

SENTIMENT ANALYSIS IN SERVICE QUALITY OF EUGENE'S VILLA OF BALER BASED ON AIRBNB REVIEWS

RAMOS, A. P.^{1*} – TANES, R. L. V.¹ – ESPLANADA, D. E.¹

¹ *College of Tourism and Hospitality Department, De La Salle University, Dasmariñas, Philippines.*

**Corresponding author
e-mail: alexandra.ramos00[at]yahoo.com*

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Abstract. New events that affect consumer behaviour after visiting rental properties emerge as technology develops. The exchange of travel-related information and reviews of holiday experiences on online booking and feedback sites is an aspect of these events. The goal of this study is to determine how satisfied customers are with hotel and accommodation. To further enhance the quality of their services, the researchers used the hotel's Airbnb reviews to gain a deeper understanding of the management techniques and resources used by the Villa. This study looked at customer reviews using sentiment analysis and multiclass classification. Between 2018 and 2022, Airbnb gathered customer opinions and reviews. The acquired data were looked at using sentiment analysis. According to the sentiment analysis's findings, Eugene's Place Villa offers good customer service, with 70% favourable and only 30% of negative sentiments. Additionally, all reviews were multiclass classified into five SERVQUAL qualities. The overview of the most talked-about subjects by consumers in their evaluations was discovered by interpreting the results. This study provides information that businesses, especially those in the tourism sector, can use to better understand their clients and raise the bar on the quality of their services.

Keywords: *servqual, customer opinion based, Airbnb reviews, multiclass classification*

Introduction

Customer satisfaction is one of the main priorities of business owners, which makes tourism a valuable industry in the Philippines (Statista Research Department, 2021), heavily dependent on this factor. Customer Satisfaction has become vital for any Beach Resort in Baler to be sustainable and contribute significantly to the tourism and marketing industry. A quality assessment of any beach resort can assist tourism stakeholders in better understanding tourist perceptions and focusing their efforts to improve tourists' positive experiences. The level of positive attitudes attained by tourists may influence their future intentions to return or to recommend it to their friends. Because the quality of service offered by accommodation management organizations has become a significant aspect in attracting consumers, it is critical to examine the quality of the accommodation from visitors to establish whether a service is of decent quality or not (Philippine Statistics Authority, 2020). The Philippine archipelago is home to some of the world's most magnificent beaches. This study focused on the service quality perceptions in Eugene's Place Villa Beach Resort in Baler, a town in Aurora province located northeast of Luzon. The beach-which faces the Pacific Ocean-is famous for its huge rolling waves, drawing hordes of surfers from all over the world. Baler, along with other coastal places like Boracay, is an example of a tourist spot in the country that relies on tourism as its principal source of income (Escanillas, 2020). Resorts, like other businesses, face numerous challenges. They are important places because they are used for leisure by the majority of tourists and are thus affected by minor changes. People who visit resorts have many options, so those who manage them

must be of high quality in order to attract customers. Interactions between staff and consumers, security, and the affordability of services are all factors that influence the standards (Escanillas, 2020). Today, Baler is lined with vacation rentals with various kinds of accommodations. This study assessed customer satisfaction according to the service quality of a beach resort's hotel and lodging which is classified as one of the most visited DOT Accredited Baler Beach Resort in Airbnb updated in 2022, Eugene's Place Villa, a beachfront Resort in Baler, close to several tourist attractions.

The evolution of internet use has altered how people behave in having met their needs, which is also the exchange of information about resort towns to be visited, lodging, references for tourism activity (Cook et al., 2018). Therefore, the researchers used Airbnb reviews as their source of data as it is the most available, accessible, and abundant data found on the internet (The Philippine Star, 2016). So far, there is a dearth of information on studies about customer satisfaction in Baler. The researchers are the first ones conducted a study regarding the matter in a purely online setting specifically targeted for Airbnb reviews in Eugene's Place Villa in Baler, Aurora from 2018 to 2021. Eugene's Place Villa, future guests, future researchers, and Tourism and Hospitality students will benefit from this research. It gives the beach resort an awareness of their image based on every customer review on Airbnb. Future guests will also better understand what to expect from the establishment's service and facilities. Future researchers and Tourism and Hospitality students will also benefit from this study, as they will contribute to the already existing study as well as provide empirical results that could help service quality management in taking corrective actions that lead to the growth of the Tourism and Hospitality Industry as they will gain an insight as to what tourists like and dislike.

The study aims to examine consumer satisfaction based on service quality of Eugene's Place Villa's hotel and lodging in Baler, Aurora through Airbnb reviews. The researchers believe that this study will help in crafting tools that help in maximizing the capability of the country in handling tourists. Furthermore, the researchers used this topic because they believe it will benefit them in their future professions as hospitality professionals or vacation rental owners. As of writing, despite Baler's international tourism profile, there are only few published studies concerning the satisfaction of its tourists and visitors on the internet. This, together with quarantine restrictions because of the ongoing pandemic, has made it difficult to personally visit the place and conduct surveys. The researchers would like to know the customer's satisfaction in Eugene's Place Villa's hotel and lodging in Baler by way of Airbnb reviews. Since Baler is known as one of the most popular tourist destinations in the country, especially when it comes to surfing and beaches, the researchers would also like to determine whether each review is perceived as quality or a challenge for Eugene's Place Villa. To bridge the gap between the currently existing research and to provide a better understanding of the study, the researchers generally examine the customer satisfaction of Eugene's Place Villa's hotel and lodging in Baler through Airbnb reviews using the SERVQUAL Model and its dimensions; Tangibles, Assurance, Empathy, Responsiveness and Reliability by using sentiment analysis and multiclass classification, to determine each situation is perceived as quality or a challenge for Eugene's Place Villa. This research yields essential information to better understand the resources of Eugene's Place Villa Management strategies having to cope with these emerging demands to improve their service quality.

Theoretical framework

The SERVQUAL model by Parasuraman et al. (1985) in *Figure 1*, will be used by researchers to assess customer satisfaction. It has five dimensions: (1) reliability-ensures the capacity to deliver services accurately, on time, and promptly; customers need to be able to count on you to provide them with timely assistance and support; to perform your service on schedule and accurately, you must adhere to your standards; (2) assurance-customer trust and credibility are determined by an employee's technical expertise, conversational skills, civility, honesty, competency, and professionalism; the company will be able to create client trust and reputation as a result of using these skills; (3) tangibles-are the physical aspects of the service provided, including the features of the building, the sanitation of the facilities, and the visual appeal of the personnel; heading to a beach resort and revealing that your homestays are unclean will harm your assessment of the service quality; having to walk into a decorative, clean beach resort with neatly dressed serving staff, on the other hand, would have a beneficial impact on your perceptions of service; (4) empathy-requires paying special service to individuals in order to deliver caring and unique service; in certain nations around the world, providing personalized service to each consumer is a must; it's also an excellent technique to psychologically gratify customers and increase their trust, loyalty, and confidence; customers may abandon a company if its personnel lack empathy; consequently, compassion must be guaranteed; and (5) responsiveness-refers to a desire to treat customers with respect and to give fast service in order to meet their needs; two essential aspects are highlighted in this dimension: willingness and promptness; management must ensure that the customer receives assistance as quickly as possible and that they have the sense that you want to assist them; the length of time it takes for clients to receive an answer or a solution will be used to measure responsiveness; in summary, responsiveness attempts to solve the customer's problem as quickly as possible by giving required information or replacing products.

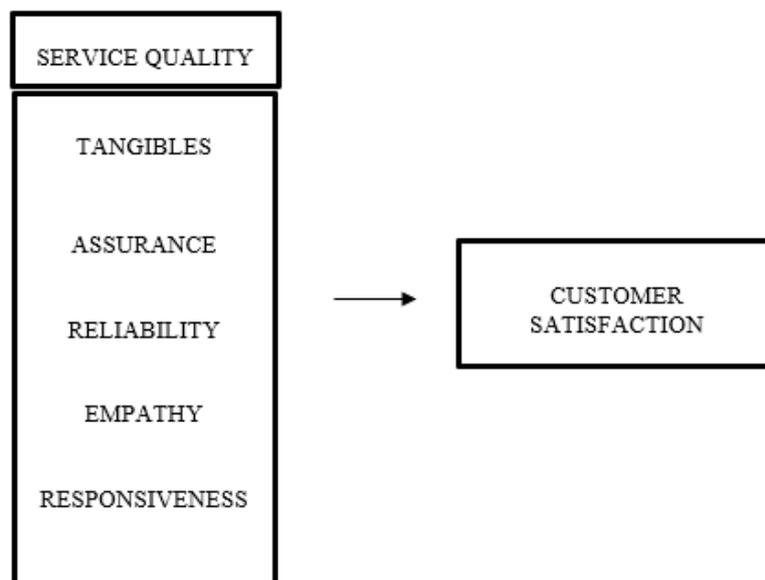


Figure 1. SERVQUAL model will be used to determine the customer satisfaction of the customers of Eugene's Place Villa.

Literature review

To present a realistic and complete analysis of the research investigation, a variety of critiques of relevant literature is used. Various scholars in the field of tourism and tourist behavior have completed a literature study and developed frameworks carried out according to plan. In a study by Li et al. (2020a), a Dempster-Shafer evidence theory was used as an instrument for measuring online reviews and information from various online travel and booking agencies. This procedure is divided into three stages. The entropy weight method and Dempster's combination method are then used to compile the evaluation data. As a result, strategies for improving customer satisfaction based on customer satisfaction ranking can be developed. However, the conceptual theory did not fit the research topic because it examines sets of propositions rather than single propositions and assigns an interval to each set within which the set's degree of belief must fit, and it is frequently referred to as a probability theory extension. A study by Wang et al. (2015), motivated by the need to assess the SERVQUAL model's contribution, this study examines 367 articles related to the SERVQUAL model that were published between 1998 and 2013. They identify crucial parameters to hunt for related articles within Online databases of the Foundation for Scientific Information. Quantity and quality metrics are utilized to appropriately evaluate and rate existing research contributions. They investigated the tendencies of SERVQUAL model research. It was one of the most popular research subjects among university scholars, according to the survey, and it provided a substantial contribution to service quality research. However, this study examines only the related articles to assess and rate the model and did not conduct a survey to every consumer. A look at WordPress reveals a few disadvantages to using SERVQUAL. According to some customers, expectations will be higher because they always want the best product. This may not always be fair because the customer's expectations are based on the price.

Puri and Singh (2019) in A study of SERVQUAL Model employed a Disconfirmation Model to perform a literature review on service quality based on customers feedback in tourism and hospitality organizations. On a scale of one to three, the Disconfirmation Model provides three possible outcomes. Negative disconfirmation causes "dissatisfaction," positive disconfirmation causes "pleasure," and positive disconfirmation causes "satisfaction" caused by acceptable quality (confirmation). Negative disconfirmation happens when a client's expectations surpass the actual outcome of a transaction, and the customer is typically left disappointed. Other tourism-related service quality and customer satisfaction models, such as the well-known SERVQUAL model, are also covered. This conceptual paper proposes the use of the dimensional model in the tourism industry, which encourages service providers to improve their management to best satisfy their clients. However, the researchers did not choose this framework because it is insufficient and does not adequately reflect the purpose of the study because it only focuses on the interaction of functional, technical, and visual excellence of the model.

A similar study was conducted by Li et al. (2020b) used the three-factor theory to assess customer perception in a hotel to understand how the role of basic, enthusiasm, and performance elements could change depending on different hotel rating systems and different consumer groups. This study examines the varied effects of hotel characteristics on customer satisfaction by gathering consumer-generated internet evaluations from several Chinese cities. The study's findings have been turned into actionable instructions for hotel managers to make informed decisions about service

enhancement. However, Allan Yen-Lun Su (2014) conducted a poll to determine how satisfied Taiwanese consumers are with hotels. The design of each hotel's feedback card was compared to the defined best practice standards using content analysis. As a result, no single hotel in this study's survey sample, according to the findings, meets all of the GCC best practices that have been established. It is advised that Taiwan's hotel sector reevaluate this method to gauge customer satisfaction to achieve all of the important best practice criteria listed in the article. A similar study about investigating online reviews by Buena and Ong (2020), where their study tested the elements that impact customers to establish trust in online consumer reviews using the Uncertainty Reduction Theory, a popular consumer-to-consumer communication theory. The Action-Based Model of Cognitive Dissonance Theory, on the other hand, was utilized to further investigate the sensation of cognitive dissonance in online consumer feedback. The fundamental purpose of this research project is to put these hypotheses to the test in the individuals who leave them, and the people who believe them. The results from the study show that there exists a strong market for falsification, especially in the fields of decor, apparel, and electronics. They employed an online review-analysis tool that anyone can use. Through copying the URL of a product from the website of the retailers, and pasting it on the tool, report will show what percentage of the reviews from the page was falsified. However, the researchers did not choose this framework because uncertainty reduction is not always the motivating factor for measuring online reviews. There is often a genuine desire to get to know the other customer satisfaction with different cultures and perspectives to measure the service quality of every tourism and hospitality establishment.

According to Gumussoy and Koseoglu (2016) research, service quality was assessed using the SERVQUAL model. In this study, several factors were examined, and each factor had an impact on the total customer's review of service quality. In theory, the findings of this study may be valuable for building a loyalty model in practice, but they may also be useful for designing marketing approaches to enhance customer loyalty. Wang et al. (2015) on the other hand, conducted a study that evaluates 367 publications linked to the SERVQUAL model published between 1998 and 2013. They identify crucial parameters to hunt for related articles within Online databases of the Foundation for Scientific Information. The SERVQUAL model can be used as a whole-of-industry grading system to help managers gain credibility and efficiency while also improving service quality. He concluded that the SERVQUAL model was a popular research topic among academic researchers and provided a substantial contribution to service quality research, according to this study. Thus, Munthiu et al. (2014) stated the SERVQUAL Model has shown to be successful in the tourist and hospitality business where many studies and research have shown that the SERVQUAL model has been useful in different locations of the world. According to Ali et al. (2021), the greatest difficulty now, as it has never been before, is meeting the needs of customers. The primary goal of the study is to see how service quality affects customer satisfaction. In the pursuit of long-term competitive advantage, SERVQUAL has identified by Satisfying and keeping customers has been recognized as an important feature in the hotel sector has been identified as a crucial component. In a similar study by Sharma and Srivastava (2018), re-examined the validity of SERVQUAL to evaluate Relationship between Service Quality and Customer Satisfaction in Hotel Industry which was determined that it may not be as feasible as many had previously believed. They concluded that SERVQUAL is best suited to circumstances that are similar to its original context and that fresh models

are required. Despite the criticism, there is a good reason why SERVQUAL has been employed in several studies in the past. Specifically, because of its capacity to provide a solid framework for evaluating service quality that can be tailored to a company's individual needs. The process of determining the quality of service is a complicated one that requires a lot of attention. Therefore, for the purpose of this study, it is important to find a more easily measured factor that might point to a positively perceived service quality namely, customer satisfaction, which will be further discussed. However, the SERVQUAL dimensions will be used in this research to build the foundation for the data analysis, in order to build a successful conclusion and recommendation, which will be further discussed in the methodology.

Materials and Methods

The study utilized a qualitative research design, specifically sentiment analysis, to fulfill the research goals. In a qualitative study, sentiment analysis is the best research tool for addressing the study's objectives as it plays an important role in strengthening the business to improve strategy and to know better about the customer's feedback about their product or service. It's also an easy thing to perform. An easy-to-understand and low-cost research approach, the sentiment analysis also allows users to follow the analysis and findings. To conduct a sentiment analysis, a representative sample of qualitative data is collected. The researchers used multiclass classification to classify each review of the customer per dimension. Non -probability purposive sampling is employed to collect data for the study, specifically in Airbnb website reviews of Eugene's Place Villa's hotel and lodging in Baler. Purposive sampling enables the researcher to collect qualitative replies, resulting in more insightful and precise study results. In this type of study, the researchers simply observed a situation and conclude it. The researchers analyzed the secondary data; particularly Airbnb reviews of service quality of Eugene's Place Villa in Airbnb with a total of 172 reviews that contain texts that are categorized and matched according to the dimensions of SERVQUAL employed Total Enumeration Sampling. The study was conducted in an online setting and the researchers did not use or disseminate questionnaires or surveys in any form.

The researchers gathered the data from Eugene's Place Airbnb reviews. These reviews are presented in the Airbnb review column. The reviews provide feedback on the service quality of the Beach Resort. The researchers collected online reviews on Eugene's Place Villa from 2019 to 2021 that are written in English on the online website Airbnb by Pivot Table of Microsoft Excel. To get the final dataset, in the data preparation stage, the researchers employed data cleaning and data preprocessing. Data cleansing is a stage in the research process that removes noise or useless data. Data cleaning measures that are successful will ensure that your analysis results are accurate and consistent. The data was processed using the Pivot table in Microsoft Excel, which can test, show, analyze and examine the summary data. Once the datasets are finally gathered, the researchers proceed to data analysis. To investigate customer satisfaction based on the service quality of Eugene's Place Villa, this study used sentiment analysis and multiclass classification. Sentiment analysis is the process of determining whether positive or negative opinions about a text document are derived from opinion, sentiment, and subjectivity. In this study, the researchers used Microsoft Excel, which includes a tool for sentiment analysis. It's known as Azure Machine Learning. Traditional sentiment analysis necessitates a human analyzing and

categorizing 5% of the statements. Azure Machine Learning is popular machine learning for text classification because it is simple, free, available to everyone, whether or not they have a background in computer science. Azure Machine Learning provides easy-to-use SaaS tools that allow you to get started with machine learning right away. At this point, sentiment analysis was used to distinguish between customers' reviews' positive and negative attitudes toward previously identified categories. The positive sentiment denotes a reviewer who is satisfied and happy with their visit to Eugene's Place Villa, whilst the negative sentiment denotes a reviewer who is dissatisfied with their visit.

First, the researchers looked in the Insert tab's Add-ins group of Excel. The first icon was previously known as Store, but it is now known as My Apps. The researchers searched for Azure Machine Learning by clicking that icon. The researchers will create an input range, and for the output range, the researchers leave two empty columns for the results. The header of the input range must fit the tweet_text format, and some data is tested and trained in Excel by the researchers through machine learning. Once the model has been tested and trained with some examples, the researchers selected all the text to see how they're classified. Azure Machine Learning processed the data and provide the sentiment results. To quickly summarize large amounts of data, the researchers created a Pivot Table. Pivot Table in Excel is used to analyze numerical data in depth and to answer unpredicted questions about one's data. The results of machine learning show whether the result is positive, negative, or neutral, as well as a percentage score. Items with a probability of 99 percent are almost certainly positive. Items near 0% are almost certainly negative. After analyzing the data, the researchers proceed to multiclass classification. Multiclass classification comes with a set of categories as well as a collection of text documents, with the process of specifying an appropriate category for each document. Many studies have been carried out to investigate the characteristics and variables related to the service quality of numerous accommodations. Today, the researchers are interested in customer satisfaction based on the service quality of Eugene's Place Villa for each identified category because it can be used to observe SERVQUAL according to its dimensions. In the first step in this stage, the researchers categorized the data through the dimensions with the result of the sentiment analysis in Excel. The researchers created a Pivot Table for them to count, tally and analyze the sentiment data reviews peer category according to the dimension of SERVQUAL criteria based on Eugene's Place's service quality in Baler. Therefore, the researchers can determine the satisfaction of customers and determine each situation peer category is perceived as quality or a challenge for Eugene's Place Villa and the resources of Eugene's Place Villa strategies having to cope with these emerging demands through sentiment analysis and multiclass proportion and interpretations. Finally, to validate the study, the student researchers performed a construct validity test, since the service quality concept is abstract. The study is compared side-by-side with the extensive repository of similar studies about the SERVQUAL Model collected by Talavera (2020).

Results and Discussion

The sentiment analysis results from Azure Machine Learning have received positive feedback. The sentiment score's accuracy is 89%, indicating a good classification of service quality. Based on the results of these figures, it can be concluded that Azure

Machine Learning's sentiment analysis is performing well. According to the Sentiment Analysis, Eugene's Place Villa has 70% positive and 30% negative customer satisfaction with service quality over the last four years (*Figure 2*). This percentage indicates that positive sentiment dominates the overall review data, implying that most consumers have a favorable impression of Eugene's Place Villa's service quality. As a result, Eugene's Place Villa demonstrates a high level of service quality, making consumers happy with their experiences. However, in order to improve Eugene's Place Villa's total tourism service quality, it is vital to understand what generates poor customer views, which can be viewed as a challenge for Eugene's Place Villa. We can create problem-solving priorities to aid management strategies in determining which concerns should be addressed first. Multiclass classification is used to map customer views of Eugene's Place Villa's service quality using SERVQUAL dimensions in order to gain a better understanding of customer perceptions of Eugene's Place Villa's service quality (*Figure 3*). In *Figure 2*, the researcher may observe Eugene's Place Villa's SERVQUAL dimensions classification. With 50% of respondents, tangible dimension is the most frequently addressed dimension, followed by empathy (16%) and reliability (16%). In terms of the other qualities, customers' perceptions of Eugene's Place Villa were categorized as (9%) responsiveness and (9%) assurance. In addition, sentiment analysis and multiclass classification were utilized to determine the performance of each dimension in this study. The highest priority problems to tackle are those that have the greatest negative impact on consumer reviews and may be concluded as a challenge

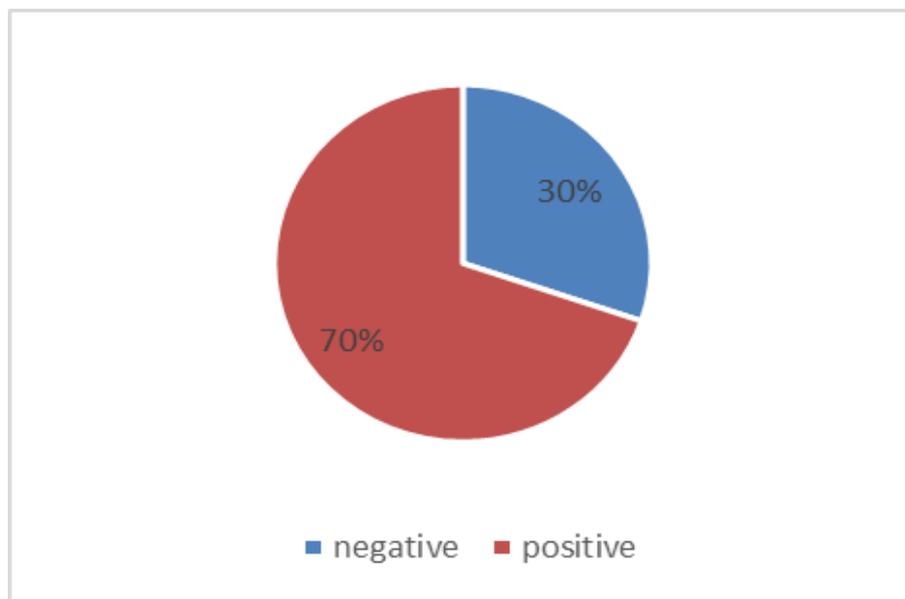


Figure 2. Sentiment analysis result of SERVQUAL.

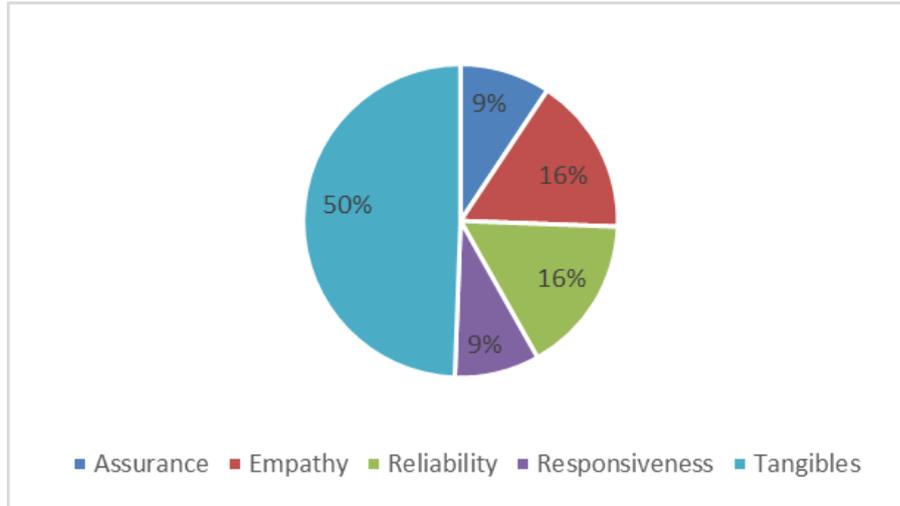


Figure 3. Classification of SERVQUAL dimension.

Eugene's Place Villa, according to *Table 1*, has a satisfactory SERVQUAL service quality. From 2018 to 2022, customer perceptions of empathy have the highest positive proportion, showing that the general management component of Eugene's Place Villa has outperformed the other dimensions and may play a role in generating positive customer perceptions. Reliability, empathy and assurance are also doing nicely. In addition, problem-solving priorities are used to determine which dimension must be enhanced first. The biggest percentage of negative sentiments in each dimension is used to rank problem-solving priority. Tangibles and responsiveness are the top two potential downsides of its service quality. We reveal why tourists feel about these dimensions in the form of interpretation according to *Table 2* and get a summary of the most discussed topics by customers in their reviews to gain a better understanding of the customer satisfaction reviews to help the management to identify and provide the customer's needs toward specific services.

Table 1. Eugene Place Villa dimension proportion.

Dimension	Sentiment (in percentage %)	
	Positive	Negative
Tangibles	60	40
Assurance	75	25
Reliability	75	25
Responsiveness	73.33	26.67
Empathy	89.29	10.71

Table 2. Sentiment analysis and multiclass classification interpretation.

Dimension	Positive	Negative
Tangibles	Most of the workers are presentable and the Eugene Place Villa is highly maintained, having safety protocols during COVID-19 pandemic.	The customers' main concern about this dimension is the damaged and old furniture WIFI provided wasn't working most of the time. There is no consistent water supply in the area and the place is a bit rocky so that the customers cannot enjoy the beach.

Assurance	The staff are polite and accommodating. Most of the staff know what they are doing and recommend the best trips in town.	Some of the customers experience problems during checking in and checking out with the staff. Giving some inaccurate directions.
Reliability	The staff are very nice, approachable, available 24 hours, and always offer solutions without the need of asking them.	The pictures did not do justice to the place. Recommended they will replace the pics with a better one.
Responsiveness	The staff respond quickly to the needs of the customers and the owner is very responsive with the customers queries.	The host is not quite responsive during peak season. The staff are snobbish and responding quickly during holidays.
Empathy	The staff at Eugene place was friendly and welcoming the customers when they arrived. They had some good information on the places to visit and were always helpful.	There is no dedicated rental shop in town. A few accommodations at the beach rent motorbikes in various stages of repair. And the staff seems like they are not giving something to help the customers.

Tangibles

Tangibles dimension regarding Eugene's Place Villa is mainly concerned with the old and damaged types of furniture and appliances such as the air conditioning. It is also mentioned in the reviews that there is no consistent water supply that is connected at the sink of the rooms, and toilet fixtures are getting leaky but it is normal in front beach fronts properties because of a high salt moisture in the area. Tourists' reviews over the years mostly describe the rocky beach at the front of the villa, so it is not easy to walk and swim at the beach especially for children and the elderly. However, the occurrences of those reviews tend to have a reduced intensity from 2018 to 2022. This is because Eugene's Place Villa management makes improvements to give better service for tourists, such as adding swimming pools in the villa and providing a beach shoe to protect the feet of the customers from rocks and avoid slipping. Some customers who visited the place twice mentioned that the management of Eugene's Place Villa improved the facilities that gained a better service quality. It was mentioned that Eugene's Place management carried out maintenance and cleaning the site routinely during the pandemic and the place has a best view from the beach, and the workers are always presentable, which makes Eugene's Place Villa highly recommended.

Assurance

According to *Table 2*, Eugene's Place Villa management has special skills that the customers feel safe and trust them fully by reassuring the customers that Eugene's Place Villa is DOT Accredited during COVID-19 Pandemic and giving recommendations to

best trips and best restaurants in Baler which helps the customers enjoy. While other reviews that describe the staff of Eugene's Place Villa communicate their expertise and introduce their names before they serve the customers which helps them to gain a good quality of service. The majority of visitors think highly of Eugene's Place Villa Management. Even though some tourists have negative feelings about "staff delivering incorrect directions before leaving the stay" and "we had a difficult time checking out due to the inaccurate bill," they generally dismiss these as minor concerns as long as they like the sight and service throughout their stay.

Reliability

Reviews associated with dependability refer to the service's ability to deliver the promised service consistently and accurately based on the information provided on the website. The reviews of reliability dimensions show that Eugene's Place Villa is you get what you pay for, as they always received e-mails from the host for the reservation and before checking in, accurately answering any questions prior to the trip, and guiding the customers to the new rules due to the pandemic, which allows them to enjoy their vacation safely. The only disadvantage of the dimension of dependability is the high intensity of reviews that they hope the management will post the pictures accurately from the actual rooms and place. This indicates that the number of people who visited in Eugene's Place Villa mentioned that the details of the rooms was not accurately indicated. The details on Airbnb differ significantly from the actual rooms. Nonetheless, the staff provides extra mattresses for customers who require them to make their stay more comfortable.

Responsiveness

Responsiveness dimension defines interactions with management, such as readiness to assist customers and deliver fast service. Tourists' impressions of Eugene's Place Villa's responsiveness are that it responds rapidly to client requests and concerns. Consumers' experiences with staff responsiveness have been emphasized by tourists, who have demonstrated this by ensuring customers know that they are attentive to them and actively working to solve their problems during the last four years. Apart from that, customers who stay at Eugene's Place Villa comment about the resort's exceptional reactivity. The things that could be seen as a challenge for Eugene's Place Villa, Customers may find it difficult to contact the host during peak seasons, such as weekends or school vacations, which is perceived as a challenge for Eugene's Place Villa. Another disadvantage is that the staff's check-out procedure is lengthy and demanding for customers.

Empathy

Interactions between customers and staff, as well as other human variables such as customer service at Eugene's Place Villa, are crucial to Empathy. Customers mentioned that it is related to the empathy dimension represented by the staff's personalized attention to its customers, which describes how both the staff and the host have excellent capabilities in delivering services, such as the ability to communicate kindly and show empathy to customers, ensuring that management demonstrates care. Customer's perceptions primarily noted that the resort's staff performs well in providing great and compassionate service, with frequent smiles and pleasant discussion. In

addition, the host and staff are charming and welcoming. Customers mentioned that the staff always provide good food for them. The only downside of the empathy dimension is that there are only a few motorcycles for rent, there is no specialized rental business in town, and the staff appears to be uninterested in assisting clients, negatively impacting customer experiences.

Conclusion

This research applied multiclass classification to sentiment analysis of the online booking website Airbnb to examine the customer satisfaction to provide a better understanding of tourists' perceptions and attitudes about Eugene's Place Villa. Based on the methodological perspective, this research contributes to both the scientific community and the tourism industry. First, this research filled an important gap in the academic literature on tourists' perception in Eugene's Place Villa based on online media platforms. The increase of online customer satisfaction reviews, online website review has provided great opportunities and challenges of exploiting the large volumes of data to create business values. To date, little has been reported in the context of online customer satisfaction reviews from Airbnb that is associated with the tourism industry. Other than that, this research applied service quality concepts of The SERVQUAL to evaluate service quality at Eugene's Place Villa. This research also makes a contribution to recent research areas on big data and online media. By systematically producing visual representations of large amounts of data, it adds further insight into analytical methods in this area. Particularly, sentiment analysis turns usual textual information into interesting visualization to help us deepen our understanding and quickly identify important information in customer's perception of online website reviews.

Based on the perspective of the tourism and hospitality industry, this research served to illustrate customer satisfaction reviews and mapped it into SERVQUAL dimensions to identify the quality of each dimension. This research help identify customer reviews of important topics of concern regarding Eugene's Place Villa as well as critical improvement areas. The result of this research discovers the driving factors of customer dissatisfaction with service quality at Eugene's Place Villa through customer reviews on online sites. By using a well-authorized sentiment analysis and multiclass classification, factors getting to dissatisfaction that is hidden in unstructured textual data are disclosed. This research identified both positive and negative tourists' perceptions based on their experiences. So that Eugene's Place Villa management could learn about and plan for dissatisfied customers. Based on the sentiment analysis method, these research findings showed that Eugene's Place Villa has a higher positive perception with 70% than a negative 30%, indicates that Eugene's Place Villa tends to has a good service quality. The finding of the multiclass classification process identified tangibles, empathy and reliability as the most-mentioned topics on online booking website Airbnb in general, respectively.

Furthermore, the finding showed that assurance, empathy and reliability have a good performance. Slightly different, tangibles and responsiveness were the main dimensions tourists highlighted that can be a challenge to the management and needed improvement. The above results showed that occurrences of reviews towards Eugene's Place have considerably not changed significantly over the last 4 years. However, the intensity of each review that represents each dimension sometimes varies over time,

whether it is increasing or decreasing. The result of sentiment analysis is used to reveal negative sentiments that can be seen as the downside of each SERVQUAL dimension. Sentiment Analysis and Multiclass classification visualization could provide detailed insights into the reasons why tourists feel negatively about specific services at Eugene's Place Villa. Such as, "old and damaged furniture" in Eugene's Place Villa is one of the downsides that affect enjoyment in the vacation experience of the customers. With a solid understanding of issues perceived by customers, Eugene's Place Villa management can evolve an innovative and competent strategy focusing on a certain area that tourists pay attention to the most. Accordingly, Eugene's Place Villa management can refine their emphasis and focus on their shortcomings in conveying service quality that requires earnest actions. Based on the findings in this research, Eugene's Place Villa management should execute customer management properly to handle and anticipate the increase of customers at peak seasons to improve the responsiveness of the management, improve infrastructure related to customer's safety and needs, consider the appropriateness of the photos in the website with the quality of experience gained by tourists, and also improve the furniture and the water supply so that it can provide a more comfortable experience for customers.

The findings of this research have practical implications for the improvement of tourism destination's service quality. The potential information extracted from reviews on online website reviews is important for improving the service management and competitive advantage of tourism destinations. Using this approach, Eugene's Place Villa can better and more accurately understand the tourists' perceptions and needs of customers. Simultaneously, the findings in this research could prompt the development of new strategies for better services and improved tourists' experiences. Therefore, Eugene's Place Villa management should focus on topics information that is perceived as negative to fix the issues. Moreover, the result of this research can be utilized by tourism and hospitality management organizations to offer an extent of service within tourists' desires and show that they care about their tourists. By understanding the voice of customers, Eugene's Place Villa management can transform these online reviews into valuable knowledge that can benefit their service and business. To wrap things up, the newly discovered knowledge and insights from online website reviews could be utilized by various stakeholders, such as tourism destination management organizations, hospitality service providers, tourism enterprises, government policymakers, and educational institutes.

Although this study advances the usage of text information from internet media, it is critical to recognize the limitations. The data reviews were acquired exclusively from Airbnb as a sample online website booking and review platform, limiting the conclusions of this study to a single source. It would also be fascinating to examine and contrast the findings of various internet website reviews, such as those found on Google Review and other websites. For future researchers, this study could be replicated in other beach resorts or tourist sites to acquire a more comprehensive understanding of service quality. Furthermore, because this study solely used evaluations written in English, the results may not reflect customer's perception in other languages. This study can be developed in a variety of ways in terms of the research design used for analysis. Finally, this research opens the door to incorporating additional data, such as ratings, to gain a better understanding of the quality of tourism and hospitality services.

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Conflict of interest

Regarding any parties associated with this study, the researchers have no conflicts of interest to state.

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