**Hotel Booking Analysis**

**Summary:** The dataset encompasses a wealth of information concerning the Hotel Booking. This project aims to conduct an exhaustive analysis of the Hotel Booking data in order to explore patterns, trends, factors influencing bookings across hotel types. The goal is to provide insights that can be used to increase efficiency of hotels and bookings.

**Introduction**: In this project, we explore how to analyze the large data of Hotel Booking by using Excel, SQL and Power BI. We start through the uploading the dataset in SQL and Power BI and create relationship among all table and analyze the data for insights.

**Data Overview**: For this project we get the files from GitHub repository in different format. For Power BI we get 9 files in csv format while for SQL we get files in text format (booking\_details, booking\_source\_and\_history, country, distribution\_channel, guest\_info, market\_segment, meal\_and\_stay\_details, reservation\_status, room\_details). I have uploaded the data in Power BI through get data tab using csv files and in SQL I created new database and uploaded the data in that database through “Table Data Import Wizard”, then create the relationship in Power BI through model view and in sql by using joins.

**Observations/Analysis**

**Visitors Analysis:** Guest prefer weekend nights to travel in comparison on weekday nights. Majority of the guest comes from adults group or we can say Unmarried or without children. Guest prefer 3rd quarter of the year for visits. Guest prefer BB meal means after they out for roaming around and took other meals outside hotel

**Hotel Analysis:** 3rd quarter is the busiest time for hotel segment. Hotels failed to assigned same room for all guests which they reserved, so we can say that they takes over booking for some rooms. Hotels get higher ADR from those guest who makes special requests. In City guest spending more time than Resort, but due to less ADR Resort attract more guests, we can say this because resorts required huge car parking spaces than city means that resort has more visits than city. Also the lead time lesser for resort. Room type A is the preferred among all customer type.

**Booking Analysis:** Guest prefer online TA segment for booking for 1st time, but they do direct visit after 1st visit as direct segment ratio has increased for repeated guests, also the direct distribution channel has the highest confirmed booking ratio. Cancellation has more ADR than checkouts Group customer type has the highest successful booking ratio while transient has the lowest. 3rd quarter is the best for bookings perspective. Room type A has the most bookings.

**Cancellation Analysis:** Transient customer type has the highest ratio for cancellations. 2nd quarter is the worst in term of cancellation with highest ratio of cancellation. Cancellation ratio having kids in the booking increasing over the years. Direct distribution channel has the lowest rate of cancellation while TA/TO have the highest. There is no major impact of assigned different room from reserved room. Group customer type has the lowest cancellation ratio while transient has the highest.

**Recommendations/Suggestions**

1. As 3rd quarter is the busiest time for hotels, we can add temporary staff for smooth hotel operations and better guest experience because direct distribution channel has the lowest cancellation ratio. If guest gets the good experience, he will come directly and recommend you.(Short term)

2. Hotels can increase car parking spaces and reduce lead time, which will be a better option to attract more guests. (Long term Solution)

3. There are some room which are not getting enough bookings, we can modify them to utilize those and generate business or give good offers on those rooms. (Long and short term)

4. Target corporate distribution channel because they have the lowest cancellation ratio by offer some good schemes. (Short term)

**Conclusion**

In Hotel analysis provides valuable insights into booking patterns, guest preferences, factors influencing cancellations, booking sources, and revenue trends. By implementing the recommending strategies, hotels can optimize operations, enhance guest satisfaction, and improve overall performance.