

Hotel Dashboards Report
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Hotel Analysis Dashboard Objectives:

- Unveil the Daily Booking Dynamics: Explore the daily booking trends, distinguishing between weekdays, and provide insights into the total number of non-canceled and canceled bookings.
- Monthly Guest Insights: Illustrate the monthly guest count for both hotels, offering a comprehensive overview of visitor patterns.
- Special Requests Over Time: Examine the monthly variations in special requests for both hotels, shedding light on guest preferences and needs.
- Comparative Cost Analysis: Present the average daily rates for both hotels on a monthly basis, facilitating a clear understanding of cost disparities over time.
- Repeated Guest Analysis: Delve into the distribution channels associated with repeated guests, providing valuable insights into customer loyalty and acquisition channels.

Hotel Analysis Dashboard Insights:

- Daily Bookings: Peak days for total non-canceled bookings are Monday, Thursday, Friday, and Saturday. Although, Thursday, Friday, and Saturday witness the highest occurrence of total canceled bookings.
 - Total Guests Per Month: Guests count experiences a gradual rise from July to August, with August being the peak month for hotel occupancy.
 - Monthly Special Requests: August records the highest volume of special requests, correlating with the influx of guests during this peak period.
 - Monthly Average Daily Rate (ADR): ADR reaches its zenith in July and August, reflecting heightened demand and increased bookings during these months.
- Repeated Guests by Distribution Channel: Corporate and TA/TO channels attract the majority of repeated guests, with direct bookings following closely. This insight provides valuable opportunities for targeted campaigns and enhanced customer engagement.

Hotel Analysis Dashboard Recommendations:

- 1) Optimize Staffing on Peak Days: Focus on adequate staffing during peak days (Monday, Thursday, Friday and Saturday) to ensure a seamless experience for guests, especially during high demand periods.
- 2) Strategic Marketing in August: Leverage the surge in hotel occupancy during August by implementing targeted marketing campaigns to attract more guests. Consider special promotions or loyalty programs to enhance customer retention.
- 3) Enhance Special Request Services: Given the higher volume of special requests in August, Prioritize and enhance services to meet guest expectations. Consider tailoring packages or amenities to align with popular requests during this period.

- 4) Dynamic Pricing Strategy: Implement a dynamic pricing strategy, especially in July and August, to optimize revenue during peak demand. Adjust room rate based on occupancy levels and market trends to maximize profitability.
- 5) Customer Engagement through Direct Bookings: Strengthen customer engagement strategies for direct bookings. Encourage loyalty programs, exclusive offers, or personalized experiences to further attract and retain guests who prefer booking directly.
- 6) Diversify Repeated Guest Channels: Explore opportunities to diversify repeated guest channels by targeting audiences beyond Corporate and TA/TO. Identify partnerships or collaborations to expand the customer base and increase loyalty from various channels.

Reservation Analysis Dashboard Objectives:

- Room and Meal Preference Overview: Uncover the top 3 room types and meal preferences.
- Average Stay Duration per Room Type: Understand guest behavior trends, identifying longer stays for specific room types.
- Yearly/Monthly Stay Duration & Meal Count Dynamics: Examine meal count analysis alongside stay duration trends. Identify any correlation between count of meals served and the duration of stay.
- Stay Duration Distribution: illustrate the distribution of stay duration between weeknights and weekend nights.

Reservations Analysis Dashboard Insights:

- Insights from Room Type and Meal Preference Analysis: Room Type A leads with 64k reservations, followed by Room D with 16k bookings and Room E with 5k bookings. The major preferred meal type is BB, while SC and HB meal types are also among the preferred however they hold a smaller percentage and FB holding the smallest significance among the top meal types.
- Insights from Average Stay Duration per Room Type: Room E and C have the highest average length of stay, followed by Room G. In contrast, Room A, the most popular among reserved room types, has one of the lowest average lengths of stay at 3 days. Room types P and L exhibit the lowest length of stay.
- Insights from Yearly/Monthly Trends in Stay Duration & Meal Count Analysis: As we approach popular summer months, there is a peak in both the count of average length of stay and meal counts. However, these values start declining after the summer months.
- Insights from Stay Duration Distribution by Weeknights and Weekend Nights: Weeknights account for 72% of stay duration, whereas weekends contribute 27% to the total stay duration.

Reservations Analysis Dashboard Recommendations:

- 1) Optimize Room Allocation: Given the high demand for Room type A, consider optimizing room allocation strategies to ensure efficient utilization of this popular room type. Additionally, evaluate opportunities to enhance the appeal of other room types, especially those with lower reservation counts like Room E.
- 2) Meal Package Promotions: Since the majority of guests prefer the BB meal type, consider creating meal package promotions that include BB meals. Promoting other meal types such as SC and HB, can be tailored to specific customer segments to increase their significance in overall meal preferences.
- 3) Enhance Guest Experience for popular Room Types: Recognizing the longer stays in Room E and C, focus on enhancing the guest experience in these room types. Consider personalized services, amenities, or loyalty programs to encourage extended stays and repeat bookings.
- 4) Weekend Stay Packages: Given the distribution of stay duration between weeknights and weekends, explore the potential for creating special weekend stay packages. Offer unique experiences, discounts, or complimentary services to attract more guests during weekends and balance the overall distribution.
- 5) Feedback Mechanism: Implement a feedback mechanism to gather insights directly from guests regarding their room and meal preferences. This will provide real-time data to adapt strategies, tailor offerings, and address specific guest needs.
- 6) Social Media Engagement: Use social media platforms to engage with guests and promote the unique features of different room types and meal offerings. Share guest testimonials, special packages and exclusive experiences to create anticipation and attract new bookings.

Cancellations Analysis Dashboard Objectives:

- Cancellation Rate Trends by Month: Monitor and analyze the cancellation rates on a monthly basis to identify trends and potential influencing factors.
- Booking Status by Distribution Channel: Explore the distribution of bookings, differentiating between non-cancelled and cancelled, across various channels to understand the impact of each channel on cancellations.
- Average Daily Rate and Monthly Cancellation Percentage: Examine the relationship between the average daily rate and the percentage of cancellations each month, providing insights into pricing dynamics and their effect on cancellations.
- Cancellation Status by Customer Type: Investigate the cancellation status based on different customer types, allowing for a targeted analysis of cancellation behavior among distinct customer segments.

- Guest Demographics Overview: Understand the demographics of guests associated with cancellations, exploring potential patterns or correlations that may influence booking cancellations.

Cancellations Analysis Dashboard Insights:

- Cancellation Rate by Month: The overall cancellation rate is most prominent during June, April, May, September, and October, indicating specific months where cancellations are more frequent across both hotels.
- Non-Canceled and Canceled Bookings by Distribution Channel: The distribution channel 'TA/TO' stands out as the major contributor to both canceled and non-canceled bookings. Other channels show comparatively lower levels of cancellations and non-canceled bookings created, emphasizing the significance of 'TA/TO' in the booking dynamics.
- Average Daily Rate and Percentage Cancellations by Month: A surge in cancellations is observed from March to June, followed by a decline. Higher average daily rates align with lower cancellation rates during the hotter months of July and August. Notably, cancellation rates decrease from September to November.
- Cancellation Status by Customer Type: The Transient customer type exhibits the highest counts for both non-canceled and canceled bookings, followed by Transient-Party. Contract and Group customer types show significantly lower booking counts compared to the other two segments.
- Guest Demographics: The majority of guests fall into the 'Adults' category, constituting 94% of the total, while 'Children/Babies' make up the remaining 6%, providing a clear demographic breakdown.

Cancellation Analysis Dashboard Recommendations:

- 1) Cancellation Rate Trends by Month: Consider implementing targeted promotions or incentives during peak cancellation months to encourage guests to uphold their reservations.
- 2) Booking Status by Distribution Channel: Explore strategies to diversify distribution channels or optimize the TA/TO channel to reduce dependency, potentially mitigating cancellations.
- 3) Average Daily Rate and Monthly Cancellation Percentage: Implement dynamic pricing strategies, offering competitive rates during periods with historically high cancellation rates to attract more committed bookings.
- 4) Cancellation Status by Customer Type: Tailor marketing campaigns or loyalty programs to address the specific needs or concerns of the Transient and Transient-Party customer types, potentially reducing cancellations within these segments.
- 5) Guest Demographics Overview: Develop targeted packages or amenities that appeal to adult guests and ones with children, aiming to enhance their overall experience and potentially reducing cancellations.

Additional Notes about my Submission:

I imported the original dataset into SQL to streamline the process of creating an additional column that consolidates information from the DATE column. The choice of using SQL was driven by its efficiency in swiftly adding this extra column. The corresponding query for adding the column is as follows:

```
CONVERT(DATE, CAST([arrival_date_year] AS VARCHAR(4)) + '-' + [arrival_date_month] + '-'  
+ CAST([arrival_date_day_of_month] AS VARCHAR(2)), 102) AS ArrivalDate
```

I have shared the file utilized in Power BI Desktop via email. Furthermore, I have designed a Data Model that encompasses the FACT table containing all original booking details, a lookup table for hotel information, and a Calendar table housing date information. To enhance organization and clarity, I've included a dedicated table for the measures I created, ensuring a neat and structured presentation within the model.

To add on, in order to create the CALENDAR Table this is what I had done: Calendar =

```
- ADDCOLUMNS(  
    CALENDARAUTO(),  
    "Year", YEAR([Date]),  
    "Month", FORMAT([Date], "mmm"),  
    "Month num", MONTH([Date]),  
    "Quarter", FORMAT([Date], "\QQ"),  
    "Weekdays", FORMAT([Date], "ddd"),  
    "Week num", WEEKDAY([Date])  
)
```

In the process of crafting the Lookup table, I initiated a query based on the hotel column, eliminating duplicate entries. Subsequently, I established a conditional column assigning a unique hotel ID, denoted as 0 for "Resort Hotel" and 1 for "City Hotel." Following this, I executed a merger of these queries with the FACT table. Should there be any further inquiries, comments, or concerns, please do not hesitate to get in touch with me.