|  |  |
| --- | --- |
| A picture of a winding road and trees  HOTEL BOOKING ANALYSIS  Using Excel,MySQl and Power BI | introduction  Hotel is important part of a journey as well as the key part aspect of economy, with the help of powerful tools like MS Excel, MySQL and Power BI, we could detect major insights and predictions, let us take a journey to discover various aspects and KPIs of what drives the Hotel and their bookings.  Zubair Baig  Data analyst |

# ABSTRACT

This project aims to conduct a comprehensive analysis of hotel booking data to uncover patterns, trends, and insights that can inform strategic decision-making in the hospitality industry. By leveraging data sourced from a MySQL database and analyzing it using Power BI, our primary objective is to address 23 specific problem statements related to hotel bookings.

The analysis begins with the collection and loading of data, followed by meticulous data cleaning to ensure accuracy and reliability. Through exploratory data analysis (EDA), we examine the distribution and characteristics of key variables, utilizing descriptive statistics, visualizations, and measures of skewness and kurtosis to assess data normality.

The problem statements cover a range of issues, including identifying peak booking periods, understanding cancellation behaviors, and optimizing room pricing strategies. Solving these problems will provide actionable insights and trends within the data, which are presented through detailed visualizations.

Key findings are presented through insightful visualizations, highlighting actionable insights and trends within the data. The results of this analysis provide valuable recommendations for improving booking strategies, enhancing customer satisfaction, and reducing cancellation rates. This project demonstrates the power of data-driven decision-making in the hospitality industry and lays the groundwork for future research and analysis.

# Table of contents

1. **Introduction.**
2. **Objectives.**
3. **Data Loading.**
4. **ER Diagram.**
5. **Problem Statements.**
6. **Exploratory Data Analysis.**
7. **Results and insights.**
8. **Conclusions.**
9. **Future Research and analysis.**
10. **References.**

# INTRODUCTION

The hotel industry is an important and competitive sector that relies heavily on data driven decision making, which helps business to enhance customer satisfaction, pricing strategies, and to improve operational efficiency. Understanding booking patterns and customer preferences is crucial for hotels to remain competitive and meet the evolving demands of their industry.

The primary aim of this project is to conduct a comprehensive analysis of hotel booking to discover patterns, trends, and insights that improve strategic decision-making in the hospitality industry. By addressing specific problem statements, we could provide actionable recommendations to improve marketing strategies, enhance customer experience, reduce cancellations and effectively lower the operating costs.

This project will focus on analyzing a dataset sourced from a MySQL database, which includes information on hotel bookings, customer demographics, booking channels and cancellation rates. The analysis will be conducted using MySQL query together with Microsoft Excel and visualized using Power BI.

The project will address 20 specific problem statements which includes identifying peak booking periods to understanding cancellation behaviors. However, the analysis is limited to the data provided and does not account for external factors such as market trends or competitor actions.

# Objectives

The primary objective of this project is to analyze the data and find answers for our problem statements by integrating multiple data analysis tools and techniques. The project aims to:

1. **Integration**:

* Utilize and combine various analysis tools to achieve the most accurate results and gain practical experience with co-working and understanding strengths of each tool.

1. **Query bookings:**

* Employ SQL commands to effectively query and extract the required data from a MySQL database that can address a specific problem statements related to hotel bookings.

1. **Visualize bookings using Power BI:**

* Leverage Power BI to create insightful visualizations that facilitate the understanding of booking patterns, customer preferences, and other key metrics.

1. **Capture important information:**

* Use Microsoft Excel, Microsoft Word and Microsoft Power Point to capture, document, and organize the entire analysis process, ensuring all steps and findings are systematically recorded.

1. **Conclusion**:

* Provide the actionable recommendations and comprehensive conclusions based on the insights derived from the data. And