Key Insights from Four Seasons Hotel and Resorts Data (2015 - 2022)

By: Chinua Mbajekwe

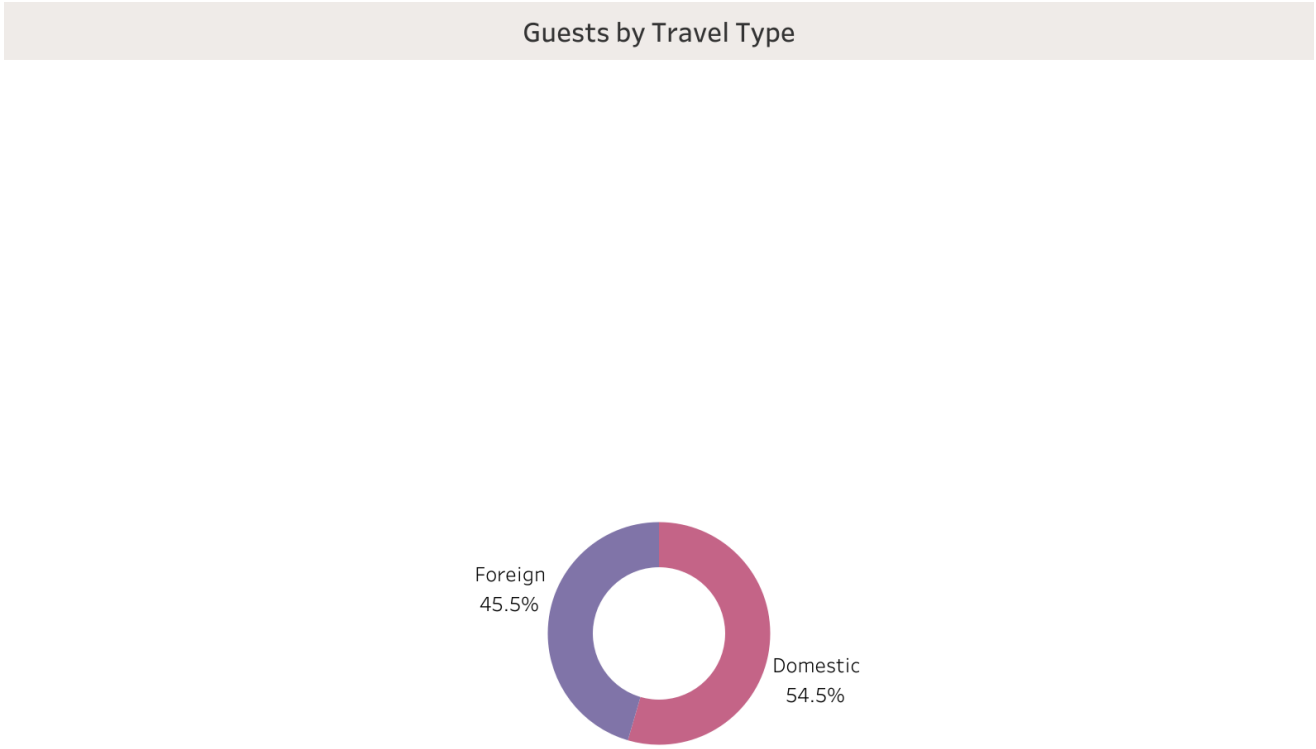
Introduction

This presentation highlights key insights derived from the assessment data files provided.

- For brevity, the insights focus on **returning guests**, their characteristics, and their corresponding clusters. I also highlight findings that I find particularly interesting.
- Supporting analysis code is available in the accompanying Python (.ipynb) file.
- A **Tableau Story** has been developed, featuring **three dashboards** that showcase insights across all **guests, stays, and hotels**

*** click on the hyperlinks to view dashboards

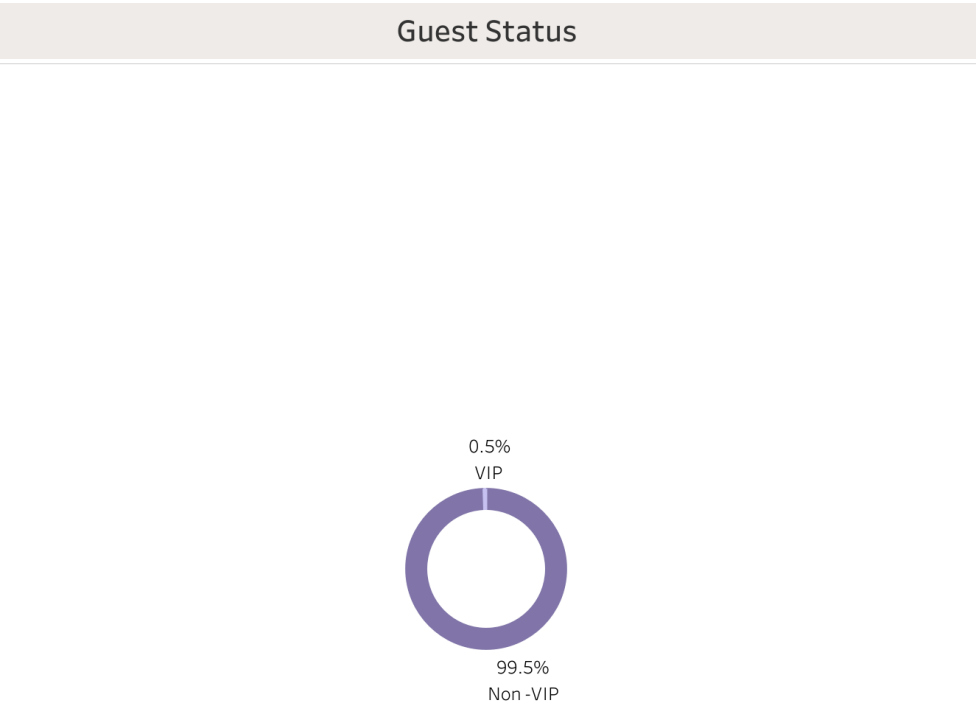
1. Total Guests by Travel Types (Domestic and International)



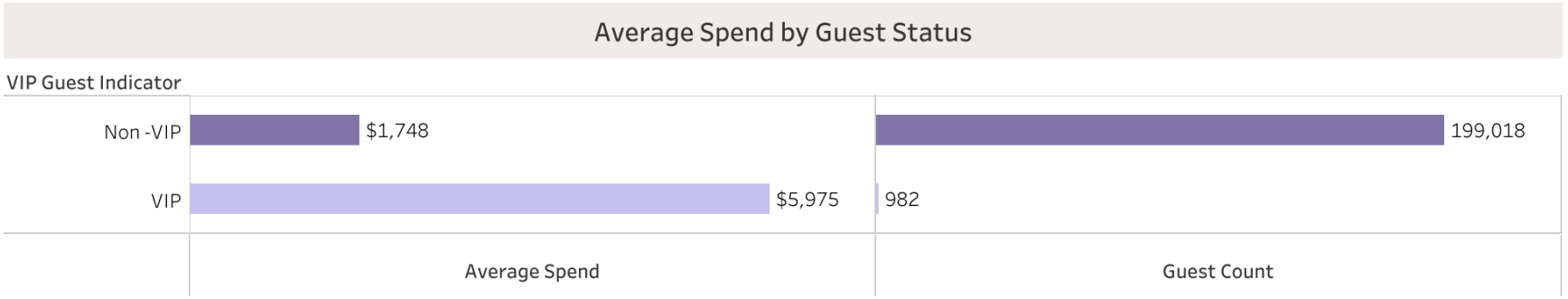
2. Popular Travel Destinations (Top 10)

3. Guest Status (VIP Indicator)

- The analysis indicates that VIP guests make up just 0.5% of the total guest population.
- The next slide highlights their key distinguishing characteristic: significantly higher Room Revenue or Average Spend compared to regular guests.



3. Guest Status (VIP Indicator)



A notable observation is that VIP guests spend, on average, five times more than regular guests. This significant spending gap is consistent across all subregions, with the highest disparity observed in 'Other Americas’.

4. Arrival/Departure Matrix

	Departure Day							
Weekday of Arriv..	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Grand Total
Friday	18.24K	9.03K	4.15K	2.18K	1.30K	1.39K	18.41K	47.60K
Saturday	23.73K	9.42K	5.63K	3.99K	2.66K	1.87K	2.22K	44.12K
Thursday	11.85K	5.45K	2.16K	1.09K	1.09K	17.93K	11.00K	44.00K
Wednesday	6.55K	2.31K	1.05K	1.01K	17.53K	13.77K	7.59K	43.45K
Monday	1.51K	1.13K	15.76K	12.84K	9.77K	6.48K	2.86K	43.33K
Sunday	1.65K	15.01K	10.14K	9.29K	6.22K	3.99K	2.27K	42.18K
Tuesday	2.46K	1.08K	0.96K	16.30K	12.57K	8.57K	4.29K	40.08K
Grand Total	57.08K	37.89K	35.10K	40.70K	44.03K	46.40K	42.60K	200.00K

- This matrix shows guest arrival days (rows) compared to their departure days (columns).
- The 'Grand Total' column captures the total number of guest arrivals on each specific day, while the 'Grand Total' row reflects the total number of check-outs for each day.
- Each cell within the matrix represents the number of guests who checked out on a particular departure day after arriving on the corresponding arrival day.
- For example, the first cell (Friday arrival and Sunday departure) shows that out of over 47,000 guests who arrived on Friday, more than 18,000 departed on Sunday.

4. Arrival/Departure Matrix (Percentages)

	Departure Day							
Weekday of Arrival Da..	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Grand Total
Friday	38.3%	19.0%	8.7%	4.6%	2.7%	2.9%	38.7%	100.0%
Saturday	53.8%	21.4%	12.7%	9.1%	6.0%	4.2%	5.0%	100.0%
Thursday	26.9%	12.4%	4.9%	2.5%	2.5%	40.7%	25.0%	100.0%
Wednesday	15.1%	5.3%	2.4%	2.3%	40.3%	31.7%	17.5%	100.0%
Monday	3.5%	2.6%	36.4%	29.6%	22.5%	15.0%	6.6%	100.0%
Sunday	3.9%	35.6%	24.0%	22.0%	14.8%	9.5%	5.4%	100.0%
Tuesday	6.1%	2.7%	2.4%	40.7%	31.3%	21.4%	10.7%	100.0%
Grand Total	28.5%	18.9%	17.5%	20.4%	22.0%	23.2%	21.3%	100.0%

- The key insight from this matrix is that guests generally stay for 1-2 days at the hotel.
- For example, guests arriving on a specific day, such as Friday, tend to check out within the next two days (Saturday or Sunday), with check-out percentages over 38% on both days.
- This pattern is visually highlighted by the darker purple shades on the days immediately following the arrival day.

4. Arrival/Departure Matrix

	Departure Day							
Weekday of Arriv..	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Grand Total
Friday	18.24K	9.03K	4.15K	2.18K	1.30K	1.39K	18.41K	47.60K
Saturday	23.73K	9.42K	5.63K	3.99K	2.66K	1.87K	2.22K	44.12K
Thursday	11.85K	5.45K	2.16K	1.09K	1.09K	17.93K	11.00K	44.00K
Wednesday	6.55K	2.31K	1.05K	1.01K	17.53K	13.77K	7.59K	43.45K
Monday	1.51K	1.13K	15.76K	12.84K	9.77K	6.48K	2.86K	43.33K
Sunday	1.65K	15.01K	10.14K	9.29K	6.22K	3.99K	2.27K	42.18K
Tuesday	2.46K	1.08K	0.96K	16.30K	12.57K	8.57K	4.29K	40.08K
Grand Total	57.08K	37.89K	35.10K	40.70K	44.03K	46.40K	42.60K	200.00K

The popular checkout days for other arrival days are as follows:

- Saturday: Sunday (23.73k)
- Thursday: Friday (17.73K) and Saturday (11K)
- Wednesday: Thursday (17.53K) and Friday 13.77K
- Monday: Tuesday (15.76K) and Wednesday (12.84k)

5. Guest Origin/Destination Matrix

	Hotel Subregion					
Guest Subregion	APAC (excl China)	Europe	Mainland China	Middle East / Africa	Other Americas	US
United States	5%	11%	0%	7%	15%	77%
Other APAC (excl. China)	90%	4%	2%	3%	1%	5%
Europe	15%	52%	1%	33%	7%	12%
Middle East / Africa	6%	16%	0%	84%	1%	3%
Mainland China	19%	1%	81%	1%	0%	1%
Other Americas	6%	17%	1%	11%	61%	25%
Grand Total	20%	13%	6%	17%	11%	44%

- This matrix presents the guests' regions of origin in comparison to their destination regions (the hotels' locations).
- Each cell with a value indicates the percentage of guests traveling to hotels in a specific region.
- The 'Grand Total' row represents the proportion of total guests who visited each hotel's region. For instance, 44% of guests visited hotels in the United States, 13% in Europe, and so on.

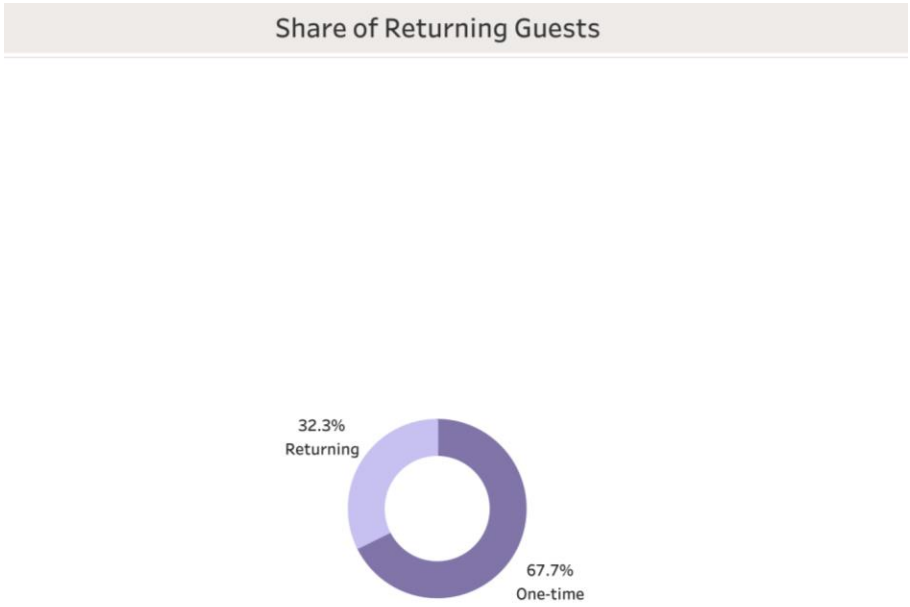
5. Guest Origin/Destination Matrix (Percentage)

	Hotel Subregion					
Guest Subregion	APAC (excl China)	Europe	Mainland China	Middle East / Africa	Other Americas	US
United States	5%	11%	0%	7%	15%	77%
Other APAC (excl. China)	90%	4%	2%	3%	1%	5%
Europe	15%	52%	1%	33%	7%	12%
Middle East / Africa	6%	16%	0%	84%	1%	3%
Mainland China	19%	1%	81%	1%	0%	1%
Other Americas	6%	17%	1%	11%	61%	25%
Grand Total	20%	13%	6%	17%	11%	44%

- At first glance, it is evident that a significant portion of guests travel within the same region.
- For example, guests traveling within the United States or within Asia and the Pacific region represent a larger share of the total. The same is observed for other regions.
- This indicates that domestic travel, where guests stay in hotels within their own region, is more common than international travel. This observation aligns with our findings on slide 1.

6. Guest Breakdown(Returning vs Non-Returning)

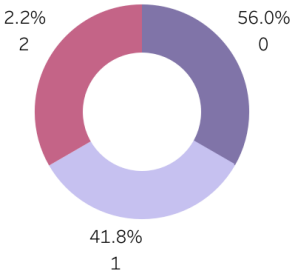
- As stated in the python file, a returning guest is someone who has made more than one booking at the hotel.
- This is determined by aggregating the data on GuestID and counting the number of unique stays associated with each guest.
- If the count of bookings is 1, the guest is considered a first-time guest.



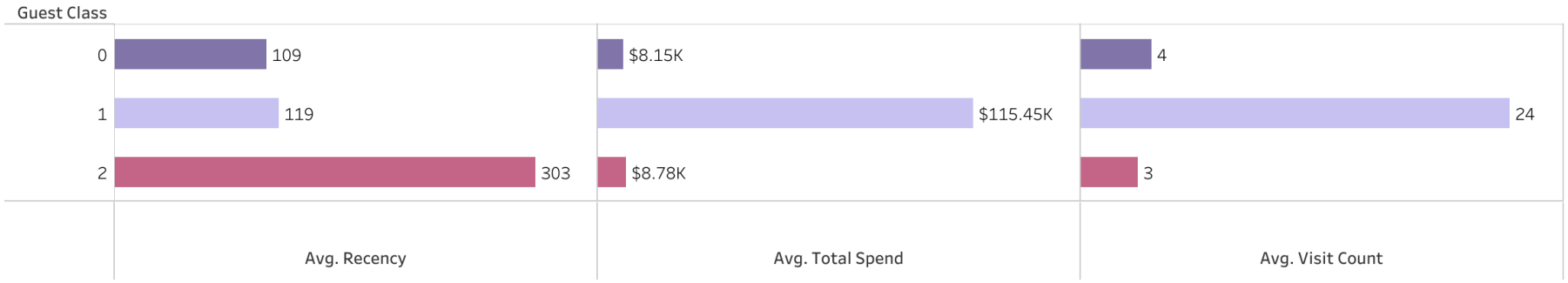
Returning Guests

- After identifying returning guests, I conducted a Recency, Frequency, and Monetary Value (RFM) analysis to support the clustering process (refer to Python code).
- The returning guests were then segmented into three distinct classes, as illustrated in the visual.

Returning Guests by Class



Features of Returning Guest Clusters



Interpretation of Clusters

Cluster / Metric	Recency	Frequency	Total Spend	Summary
0 (56% of Returning Guests)	Low (recent visitors)	Low	Low	These guests have visited recently (within the last 100 days), spend little and visit infrequently
1 (42% of Returning Guests)	Very High (long time since last visit).	Low	Low	Guests in this cluster visited almost a year before the most recent booking date, spend little and visit infrequently
2 (2% of Returning Guests)	Low (recent visitors)	Very High	Extremely High	A small but very valuable group of guests who have visited recently, spend significantly and visit often

Recommendations

For Cluster 0: Encourage Higher Spending and Engagement

- **Objective**: Increase the total spend and frequency of these frequent but low-value guests.
- **Strategies**:
  1. **Upselling and Cross-Selling**: Offer attractive packages that combine room upgrades, dining, or spa services to increase revenue per booking.
  2. **Targeted Loyalty Incentives**: Create a points-based reward program to encourage repeat stays and larger bookings.
  3. **Promotions**: Provide discounts for extended stays or packages that cater to their budget-conscious nature.

Recommendations

For Cluster 1: Reactivate and Re-Engage

- **Objective**: Convert these long-recency guests into regular customers.
- **Strategies**:
  1. **Reactivation Campaigns**: Send personalized offers (e.g., special discounts, free nights) based on their booking history to entice them back.
  2. **Experience Personalization**: Offer tailored services based on preferences they may have expressed during previous stays (e.g., preferred room type, amenities).
  3. **Post-Stay Follow-Ups**: Engage them immediately after their next visit with surveys and special offers to keep the brand top of mind.

Recommendations

For Cluster 2: Retain and Delight High-Value Guests

- **Objective**: Maintain loyalty and maximize their lifetime value.
- **Strategies**:
  1. **Exclusive Perks**: Provide personalized VIP services (e.g., complimentary upgrades, dedicated concierge).
  2. **Loyalty Tiers**: Create a premium loyalty tier for these guests, offering benefits like early check-ins, late check-outs, or private event invitations.
  3. **Solicit Feedback**: Engage with these guests to gather direct insights on how to improve their experience and maintain their loyalty.

3rd Party Datasets to Support Analysis

1. **Corporate Hotel Bookings (CHB)** Link

Description: The Corporate Hotel Bookings (CHB) dataset – contains hotel bookings processed through global corporate travel and expense agencies on a daily basis.

It contains hotel bookings from 400+ hotel brands, including the vast majority of North American hotel chains such as Marriot, Hilton, IHG and Hyatt.

Use: Benchmark hotel performance against competitors and analyze customer preferences for hotel categories.

2. **Customer Sentiment and Reviews Data** Link

Description: Contains reviews from 4333 hotels crawled from TripAdvisor.

Use: The data can be filtered to "Four Seasons Hotel Reviews." The ratings and text reviews can be analyzed to develop a sentiment prediction model that categorizes guest sentiment into positive, neutral, and negative sentiments.

This way, guests with bad experiences can be easily identified and proactively addressed to improve their satisfaction.