



Hotel Review Rating Classification

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Abstract—The bottom line is that reviews are very important to customers and sellers. Websites or online-based applications that offer hotel booking services have elements where customers can give a review about their impression of the hotel. Social media is also an important platform for customers to share their reviews. Previous client surveys provide a wealth of information about the inn, allowing customers to make lodging decisions. Positive reviews improve a hotel's reputation and attract new customers. Negative surveys have an impact on organizations but are just as important as a five-star rating. By utilizing feeling examination and AI calculations on existing inn surveys, We create a request system that can recognize what clients post on a housing site and think about the hotel. Feeling examination is another well-known subject in Regular Language Handling that considers the distinguishing proof of conclusions or opinions in a given text. Clients are welcome to provide feedback on lodgings or administrations as part of client surveys. Because the web business is expanding at an extraordinary rate in today's mechanically advanced serious market.

Keywords—*machine learning method, SVM(SupportVector Machine), Sentiment analysis, naive bayes*

Received 18 Feb., 2023; Revised 28 Feb., 2023; Accepted 02 Mar., 2023 © The author(s) 2023. Published with open access at www.questjournals.org

I. Introduction

As the Web develops ,people may now submit their experiences and opinions as reviews. These reviews are valuable information tools for both users and suppliers. Customers rely on many things while giving a review. As like: Location, Service ,Cost, Cleanliness.

In the data set, each review provides the hotel name ,as well as evaluation factors ragging from 1 to 5.We consider ratings of 4 or 5 to be favorable and ratings of 1 or 2 to be negative, while ratings of 3 are considered neutral.

Sentiment Analysis can now be used to simply analyze online-based opinions. It is the managing of emotions, multiple pointsof view, and various emoji used for delivering reviews. People can quickly understand information about people's reviews

Sentiment analysis is one type of method that can be used to determine public sentiment. Capturing reviews abouta hotel based on location, cost, service from a different internet-based sites. Opinion research is used to increase the need for.assessing and organizing stowed away data as unstructuredinformation from virtual entertainment.

Advantages:-

- Based on the reviews, we can improve our customer Service.
- Improve Rankings
- Free Advertising
- influence search engine results increase the brand trust

Disadvantages

- Damage to trust levels
- Costs Dropped
- reduce the generation of emotional trust
- It Can Turn Customers Against You.

Hotel review rating classification is a type of machine learning task where a model is trained to classify hotel reviews into different ratings (e.g. 1-5 stars). This type of task is useful for businesses to quickly and accurately gauge customer opinion and sentiment about their services.

It also helps with customer segmentation and targeted marketing.

Hotel review ratings can be based on a variety of criteria, such as the quality of the service, the amenities available, the cleanliness of the rooms, and the overall value for the price. Most survey sites use a five-star rating system, with five stars being the highest and one star being the lowest. Different sites may also offer additional criteria for ratings, such as the speed of check-in, the friendliness of the staff, and the quality of the food.

Hotel review rating classification is an important part of the hospitality industry. It is a process of obtaining impartial and objective feedback from visitors and customers about the services and facilities provided by a hotel. It enables hotels to measure the quality of their services, identify areas for improvement, and compare their performance with competitors. Through hotel review rating classification, hoteliers can better understand their customers' needs and expectations and make necessary adjustments to provide a better overall experience. This is a main factor in ensuring customer satisfaction and loyalty, and ultimately, in driving more revenue for the business.

Classificationof hotel reviews Hotel reviews can be classified into positive, neutral, and negative. Positive reviews are those that express satisfaction with the hotel's staff and overall experience. Neutral reviews are those that neither praise nor criticize the hotel. Negative reviews are those that express dissatisfaction with the hotel's amenities, staff, and overall experience.

This canhelp hotel owners and managers better understand customer sentiment and make decisions about improving their services. Examples of categories include ratings, amenities, location, service, cleanliness, and value for money. By categorizing hotel reviews, hotel management can identify areas of improvement, highlight customer needs, and measure customer satisfaction. Additionally, categorizing hotel reviews can help

inform marketing campaigns and better target potential customers.

Use of Algorithms: -

Algorithms can be used to analyze hotel reviews to help determine the overall sentiment of the reviews, detect any potential issues that customers have experienced, and identify key topics that are discussed frequently in the reviews. Algorithms can also be used to help identify key words, phrases, and trends in customer reviews, which can help hotel managers to better understand customer experiences, identify areas of improvement, and create targeted marketing campaigns. Additionally, algorithms are used to help predict customer satisfaction, provide personalized recommendations, and analyze customer feedback.

A. Machine Learning: -

The purpose of Machine Learning is to recognize the data structure and translate that information into an archetype that can be understood and used.

Popular AI techniques include decision trees, k-means clustering, support vector machines, and artificial neural networks.

B. Naive-Bayes:-Most Commonly Used method for classifying the reviews as positive, negative or neutral based on rating.

C. Support Vector Machine:

For challenges with arrangements, AI uses this method. It generates the ideal line for classifying the current information of interest in the appropriate classifications from the n-layered space.

D. Decision Tree :

It is a coordinated computer-based intelligence estimation that divides data at each line in accordance with clear standards until a yield is obtained. This calculation is used to solve the problem quickly and is simple to understand.

We Can also Use graphs to classify the reviews:

1. **BarChart:**

This type of graph can be utilized to contrast the average ratings of a hotel between different categories such as cleanliness, comfort, service, value, etc.

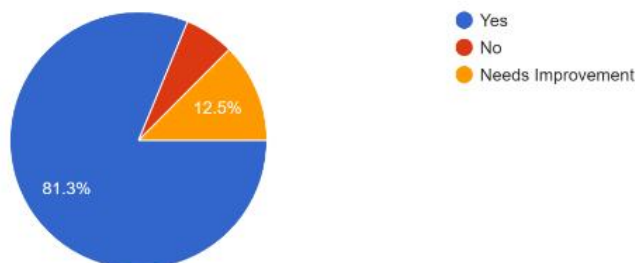
2. **LineGraph:**

This type of graph can be used to track the overall average ratings of a hotel over a duration of time.

3. **PieChart:**

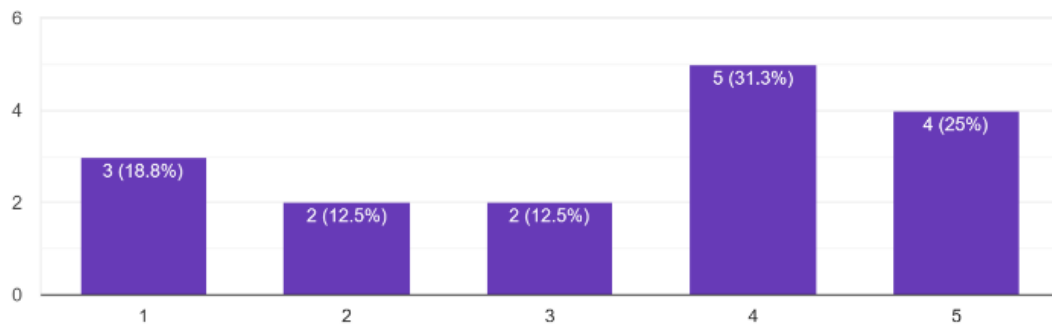
This type of graph can be utilized to show the proportion of positive and negative reviews for a hotel.

Was your room comfortable and clean?
16 responses



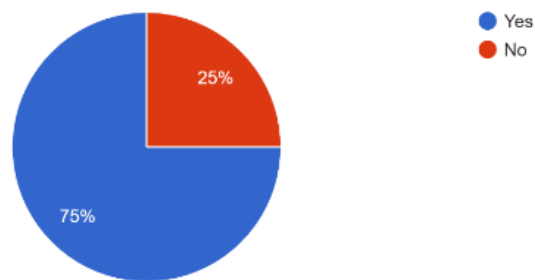
How would you rate the hotel food?

16 responses



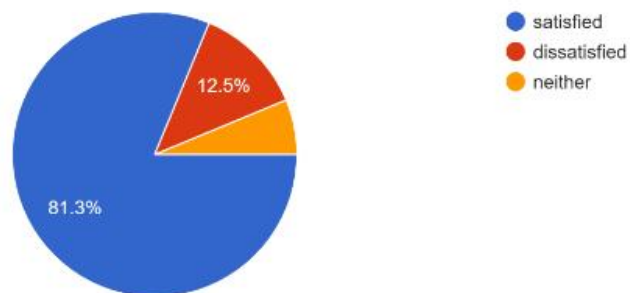
Do you think that the hotel provides value for money?

16 responses



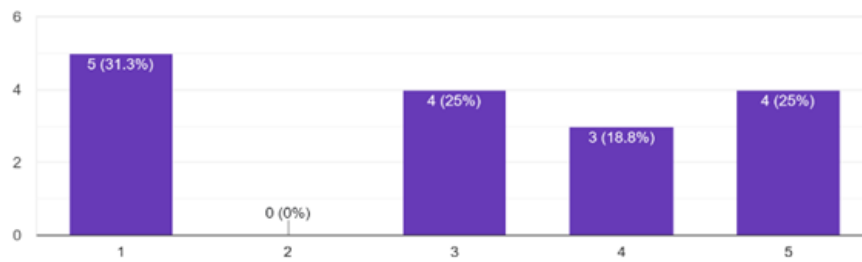
Overall were you satisfied, dissatisfied, or neither?

16 responses



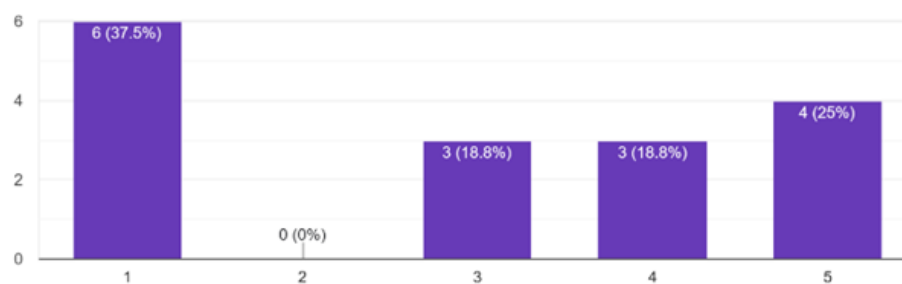
How likely are you to stay at this hotel again?

16 responses



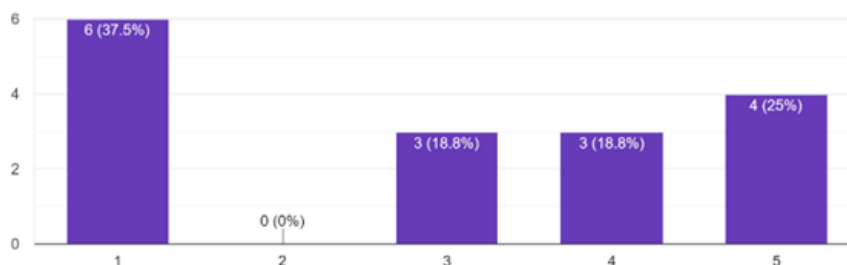
How likely are you to recommend this hotel?

16 responses



Overall Review Of Hotel

16 responses



II. Experiment Results:-

We used machine learning algorithms in this project.

Based on information gathered from many sources, such as travel adviser, trivago, and so on The Nave Bayes classifier is used to categorize attitudes into two main categories: positive and negative.

III. Conclusion:-

The naive bayes classification methods can be used to classify sentiment analysis hotel reviews.Sentiment analysis is carried out by categorizing data in the form of hotel reviews as positive or negative.

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