

Luxurious European Hotels Reviews Analysis

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Presentation Outline

- Summary
- Business problem overview
- Use Of Visualisation for Insights
- Why, How & What?
- Refining Visualizations for Communication
- Justification of Design Choices

Summary

- **Project Objective:** Analyse hotel reviews data and find out meaningful insights through various visualisations which can help company executives make business decisions .
- **Available Dataset:**
 - **Hotel Reviews Dataset:** Data about positive/negative reviews for hotels of 6 european countries.
- After performing detailed analysis of reviews data:
 - We provided executive summary with key findings.
 - We provided list of recommendations to be taken into considerations to improve services.

Business Problem Overview

- Booking.com has collected nearly **515k** reviews from visits to **1493** luxurious european hotels across UK, Spain, France, Italy, Austria and Netherlands.
- Main objective of performing detailed analysis of reviews data is to come up with **3 static figures** which tells nuanced story about data and gives meaningful insights.
- Main figures were used to write **executive summary** to draw attention towards key findings which will be used by executive team to make decisions.

Use Of Visualisation for Insights

Figure 1:

- Pie chart is used to see distribution of no of nights spent at hotel.
- Bar charts are used for analysing country wise distribution of reviews based on attributes like year, no of nights and family type
- Last bar chart is used to analyse family type relationship with trip type (Business/Leisure).

Figure 2:

- Choropleth maps shows average number of positive/negative words used by travellers from particular country in a review given to UK hotels.

Figure 3:

- Word cloud represents commonly used words in positive/negative reviews given by users to UK hotels.

Why, How & What?

Figure 1:

- Pie chart is useful to show distribution of reviews based on one attribute. Bar charts are useful to show relationship between 2 attributes and show distribution of one related to another.
- Pie and bar charts are plotted by aggregating data in pandas dataframe based on attributes.
- They show relationship between attributes no of nights, family type, year and trip type.

Figure 2:

- Choropleth maps are useful for to check intensity of particular attribute in each country on world map.
- Geopandas is used for plotting choropleth map on aggregated data of positive and negative reviews given to UK hotels.
- It shows intensity of positive/negative words written in review by each country to UK hotels.

Why, How & What? (Contd.)

Figure 3:

- Word Cloud is best way to show distribution of words based on frequency of words in text.
- Wordcloud library is primarily used to show commonly occurring words in positive/negative reviews by combining all reviews given to UK hotels.
- Word Cloud highlights high frequency words which are present in corpus. It highlights which things about hotels makes visitors happy/unhappy

Refining Visualizations for Communication

- Main approach decided by us was to find performance of hotels per country giving extra priority to UK hotels as they consisted of 50% of corpus.
- Initially we wanted to show country wise relationship and distribution of reviews based on attributes like year, family type, no of nights and trip type. We found out bar chart and pie charts appropriate for this purpose hence we combined them in single figure (**Figure 1**).
- We further wanted to see reactions of customers from other countries to UK hotels. We used choropleth maps for this purpose to show intensity of positiveness and negativeness in a review (**Figure 2**).
- We also wanted to analyse common problems faced by customers in UK hotels. We thought of doing word cloud for this purpose to highlight common words of review (**Figure 3**).

Justification of Design Choices

Figure 1:

- We wanted to show distribution of single attribute for which pie charts are best suitable.
- We wanted to see distribution of reviews based on single attribute for which bar chart were best suitable.
- We combined all related charts in 1 figure to tell story about relationship of attributes.

Figure 2:

- Choropleth maps were chosen to show intensity of positive and negative reviews from each country to UK hotels. Green color was chosen for positive and Red was chosen for negative reviews.

Figure 3:

- Best way to represent frequency of unigram and bigram is word cloud. Word Cloud was created for positive and negative reviews separately to see happy/unhappy customers reasons. Dark background was used to see important text pop-out.

**Thank you for listening, any
questions?**