Hotel aggregator Project

**Mentorness Data analyst
Internship**

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Problem Statement

- This project focuses on analyzing a dataset of hotel aggregator listings using Power BI.
- The dataset encompasses diverse attributes concerning listings, hosts, reviews, and availability.
- The goal is to develop comprehensive visualizations and insights revealing trends, patterns, and factors affecting listing performance.

Objectives

- Utilize Power BI to explore key metrics including pricing, availability, host characteristics, and review scores.
- Derive actionable insights to enhance the quality and competitiveness of listings.
- Identify trends and patterns within the dataset to inform strategic decision-making for stakeholders.

Expected Impact

- Enhanced understanding of factors influencing listing performance.
- Improved decision-making for optimizing listing quality and competitiveness.
- Empowered stakeholders with actionable insights to drive strategic initiatives.

Approach

- **Data Exploration**: Understand the structure and contents of the dataset, identifying relevant variables and potential insights.
- **Visualization Development**: Create intuitive visualizations using Power BI to represent various aspects of the dataset, facilitating easy interpretation and analysis.
- **Insight Generation**: Analyze visualizations to uncover trends, correlations, and outliers, providing valuable insights for stakeholders.
- **Actionable Recommendations**: Translate insights into actionable recommendations aimed at improving listing quality and competitiveness.

Dataset Description

1. id: Unique identifier for each listing.

2. listing_url: URL of the listing on the hotel aggregator platform.

3. scrape_id: Identifier for the data scraping event.

4. last_scraped: Date of the last data scrape.

5. source: Source of the listing information.

6. name: Name of the listing.

7. description: Description of the listing.

8. neighborhood_overview: Overview of the neighborhood where the listing is located.

9. picture_url: URL of the listing's picture.

10. host_id: Unique identifier for the host.

11. ... (and many more columns capturing details about hosts, location, property type, room details,

amenities, pricing, availability, reviews, and other relevant information)

Sample DataSet

1^2_3 id	ABC listing_url	ABC name	ABC description	ABC neighborhood_overview
● Valid 100% ● Error 0% ● Empty 0%	● Valid 100% ● Error 0% ● Empty 0%	● Valid 100% ● Error 0% ● Empty 0%	● Valid 100% ● Error 0% ● Empty 0%	● Valid 100% ● Error 0% ● Empty 0%
1000 distinct, 1000 unique	1000 distinct, 1000 unique	940 distinct, 892 unique	983 distinct, 973 unique	923 distinct, 890 unique
10803	https://www.airbnb.com/rooms/10803	Rental unit in Brunswick East · ★4.49 · 1 bedroom · 1 bed · 1 shared ba...	A large air conditioned room with firm queen spring mattress bed in a ...	This hip area is a crossroads between two great cultural strips of inner ...
603007	https://www.airbnb.com/rooms/603007	Rental unit in South Yarra · ★4.76 · 1 bedroom · 1 bed · 1 shared bath	Well appointed South Yarra apartment, close to Royal Botanic Garden...	Right near the famous Royal Botanic Gardens, active people will deligh...
1192689	https://www.airbnb.com/rooms/1192689	Home in St Kilda · ★4.92 · 4 bedrooms · 5 beds · 2 baths	Stunning, spacious 4 bedroom house 5 minutes from the beach, shops...	What isn't there to love about St.Kilda? It's a vibrant exciting suburb ...
1201338	https://www.airbnb.com/rooms/1201338	Home in South Melbourne · ★4.92 · 4 bedrooms · 5 beds · 3.5 baths	Caldera , a newly renovated ,heritage listed, classic 1880's Victorian te...	The neighborhood is in the historic precinct of Emerald Hill, close to th...
1233439	https://www.airbnb.com/rooms/1233439	Home in Melbourne · ★4.58 · 3 bedrooms · 4 beds · 2 baths	Professionally managed by Boutique Stays, a fully accredited short-sta...	Roxy's Place is centrally located in Prahran, just 10 minutes walk to Pra...
628156	https://www.airbnb.com/rooms/628156	Condo in Port Melbourne · ★4.82 · 1 bedroom · 1 bed · 1 private bath	Great WiFi. Modern & very clean bedroom (Wall mounted 40" Sony LC...	Port Melbourne has become one of Melbourne's favourite suburbs an...
628370	https://www.airbnb.com/rooms/628370	Rental unit in Port Melbourne · ★4.79 · 2 bedrooms · 3 beds · 1 bath	The apartment has recently been renovated with new kitchen, floorin...	This neighbourhood is very quiet whilst being very close to the city, be...
1237261	https://www.airbnb.com/rooms/1237261	Rental unit in South Yarra · ★4.78 · 1 bedroom · 1 bed · 1 bath	On the top floor of a 2 storey Art Deco apartment building in the histo...	South Yarra is approx 3 kms from the centre of the city. Leafy and hilly...
1244671	https://www.airbnb.com/rooms/1244671	Rental unit in Carlton · ★4.49 · 2 bedrooms · 2 beds · 1 bath	2BR apartment in an incredible location on the City fringe. Comfortabl...	The Inner City Garden Apartment is a beautiful apartment in an incred...
51592	https://www.airbnb.com/rooms/51592	Loft in Melbourne · ★4.92 · 1 bedroom · 2 beds · 1.5 baths	The absolute centre of Melbourne, this open-plan warehouse is full of ...	The apartment is located in the centre of Melbourne, not just the CBD ...
641180	https://www.airbnb.com/rooms/641180	Guesthouse in Melbourne · ★4.88 · 1 bedroom · 1 bed · 1 bath	This cosy & spacious self-contained studio apartment has its own stree...	Very close to restaurants, cafes, public transport, shops & bars of Brun...

Data Exploration

- There are 64 Columns
- 3329 of Rows
- Maximum Year is 2023
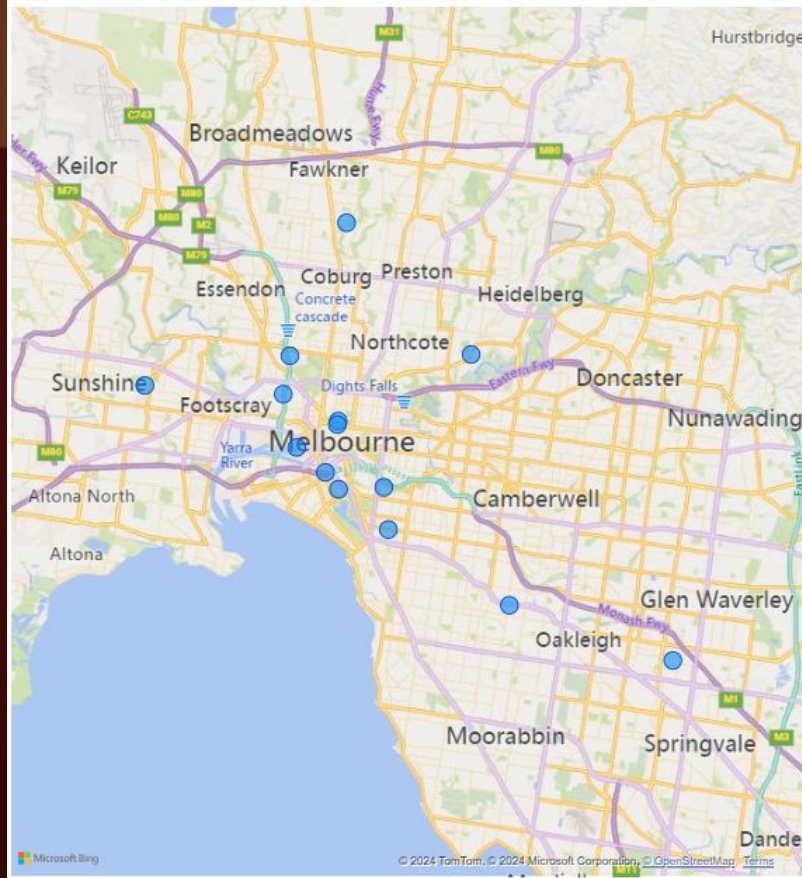- Minium Year is 2014
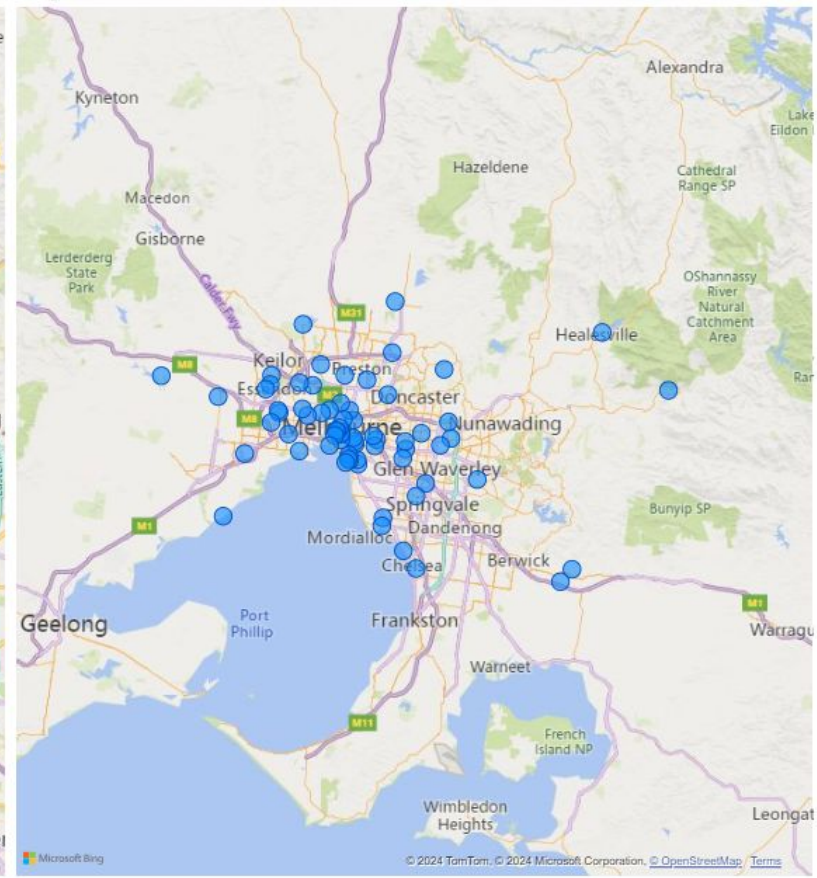
3329
Number Of Rows

2014
Min Year

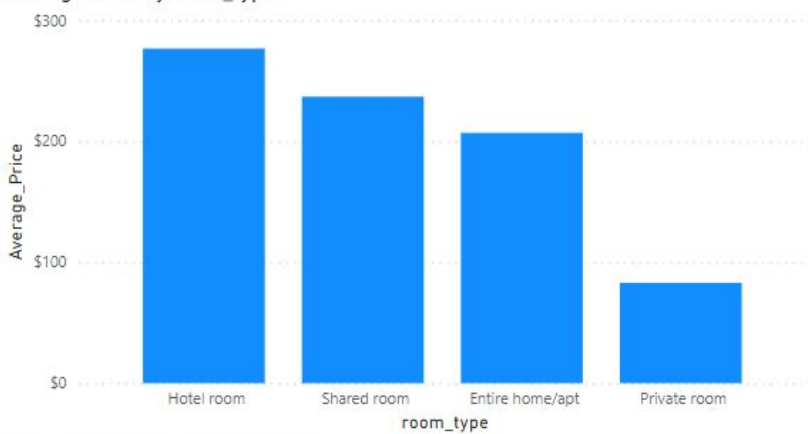**2023**
Max Year

Geographical Insights

- Most of neighbourhood are based on the center of melbourne
- There are few score reviews in the center of melbourne

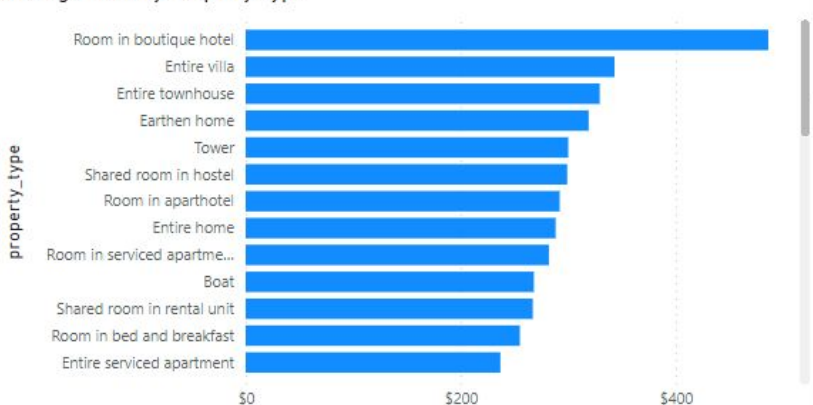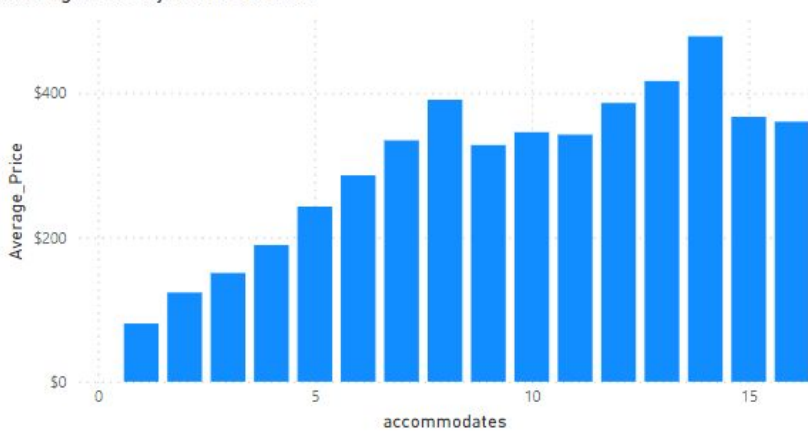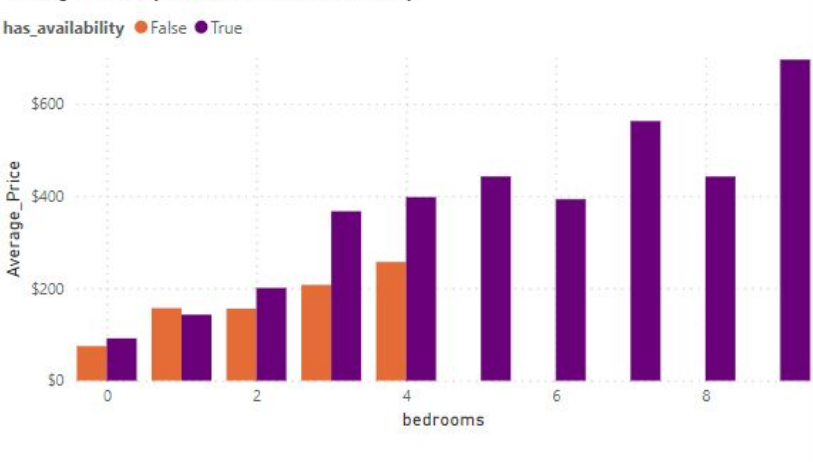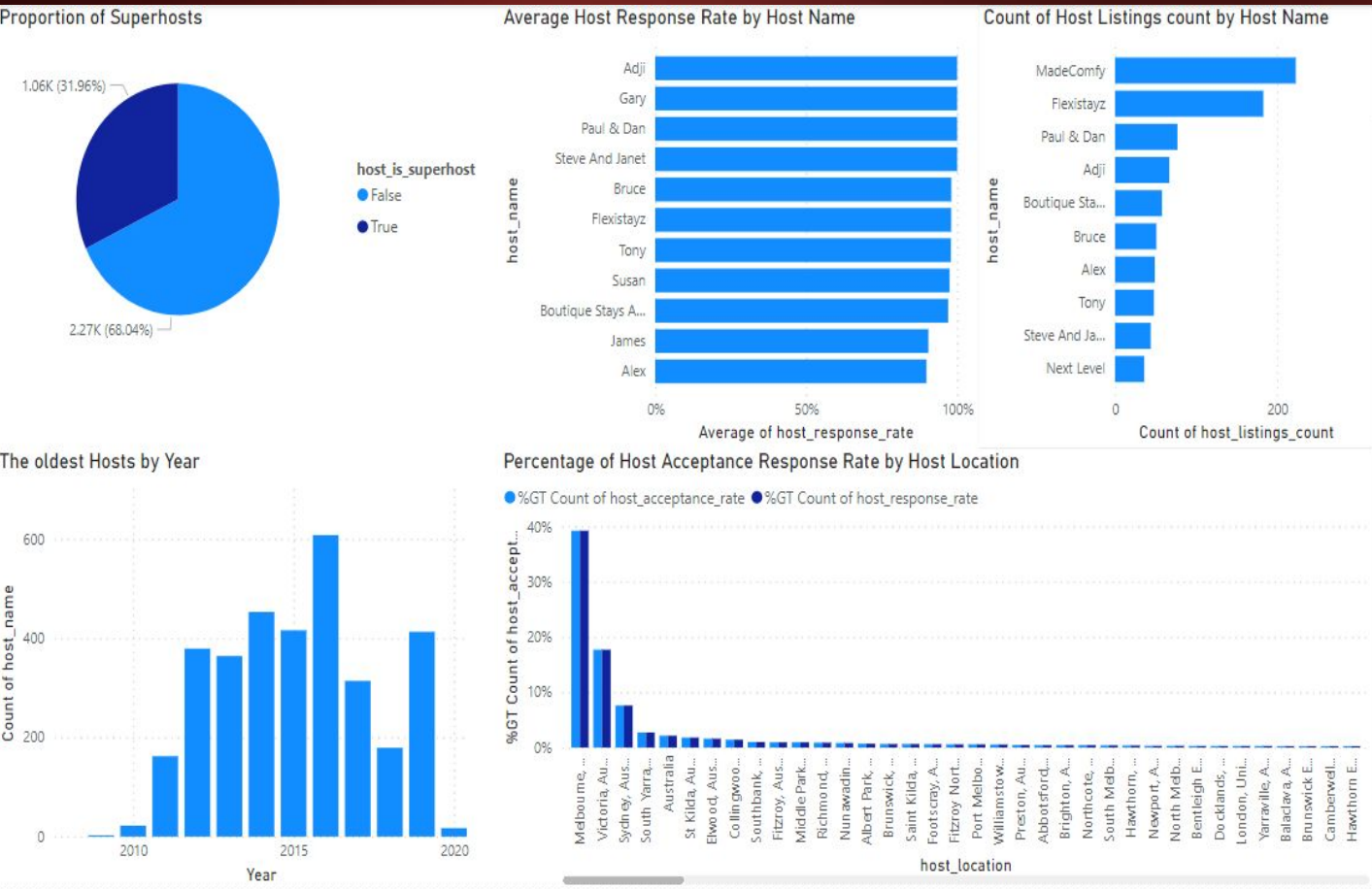# Pricing and Availability Analysis

- Hotel rooms come with a hefty price tag, especially those in boutique hotels.
- Properties with fewer bedrooms are typically scarce and come at a premium compared to larger properties in prime locations.

Host Performance

- Over 2.5 thousand rooms are classified as "Entire home/apt."
- Within the "Entire home/apt" category, there is a higher prevalence of "bedroom" listings compared to "private room" listings.
- Despite being consistently available, "Entire rental units" remain expensive, leading customers to prefer other, more affordable and less spacious property options.
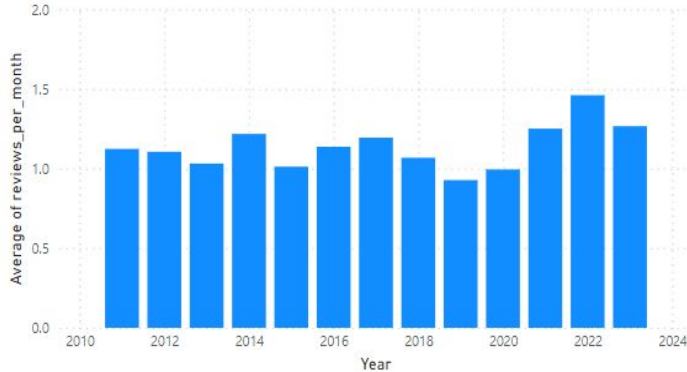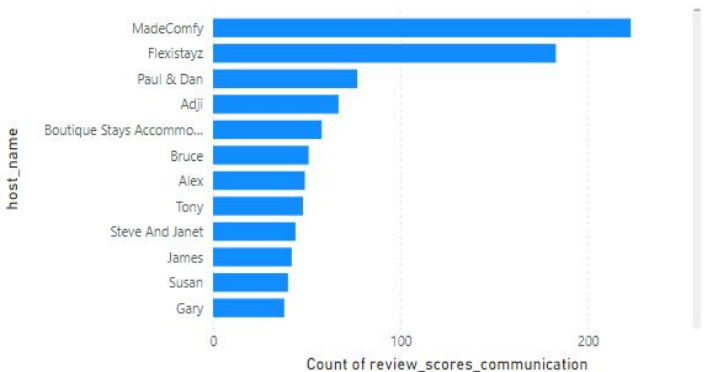
Review Scores and Guest Satisfaction

Average of Scores Review Rating by Years and Room Type

room_type ● Entire home/apt ● Hotel room ● Private room ● Shared room

Average of reviews Per Month By Year

Count of Scores Review Communication by Host Name

- The average score for hotel rooms remains consistently high over the years.
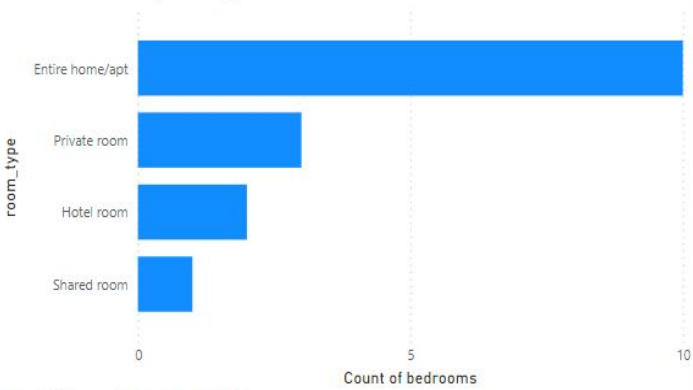- MadeComfy and Flexitayz both boast over 100 reviews with perfect scores.
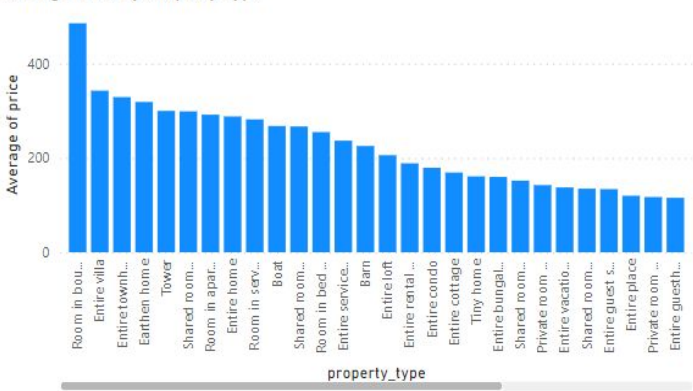
Property Type and Room Analysis

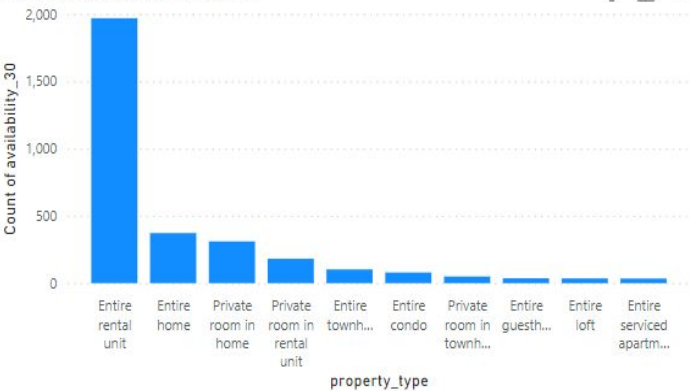- The average score for hotel rooms remains consistently high over the years.
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Conclusion

- This project aims to leverage Power BI to analyze hotel aggregator listings, providing stakeholders with actionable insights to enhance listing quality and competitiveness.

- By employing data-driven decision-making, this project endeavors to drive positive outcomes for the organization and its stakeholders.