

Hotel Reservation Analysis

By

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INTRODUCTION

Project Objective

To analyze hotel reservations to gain insights that would be useful for the hotel industry.

Research Question

- How does reservation vary by hotel, market segment, distribution channel?
- How does cancellation rate affect hotel reservation?
- How loyal are the guests to the hotels?
- Is there a particular period where more reservations are made for adults, children and babies?

DATA MANIPULATION IN SQL

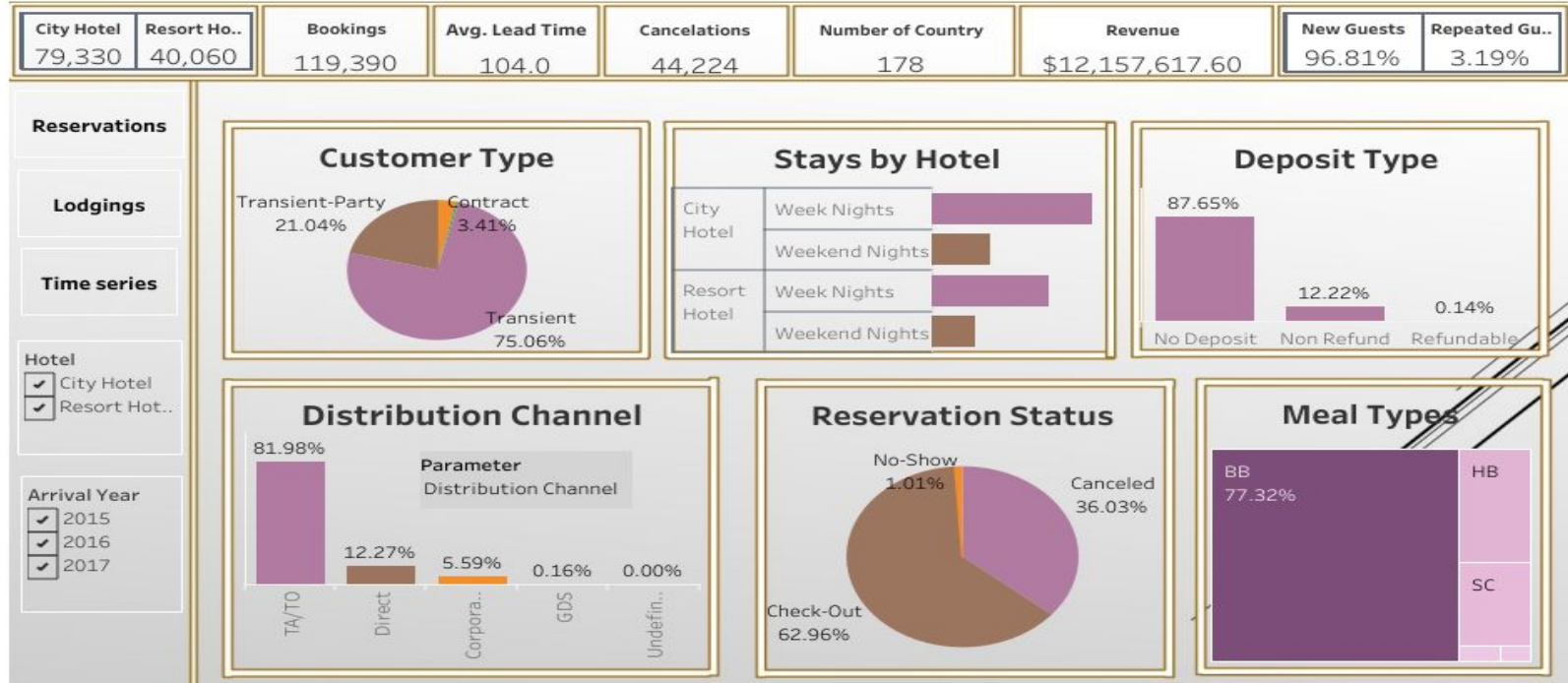
- Data manipulation was done using **PostgreSQL 16.1** and **pgAdmin 4**.
- The dataset was loaded into pgAdmin 4 and a table was created followed by importing the dataset.
- The newly created dataset was exported from pgAdmin 4 as a CSV file.

DATA ANALYSIS AND VISUALIZATION USING TABLEAU

- The dataset was loaded into Tableau public 2023.3.
- Exploratory analysis was done for a better understanding of the data.
- **Calculated field:** Created to calculate total reservations, loyalty rates, cancellations.
- **Parameter:** Created for market segment and distribution channel

HOTEL RESERVATION DASHBOARD

HOTEL RESERVATION ANALYSIS



HOTEL RESERVATION DASHBOARD

HOTEL RESERVATION ANALYSIS

City Hotel	Resort Hot..	Bookings	Avg. Lead Time	Cancellations	Number of Country	Revenue	New Guests	Repeated Gu..
79,330	40,060	119,390	104.0	44,224	178	\$12,157,617.60	96.81%	3.19%

Reservations

Lodgings

Time Series

Hotel

- ☒ City Hotel
☒ Resort Hotel

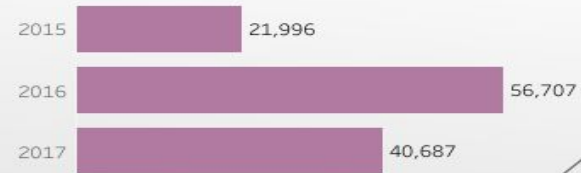
Arrival Year

- ☒ 2015
☒ 2016
☒ 2017

Reservations by Month



Reservations by Year

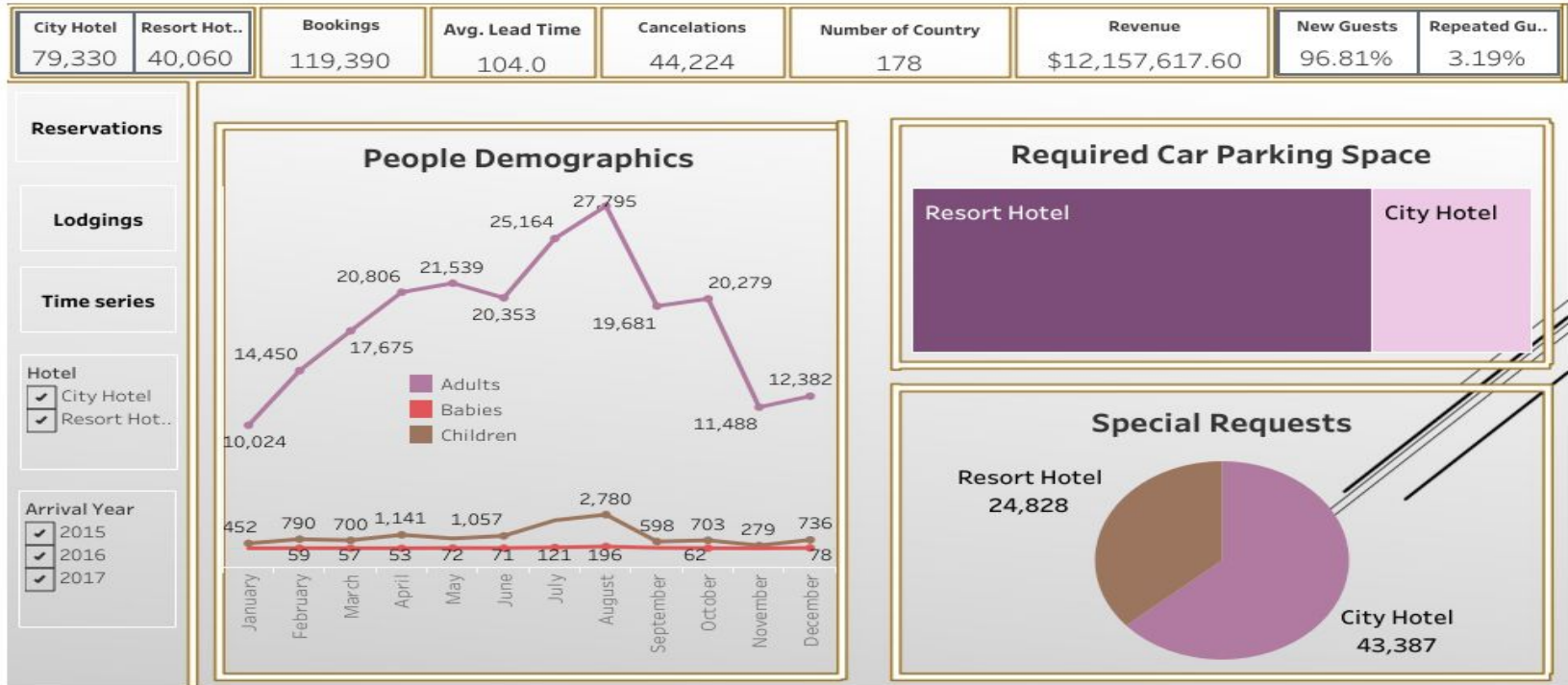


Average Lead Time by Month



HOTEL RESERVATION DASHBOARD

HOTEL RESERVATION ANALYSIS



INTERPRETATION OF RESULTS

Hotels: The 2 hotels present in the dataset are **City hotel** and **Resort hotel**.

Reservations: A total of **119,390** bookings made.

City hotel had a higher demand in terms of reservation with **79,330** reservations. Resort hotel had **40,060** reservations.

Insight: Most guests prefers city hotel because of its urban area location and its proximity to business areas, transportation hubs and other popular attractions makes it a great choice for most guests. Resort hotel are located away from the hustle and bustle of the city making it a great fit for guests on vacations but its locations away from the city might lead to its low reservations as many people might not be aware of them.

INTERPRETATION OF RESULTS

Reservation by Year

There is an increase in the reservations per year from 2015 to 2017.

Reservation by month

August recorded the most reservations made while **January** had the least reservation.

Peak seasons for City hotel is between **May to June** and **August to October**.

Peak seasons for Resort hotel is between **April and May** and **August to October**.

INTERPRETATION OF RESULTS

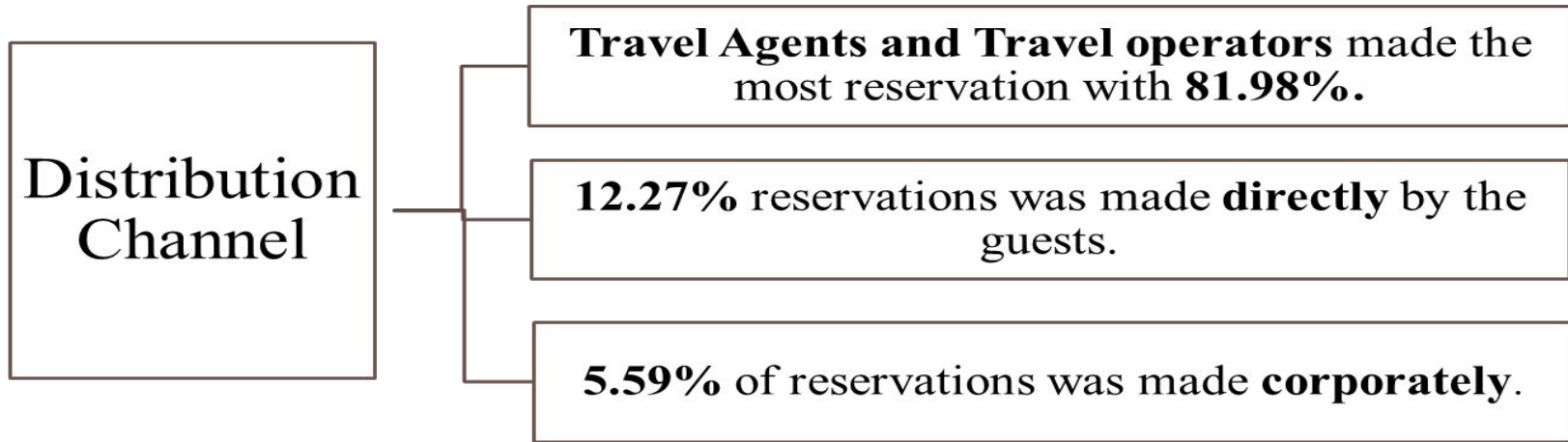
Lead time

The average lead time for reservations is **104 days**.

Resort hotel has a lower average lead time of **92 days** while City hotel has a higher average lead time of **109 days**.

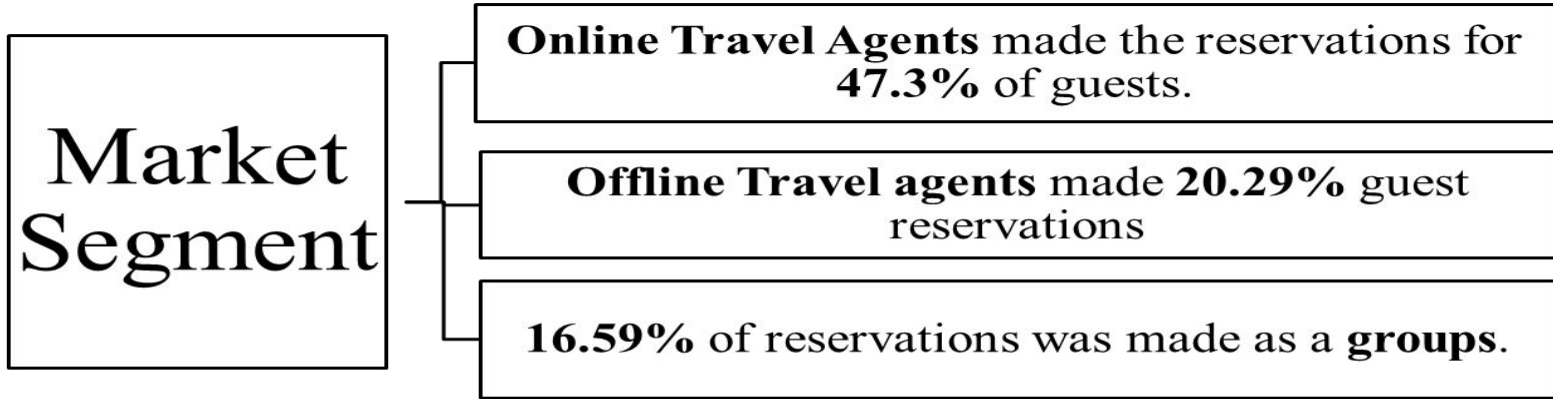
Insight: Most of the reservations was made well before time of arrival of guests giving them adequate time for preparation, upgrading and cancellations. The lower lead time for resort hotel can be attributed to their low reservations.

INTERPRETATION OF RESULTS



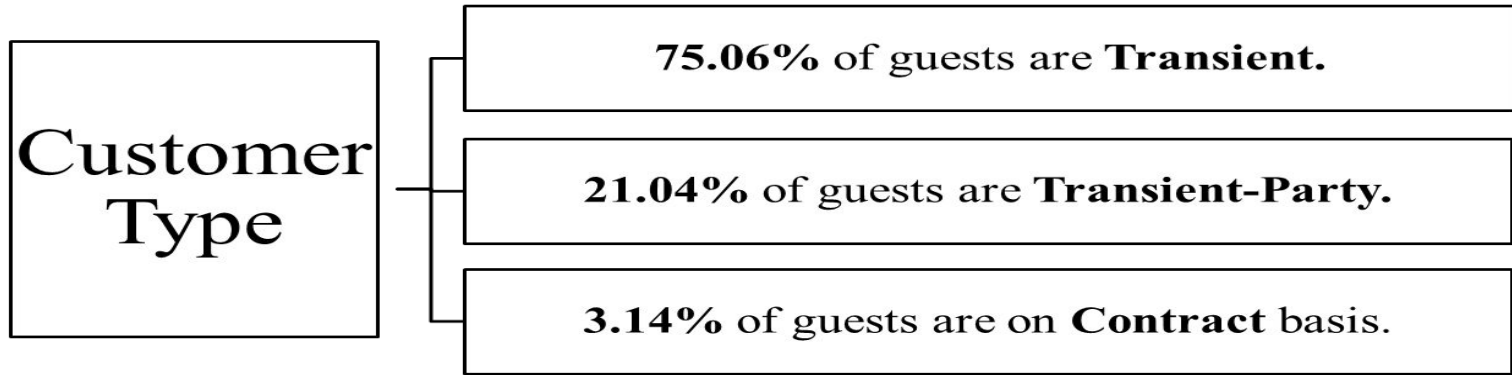
Insight: Most guests prefers to make their reservation with travel agents either online or offline and are less likely to make reservations by themselves.

INTERPRETATION OF RESULTS



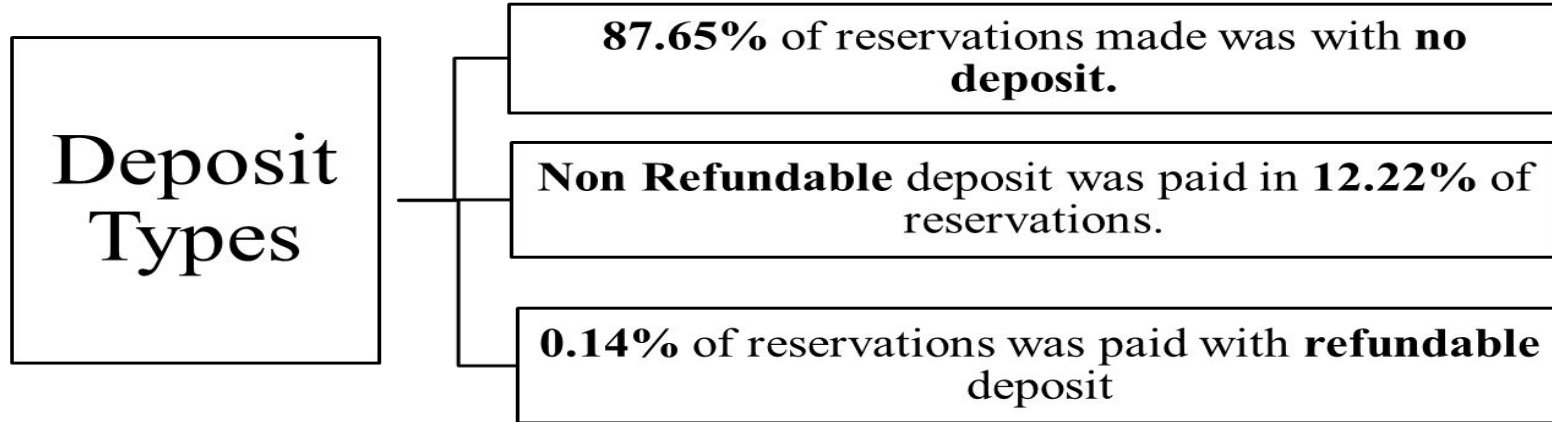
Insight: Most guests prefers to make their reservation with travel agents either online or offline. They also prefer to book as a group and are less likely to make reservations by themselves. This is mainly due to the price sensitivity and benefits that comes with booking with agents or as a group.

INTERPRETATION OF RESULTS



Insight: Transient guests are the most common guests as they mostly book for business or leisure purposes.

INTERPRETATION OF RESULTS



INTERPRETATION OF RESULTS

Meal Type Preference

Bed and Breakfast (BB): This is the most preferred meal type by guests with **77.32%**.

Half Board (HB): This is the second most preferred meal type by guests with **12.11%**.

Self Catering (SC): This meal type is preferred by **8.92%** of guests.

Full Board (FB): This meal type is preferred by **0.67%** of guests.

Insight: Most guests prefer to eat breakfast at the hotel but are rather flexible with other meals like lunch and dinner and might prefer to sort that out by themselves by taking advantage of restaurants and food businesses located in and around the hotel.

INTERPRETATION OF RESULTS

Cancellation Rate Analysis

The total cancellations made was **44,224** which represented **37%** of the total reservations made.

City hotel had **33,102** cancellations representing **41.7%** of reservations made.

Resort hotel had **11,122** cancellations representing **27.8%** of reservations made.

Insight: City hotel has a high rate of reservation cancellation than resort hotel despite its higher reservation rate indicating that City hotel has a to put a lot of incentives that would reduce their cancellation rate.

INTERPRETATION OF RESULTS

Stays by hotel: Both resort hotel and city hotel recorded more reservations for week night stays than weekend stays.

People demographics: While Adult stays has a very high reservations in all the month, children and babies stays only peaks during **July and August** coinciding with summer when most family would go for vacations.

Loyalty rate

First time guests are **96.81%** of reservations while **repeated guests** are **3.19%** of reservations indicating that the hotels focused more on getting new customers than retaining the ones they have.

INTERPRETATION OF RESULTS

Advertising is a great avenue that should be utilized by the hotels most especially resort hotels to create more awareness in people.

- More **collaborations** should be done by the hotels and travel agents and operators since their the most avenue through which reservations are made.

More **promotions** should be made in the form of discounts and specialized rates especially during the peak periods and summer to attracts more guests and target families with children and babies.

- **Loyalty rates** can be improved to encourage repeated guests by provision of discounted and specialized rates.

CONCLUSION

City hotel performed better than resort hotel in terms of reservation while resort hotel performed better in terms of cancellations.

The peak month for reservations are between August and October.

Travel Agents and Tour Operators either online or offline are the most popular route through which guest make reservations in the hotels.

The hotels have more of new guests rather than repeat customers.

Reservations can be improved through advertising, promotions, specialized rates and discounts for groups, corporate company and for people with children and babies.

Loyalty rates can be reduced by recognition of repeat customers with special rates for them and their family members.

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THANK YOU!