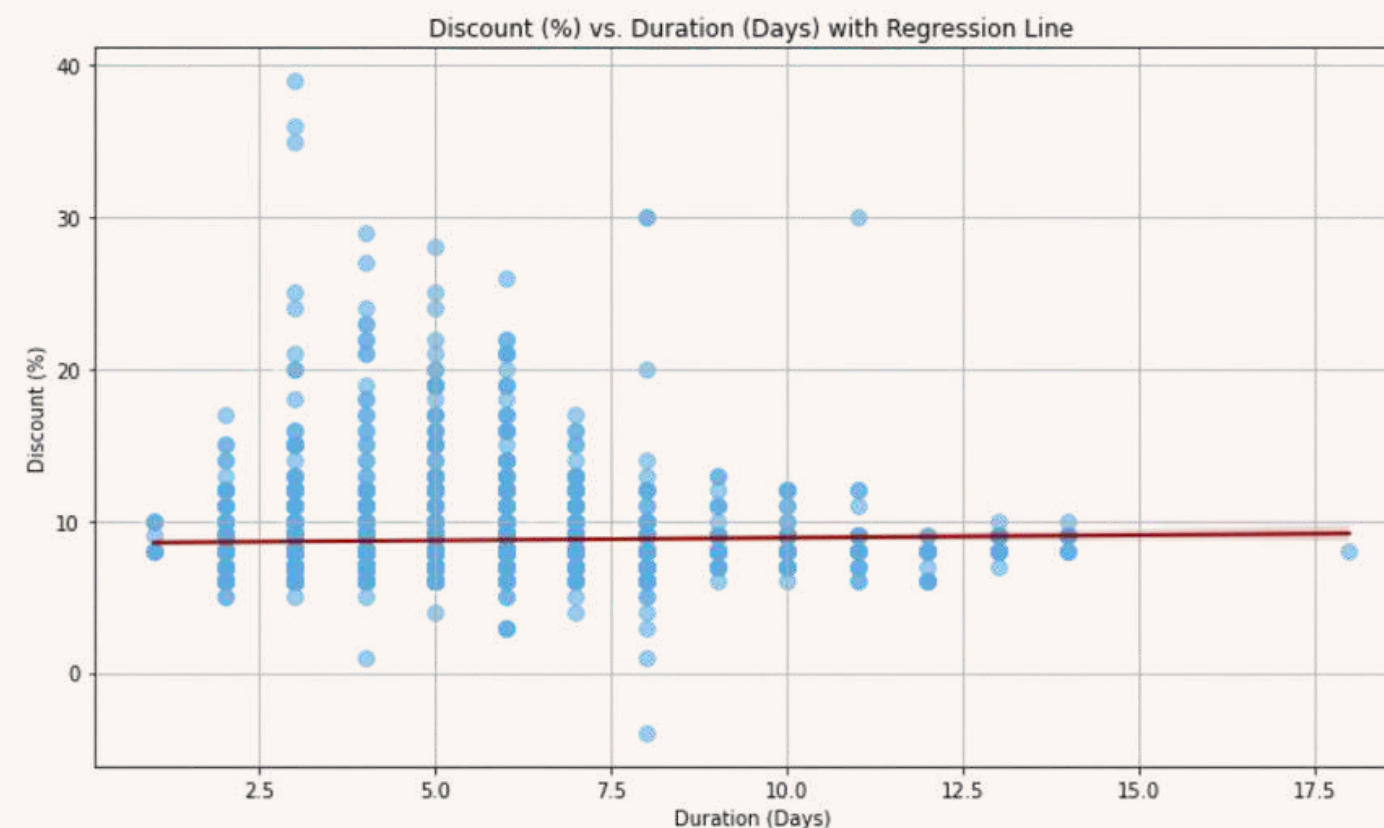
- **Flat Trend: The regression line is nearly flat, indicating no strong correlation between offer Duration (Days) and Discount (%).**
- **Discount Cluster: Most discount values are concentrated between 5% to 15%, regardless of how long the offer lasts.**

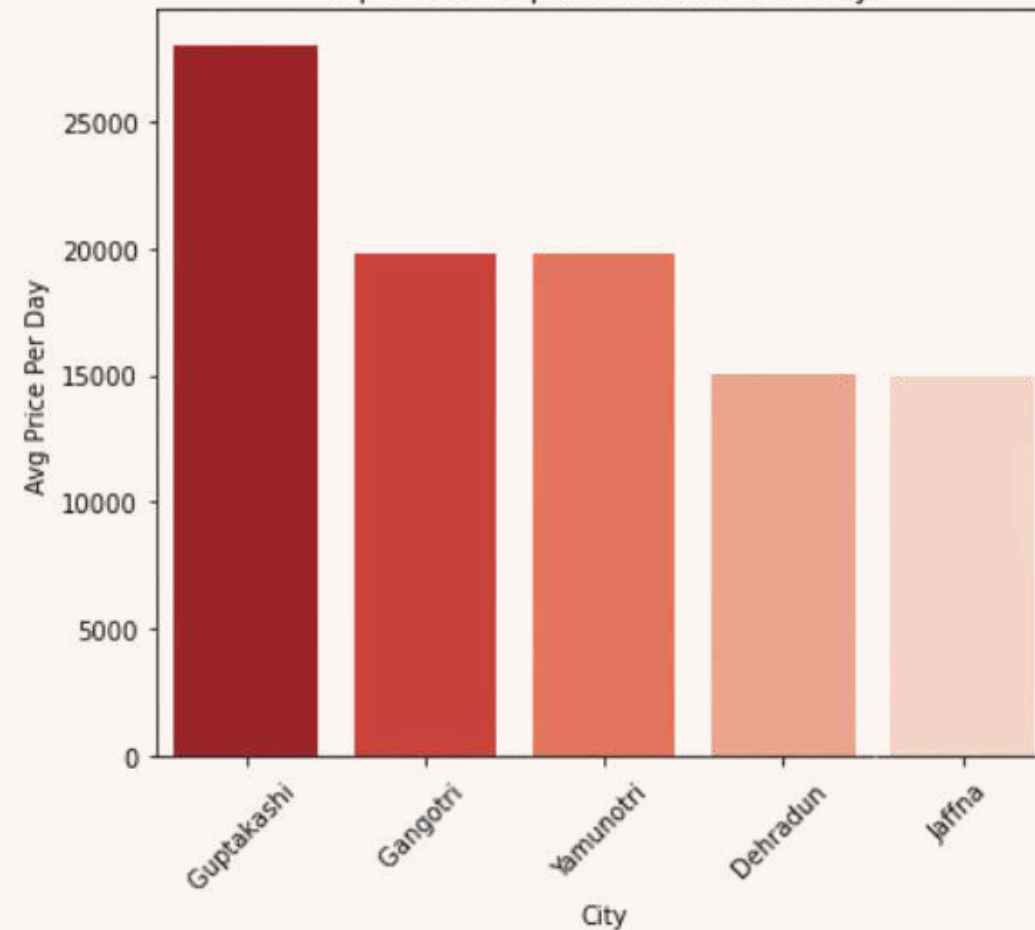# Variation of Average Offer Price per Day with Duration
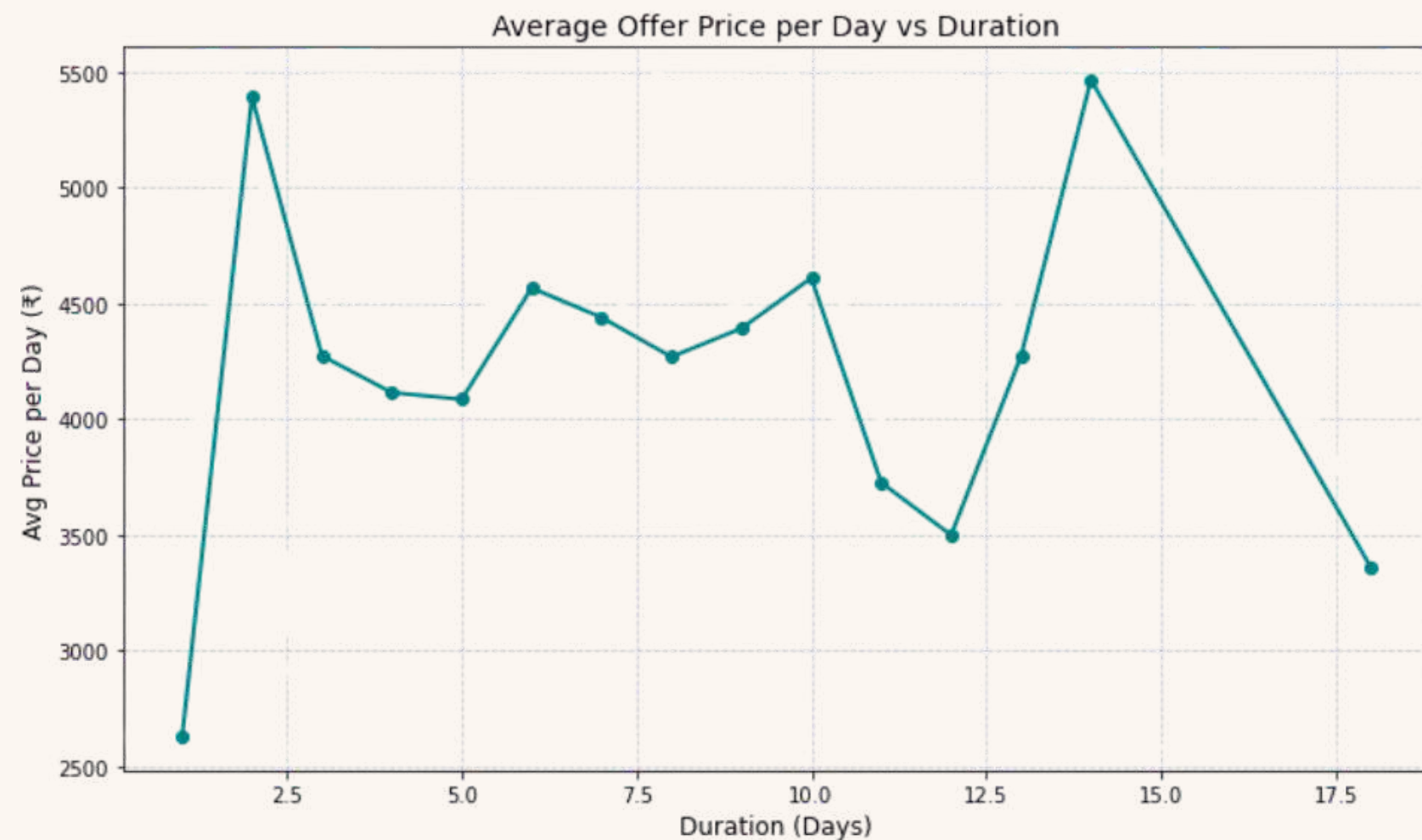
There is no clear increasing or decreasing trend, suggesting that pricing varies due to factors other than just the duration
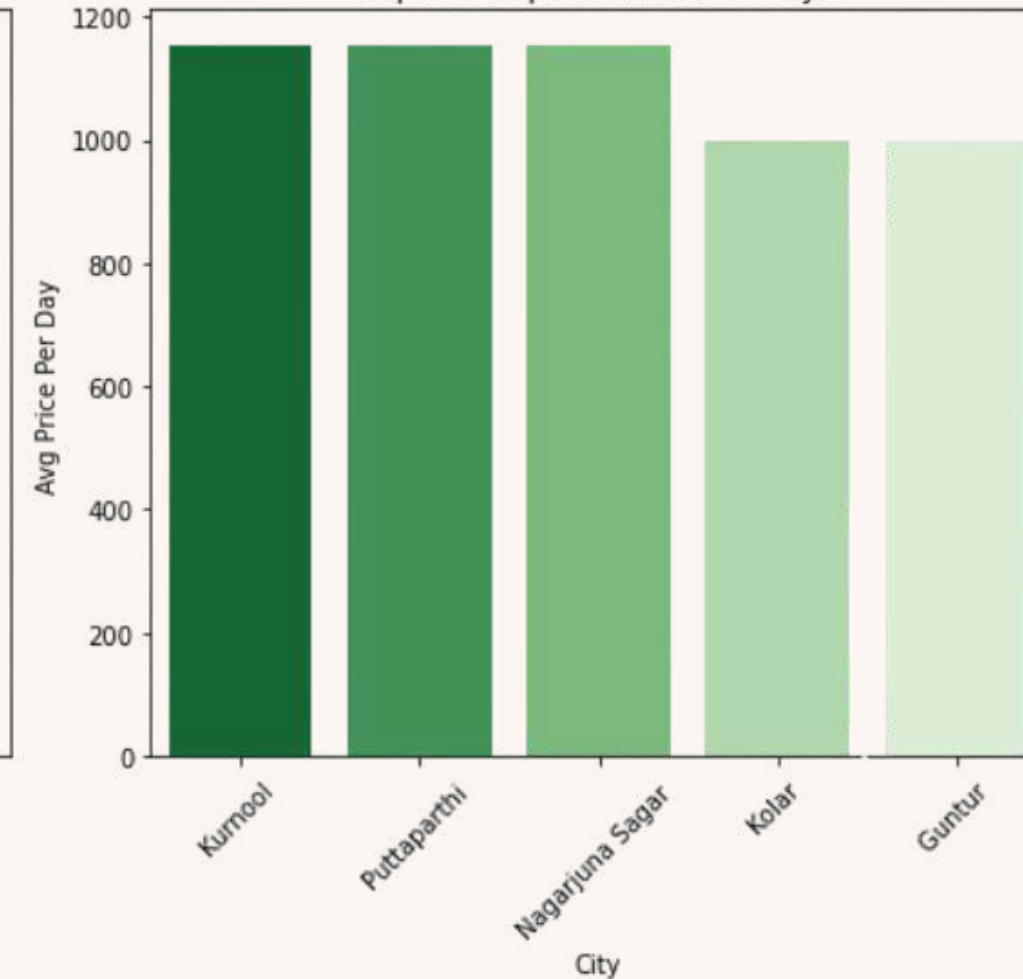
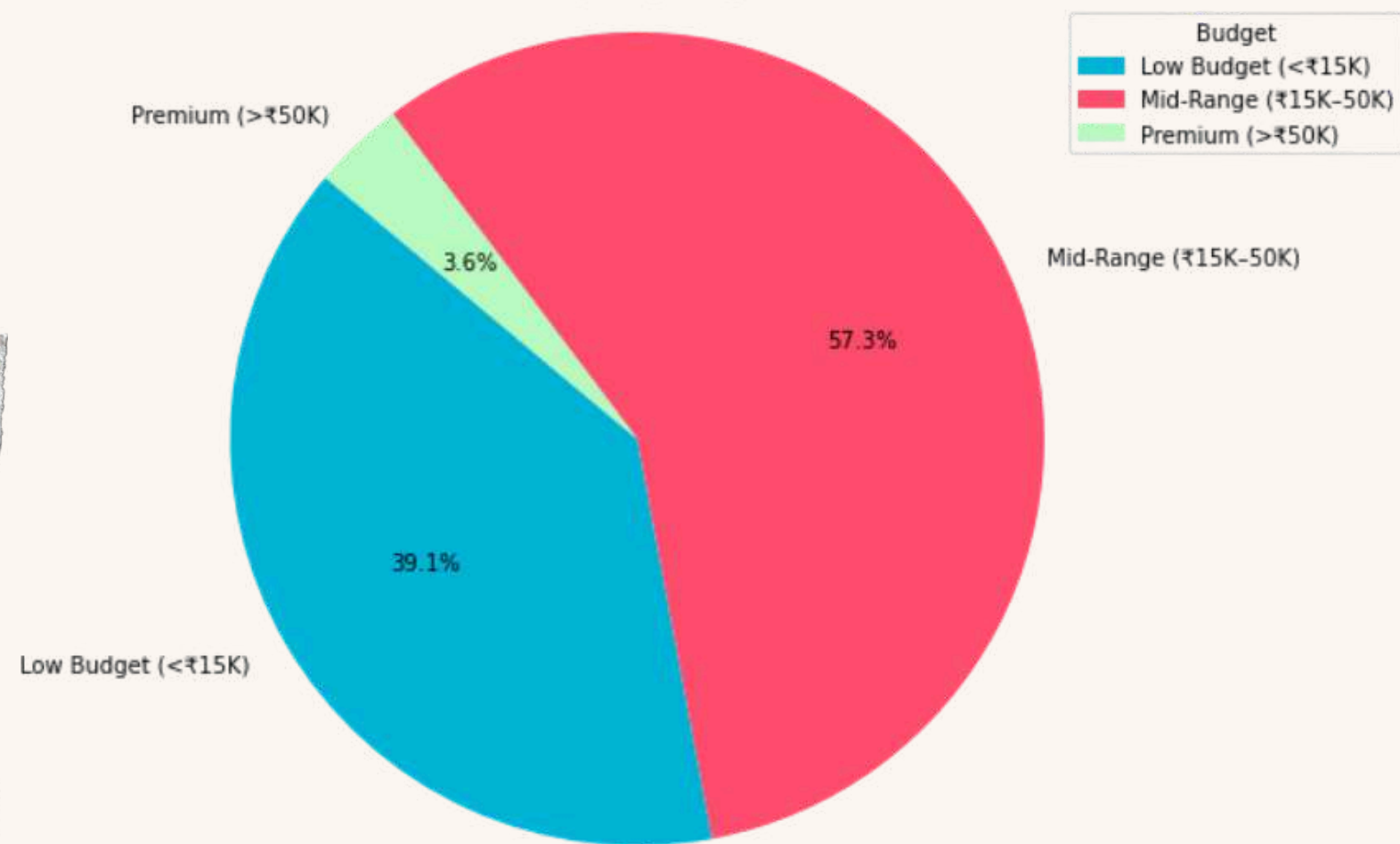# Daily Cost Comparision: Most vs Least Expensive Cities

- **Guptakashi is the most expensive city to stay, with over ₹27,000 per day.**
- **Other costly cities include Gangotri and Yamunotri, likely because they are popular tourist or pilgrimage spots.**
- **Kurnool, Puttaparthi, and Nagarjuna Sagar are the cheapest, with daily costs around ₹1,000–₹1,200.**

Travel Packages Distribution by Budget

Packages by Budget

Budget
- Low Budget (<₹15K)
- Mid-Range (₹15K–50K)
- Premium (>₹50K)

Premium (>₹50K)

3.6%

Mid-Range (₹15K–50K)

57.3%

39.1%

Low Budget (<₹15K)

- **Mid-Range packages (₹15K–₹50K) are the most common, making up 57.3% of all packages.**
- **Low Budget packages (<₹15K) are also popular, accounting for 39.1%.**
- **Only 3.6% of the packages are Premium (above ₹50K), showing they are much less preferred.**

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Top Tour Packages Offering the Highest Discounts

Top 10 Packages with Highest Discounts
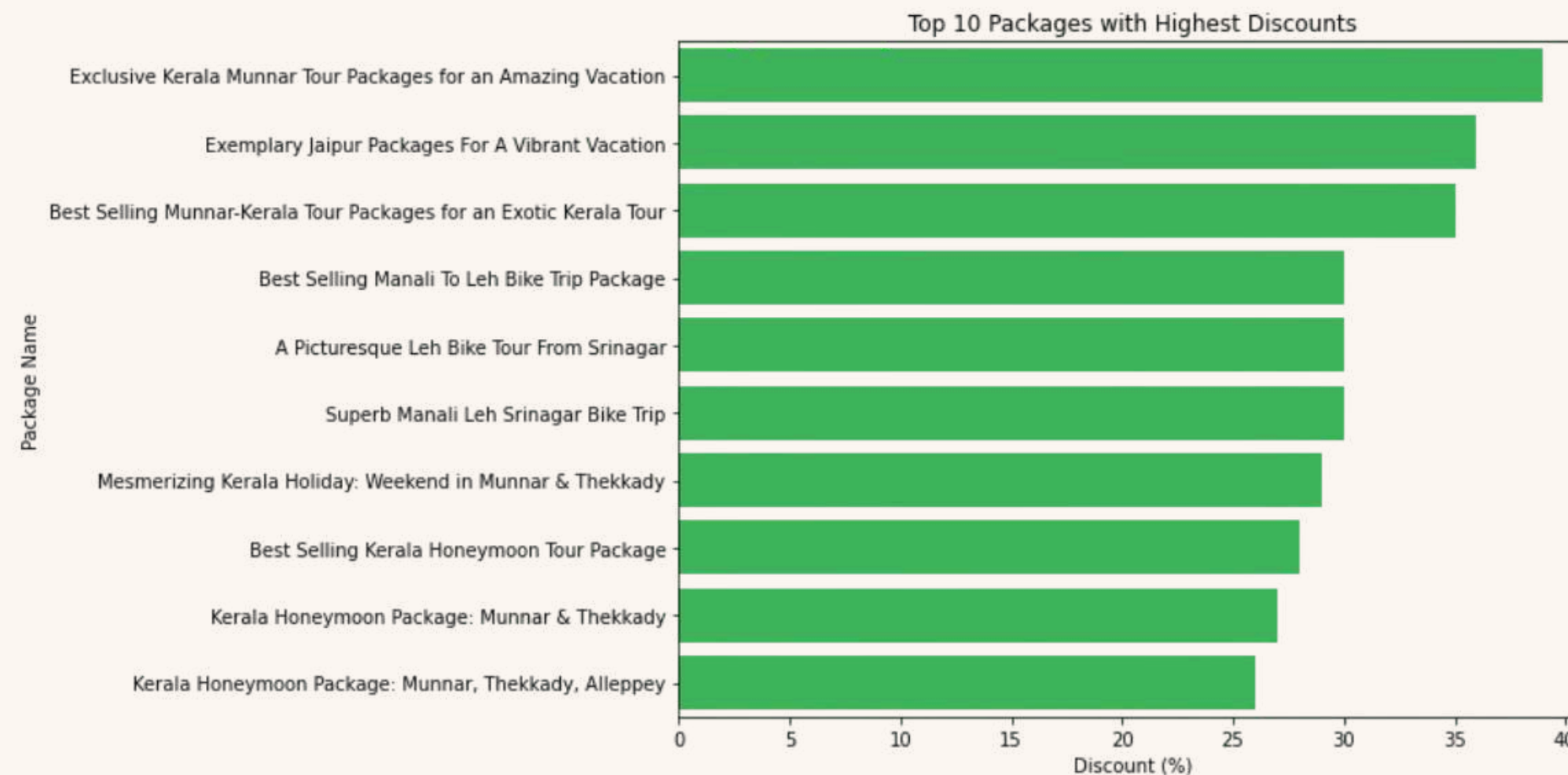
- Kerala and Jaipur tour packages have some of the highest discounts, which may appeal to travelers looking for better deals.
- Most of the top discounted packages offer 30–40% off, showing noticeable price reductions.
- Packages for Leh and Srinagar bike trips also have high discounts, possibly to encourage interest in adventure tourism.
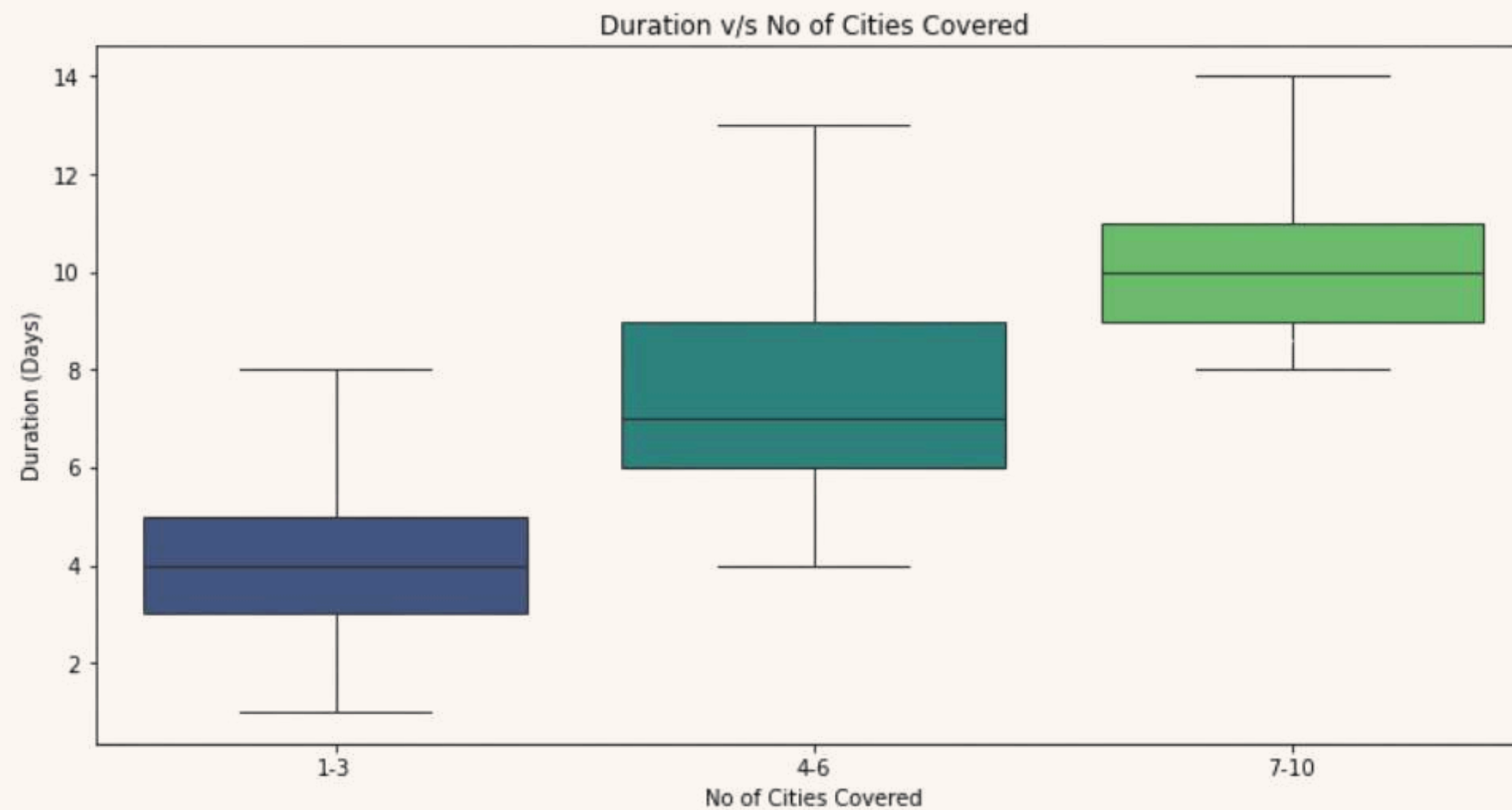
Average Offer vs Actual Prices Across Different Trip Durations

Average Offer vs Actual Price by Duration
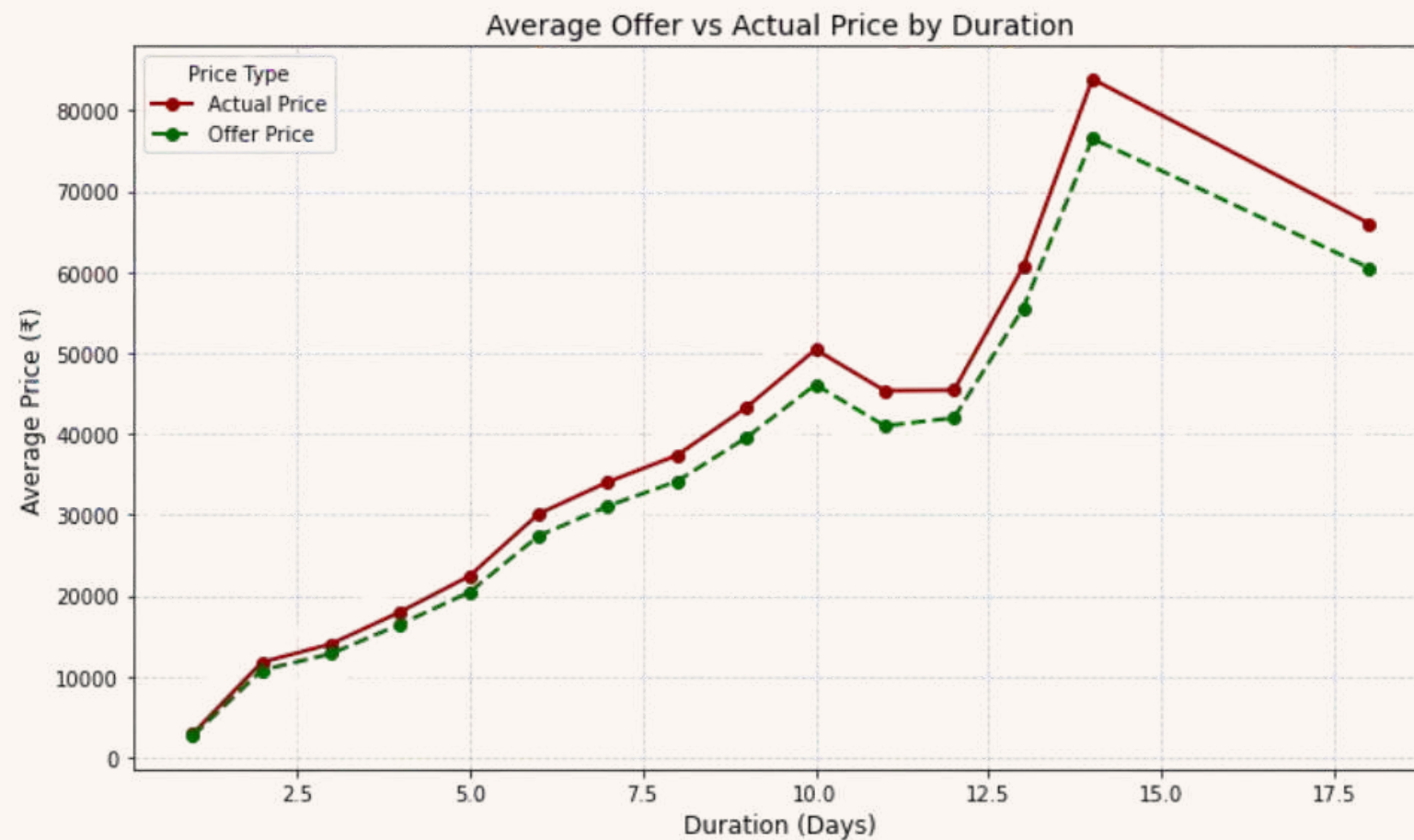
- **Both actual price and offer price increase as trip duration gets longer.**
- **The offer price is consistently lower than the actual price, showing the discount benefit.**

Trip Duration vs Number of Cities Covered

Duration v/s No of Cities Covered

- **People who visit more cities take longer trips.**
- **Trips covering 1–3 cities usually last around 3–5 days, while 7–10 cities take about 9–10 days.**
- **This shows that the number of cities visited increases the overall trip duration.**

Comparison of Avg Price and Discount vs No of Cities in Package

Avg Offer Price and Discount by Number of Cities Covered

- As more cities are added to a package, discounts are not guaranteed.
- Tourists planning to cover 5–8 cities get better deals.
- Tour providers often give better discounts on mid-range packages, while long multi-city tours are sold at premium rates with fewer discounts.

Average Offer Price for Popular Travel Cities

Popular Cities vs Average Offer Price
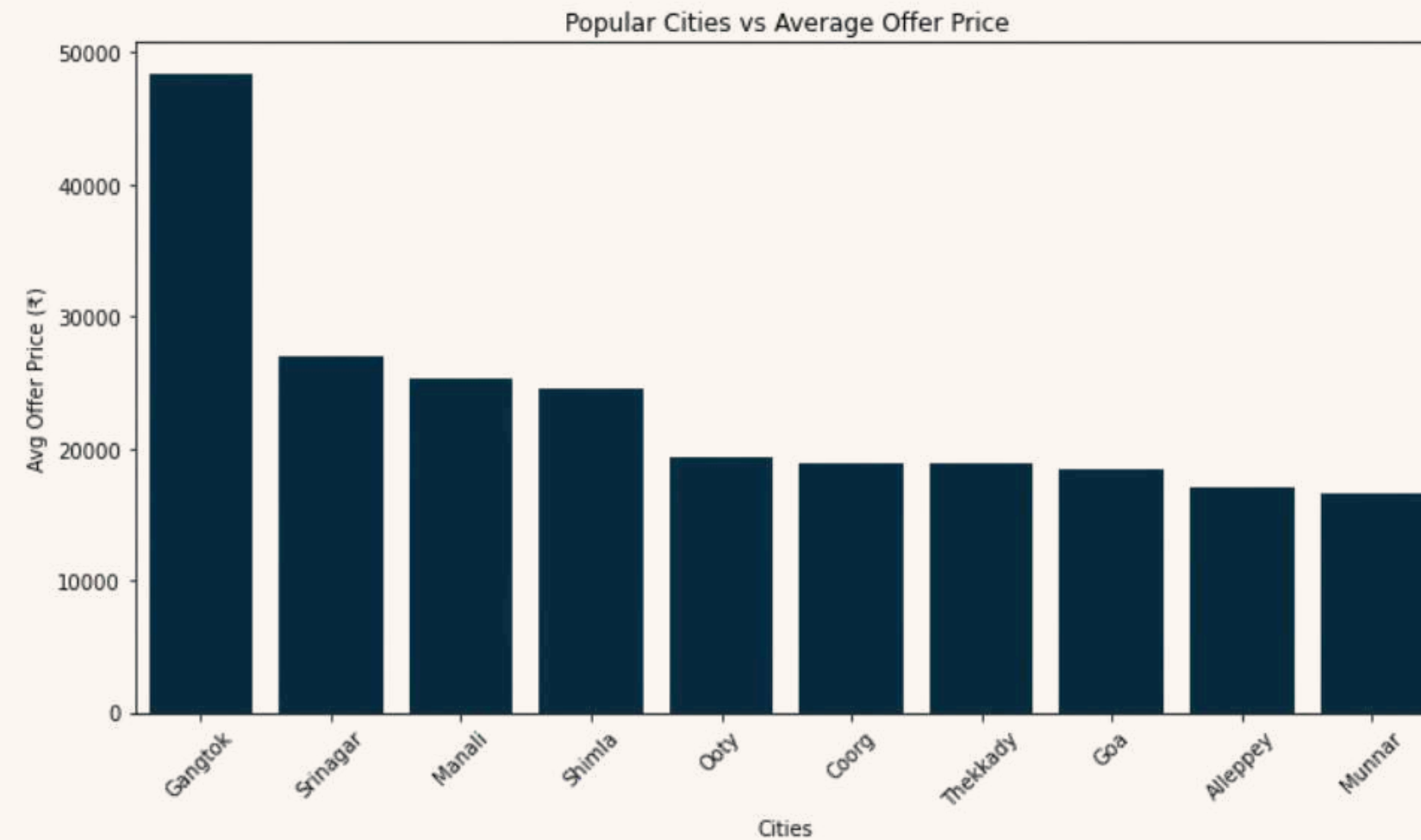
- **Gangtok stands out with the highest average offer price, nearly double that of other cities.**
- **Srinagar, Manali, and Shimla are also on the higher end in terms of travel cost.**
- **Southern cities like Ooty, Munnar, and Alleppey have lower average package prices, making them more budget-friendly.**

CONCLUSION

- **Short trips (3–5 days) are the most preferred, revealing a strong market for quick getaways.**
- **Mid-range packages (₹15K–₹50K) dominate, showing the budget-conscious nature of most travelers.**
- **Popular destinations like Manali, Munnar, and Alleppey continue to draw consistent attention.**
- **While discounts are common, they don't strongly depend on trip duration, indicating room for more strategic pricing.**
- **Some cities like Guptakashi and Gangotri are significantly more expensive, suggesting potential for premium travel experiences.**

Thank you very much!