Report on Hotel Reservation Analysis

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INTRODUCTION

This report presents an analysis of the Europa Hotel Reservation Dataset, providing visualizations and insights into booking patterns and customer behavior.

OBJECTIVE

To explore the dataset, identify significant patterns, and create impactful visualizations that tell a compelling story about hotel reservations and guest preferences.

BACKGROUND

The dataset, sourced from GitHub, contains information about reservations at two types of hotels: City and Resort hotels. It comprises 119,386 entries with 32 variables, covering the period from July 1, 2015, to August 31, 2017.

TOOLS USED

1. MySQL: Utilized for data validation and initial exploration, executed via Jupyter Notebook.

2. Power BI: Employed for data wrangling, in-depth exploration, and visualization.

STEPS SPECIFICATION

1. Data Import: The dataset was downloaded as a CSV file and loaded into Jupyter Notebook for SQL execution and Power BI.

2. Data Exploration: The dataset was examined for duplicates, null values, and outliers to determine relevant insights.

3. Data Visualization: Appropriate visuals were created to extract and present key information.

4. Data Reporting: Findings were documented along with the analytical process.

KEY FINDINGS

1. Hotel Type Distribution: City Hotels account for 66.45% of reservations, while Resort Hotels make up 33.55%.

2. Guest Loyalty: 96.81% of guests are non-repeating customers.

3. Booking Channels: Travel Agents/Tour Operators (TA/TO) are the primary booking channel, accounting for 97.87K reservations.

4. Deposit Types: 87.65% of bookings are made without a deposit, 12.22% are non-refundable, and 0.13% are refundable. 67.14% of canceled bookings made no deposit and 32.77% had non-refundable bookings.

5. Reservation Status: 62.96% of reservations result in check-outs, 36.03% are canceled, and 1.01% are no-shows.

6. Arrival Patterns:

   - Days: Friday (20K) and Thursday (19K) are the most popular arrival days.

   - Months: August (14K) and July (13K) see the highest number of arrivals.

7. Booking Lead Time: Most reservations (83K) are made 0-10 days before arrival.

8. Customer Demographics: The majority of customers come from Portugal (PRT), followed by the UK (GBR) and France (FRA).

9. Agent Performance: The hotel works with 333 agents, with Agent 9 bringing in the most customers (32K).

10. Room Assignment: 12.49% of customers are not given their initially reserved room.

11. Cancellation Rate: 37.04% of orders are canceled (including no-shows).

RECOMMENDATIONS

1. Improve Customer Retention: Investigate the low repeat guest rate (3.19%) through customer feedback on service quality, facilities, and overall experience.

2. Review Deposit Policies: Analyze the effectiveness of the current deposit structure, considering the high rate of no-deposit bookings (87.65%) and cancellations (37.04%).

3. Optimize Distribution Channels: While TA/TO bookings dominate, consider strategies to increase direct bookings to reduce dependency on third-party agents.

4. Seasonal Preparation: Ensure adequate staffing and resources for peak arrival days (Fridays and Thursdays) and months (August and July).

5. Lead Time Management: Develop strategies to encourage earlier bookings, potentially offering incentives for reservations made further in advance.

6. Market Expansion: While focusing on the strong European market, explore opportunities to attract guests from underrepresented regions.

7. Room Allocation Efficiency: Address the 12.49% rate of room reassignment to improve customer satisfaction and operational efficiency.

8. Cancellation Mitigation: Implement strategies to reduce the high cancellation rate, such as flexible booking options or targeted communication with at-risk reservations.