Power BI Project: Hospitality Domain

(Marriott Hotels - New England Region)

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Problem Statement

In the highly competitive hotel industry, understanding key performance metrics such as Revenue, Occupancy %, RevPAR (Revenue per Available Room), ADR (Average Daily Rate), and other room-night related metrics are crucial for optimizing profitability and enhancing customer satisfaction. Marriott Hotels in the New England region is looking to optimize its business operations and improve its revenue management strategies. The primary focus is on enhancing overall profitability by analyzing key performance indicators such as revenue, occupancy rates, and pricing models. The objective is to identify areas where efficiency can be improved, and revenue can be maximized across their hotel properties.

The goal of this analysis is to identify revenue leaks, potential areas for improvement in occupancy rates, and inconsistencies in pricing strategies across different booking platforms.

Metrics Considered

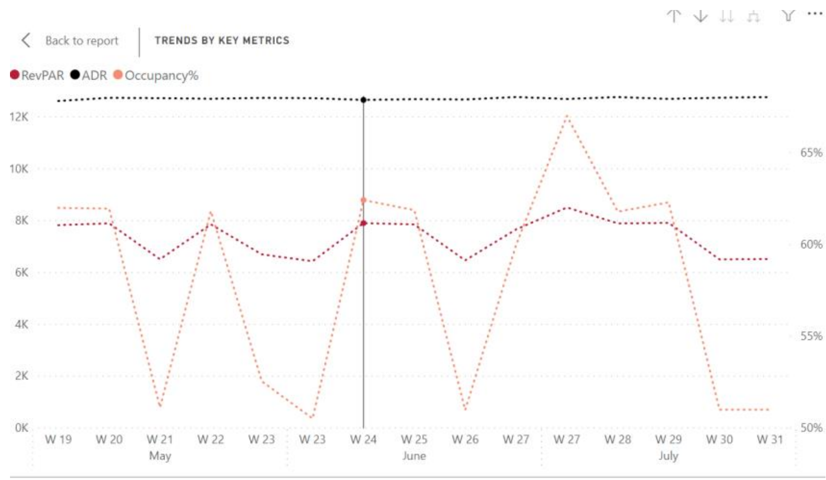
The key performance indicators (KPIs) analyzed in this project include:

1. **Revenue**: Total income generated by the hotel branches.
2. **Occupancy %**: The percentage of rooms occupied out of the total sellable rooms.
3. **RevPAR (Revenue per Available Room)**: A key metric in the hotel industry, representing the revenue generated per available room.
4. **ADR (Average Daily Rate)**: The average daily revenue earned per occupied room.
5. **DSRN (Daily Sellable Room Nights)**: Total number of rooms available to sell each day.
6. **DURN (Daily Utilized Room Nights)**: The total number of rooms utilized on a given day.
7. **DBRN (Daily Booked Room Nights)**: The number of rooms booked per day.

Analysis & Insights

1. Pricing Strategy (ADR and Seasonal Fluctuations)

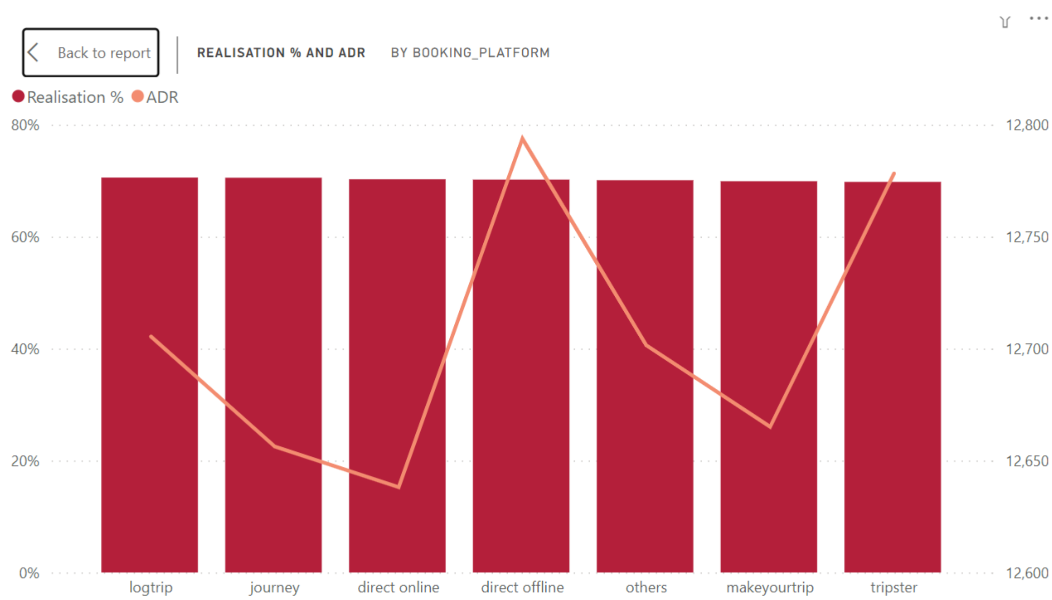
- **Observation**: The ADR (Average Daily Rate) metric reveals that Marriott's pricing remains constant throughout both vacation and non-vacation periods, as well as weekends and weekdays. This lack of dynamic pricing is causing Marriott to miss potential revenue opportunities during high-demand periods.



- **Solution**: Marriott should implement a dynamic pricing strategy, where rates fluctuate based on demand, vacation periods, and day of the week (e.g., higher rates on weekends and during holidays). This approach would allow Marriott to maximize revenue during peak periods and adjust prices to stimulate demand during off-peak times.

2. Inconsistent Pricing Across Booking Platforms

- **Observation**: The ADR across different booking platforms (e.g., direct online, Tripster, MakeMyTrip, etc.) shows significant fluctuations. This inconsistency may lead to customer distrust, as they expect uniform pricing when searching for rooms across different platforms.



- **Solution**: Marriott should standardize its pricing across all platforms. Rather than altering prices, promotional offers, discounts, or coupons can be introduced on specific platforms to attract customers. Since Marriott already pays commissions to these platforms, the platforms should manage promotional activities to make bookings.

3. Occupancy % and Hotel Ratings

- **Observation**: A correlation was identified between lower occupancy rates and lower customer ratings for specific hotels. Hotels with low ratings of 2.37 such as "Marriot Grands Boston" often experience higher cancellation rates, indicating a gap between customer expectations and the reality of their stay.

Property ID	Property	City	Revenue	RevPAR	Occupancy %	ADR	DSRN	DBRN	DURN	Realisation %	Cancellation %	Avg ratings
19558	Marriot Grands	Boston	54M	5,527	44.3%	12,468	107	47	33	70.06%	24.49%	2.37
17564	Mystic Marriot	Burlington	65M	7,397	44.6%	16,597	97	43	31	70.59%	24.81%	2.30
18559	Marriot Exotic	Hartford	47M	4,061	44.6%	9,111	128	57	40	70.57%	24.33%	2.33
17562	TownePlace Suits by Marriot	Burlington	51M	6,803	44.9%	15,167	83	37	26	69.60%	25.44%	2.37
18563	Mystic Marriot	Hartford	44M	5,014	52.9%	9,480	97	51	36	69.57%	26.00%	3.07
17560	Marriot City	Burlington	87M	7,763	53.1%	14,629	123	65	45	69.51%	25.12%	3.04
19561	Courtyard by Marriot	Boston	72M	6,774	53.2%	12,722	117	62	43	69.80%	24.64%	3.08
18558	Marriot Grands	Hartford	46M	5,514	53.4%	10,331	91	49	34	69.73%	25.07%	3.06
16562	TownePlace Suits by Marriot	Providence	56M	6,254	53.4%	11,712	98	52	36	69.34%	25.24%	3.07
19563	Mystic Marriot	Boston	68M	6,768	53.4%	12,670	110	59	41	69.50%	25.36%	3.02
17558	Marriot Grands	Burlington	74M	7,953	53.6%	14,839	102	55	38	69.91%	25.67%	3.05
16560	Marriot City	Providence	54M	6,281	53.6%	11,714	95	51	36	71.20%	24.03%	3.01
19559	Marriot Exotic	Boston	59M	6,851	53.7%	12,751	95	51	36	70.76%	24.54%	3.04
18561	Courtyard by Marriot	Hartford	55M	5,679	65.5%	8,676	107	70	49	70.36%	24.27%	4.25
19560	Marriot City	Boston	81M	8,965	65.5%	13,680	99	65	45	69.00%	26.46%	4.28
19562	TownePlace Suits by Marriot	Boston	81M	9,312	65.7%	14,183	96	63	44	70.47%	24.29%	4.28
16561	Courtyard by Marriot	Providence	57M	8,612	65.7%	13,115	73	48	33	69.85%	25.56%	4.28
18562	TownePlace Suits by Marriot	Hartford	68M	6,216	65.8%	9,446	121	80	56	70.20%	24.68%	4.31
16558	Marriot Grands	Providence	36M	7,525	65.8%	11,436	52	34	24	70.01%	25.08%	4.25
16559	Marriot Exotic	Burlington	117M	10,629	65.9%	16,141	121	80	56	70.39%	24.63%	4.32
18560	Marriot City	Hartford	60M	6,068	66.1%	9,185	109	72	51	70.91%	24.13%	4.26
17559	Marriot Exotic	Burlington	93M	10,107	66.1%	15,293	101	67	47	70.81%	24.04%	4.32
17563	Mystic Marriot	Burlington	100M	10,592	66.1%	16,016	104	69	49	70.67%	24.38%	4.29
17561	Courtyard by	Burlingt	73M	9,447	66.2%	14,271	85	56	39	70.14%	24.41%	4.30

- **Solution**: These branches need to focus on improving customer satisfaction by understanding their pain points, possibly through surveys or customer feedback. Enhancing service quality and aligning the customer's experience with expectations will improve ratings and, in turn, increase occupancy.

Key Visualizations

1. **Revenue and ADR Trends by Key Metrics**:
   - Displays fluctuations in Revenue, RevPAR, and ADR. This helps in identifying periods of high and low demand and the potential revenue lost due to a static pricing model.
2. **Occupancy % by Category**:
   - A pie chart showing the proportion of luxury versus business room occupancy. This helps Marriott understand which segment is driving more demand in their New England branches.

3. **Realization % and ADR by Booking Platform**:
   - A bar and line chart that highlights discrepancies in ADR and realization percentage across different booking platforms. This visualization reinforces the need for uniform pricing.
4. **Trends in Occupancy, ADR, and RevPAR**:
   - Line charts that show trends over weeks, highlighting periods where occupancy and ADR drop, indicating an opportunity for promotional offers or pricing adjustments.
5. **Property by Key Metrics**:
   - A table providing a detailed breakdown of various metrics (Revenue, RevPAR, ADR, Occupancy %, etc.) for each Marriott property in the New England region. This helps identify underperforming hotels and provides a comprehensive overview of each branch's performance.

Conclusion

By leveraging data analytics through Power BI, we've identified key areas where Marriott can enhance its operational strategy:

- **Dynamic Pricing**: Adjusting ADR based on vacation periods, weekends, and weekdays.
- **Pricing Consistency**: Standardizing prices across booking platforms to maintain customer trust.
- **Customer Satisfaction**: Addressing issues at branches with lower occupancy rates by improving service quality and aligning customer expectations with reality.

These insights will empower Marriott to make informed decisions that can lead to increased revenue, improved customer satisfaction, and more efficient operations in the New England region.