**Hotel Hospitality Project**

**Key Performance Indicators (KPIs) for Hotel Hospitality Field**

**1. Introduction**

This document outlines the most common and crucial KPIs in the hotel hospitality industry. It provides a data summary, identifies necessary columns, explains each column's meaning, and sets the storyboard for a Power BI dashboard. Additionally, it details how to calculate KPIs and integrates references from industry-leading sources.

**2. Common KPIs in Hotel Hospitality**

* **Occupancy Rate**: Measures the percentage of rooms occupied.
* **Average Daily Rate (ADR)**: Revenue earned per occupied room.
* **Revenue Per Available Room (RevPAR)**: Combines ADR and occupancy rate.
* **Guest Satisfaction Index (GSI)**: Derived from guest reviews and feedback.
* **Customer Acquisition Cost (CAC)**: The cost associated with acquiring a new guest.
* **Revenue per Customer (RPC)**: Measures revenue generated per guest.
* **Average Length of Stay (ALOS)**: Average duration of guest stays.
* **Booking Pace**: Rate at which bookings are made for future periods.
* **Cancellation Rate**: Percentage of bookings that are canceled.
* **Employee Turnover Rate**: Rate at which employees leave the hotel.

**3. Data Summary**

* **Data Sources**: https://www.kaggle.com/datasets/mojtaba142/hotel-booking
* **Data Quality**: Ensure the data is complete, consistent, and accurate before analysis.
* Using the Hotel Bookings Dataset, we analyze 119,390 bookings from two hotels, including information on booking dates, hotel types, cancellation status, guest demographics, and room types.

**4. Required Data Columns**

* **Hotel Type: City or resort hotel**
* **Arrival Date: Date of arrival for each booking**
* **Lead Time: Number of days between booking and arrival**
* **Adults, Children, Babies: Number of guests per booking**
* **Previous Cancellations: Count of previous cancellations by the guest**
* **ADR: Average daily rate per booking**
* **Booking Status: Indicates whether the booking was canceled or not**
* **Customer Type: Type of booking, such as transient or group**

**5. Explanation of Columns**

* **Hotel Type:** Allows analysis of performance by different hotel types.
* **Arrival Date:** Key for tracking occupancy and revenue by date.
* **Lead Time:** Helps in understanding booking patterns and demand forecasting.
* **Adults, Children, Babies:** Essential for demographic analysis and service customization.
* **Previous Cancellations:** Used to identify and manage guest behavior.
* **ADR:** Critical for calculating revenue metrics.
* **Booking Status:** Important for calculating cancellation rates.
* **Customer Type:** Segments customers for targeted marketing and service strategies.

**6. Storyboard**

* **Overview Page**: Display high-level KPIs such as Occupancy Rate, ADR, RevPAR.
* **Revenue Analysis**: Breakdown by room type, booking source, and season.
* **Guest Experience**: Highlight GSI, guest feedback trends, and ALOS.
* **Booking Trends**: Show booking pace, cancellation rate, and trend analysis.
* **Employee Insights**: Display employee turnover, satisfaction, and tenure.

**7. Calculating Requirements**

* **Occupancy Rate**: (Number of rooms booked / Total available rooms) \* 100
* **ADR**: Total revenue from rooms / Number of rooms booked
* **RevPAR**: ADR \* Occupancy Rate
* **GSI**: Average guest review scores
* **CAC**: Total marketing costs / Number of new bookings
* **RPC**: Total revenue / Number of guests

**8. Story of the Dashboard**

* **Objective**: Visualize hotel performance and customer behavior to enhance decision-making.
* **Audience**: Hotel management, revenue managers, and marketing teams.
* **Flow**: Start with high-level KPIs, drill down into specific areas like revenue, guest demographics, and booking patterns.

**9. Gathering Data**

* **Internal Systems**: CRM, PMS (Property Management Systems).
* **External Sources**: OTA (Online Travel Agency) data, guest feedback platforms.
* **Manual Entry**: For custom surveys and employee performance metrics.

**10. Explaining the Data**

Using the dataset, the following metrics can be analyzed:

* **Occupancy and ADR**: Provides insight into the hotel’s financial health.
* **Guest Demographics**: Helps in tailoring services and marketing campaigns.
* **Booking Patterns**: Assists in optimizing pricing strategies and forecasting demand.

**11. Common KPIs Set**

* **Occupancy Rate**
* **ADR**
* **RevPAR**
* **GSI**
* **CAC**
* **RPC**
* **ALOS**
* **Booking Pace**
* **Cancellation Rate**
* **Employee Turnover Rate**

**12. Project-Specific KPIs**

Based on the hotel's unique needs, you might include KPIs such as **Energy Consumption per Occupied Room** or **Social Media Engagement Rate**. These should be selected based on the hotel's strategy and goals. Using the dataset, additional KPIs such as **Lead Time Analysis** or **Booking Channel Performance** can be analyzed to optimize operations.

**13. Conclusion**

Tracking these KPIs provides valuable insights into the operational, financial, and customer service aspects of hotel management. Implementing a well-structured Power BI dashboard will enable stakeholders to make data-driven decisions and optimize performance.

References:

1. <https://www.kaggle.com/datasets/mojtaba142/hotel-booking>
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