

## US based hotel chain leverage analytics to improve customer experience and increase repeat guests



Majority of the hotel bookings today are done online and guest reviews are one of the key consideration for travelers to make a decision. \*Research suggests over 93% of customers consider hotel reviews as an important factor for booking hotels. The client with its value based offerings had carved its niche for a certain segment of travelers and they wanted to understand how their guests rated them for their services and experience on online review platforms, forums, travel portals and similar consumer generated content on the web. Algoscale through its analytics transformed the data into actionable insights and enabled the client to take major business decisions to improve the service quality and attract repeat customers across their hotels.

### The Client

Headquartered in Texas, U.S, the client is a chain of limited services hotels in U.S, Canada, Mexico and Honduras. The company was founded in 1968 at San Antonio and it owns and operates over 800 properties and franchises approximately 295 under various brand names including Red Roof Inn.

### The Challenge

Data in form of guest reviews and feedback was available on partner travel portals and online platforms. The client was aware that these reviews were nuggets of valuable information that can help them increase business across their chain of hotels. It was important for them to derive insights for business decision making from guest reviews using a clinical, unbiased and scientific approach rather than relying on gut feeling. One of the major challenge was the unstructured form of data making it difficult to use direct analysis techniques. Further, the large volume of data and multiple variables/ categories and sub categories added to the complexity making any manual treatment of data unsuitable.

### The Solution

Algoscale team in close collaboration with the client zeroed down on partner travel portals viz. Expedia and Tripadvisor for analysis of guest reviews and considered real attributes like location, amenities, food, service, property type and value etc. In the figure given below, the sentiment of the customers for different types of food is analyzed based on their comments on Tripadvisor and Expedia.

Unstructured text from these reviews was converted to a structured form amenable to analysis, and Machine Learning algorithms were applied for analyzing the sentiments. A custom web crawler was developed and reviews posted on these portals were crawled and extracted to gather textual data. Each review may refer to several different aspects of a hotel's operations, therefore, clustering, which is used to group similar data-points was used to club these aspects to a structured format. Topic modeling, an established technique used to extract valuable topics from a corpus of data was used to determine what components of a guests' stay were addressed in the reviews. As the textual data needs to be converted to numbers for the machine to comprehend, Natural Language processing (NLP) was applied.

At the penultimate step, the most important, sentiment analysis was performed on the extracted entities and a time-series was created over time. The sentiment analysis categorized the reviews into positive, negative and neutral attributes with their respective counts. Also geo-spatial analysis was performed to compare customer base location with its competitor location. One of the most important analysis, revenue analysis, of the client and its competitors was done to identify poorly performing sites or where others are picking up.

From the analysis of datasets, a comprehensive representation was created as a dashboard using BI tools. Interesting insights were derived on location of the hotel as a key factor affecting the sales of hotels vis-à-vis their competitors.

### Benefits

From the analysis, the client arrived at a decision to focus on location of the hotels. It found that hotels near airports were doing better business within group hotels. Basis the drill down analysis of categories and subcategories, hotel management decided to improve their services in hotels of strategic location so as to increase customer satisfaction and retain their guests.