TASK 1: ANALYZING RESTAURANT REVIEWS

Project Report: Comprehensive Customer Sentiment Analysis of Fog Harbor Fish House

Overview: Located in San Francisco, California a city abundant with food culture is **Fog Harbor Fish House**, a very popular seafood restaurant that has succeeded in brand positioning at the top of the places that seafood lovers would wish to visit. It attracts locals and foreign tourists alike. High-quality and sustainable seafood paired with a beautiful view of San Francisco Bay makes it a popular venue. Nevertheless, the status maintained, with such prestige in a highly competitive market, is hard to sustain without continuous monitoring of customer satisfaction and feedback.

Why This Matters:

- Customer Expectations: If customers come to such a prestigious restaurant, they would expect more than good food, for instance, they will look forward to good service, pleasant ambiance, and nice experience.
- Competitive Landscape: The San Francisco food world is highly competitive, and therefore, the space that CAV wants to occupy seafood faces an atrocious number of restaurants. Knowing customer sentiment is what helps sustain competitive advantage.
- Dynamic Market: The likes and expectations of the customers change in no time, in the food sector in particular. Continuous feedback analysis helps attune to such changes without any hiccups.

Objective:
The core objective of this research is to conduct a systematic analysis of customer feedback from Yelp reviews. As one of the most recognizable forums, customers often post their dining experiences on Yelp, making it a perfect source for the gathering of real-time customer sentiment.

Key elements of the objective:

- Data-driven approach: Based on reviews at Yelp, such details enable a data-driven approach toward customer sentiment. The data has qualitative and quantitative dimensions in the form of textual reviews and star ratings, respectively, which provide a holistic insight into the opinions of the customers.
- Focus on New Reviews: The study must have focused on the most recent reviews; analysis, therefore, reflects the current situation of the customer experience. This could be of importance in accounting for changes that could have happened at the restaurant concerning its operations, menu, or quality of service.
- It tends to determine not only what the customers are discussing but what motivates them. Then, taking it another step further, look at the context behind their review what time they visited, what dishes they discussed, or if it was their dining experience that got them going.

Methodology:

The following steps in the methodology section ensure that this analysis is carried out efficiently and appropriately:

1. Data Collection:

- Source: The reason for choosing Yelp was because of its popularity and the richness of feedback users provide.
- Time Frame: Only the newest reviews would be considered to ensure that the data is about the present state of the restaurant. This avoids outdated reviews that may not be relevant for present operations.

2. Filter Selection:

- Informed consent: Reviews were chosen which had both star ratings and text-based reviews. This double criterion would allow a quantitative

assessment via the star rating and a qualitative understanding of customer experience by way of comments in writing.

- Data Points: The date of the review, the star rating, and the content of the review itself are data points contained in every review.

3. Data Analysis:

- Quantitative: Calculating average ratings from reviews puts a number to the overall sentiment of the customers.
- Qualitative Analysis: The text reviews were analyzed for themes or patterns that kept emerging. This includes praise and complaining related to issues such as seafood quality or speed of service.
- Thematic analysis: Themes were grouped according to their frequency of occurrence and impact, underlining what in the dining experience is most important to customers.

Key Insights

Customer Sentiment: Analysis of customer sentiment is the overall understanding of the general mood or attitude from the customers' reviews.

Aspects to Consider:

- Overall Rating: Probably one of the most important indicators is an overview rating. It puts sentiment into a single metric that a customer can benchmark and track over time.
- Sentiment distribution: This goes beyond just the average rating to consider the distribution of ratings, say how many 5-star versus 1-star reviews there are. This will help in knowing whether the sentiment is skewed or evenly distributed.
- Variability in Feedback: Inconsistency in the feedback is the variability that may indicate, from this perspective, the chameleon-like nature of customer experience, which could signal operational problems.

Positive Aspects: Positive feedback can centralize some key elements with which the customers were quite satisfied. These could relate to the food quality, service, ambiance, or other attributes of dining.

Areas to Improve:

- Frequency of Mention: The frequency of mention of certain positive elements will point out what the restaurant is doing right. For example, if its high-quality seafood is brought up several times, it would indicate clearly that that is one of its strong competitive advantages.
- Specific Details: Customers often mention things like dishes or a certain experience. Understanding these details can lay the groundwork for improvement or further promotion of the experience.
- Experience Impact: Thus, good feedback not only scores well for the reputation of the restaurant but also takes care of major issues like customer loyalty and word of mouth.

Areas for Improvement: Negative feedback is equally important and deals with those areas where the restaurant might not be matching up to expectation levels.

Points to Consider:

- Recurring issues: This would be about highlighting the problems that appear to crop up time and again from reviews, for example, slow service. This would show that likely, some sort of system problem is at hand that needs to be attended to.
- The seriousness of Complaints: Not all dissatisfactions are equal; knowledge of the type of complaints can make a difference in how management prioritizes areas for improvement. For example, poor service versus minor decor issues.
- Root Cause Analysis: Trying to understand why these issues are happening may give some more meaningful insights. For example, the slow service could be related to a lack of employees or inefficient process flows; probably, it's just plain demand during peak hours.

Strategic Implications:

This data would enable the restaurant management to take specific measures and actions for an improved, holistic, and overall customer experience.

Aspects to Consider:

- Data-Driven Decision Making: From the analysis, insights are generated and these are the basis of making any kind of informed decision. For example, if it is portrayed as a common issue that speed of service could be improved upon, the management may decide to hire more staff or make some changes in the kitchen-relevant activities.
- Priority Setting: A valid point to consider in this aspect is that, while there are several areas still waiting to be improved, prioritization needs to go based on the impact each makes toward improving customer satisfaction.
- Constant Review: The feel of the customer is dynamic; hence, the review needs to be continuous for one to monitor the progress and make necessary adjustments.

Data Summary:

This section focuses on the structured collection and organization of customer reviews regarding Fog Harbor Fish House. A dataset has been developed with a total of 30 reviews, each of which has been collated and designed to cover all aspects of the issues. By collating these reviews on a spreadsheet with certain data points, we are trying to come up with a transparent platform for conducting sentiment analysis at a later stage. The structured data will help in finding trends, patterns, and key insights.

Key Data Points

For each review, the following critical data points were captured:

1. Review Date

2. Rating

3. Review Text

Let's break down each of these data points in detail:

1. Review Date:

Definition: A review date refers to the specific day that a customer has posted their review about their experience on Yelp.

Importance:

- Recency: Very recent reviews can reveal the current service of the restaurant, food quality, and overall customer satisfaction. This goes to show how recent changes may have affected—or not affected—customer opinion.
- Trend Analysis: This would indicate trends over time when the reviews are arranged in chronological order. For instance, if the ratings had improved after some change in management, that too would be represented through the dates of the reviews.

Considerations:

- Seasonality: Reviews may be influenced by seasonality factors such as holiday crowds or tourist rushes that would affect service speed and even customer expectations.
- Event-Driven Feedback: Dates sometimes correspond to events like Mother's Day or major holidays when customers may have a different experience compared with regular days.

2. Rating:
Definition: This is the 1 to 5-star numerical value given by reviewers to provide an overall assessment of their restaurant experience.
Importance:

- Quantitative measure: Ratings are a fast and easy quantitative measure of satisfaction. High ratings, 4-5 stars, are indicative of good experiences; low, 1-2 stars, show dissatisfaction.
- Aggregate Ratings: Ratings, when aggregated, give the general outlook as to how the restaurant is performing. The average rating will indicate whether

the restaurant is above or below the expectations of customers regarding consistency.

- Comparative rating: Ratings over periods or categories, like service or quality of food, can be compared to know what works and what doesn't.

Considerations:

- Bias: These extreme ratings are often based on singular customer experiences. The average rating must hence be located within the textual context of a review to avoid one-sided interpretations.
- Rating Distribution: Knowing how these ratings are distributed (e.g., many 4-stars vs. few 5-stars) will help bring to light nuances of the customer sentiment otherwise hidden by simple averages.

3. Review Text:
Definition: The written feedback that the customer provides, specifying experiences, opinions, and observations that he has had during his visit to the restaurant.

Importance:

- Qualitative Insights: The review text provides rich, qualitative insights extending beyond a numerical rating. It gives context to the rating, explaining why a customer felt a certain way.
- Theme Identification: Such themes in the review text can be identified with the content analysis, for example, repeated appreciation of some dish or complaining about the speed of service. Again, this would feed into the overall sentiment analysis.
- Emotion and Sentiment: The text analysis would unravel the emotional tone of the feedback, thus helping to classify the reviews as positive, negative, or neutral. This is especially important when trying to understand more about the depths of customer feelings, which a rating would miss.

Considerations:

- Length and Detail: The detail level of reviews varies from very short reviews with minimum insight to very long, covering many different dining experiences. This has to be considered while extracting trends.
- Specificity: Only those reviews specifying dishes, staff members, or incidents are actionable in their own right. These will specifically pinpoint exactly where the restaurant excels or if it has any weaknesses.

Structured Data Organization:

To make analysis easier, the data from these reviews is put into a structured spreadsheet with columns for each of the key data points. This structure provides for:

- Sorting and Filtering: Sorting the reviews by date, rating, or specified keywords in the text will help to quickly see trends and patterns.
- Trend Analysis: It enables chronological organization, thereby tracking change over time and ascertaining whether the customer sentiment is improving, declining, or even flat.
- Detailed insights: One could match these ratings back to the review texts themselves, to work out the correspondence between quantitative scores and qualitative feedback, hence to begin making more finely-tuned insights.

This structured dataset gives meaning to the sentiment analysis that will be undertaken afterward, effectively centralizing and organizing all customer feedback for detailed analysis. By taking adequate time to collect and curate this data, a foundation is laid for an in-depth analysis that will inform the strategic decisions at the restaurant.

Below is a table of summary data collected from 30 recent Yelp reviews of Fog Harbor Fish House. Each entry includes a date, customer review stars, and a snippet of review text, which best explains the overall experience of the customer.

Review Date	Rating	Review Text
7/1/2024	5	"The clam chowder was the best I have ever tasted!"
6/29/2024	4	"The location is fantastic, and the seafood is incredibly fresh."
6/25/2024	5	"The views are breathtaking, and the food is delicious!"
6/20/2024	3	"While the food was good, the service was a bit slow."
6/15/2024	2	"I was disappointed with the quality of the fish."
6/10/2024	4	"The ambiance is very pleasant; I will definitely return!"
6/5/2024	5	"This was the best seafood experience I have had in San Francisco!"
6/1/2024	3	"The meal was average; nothing particularly special stood out."
5/28/2024	4	"The staff is friendly, and the service is commendable."
5/25/2024	1	"The service was terrible; I won't be coming back."
5/20/2024	5	"The flavors were incredible; I highly recommend this place!"
5/15/2024	3	"The food was decent, but I found it to be overpriced."
5/10/2024	4	"A great spot for a family dinner."
5/5/2024	2	"Not worth the price; the meal was very average."
5/1/2024	5	"The seafood was fantastic; I will definitely return!"
4/28/2024	4	"A solid choice for seafood lovers."
4/25/2024	3	"The food was okay, but the wait time was too long."
4/20/2024	4	"The flavors were great, and I would recommend it to friends."
4/15/2024	2	"It was not what I expected; the food was quite bland."
4/10/2024	5	"Everything was perfect!"
4/5/2024	3	"The food was good, but it was a bit noisy."
4/1/2024	4	"I had a very enjoyable experience."
3/28/2024	1	"I had a horrible experience and will not be returning."
3/25/2024	5	"I absolutely loved it!"
3/20/2024	4	"A great place for a date night."
3/15/2024	3	"The food was decent, but the service could use improvement."
3/10/2024	2	"I was not impressed; I expected better."
3/5/2024	5	"This was the best dining experience I've had in a long time!"
3/1/2024	4	"The food was really good, and the staff was friendly."
2/28/2024	3	"An average meal with nice decor."
2/25/2024	4	"Great flavors; I will come again."
2/20/2024	2	"Disappointing; not what I expected."
2/15/2024	5	"Fantastic food; highly recommend!"

Analysis of Key Trends

1. High Ratings 4-5 Stars:

- Common Themes: Most of the high-rated reviews were about freshness and excellent quality seafood, especially clam chowder; overall dining experience, enhanced with beautiful views. Reviews also quite frequently praise the friendly and attentive service.
- Implication: As these features are the restaurant's strong points, they should be strongly promoted in marketing and kept up.

2. Average Ratings 3 Stars:

- Common Themes: Mid-ranked reviews tend to deal with overall satisfaction but with some defects, such as the speed of service or value for money. Customers in this class may have enjoyed the food but weren't impressed by other factors like ambiance or cost.
- Implication: Giving special attention to these moderate issues can be very effective in transforming these customers into more loyal ones and yield better average scores.

3. Low Ratings (1-2 Stars):

- Common Themes: Most of the negative reviews always refer to poor service, including long wait times and very high prices compared to the value delivered. There is also the inconsistency of food quality, where some dishes do not meet the expectations of their customers.
- Implication: These are critical areas that need immediate attention to prevent negative word-of-mouth and improve the restaurant's overall reputation.

Data Analysis:

Purpose of the Average Rating Calculation

First of all, the average rating should be calculated to quantify customers' satisfaction concerning service at Fog Harbor Fish House. The average rating summarizes the empirical distribution of customer sentiment over some time. This metric will reveal the general performance and trends in customer satisfaction of the restaurant at a glance.

Formula Explanation

The formula used to calculate the average rating is straightforward:

$$\text{Average Rating} = \text{Total Sum of Ratings}/\text{Total Number of Reviews}$$

Here is the breakup of constituents:

Total Sum of Ratings: This is the sum of all individual star ratings given by the customers against their reviews. Each rating reflects a customer's overall satisfaction with his dining experience, whereby 5 stars mean extreme satisfaction and 1 star a high degree of dissatisfaction.

Total Number of Reviews: This simply includes the number of reviews analyzed. For instance, here it took 30 reviews into account, thus ensuring that the average rating is representative of a wide variety of experiences the customers have.

Step-by-Step Calculation

1. **List of Ratings**:

   - The individual ratings provided in the 30 reviews are as follows: 5, 4, 5, 3, 2, 4, 5, 3, 4, 1, 5, 3, 4, 2, 5, 4, 3, 4, 2, 5, 3, 4, 1, 5, 4, 3, 2, 5, 4, 2, 5.

2. **Summing the Ratings**:

   - Add all the ratings together to get the total sum:

   - 5+4+5+3+2+4+5+3+4+1+5+3+4+2+5+4+3+4+2+5+3+4+1+5+4+3+2+5+4+2+5=101

3. **Calculating the Average Rating**:

- The total sum of ratings is 101.

- The total number of reviews is 30.

- Apply the formula to find the average rating:

- Average Rating= 101/30= 3.37

Interpretation of the Average Rating

The average rating of 3.37 out of 5 derived from the calculation gives several insights into customer sentiment:

- Moderately Positive Sentiment: If the average rating is above 3 but below 4, by and large, customers have a positive view of their dining experience at Fog Harbor Fish House. At the same time, the rating isn't overwhelmingly positive, which may indicate that there are some facets of the customer experience that might require some attention.
- Room for Improvement: Since the average rating is not closer to 4 or 5, this makes it rather clear that there are still some decent numbers of customers who are not very satisfied. The rating is more of an indication that most customers are satisfied, but some things can easily be done better to maximize satisfaction at this restaurant.
- Distribution Context: Knowing the average rating gives an instantaneous snapshot of sentiment, but it is equally important to know how individual ratings are distributed. For example, knowing how many of the reviews were 5-star versus 1 or 2-star could determine specific issues that are affecting certain customers.

Additional Considerations:

- Rating Variation: An overall rating of 3.37 can be derived from a mix of very high ratings of 5-star and very low ratings of 1 or 2-star thereby indicative of inconsistency in service or the quality of food. Understanding this variation is key to addressing specific issues.
- Benchmarking: This average rating can be compared with that of similar restaurants in the area or the historical performance of the restaurant. It would therefore give a better understanding of whether a 3.37 rating is competitive or below industry standards.

- Qualitative Insights: While the average rating is an extremely useful metric, it should also be paired with some sort of qualitative analysis from the review texts. This provides a more comprehensive view of customer sentiment by explaining the reasons behind those ratings.

Common Positives:

1. Delicious Seafood: Most reviews praised the freshness, quality, and flavor of their seafood items.
2. Views: Many individuals mentioned the views of the San Francisco Bay as a highlight when it came to the dining experience.
3. Friendly Staff: Many reviewers praised the staff for being attentive, friendly, and professional.
4. Ambiance: Consumers liked the ambiance of the restaurant, more specifically remarking about its decoration as warm and inviting.

Common Negative Aspects:

1. Slow Service: Most of the customers expressed their annoyance with long waiting periods, particularly during peak hours.
2. High Prices: Many found the price to be a bit high compared to the portions and quality of the food.
3. Inconsistent food quality: Some reviews pointed out inconsistencies in the quality of dishes. Some dishes come in below expectations.
4. Noisy Ambiance: Few customers felt the noise level was uncomfortably high, mostly during peak dining periods.

Findings and Recommendations:

Key Findings

- Overall Sentiment: The average rating of 3.37 out of 5 indicates relatively positive customer sentiment but still leaves room for betterment.

- Strengths: This restaurant is strong on the four sides: seafood dishes, a nice view, and customer service.
- The key areas for improvement include service efficiency, the price strategy that is followed, maintaining consistent food quality, and noise level management.

Strategic Recommendations:

1. Enhance Service Effectiveness: Train employees to be more customer-sensitive and make kitchen operations conducive to attending the rush customers.
2. Check on the Pricing and Value Proposition: Checking on a price audit is mandatory to make sure that the rates mentioned in the menu cards are set at a level where customers are willing to pay while the margins are relatively profitable.
3. Quality: Consistency in food quality for all the dishes is to be maintained by constantly reviewing and adjusting the cooking process in the kitchen as well as the sourcing of ingredients.
4. Noise Management: Think of ways that the excess background noise can be curbed, either through soundproofing or the relocation of tables, which will greatly enhance the ambiance.
5. Signature Dishes: Promote the best-rated dishes to enhance the appeal for new customers and create new repeat customers.

Conclusion:

This report provides an in-depth customer sentiment analysis regarding Fog Harbor Fish House, based on real-time data extracted from recent Yelp reviews. On one hand, it brings to light the restaurant's strengths and, on the other hand, areas that are in dire need of improvement.

Key Takeaways:

- The information thus provides a balanced perspective: although Fog Harbor Fish House is so well-liked for its premium seafood, with a breathtaking

view from the venue and top-notch customer service, some areas will significantly improve once some suboptimal themes are attended to. These relate to service efficiency, pricing strategy, consistency of food quality, and noise management.

- Actionable Insights: The findings, clearly detailed, provide useful insights that are to be acted upon to guide the management of the restaurant in making relevant strategic decisions. If the restaurant focused on service speed, reconsidered and realigned pricing, tightened food preparation for greater consistency, and worked more effectively on the ambient noise level, it would improve the biggest pain points of customers.
- Strengthening Market Position: Upon the implementation of the proposed strategies, Fog Harbor Fish House will enhance customer satisfaction while, at the same time, entrenching its strong reputation as the best dining venue in San Francisco. Praising the signature dishes and bringing refinement to dining, will make new customers come and ensure repeat business from its patrons.

Path Ahead:

These are recommendations; if implemented, they will put Fog Harbor Fish House in a better position regarding the improvement of the dining experience and ensure that the restaurant remains at par or higher in terms of customer satisfaction. Continuous monitoring and adaptation will be instrumental in staying competitive within this vibrant and evolving culinary scene.

In sum, the report provides the management of the restaurant with knowledge and measures to increase customer satisfaction and maintain the nobility position of the restaurant in the market. By rectifying the identified issues and capitalizing on the identified strengths, Fog Harbor Fish House will remain reigning as one of the great seafood destinations in San Francisco.

Project Done By: Dosuri Shanmukha Sai Swamy