

Investigate Business Hotel using Data Visualization

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“A bachelor's degree in business management with expertise in data analytics proven by his recent lesson about Data Science. A data-driven decision-maker through his final project built a machine learning model. Bagus (23) is also experienced in the workforce solution industry as Project Management Officer. Proven track record as a facilitator to 10 clients in any different related cases in day-to-day operations.”

Overview

“Sangat penting bagi suatu perusahaan untuk selalu menganalisa performa bisnisnya. Pada kesempatan kali ini, kita akan lebih mendalami bisnis dalam bidang perhotelan. Fokus yang kita tuju adalah untuk mengetahui bagaimana perilaku pelanggan kita dalam melakukan pemesanan hotel, dan hubungannya terhadap tingkat pembatalan pemesanan hotel. Hasil dari insight yang kita temukan akan kita sajikan dalam bentuk data visualisasi agar lebih mudah dipahami dan bersifat lebih persuasif.”

Data Preprocessing

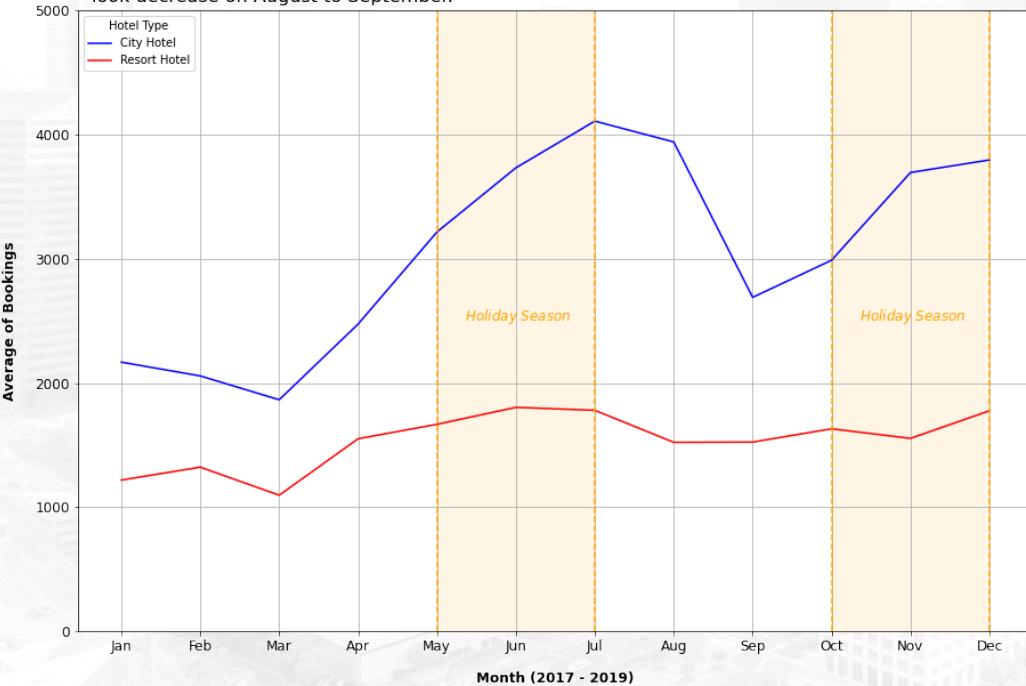
Data pre-processing:

1. First of all, **import all the libraries** you need in one cell code. It will simplify when you need to add or edit the libraries instead of import library in separate cell.
2. **Load the dataset.** Make sure the file path and format (csv/xlsx). I usually save the dataset in the same folder with the .ipynb so I do not need to write completed path to load the data. More effective.
3. **Do descriptive statistics.** After load the data, I need to look the overview of dataset itself. How many rows and columns they have, what the data type, and etc. It shows the profile of dataset.
4. **Handle missing values.** I found some columns had null values in descriptive statistics. So, I handle this null values with “**0**” for **numericals** and “**Unknown**” for **categoricals**.
5. Handle **odd values**. I found there are odd values in **meal** columns, so I replace the “**Undefined**” to “**No Meal**” as long as the define of this 2 values are same.
6. Handle **unnecessary values**. I found that some guest are **0** based on the order so in the future I need to analyze the guest > 0 only. I make a copy of dataset onto new variable.

Monthly Hotel Booking Analysis Based on Hotel Type

Comparison of Monthly Hotel Booking Based on Hotel Type

Both of hotel type tend to be increase in the holiday season, however amount of City Hotel bookings look decrease on August to September.



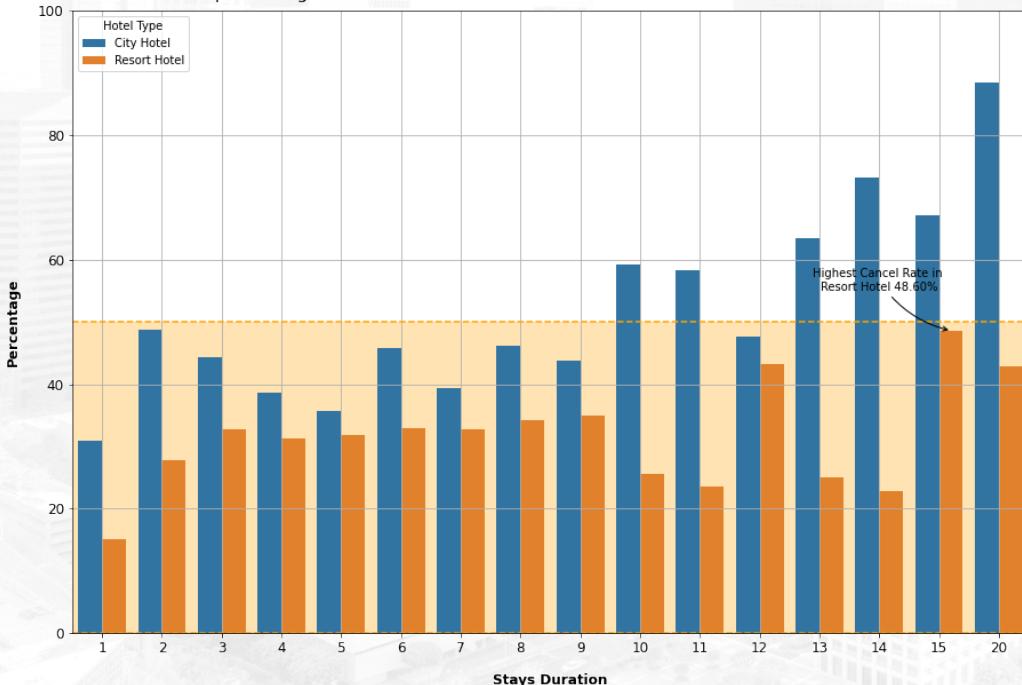
Interpretation:

- **City hotel is the most booking hotel in 3 years (2017, 2018, 2019).** However, amount monthly hotel booking of City Hotel looks **decrease on August to September**.
- Both of hotel type tend to be **increase on the holiday season.**

Impact Analysis of Stay Duration on Hotel Bookings Cancellation Rates

MORE LONGER STAYS OF DURATION WILL AFFECT CANCEL BOOKINGS

City Hotel was the highest cancel bookings rate than the Resort Hotel, almost 100%. However, Resort Hotel had the percentage less 50%.



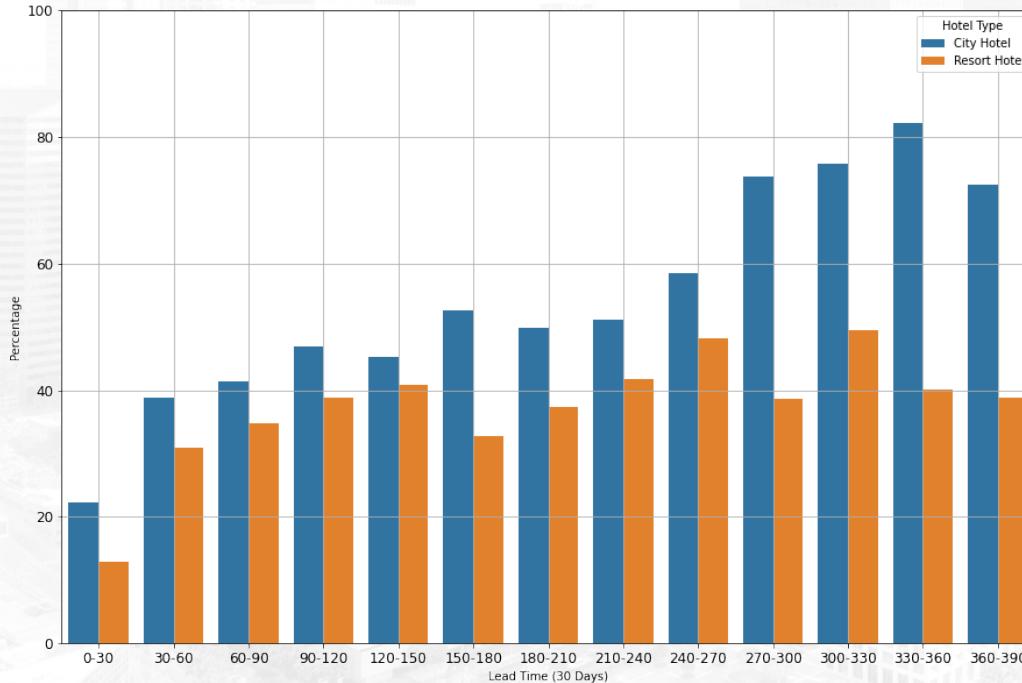
Interpretation:

- More **higher** stays duration, more **higher** cancel bookings.
- City Hotel was the highest** cancel bookings rate than the **Resort Hotel**, almost **100%**. However, **Resort Hotel** had the percentage less **50%**. Only **48.6%**.

Impact Analysis of Lead Time on Hotel Bookings Cancellation Rate

BOTH HOTEL TYPE HAD DIFFERENT DISTRIBUTION OF LEAD TIME BASED ON CANCELLATION RATE

Increase of lead time City Hotel will affect to cancellation bookings. However, Resort Hotel had fluctuative distribution



Interpretation:

- **Lead time** would affect **percentage** of cancel bookings in **City Hotel**.
- **Resort Hotel** had **fluctuative** distribution **lead time** towards **percentage** of cancel bookings.



Thank you!

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