Article

A Study on Customer Satisfaction in Bali's Luxury Resort Utilizing Big Data through Online Review

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Abstract: Bali is known as one of the region's most popular and long-established mass tourism destinations. However, the tourism sector in Indonesia saw a drastic decrease in the number of local and foreign tourists due to COVID-19. The objective of this study is to analyze the factors that are related to customer satisfaction post-COVID-19 in Bali's resorts. The data consist of a total of 7370 hotel reviews collected from Google Travel. Text mining was used to conduct a frequency analysis to determine which attributes were frequently mentioned. Additionally, semantic network analysis was used to analyze customer experiences and satisfaction in Bali resorts. As a result, the top 88 keywords were divided into five clusters such as "Location", "Health Protocol", "Destination Resort", "Value", and "F&B". The first quantitative analysis, factor analysis, shows there are 18 words out of 88 words related to six different clusters. Furthermore, the absolute value result of the linear regression analysis indicated that intangible service is affecting customer satisfaction negatively. As a result of the factor analysis, the two aspects that are related to the intangible service, "hospitality" and "staff", are considered to be the most important aspects of resorts and should be improved in order to increase customer satisfaction.

Keywords: Luxury Resort; Bali; health protocol; online review; customer satisfaction

1. Introduction

According to Indonesia's Ministry of Tourism and Creative Economy of Indonesia (2020), 4% of Indonesia's Gross Domestic Product (GDP) in 2020 came from the tourism sector and is predicted to grow to 4.5%. Indonesia is ranked 44th as the most visited country in the world in absolute terms, with a total of 4 million tourists in 2020 (World Data 2020). With more than 13,400 islands (Wonderful Indonesia 2022a) two cities, particularly Bali and Jakarta, have seen a large influx of investment in the upper-end market in recent years (Indonesia Investments 2016).

Bali is one of the most popular tourist destinations in Indonesia in the eyes of international visitors. A small island with an area of 5632 km it attracts the world with its rich nature (Mayuzumi 2022). The harmony of culture, people, nature, activities, weather, culinary delights, nightlife, and beautiful accommodations makes it one of the best travel destinations in the world and it has been awarded by countless websites, review portals, and travel magazines (Bali.com 2022). However, due to strict border control measures caused by the pandemic, Bali went from receiving about 6.2 million international arrivals in 2019 to 1.05 million in 2020, and compared to the number of international visitors, it dropped from millions of countries to 45 countries in 2021 (Jamaluddin and Marcus 2021).

A previous study by Koerniawaty and Sudjana (2022) mentioned that the tourism sector in Indonesia saw a drastic decrease in the number of local and foreign tourists due to the COVID-19 pandemic. Prior to the relaxation of the border, the Indonesian government started a campaign, CHSE (Cleanliness, Health, Safety, and Environmental Sustainability)

Certification Travel with Confidence during COVID-19, at the end of 2020 (TUV Rheinland 2022). Established by the Ministry of Tourism and Creative Economy of Indonesia, a series of standards need to be fulfilled by each establishment to be CHSE Certified (Ministry of Tourism and Creative Economy of Indonesia 2020). Based on a study by Prideaux (2009), Bali resorts are classified as a destination. With that being said, the resort offers more than meals and accommodation (TheyDiffer 2015). Considered a destination themselves, resorts offer entertainment, shopping, and other activities (Morrow 2021). For instance, one of the resorts that are part of this study is the An antara Uluwatu Bali Resort that offers a Balinese Dance Lesson (Anantara Uluwatu Bali Resort 2022), and Maya Sanur Bali offers the Floating Journey, which is a floating dining experience for its guest (Maya Sanur Bali 2022). Despite the ongoing pandemic, there have been few studies conducted during the time frame of the COVID-19 pandemic. There is no significant difference between the satisfaction level before and during the COVID-19 pandemic according to a study conducted regarding a restaurant in Bali in 2022 (Agustiono 2022).

Due to the fact that the Indonesian government has eased up Bali's travel restrictions towards domestic and foreign travelers (Wonderful Indonesia 2022b), Bali should be prepared for an increase in tourism numbers soon. Taking these factors into consideration, the major objective of this research is to analyze big data in order to analyze the factors that are related to customer satisfaction post-COVID-19 in Bali's resorts. To achieve the research objectives, this research will endorse the frequency analysis to reveal the key attributes affecting customer satisfaction. CONCOR analysis will then group the attributes into a certain dimension. The outcome of this study will be that the resort manager will be able to identify the key attributes affecting customer satisfaction post-COVID-19 and adapt their marketing strategy in order to generate more revenue. With that being said, there will be five parts in this paper building up to the result. The first part being the introduction, followed by the literature for this study, methodology, result, and lastly, the discussion and conclusion.

2. Literature Review

2.1. Bali Luxury Resorts

A destination resort is defined as a business entity that is simultaneously classified as both a transient lodging establishment and an amusement classification that provides on-site recreational facilities, such as a golf course, skiing, or a water park (Brey et al. 2007). The word luxury is frequently used synonymously with first class and highest standard, the term first class fits more easily into a rating system. A hotel and resort is rated based on the physical attributes present, including the availability of tea-making facilities, bar refrigerators, cable television, internet connections, marble finishes in the lobby with gilt mirrors and carpet, and whether or not there is a doorman, concierge, or room service (Cordato 2008).

A self−contained luxury resort has more than 1500 hotel rooms, with superior restaurant, sports, entertainment, and shopping facilities. Based on their geographic location, leisure resort hotels are categorized into three types: hot spring leisure hotels, seaside leisure hotels, and casino leisure hotels (X. Zhang et al. 2021). In a comparison of the characteristics of casino leisure resort hotels using the two-dimensional factor cluster perception map of recreation businesses developed by C. Zhang (2002), it can be seen that leisure resort hotels and casino resort hotels fall into opposing categories (namely, natural recreation versus artificial entertainment).

Tourism literature has increasingly focused on competition among resort destinations, and evaluating their competitiveness has become one of the most important tools in the process of positioning and marketing (Hudson et al. 2004). Currently, resort destination construction planning and coordination agencies have been established in a number of provinces (Meyer 1997). The future plans for destination resorts can be seen in various news outlets, such as "Moon Dubai", a project that includes luxurious resorts, a wellness section, a nightclub, and a global meeting space (Team Udayavani 2022). Furthermore,

there are many tourist destinations that proclaim to be a resort destination or a destination resorts, such as Phuket (Mariano 2022) and Langkawi (Service India Blooms News 2022).

Bali is renowned as one of the region's most popular and long-established mass tourism destinations. Erviani (2009) reported that Bali, Indonesia, received an award as "Best destination in Asia" by Asia Wellness at the Asia Wellness Festival Gold Awards at the Landmark Hotel, Bangkok. In addition, Bali was also awarded as the "World's Best Destination". This award was given by the Berlin-based fitness magazine Senses, and was accepted at the annual International Tourism Bourse (ITB) in Berlin (Mahadewi and Irwanti 2016). Moreover, Bali has beaches, high-rise resorts, and entertainment opportunities, for example, surfing, stunning natural landscapes, and cultural and religious traditions. Bali islands also possess a wide range of natural resources that make it possible to participate in activities such as rafting, cycling, canoeing, and trekking (Cohen 1996).

2.2. Health Protocol—Cleanliness, Health, Safety, and Environmental Sustainability (CHSE)

Health protocols based on the CHSE framework were developed by the Indonesian government as a derivative of the health protocols (Cleanliness, Health, Safety, and Environmental Sustainability) initially developed by the Ministry of Health and several other departments. The CHSE protocol adopts a regulation issued by an international organization, including the UNWTO. With the CHSE protocol launched, the Ministry of Tourism and Creative Economy clarify the aim of this protocol is to be implemented in the all-tourism business actors associated with the tourism ecosystem, including airlines, hotels, restaurants, SMEs, buses, ferries, airports, sea sports, terminals, and trains as a strategy to develop the quality of tourism. In Indonesia, there are 6.626 companies registered as CHSE certified, from 34 provinces and 300 cities, since this certification was introduced at the beginning of November 2020 (Syahrini 2021).

In order to improve the health protocols for local and international tourists, Cleanliness, Health, Safety, and Environmental Sustainability (CHSE) are being implemented in the tourism and creative economy sectors (Maemunah 2021). The hotel industry utilizes CHSE in several areas, including employee areas (dining and changing areas), offices, housekeeping, kitchen areas, and other public areas, including banquets, coffee shops or restaurants, guest rooms, front desks and concierges (lobbies), and hotel entrances (Ani and Octariana 2021). The certification is to provide a sense of security to both consumers and employees and follows standard health protocols. Implementing the CHSE standard can be used as an appropriate choice of strategy in rebuilding tourists' trust again. The Health Protocol is a mandatory criterion that all hotels need to follow when carrying out activities in the new normal period (Galit et al. 2020). A practical CHSE protocol developed by the Ministry of Tourism and Creative Economy was used to increase public awareness of the importance of maintaining health, cleanliness, and safety at the hotels so as to satisfy hotel demands.

2.3. Text Mining of Online Review

As a result of two-way communication through online review sites, large amounts of data related to travel targets, travel facilities, and hotels is created. It is important to recognize the impact of online reviews on the behavior of travelers since tourism is an information-intensive industry (Ernst and Dolnicar 2018). Among the advantages of researching textual customer reviews are the provision of details on customer consumption experiences, the highlights the product and service attributes that customers care about, and the provision of detailed information about consumer perceptions.

Online customer reviews reflect these emotional reactions in the clearest way and are the most direct indication of whether they are satisfied or not. Online reviews have proven to be a rich source of information for analyzing customer opinions, practices, and behaviors (Liu et al. 2017). Online reviews have been found to increase customer awareness and scrutiny of the hotel industry. In the pre-purchase evaluation of hotels, online travel

reviews have become an increasingly important source of information. The core parts of online reviews are digital ratings and text reviews (Vermeulen and Seegers 2009).

Text mining is the process of extracting and analyzing large amounts of data from a variety of different sources to discover the hidden patterns within a dataset. It provides information about hidden trends related to products, customers, market trends, and other key factors (Galit et al. 2020). Recently, research using text mining has been conducted in the hospitality industry. The research conducted by Li et al. (2013) used text mining and content analysis of 42,668 online traveler reviews covering star-rated hotels in Beijing, China. In addition, Zhao et al. (2019) analyzed hotels in San Francisco and provided a comprehensive view of the roles of the technical attributes of online reviews in predicting customer ratings. Dong et al. (2014) found that the following seven dimensions are important attributes generating customer satisfaction with hotels in Sanya city, China, based on text mining and content analysis. Ban et al. (2019) investigated the key attributes in the experience and satisfaction of 25 hotels, and Xu and Li (2016) analyzed customer satisfaction and dissatisfaction toward various types of hotels in the United States.

2.4. Customer Satisfaction

Customer satisfaction is an attitude or evaluation formed by comparing their expectations of what they would receive from a product with their subjective perceptions of the actual performance of the product (Oliver 1980). A market-oriented firm considers it to be one of the most significant outcomes of marketing activities (Kandampully and Suhartanto 2003). Another previous study also defined customer satisfaction as the feeling that experienced customers have after comparing their initial expectations and the perceived performance that they received (Kotler and Keller 2009). Customer satisfaction indexes are an effective way of measuring customer satisfaction in hotels (Deng et al. 2013).

There are many factors that lead to customer satisfaction. Gu and Ryan (2008) identified seven elements that positively influence customers' overall satisfaction: bed comfort, the cleanliness of the bathroom facilities, the size of the rooms and conditions of the facilities, the location and accessibility, the quality of the food and drink, ancillary services, and the performance of the hotel staff. In addition, Ren et al. (2016) categorized the sources of customer satisfaction as follows: tangible and sensorial experiences, staff performance, aesthetic perception, and location. Hotels offer a wide range of core attributes and services. However, some incidental actions can also lead to customer satisfaction, such as corporate social responsibility practices and sustainability practices, which illustrate that the hotel's operating philosophy is to "do good to do well" (Garay and Font 2012). Customer satisfaction is important to the enhancement of a hotel's demand, which will improve financial performance and efficiency.

3. Methodology

3.1. Data Collection

It is important to virtualize the information search process. A review is an evaluative statement or statement of opinion written by a customer or potential customer and made available on the internet to end users and institutions (Stauss 2000). This is an essential element of the selection process for prospective hotel guests, enabling them to take advantage of the experiences of other travelers (Levy et al. 2013). Academic research indicates that positive online hotel reviews lead to improved financial performance for hotels (Sparks and Browning 2011) and enhance customer trust (Öğüt and Taş 2012).

The data from the online resort reviews for this study were collected from Google Travel. Therefore, online reviews can be easily accessed and shared. In order to collect the data, a web crawler was written in SCTM 3.0, which stands for Smart Crawling and Text Mining (Wei and Kim 2022). SCTM 3.0 is a program developed by the Wellness & Tourism Big Data Institute of Kyungsung University for web crawling and data analysis (Handani et al. 2022a). Several types of information were collected, including resort brand names, the identification code of the writer, written date, overall score, and reviews. Many

previous studies adopted this methodology to investigate customer satisfaction in different industries, such as airlines (Kwon et al. 2021), theme parks (Zhang and Kim 2021), and wine bars (Fu et al. 2022). All of the previous research was focused on customer satisfaction in the respective industries.
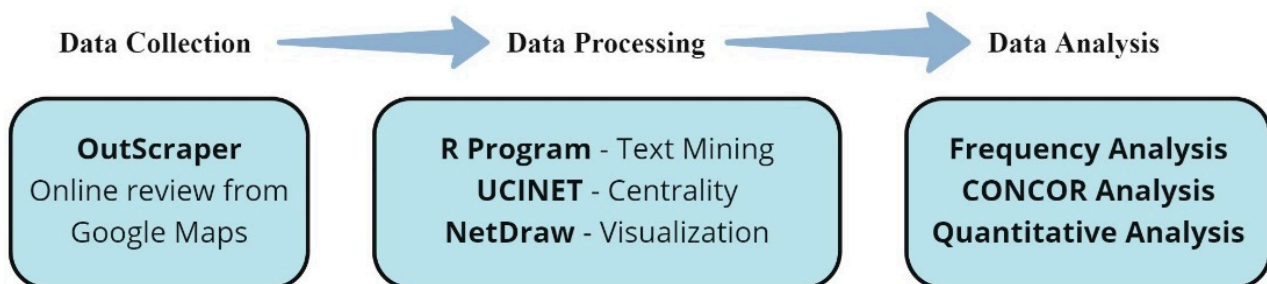
A total of 12.693 reviews were collected from the top 10 resorts in Bali. This ranking information was derived from Trip Advisor (tripadvisor.com). The top 10 resorts ranked based on the number of reviews are presented in Table 1. The number of online reviews remained at 7370. This is after deleting online reviews that only provide a score without a comment. These data were collected for the period from August 2019 to March 2022, that is, from the time the CHSE certificate was implemented.

Table 1. Number of Review.

Rank	Resort	Number of Reviews	Average Satisfaction
1	Anantara Uluwatu Resort Bali	678	4.4
2	Maya Sanur Resort & Spa	575	4.6
3	Movepick Resort & Spa Jimbaran Bali	1232	4.6
4	Rimba Jimbaran Bali by Ayana	729	4.6
5	Viceroy Bali	123	4.8
6	Melia Bali	630	4.5
7	Padma Resort Legian	960	4.7
8	Sofitel Bali	1406	4.3
9	The Legian Seminyak Bali	252	4.8
10	The Ritz-Carlton Bali	785	4.6
	Total	**7370**	
	Average Rating	**4.6**	

3.2. Data Analysis

This study adopted both qualitative and quantitative analysis. There were three analyses under qualitative analysis, which were Frequency analysis, Semantic Network Analysis (SNA), and CONCOR analysis. The frequency analysis was based on top-frequency words, which are the words that are frequently mentioned by the guests, followed by finding the relationship between the top frequency words with Semantic Network Analysis through the freeman degree centrality and eigenvector centrality. Afterward, CONCOR analysis was performed to form clusters made from the top-frequency words. A quantitative approach was also used with Exploratory Factor Analysis (EFA) to reduce the countless variables to more concise factors through the oblique rotation process (Tang and Kim 2022). Lastly, the linear regression analysis was performed to predict the value of a variable based on another variable. The research procedure is shown in Figure 1.

Figure 1. Research Procedures.

4. Result

4.1. Data Collected

Through text mining, a total of 7370 reviews were collected from 10 resorts in Bali that are CHSE certified. The ranks of the words that appeared in valid comments collected were determined by their frequency. A summary of the frequency of numerical ratings from 1 to 5 is provided in Table 2. The following table can be used as a benchmark for evaluating the customer satisfaction levels. The average review rating for resorts in Bali and nearby cities was 4.6 out of 5, and 78% of the reviews were five-star ratings to the resorts. Generally, 6% of customers were dissatisfied with their experience since they provided a rating of 1 or 2.

Table 2. Overview of the overall satisfaction rating.

Rating	Frequency	Percent	Cum. Percent
1	309	4%	4%
2	145	2%	6%
3	270	4%	10%
4	883	12%	22%
5	5838	78%	100%
Average Rating 4.6			

4.2. Frequency Analysis

According to Table 3, which lists 88 frequent words associated with the resort experience, the top five words were 'hotel', 'good', 'room', 'pool', and 'staff'. In general, the first five ranking words relate to terms associated with the resort industry. The most frequently used word is "hotel", with 4972 frequencies. 'Good' is the second word with a frequency of 2287. The third to the fifth position is occupied by the terms 'room', 'pool', and 'staff' with a frequency of 2109, 1903, and 1873.

Table 3. Frequency of top keywords for luxury resorts in Bali.

Rank	Words	Freq	Rank	Words	Freq
1	Hotel	4972	45	Super	282
2	Good	2287	46	Price	282
3	Room	2109	47	Perfect	277
4	Pool	1903	48	Sofitel	276
5	Staff	1873	49	Nights	270
6	Service	1798	50	Access	269
7	Nice	1566	51	Trip	267
8	Place	1498	52	Free	266
9	Beach	1439	53	Menu	264
10	Great	1327	54	Recommended	251
11	Breakfast	1311	55	Padma	249
12	Friendly	1253	56	Bar	246
13	Stay	1228	57	Suite	239
14	Resort	1194	58	People	236
15	Bali	1146	59	Legian	235
16	Food	1133	60	Feel	234
17	View	929	61	Ocean	233
18	Clean	920	62	Atmosphere	228
19	Beautiful	889	63	Security	221
20	Really	872	64	Buffet	220
21	Best	846	65	Suitable	218
22	Comfortable	807	66	Luxury	217
23	Kids	762	67	Holiday	217
24	Facilities	746	68	Stars	213
25	Family	725	69	Wonderful	211
26	Swimming	602	70	Spa	209

Table 3. *Cont.*

Rank	Words	Freq	Rank	Words	Freq
27	Amazing	591	71	Quality	208
28	Area	559	72	Vacation	208
29	Spacious	538	73	Pandemic	199
30	Restaurant	469	74	Happy	198
31	Experience	461	75	Jimbaran	197
32	Check	420	76	Activities	197
33	Excellent	412	77	Small	194
34	Private	374	78	Melia	194
35	Nusa	370	79	Hospitality	191
36	Location	364	80	Far	191
37	Delicious	353	81	Bad	189
38	Club	343	82	Long	188
39	Lobby	324	83	Sea	183
40	Enjoy	305	84	Sanur	182
41	Water	302	85	Sunset	181
42	Cool	294	86	Dinner	177
43	Helpful	287	87	Bed	176
44	Guests	287	88	Old	175

4.3. Frequency Analysis

Semantic network analysis examines the relationship between words and exhibits their linkage through the structure of the network (Kim and Kim 2022). This research utilized centrality analysis, which is made up of two indicators. Freeman degree centrality, which is an index, measures the degree of connection between one node and other nodes in the network (Ban et al. 2019). The second indicator is eigenvector centrality, which is used to identify the most influential node in the network. The comparisons between the frequency rank and centrality rank are reflected in Table 4. The centrality rank shows the relationship between the words.

Table 4. Comparison of frequency and centrality of words.

	Freq		Freeman Degree Centrality		Eigenvector Centrality	
	Freq	Rank	Coef.	Rank	Coef.	Rank
Hotel	4972	1	26.32	1	0.35	1
Good	2287	2	16.93	5	0.24	5
Room	2109	3	18.22	4	0.25	4
Pool	1903	4	18.32	2	0.25	3
Staff	1873	5	18.28	3	0.25	2
Service	1798	6	14.75	7	0.21	6
Nice	1566	7	11.28	13	0.17	12
Place	1498	8	9.36	17	0.13	16
Beach	1439	9	14.83	6	0.20	7
Great	1327	10	12.29	11	0.18	10
Breakfast	1311	11	14.27	8	0.20	8
Friendly	1253	12	12.97	9	0.19	9
Stay	1228	13	12.22	12	0.17	13
Resort	1194	14	9.86	15	0.13	17
Bali	1146	15	9.90	14	0.13	15
Food	1133	16	12.51	10	0.18	11
View	929	17	7.65	21	0.11	20
Clean	920	18	9.72	16	0.14	14
Beautiful	889	19	7.69	20	0.11	21
Really	872	20	8.73	18	0.12	18
Best	846	21	7.97	19	0.11	19

Table 4. *Cont.*

	Freq		Freeman Degree Centrality		Eigenvector Centrality	
	Freq	Rank	Coef.	Rank	Coef.	Rank
Comfortable	807	22	5.99	27	0.08	27
Kids	762	23	7.62	22	0.11	23
Facilities	746	24	6.97	25	0.10	25
Family	725	25	7.16	24	0.10	24
Swimming	602	26	7.35	23	0.11	22
Amazing	591	27	5.77	30	0.08	30
Area	559	28	6.21	26	0.08	26
Spacious	538	29	5.99	28	0.08	28
Restaurant	469	30	5.89	29	0.08	29
Hotel	4972	1	26.32	1	0.35	1
Good	2287	2	16.93	5	0.24	5
Room	2109	3	18.22	4	0.25	4
Pool	1903	4	18.32	2	0.25	3
Staff	1873	5	18.28	3	0.25	2
Service	1798	6	14.75	7	0.21	6
Nice	1566	7	11.28	13	0.17	12
Place	1498	8	9.36	17	0.13	16
Beach	1439	9	14.83	6	0.20	7
Great	1327	10	12.29	11	0.18	10
Breakfast	1311	11	14.27	8	0.20	8
Friendly	1253	12	12.97	9	0.19	9
Stay	1228	13	12.22	12	0.17	13
Resort	1194	14	9.86	15	0.13	17

As a result, there was the highest frequency, the coefficient of Freeman's degree centrality, and coefficient of Eigenvector centrality for the word 'hotel'. It means that the word "hotel" possesses the highest level of associated meaning. The word exists to be a common and relevant word that is closely related to other words such as 'good', 'room', 'pool', 'staff', and 'service', which are also significantly high in both freeman degree centrality and eigenvector centrality, thereby indicating that they are closely related to other words of high frequency. Moreover, the words related to the "CHSE" certification appear in the results, such as 'clean' in the eighteenth position in frequency but with a higher degree and eigenvector centrality.

4.4. Convergence of Literated Correlation (CONCOR) Analysis

As shown in Figure 2, this study extracted the top 88 frequent words from the online review. Then, we arranged them into five clusters based on CONCOR Analysis in Figure 3. CONCOR measures the structural equivalence between the words by using Pearson correlation coefficients (Prell 2012). Using the correlation coefficient of the matrices of the concurrent keywords, the study identifies blocks of nodes and forms clusters that include similar keywords. A NetDraw program in UCINET 6.0 was used to visualize the results. Each node is represented by a blue square, its size indicates the frequency, and the network shows the connectivity between them.

Using the CONCOR clustering method, the clusters were generated based on the words from the original reviews that had notable relevance and were subsequently named according to their meanings. This visualized evaluation of the CONCOR analysis is shown in Figure 3. To make it easier to identify which words belong to each group, the words included in the cluster and those to be noted have been listed and summarized in Table 5. In this study, five clusters were intricately entwined with one another. Based on the words, the group was defined as 'Health Protocol', 'Destination Resort', 'Location', 'F&B', and 'Value'.
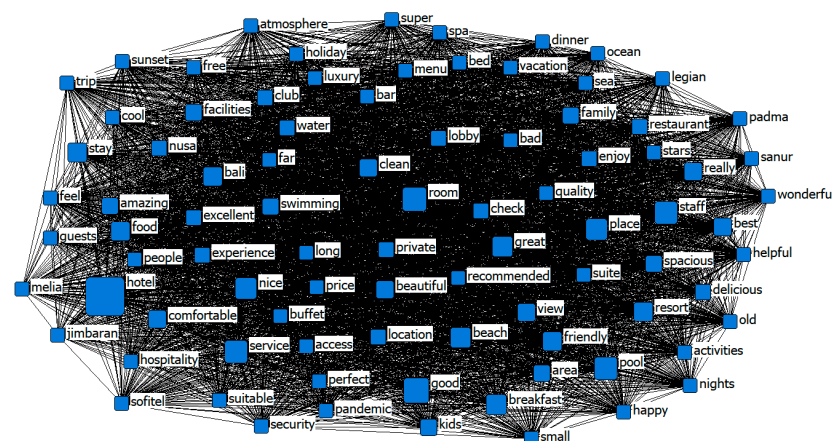
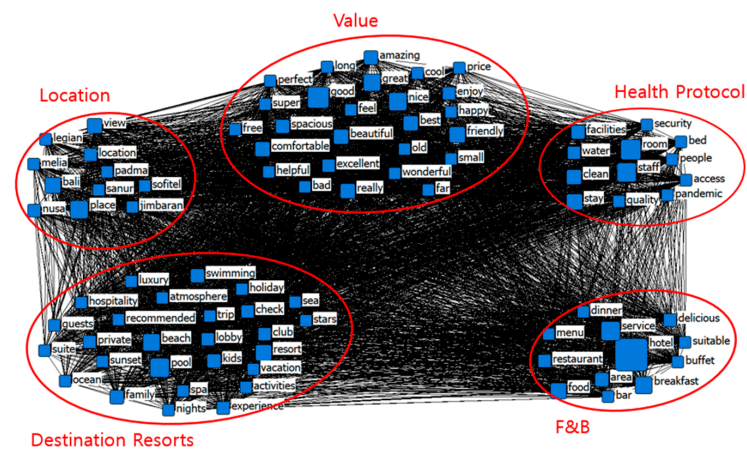**Figure 2.** Keyword visualization of network analysis generated by UCINET 6.0.

Figure 3. Visualization of Convergence of literated Correlation (CONCOR) analysis.

Table 5. Result of CONCOR Analysis.

	Extracted Words	Significant Word
Location	Nusa/sanur/view/melia/place/ bali/jimbaran/location/padma/ legian/sofitel	Nusa/sanur/melia/place/bali/ jimbaran/location/padma/ legian/sofitel
Value	Far/bad/excellent/comfortable/ beautiful/best/enjoy/really/friendly/ amazing/good/happy/long/small/ helpful/free/price/spacious/nice/ cool/perfect/great/super/long/ feel/wonderful	Comfortable/beautiful/best/ friendly//bad/amazing/happy/ helpful/price/spacious/nice/cool/ perfect/great/super/feel/wonderful/ excellent
Health Protocol	Facilities/quality/staff/people/ water/bed/access/room/security/ stay/clean/pandemic	Facilities/quality/staff/people/ water/bed/access/room/security/ stay/clean/pandemic
F&B	Delicious/food/menu/suitable/ bar/hotel/area/buffet/breakfast/ dinner/service/restaurant	Delicious/food/menu/bar/buffet/ breakfast/dinner/service/restaurant
Destination Resort	Vacations/nights/holiday/family/ lobby/trip/luxury/sunset/ srecommended/hospitality/club/spa/ private/kids/suite/beach/swimming/ atmosphere/guests/pool/resort/check/ stars/sea/activities/ocean/experience	Vacation/nights/holiday/family/ trip/luxury/sunset/hospitality/ club/spa/private/kids/suite/ beach/swimming/atmosphere/ guests/pool/resort/stars/sea/ activities/ocean/experience
Location	Nusa/sanur/view/melia/place/ bali/jimbaran/location/padma/ legian/sofitel	Nusa/sanur/melia/place/bali/ jimbaran/location/padma/legian/sofitel

4.5. Factor Analysis Results

This study utilized factor analysis to determine the factors explaining the relationship and correlation between various independent factors. Based on the variance of keywords in

the customer reviews of destination resorts in Bali, this illustrates the relationship between the variables. In factor analysis, the variables are reduced using an oblique rotation process to produce smaller variables. There is a substantial percentage of variance in this study represented by the eigenvalue, which is greater than 1.0. There were 18 words removed from the 88 keywords in total

The KMO (Kaiser–Mayer–Olkin) index in Table 6 was greater than 0.6 with a value of 0.6876 in a Bartlett chi-squared, with the overall significance of the correlation matrix being $p < 0.001$; this means that these data are acceptable. The six factors were identified as follows: Value (Factor 1), Health Protocol (Factor 2), Intangible Service (Factor 3), Destination Resort (Factor 4), Location (Factor 5), and F&B (Factor 6). Factor 1 contains 'perfect', 'good', and 'friendly', and it was a core value provided by the hotel. Factor 2 contains 'clean', 'security', 'pandemic', 'pool', and 'security', which referred to a health protocol that was based on the CHSE-certified criteria. Factor 3 Intangible Service contains two, 'hospitality' and 'staff'. Factor 4 was composed of concrete facilities related to destination resorts, these include 'resorts', 'spa', 'rooms', and 'views'. In Factor 5, words related to the resort's location are identified, such as 'location' and 'nusa'. Factor 6 had 'restaurant' and 'food', which related to food and beverages.

Table 6. Factor Analysis Result.

Factor	Words	Factor Loading	Eigen Value	Cum. Variance
Value	Perfect	0.984	3.699	16.584
	Good	0.982		
	Friendly	0.977		
Health Protocol	Clean	0.825	2.063	27.529
	Pool	0.779		
	Security	0.530		
	Pandemic	0.502		
Intangible Service	Hospitality	0.970	1.923	38.152
	Staff	0.968		
Destination Resort	Resort	0.766	1.453	48.382
	Spa	0.740		
	Room	0.534		
	View	0.482		
Location	Location	0.875	1.349	57.043
	Nusa	0.853		
F&B	Restaurant	0.739	1.197	64.907
	Food	0.676		
	Breakfast	0.480		
KMO (Kaiser Meyer Olkin) = 0.686				
Bartlett chi-squared (p) = 10,398.411 ($p < 0.001$)				

4.6. Regression Analysis Results

Following the factor analysis, linear regression was used to analyze guest experience and satisfaction. Table 7 summarizes the independent variables in the linear regression analysis: Value (V), Health Protocol (HP), Intangible Service (IS), Destination Resort (DS), Location (L), and Food and Beverage (FB). The overall variance explained by the six predictors was 29% ($R^2 = 0.293$). The two variables were shown to have positive impacts on guest satisfaction, with "Destination Resort" ($\beta = 0.008$, $p < 0.001$) and "Health Protocol"

(β = 0.003, p < 0.05), and we can see the numbers reflected in the reviews, for example: "A great experience to stay here lovely resort with a beautiful garden landscape peaceful and serenity"; "They also offer lots of activities inside the hotel (cycling, tennis, basketball, football, badminton, archery etc."; "We choose Melia the health protocol is very safe". Destination resort attributes have largely standardized coefficients, indicating that they are the most important factor associated with customer satisfaction, despite the fact that other studies on customer experience have not focused on this aspect.

Table 7. Linear Regression Analysis Result.

Model	Unstandardized Coefficients		Standardized Coefficients	t
	β	Std. Error	Beta	
(Constant)	4.982	0.002		2198.702
Value	−0.002	0.002	−0.030	−0.862
Health Protocol	0.003	0.002	0.044	1.259
Intangible Service	−0.059	0.004	−0.514	−14.687 ***
Destination Resort	0.008	0.002	0.137	3.833 ***
Location	−0.009	0.002	−0.139	−4.001 ***
F&B	−0.010	0.003	−0.122	−3.443 ***

Notes: Dependent Variable: Customer Satisfaction (GS); R2 = 0.293; adjusted R2 = 0.286; F = 40.837; *** p < 0.001.

In addition, based on its standardized coefficient values, four additional factors: "Value" (β = −0.002, p < 0.05), "Intangible Service" (β = −0.059, p < 0.001), "Location" (β = −0.009, p < 0.001), and "F&B" (β = −0.010, p < 0.001) had a negative impact on guest satisfaction ratings. According to the guest reviews, they are not pleased with the "Value", "Location", "Intangibles", and "Food and Beverage" factors with the review as: "Food is too expensive it's not worthy, poor menu", "Nice place but staff not so much", "Rude and unfriendly Frontline", "The hotel is good but it is far from where really for a vacation for the family", "just in the lobby it's really sucks, the porter/bell boy cannot see the condition, no valet service, and car park far away, bad service". Despite some negative reviews regarding certain variables, all of the resorts have an overall rating of 4.6 or higher out of 5. This means that even though there are some factors of the hotel that the guests are not satisfied with, the overall service provided by the resort still meets the expectations of the guests.

5. Discussion and Conclusions

5.1. Main Findings

The purpose of this study was to uncover the customer experience and customer satisfaction of 10 luxury resorts based on the top 10 luxury resorts in TripAdvisor that are resisted with an official CHSE certificate. The process of conducting this study involves several steps. To identify the words with highest relationship with other words, the 88 keywords were examined for degree and eigenvector centrality based on the results of frequency analysis. The CONCOR analysis clustered into five different clusters, namely "Value", "Location", "Food & Beverage", "Destination Resort", and "Health Protocol". We can see that the word "Clean" is ranked 18 in the frequency and rank 16 and 14 in the freeman degree and eigenvector centrality. This means that even though it is not included in the top 10 frequency words, the word "Clean", which is one of the main parts of the CHSE certificates, have a significant relationship with the other words. A previous study that used the period during the COVID-19 pandemic also revealed that cleanliness is one of the main attributes that visiting guests pay attention to these days (Lam et al. 2021).

Linear regression analysis provides six Independent variables: Value (V), Health Protocol (HP), Intangible Service (IS), Destination Resort (DR), Location (L), and Food and Beverage (FB). All of the variance is explained by the six variables were 29.3% (R^2 = 0.293).

The significance level for four variables out of six was 0.001, and two variables were significant at 0.05. According to the standardized coefficient value, two factors positively impacted the average guest satisfaction ratings were "Health Protocols" and "Destination Resort". However, "Value", "Intangible Service", "F&B", and "Location" variables have been identified as having a negative impact on guest satisfaction.

5.2. Theoretical Implication

This study analyzed 88 top keywords through frequency analysis by using big data followed by centrality analysis (freeman's degree and eigenvector centrality), CONCOR analysis, factor analysis, and lastly, linear regression analysis. This study utilized SCTM3.0 to perform text mining from the online review, the R program to refine the online review, and lastly, UCINET6.0 to visualize the data (Handani et al. 2022b). The CONCOR analysis was performed to cluster the top keywords into a certain specific cluster, which can help to clarify the implication for empirical application. According to the CONCOR analysis, there were the "Health Protocol" and "Destination Resort' clusters, which consist of words describing each cluster title. For example, the word "clean", "security", and "pandemic" are the reflection of CHSE certificate which all falls into the Health Protocol cluster (Ministry of Tourism and Creative Economy of Indonesia 2020). The words "ocean", "experience", and "spa" are a reflection of the destination resort (Prideaux 2009).

According to the linear regression analysis, there were a number of factors such as "Destination Resort" with the words "resort","spa","room", and"view" that have a high correlation with guest satisfaction and have a positive impact. We can also conclude that Bali resorts provide several of the activities, facilities, and experiences that are available at destination resorts, which contributes to a higher level of satisfaction for guests. There is an insight that people travel because they are motivated by push and pull factors, push factor is a motivating factor that is intrinsic in nature and may include the desire to escape, the need for rest and relaxation, social interaction, prestige, and health. In addition, to the attractive features of a destination, such as beaches, recreational facilities, and cultural attractions, pull factors also relate to travelers' expectations and motivations, such as novelty, benefit expectations, and image of traveling (Costa et al. 2004). Various resorts provide some educational opportunities to guests (e.g., massage techniques, cooking lessons, swimming, snorkeling, etc.) that are important in developing memories and positive behavior. Such experiences are particularly important when it comes to developing memories and positive behavior (Ali et al. 2014).

5.3. Managerial Implication

The pandemic has created a huge slope in the tourism and hospitality industry. The number of visitors in Bali dropped from 6.28mil to 1.07mil in 2020 (Statista 2022). The Indonesian president, Jokowi, mentioned that Indonesia has stepped into the new normal and is slowly easing travel restrictions (Fealy 2020). Accordingly, the luxury resorts in Bali should prepare and create a strategic approach towards the new normal to gain more financial benefits.

The first finding in this research allows resort managers to recognize the top-mentioned words, which are the attributes affecting customer satisfaction. With these attributes, the resort managers will be able to adopt it as a marketing approach or evaluation approach to gain more customer satisfaction and other management goals. This study also inspires resort managers to pay more attention to the online reviews that previous customers have written since it provides various information that the resort management will be able to utilize that can affect the future customer satisfaction level. The second result of this study may also be used by managers to reevaluate their resort parts in an effort to gain more guests by investigating customer satisfaction through online reviews. Moreover, it can affect the intentions of other potential guests to book and the loyalty of existing customers from their experience at destination resorts.

5.4. Limitation and Future Research

This study had limitations regarding the collection of data. The study only focused on the top 10 resorts in Bali for the sample, and in order to generalize the results, future studies should examine data from other accommodation types, such as budget hotels and privately owned villas. In addition, the analysis of the collected text was determined based on word frequency and the relationship between the words. Therefore, it was difficult to determine the additional meanings of the words. It is expected that future studies will conduct a deeper analysis of both the positive and negative sentiments for an improved understanding of customer experience and satisfaction.

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