Analyzing Key Attributes of Hilton Hotels in South Korea's Customer Experience and Satisfaction Using Online Review Data

Mirjalolova Dilnoza

Master's student of Hospitality and Tourism, FerSU

Abstract: The hospitality industry is constantly facing a number of issues, including growing customer demand for quality and the requirement to deliver comprehensive services. Understanding customer satisfaction is the most certain method to overcome these obstacles. The goals of this study are to examine Hilton hotel customers' satisfaction and experiences, as well as the main qualities and structural relationships between those important attributes.

To achieve this goal, a total of 9893 Hilton hotel reviews were gathered from Google (google.com) across the country of South Korea. A frequency analysis using text mining was performed to determine the most frequently mentioned attributes. Furthermore, semantic network analysis was used to comprehend the hotel's customers' experiences and satisfaction.

Keywords: Hilton hotels' customer experience, customer satisfaction, selective attribute, online hotel review, e-WOM, big data, semantic network analysis, hospitality marketing.

Introduction

The hospitality industry has thrived with travelers from all over the world in an increasingly globalized world where travel has become faster, cheaper, and more convenient. Hotel brands have been swiftly expanding to keep up with demand, with a record 1.4 billion guests in 2018 alone, according to UNWTO. The aim of expanding world-renowned restaurants and hotels chains in developed countries is that to bring more benefits to the destination in the form of world-class brand equity, employment opportunities, et cetera. Hilton hotels brand is in the list of top five-hotel brand around the world and have already established 6619 properties (*Statista, 2022)* with their world infinite connections, luxury services, and loyalty programs, which generate strong customer demand. South Korea has five Hilton hotel franchises in various areas, and each brand is important in terms of creating customer loyalty among inbound and outbound travelers visiting South Korea.

Since each hotel industry offers only highly intangible services, which means customers cannot experience before buying the service, hotels must always monitor the opinions and experiences of customers to delight them every time. Previously, customer's satisfaction analysis has done by surveys, many researchers have performed surveys to evaluate consumer satisfaction and hotel selection factors in the hotel and hospitality industry (*Lewis, R.C; at el. 1984*). Although the

survey approach has the advantage of eliciting replies to the required questions, there may be limits due to factors that may produce measurement errors, such as the structure of the questionnaire, the survey term, the response category, and the order of the survey (*Groves & Lyberg, 2010*) However, currently, on the internet-dependent world, it is much easier to identify customers' opinions through online reviews. Traditionally, the review is known as 'word of mouth' (WOM). WOM's impact has been changed in the Internet era by electronic word of mouth (eWOM), which has grown significantly (*Kim, W.H.*, 2017). The eWOM is a new way of identifying the key attribute of service quality from the standpoint of the consumer.

Many types of research have been done on hotel customers satisfaction and experiences however this study aims to focus on determining the important attributes of the services from the perspective of five different Hilton Hotels' customer reviews in South Korea, which will aid in understanding the customer's experience and satisfaction with the services provided.

Literature Review

Customer Experience and Satisfaction. Understanding customer satisfaction is the most certain method to overcome growing customer demand for quality and the requirement to provide comprehensive services. In addition, customer satisfaction is the primary determinant of the quality of services given in the hotel industry (*Ivy Panda, 2021*). In addition, customer satisfaction can be described as an experience based on the interaction of certain services, and it contributes to loyalty, repeat purchases, positive word of mouth, and increased profitability (*Browning, V 2013*).

Examining customer satisfaction and experience enables Hilton hotel managers to recognize their guests' expectations and impressions of various hospitality components and make the necessary modifications to narrow the current gaps in the service. Given the scarcity of resources, the knowledge will assist managers in making the key decisions (*Ivy Panda, 2021*).

Electronic Word of Mouth. Currently, electronic word of mouth (eWOM) is the greatest option for customers to make purchasing decisions since it allows them to get reliable information about product and service quality before purchasing. Reviews posted on the Internet are accessible to all other customers and, as a result, can have a substantial impact on the success of goods and services.

Mainly, customers who are buying intangible products and services primarily rely on eWOM if they have never used it before (*Xiang, Z at. el. 2018*) as this helps customers in obtaining precise information impacted by their chosen attributes and shared subjective experiences, opinions, images, and hotel reviews, and vacation suggestions (*Kim, S. at. el. 2015*). Online reviews are significantly more concerned with customers, reflect the best information, and are far more dependable than company information (*Hu, N., 2019*) Reviewers will play the role of opinion leaders, and their online reviews will serve as a new resource for other consumers looking for information about the hotel (*Ban, H.J., and Kim, 2019*). Thus, using text-mining analysis, this study examines Hilton hotel service assessments used in the study to investigate customer experience.

Text Mining and Semantic Network Analysis. Text mining is the process of discovering and analyzing text to identify key terms and count their number of occurrences as quickly as possible. It generates a list of the most frequently occurring words in the text (*Jaredm Wright, 2018*). The general text mining process includes the processes of data collection, data refining, data analysis, and management information systems as shown in Figure 1.
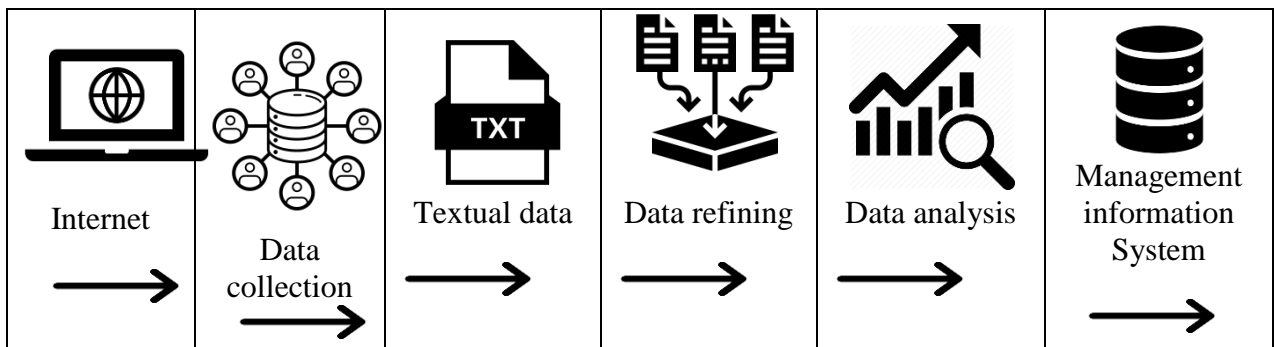
Figure 1. Text mining process, source Ban and Kim

First, in the stage of data collection, raw data collected from Google.com is used as a data source to identify and clarify the type of information. It is crucial to understand the properties of keywords and to restrict the scope of the data you wish to gather (*Ban, H.J., and Kim, 2019*). After collecting data, they are refined based on several criteria. For example, unclear words that are translated to English from other languages with mistakes are all cleaned up. The text analysis stage is based on information extraction, clustering, and classification technologies, it is employed as a management information system and knowledge is acquired (*Hassani, H., at. el, 2016; Sirsat, S.R., at. el. 2014)*

Currently, there is a lot of research being done on text mining for the hospitality sector. Using text mining analysis, Ban and Kim examined user reviews to comprehend numerous factors affecting airline passenger satisfaction. Liau & Tan segmented customer opinions of low-cost airlines or low-cost carriers using text mining. Kim, Y. J., and Kim studied hotel reviews found online and used text mining analysis to determine which characteristics influenced customer satisfaction.

By using network analysis to look for connections between concepts, text analysis takes this process a step further and creates what is known as semantic network analysis. The nodes in social networks are typically identified and designated by research, and they represent things like people or organizations. The nodes in semantic networks represent ideas or themes that frequently appear together nearby in a particular text (*Jaredm Wright, 2018*). Text mining is frequently used to first identify the most prominent concepts in a text, and semantic network analysis is then used to precisely analyze how these concepts are related in order to reveal the meaning behind them (*Lambert, 2017*).

Methodology

Data Collection. Reviews were gathered during the data collection procedure from Google.com, the leading search engine. The Google review site provides extensive information about the hotel brand utilized by the customer, the reviewers' ID, date, comments, ratings, and type of trip (Figure 2).

Figure 2. Google review data screen.

Then, SCTM 3.0 (Smart Crawling & Text Mining 3.0), a web crawling and data processing technology developed by Kyungsung University's Wellness & Tourism Big Data Research Institute was then used to collect review data for this study (*Mun, Ban, & Kim, 2020; Yu, Kim, & Kim, 2021*). A total of 23,621 reviews were collected from the five Hilton hotels in South Korea in various locations as shown in Table 1. After eliminating data that was not readable or had only ratings with no content, 9,893 reviews and 45,960 words remained.

	Name	Location	No. of reviews
1	Ananti Hilton Busan	Busan	8,200
2	Millenium Hilton	Soul	5,949
3	Hilton Gyeongju	Gyeongju	3,944
4	Conrad Seoul	Seoul	5,201
5	Hilton Garden INN	Seoul	327
	Total: Five Hotels	**South Korea**	**23,621**

Table 1. Number of reviews

Data analysis. To begin the data analysis for this project, the text mining technique was used to retrieve the word frequency from online hotel reviews. At this point, RStudio was used to convert unstructured text data to structured text data, that is, from sentences to a single word with their relative frequency.

On the semantic network analysis, extracted top 84 frequency words then displayed using Ucinet 6.0 with the tool NETDraw, based on the matrix data, to clarify the link structure and connectedness between nodes. Semantic network analysis concentrated on degree and eigenvector centralities, which are indicators quantified based on the arrangement and measurement method of the centrality concept. As a measure of a node's influence in a network, Freeman proposed eigenvector centrality (*Mun, Ban, & Kim, 2020; Yu, Kim, & Kim, 2021*). Subsequently, CONCOR (CONvergence of iterated CORrelation) analysis was performed to acquire the subgroups of these words to grasp these interwoven relationships with each other and determine the facets that customers are interested in.

Results

Frequency Analysis. Using frequency analysis, 45,960 single words were converted into structured data. 84 high-frequency words were extracted after removing repeated, irrelevant, and low-frequency words. Table 2 depicts a list of frequently used words, and Figure 3 shows the result of visualizing the network that reflects the frequency.

The most frequently used terms in the result were 'hotel,' 'excellent,' 'lounge,' 'buffet,' and 'comfortable.' It is noticeable that the word 'hotel' and 'good' the most mentioned words and the word 'good' is most frequently associated with other sorts of hotel services, and the words 'lounge' and 'buffet' drew the greatest consumer attention, encouraging them to mention them in their reviews. Furthermore, as it is shown on visualization of network analysis the words describe facilities such as 'pool', parking',

'casino', 'facility', 'lounge', 'buffet', 'sea', 'amenities', 'scenery' and the other words that describes service quality such as 'good', 'well', 'friendly', 'satisfied', 'enjoy', 'feel', 'nice' have the influential central node.

Table 2. Top 84 frequent words from the Hilton hotel review.

| Rank	Word	Freq.	Rank	Word	Freq.	Rank	Word	Freq.
1	hotel	3515	29	parking	539	57	ifc	316
2	good	3489	30	interior	532	58	feel	314
3	lounge	3257	31	stay	518	59	take	307
4	buffet	2575	32	delicious	516	60	visit	307
5	comfortable	2071	33	old	513	61	spacious	305
6	room	2041	34	well	498	62	excellent	303
7	view	2003	35	price	482	63	eat	302
8	staff	1897	36	beautiful	475	64	night	300
9	service	1689	37	luxurious	475	65	around	298
10	facilities	1479	38	luxurious	475	66	next	296
11	casino	1278	39	restaurant	412	67	located	289
12	sea	1276	40	hotels	392	68	Conrad	288
13	bar	1247	41	station	391	69	family	288
14	nice	1215	42	scenery	382	70	better	287
15	pool	1170	43	atmosphere	379	71	lobby	285
16	breakfast	1132	44	check	377	72	restaurants	282
17	great	1066	45	enjoy	377	73	close	276
18	clean	1049	46	want	376	74	river	276
19	Hilton	1036	47	see	363	75	convenient	274
20	like	1030	48	expensive	362	76	quality	267
21	friendly	859	49	walk	356	77	water	264
22	time	687	50	think	343	78	executive	251
23	swimming	670	51	front	340	79	stayed	251
24	location	635	52	people	340	80	taste	251
25	rooms	625	53	star	334	81	much	247
26	really	564	54	condition	323	82	satisfied	247
27	floor	556	55	first	322	83	cafe	237
			56	mall	317	84	amenities	139
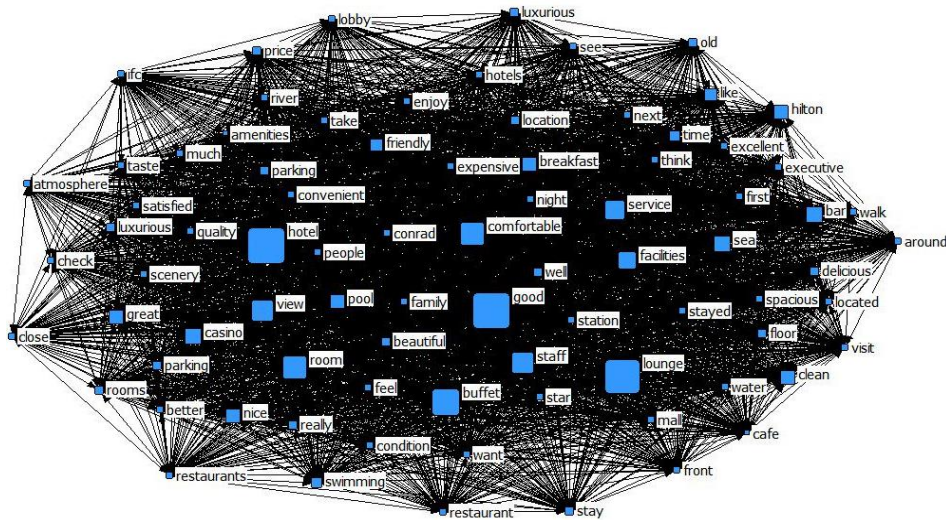
Figure 3. Keyword visualization of network analysis.

CONCOR analysis. CONCOR analysis was used to segment words by performing correlation analysis on top frequency words repeatedly, and then similarity groups could be gathered (*Ban & Kim, 2019; Tao & Kim, 2017)*. This study identifies node blocks based on the correlation coefficient of the matrix of concurrent keywords and forms clusters with keywords that are similar (*Kim, H.S.; Noh, 2019).*

Figure 4 illustrates the CONCOR analysis results with visibility. Four clusters were created, each intricately intertwined with the others. The group was named 'Service,' 'Location,' 'Environment', and 'Facilities' after examining the words in the group.

The 'Service' group includes the hotel industry terms 'staff,' 'service,' 'rooms,' 'friendly,' 'people,' 'price,' 'expensive,' 'lobby,' 'stay,' and 'amenities. 'Environment' uses descriptive like 'enjoy,' 'great,' 'good,' 'sea,' 'condition,' 'scenery,' 'satisfied,' 'convenient,' and 'excellent.' 'Location' refers to several hotel brands such as 'Station,' 'parking,' 'river,' 'location,' 'IFC,' and 'around,' and this group also includes words such as 'bar,' 'restaurants,' 'mall,' 'cafe,' and 'walk.' The final list, 'Facilities,' is composed of words like 'pool,' 'comfortable,' 'luxurious,' 'facilities,' 'executive,' and etc.
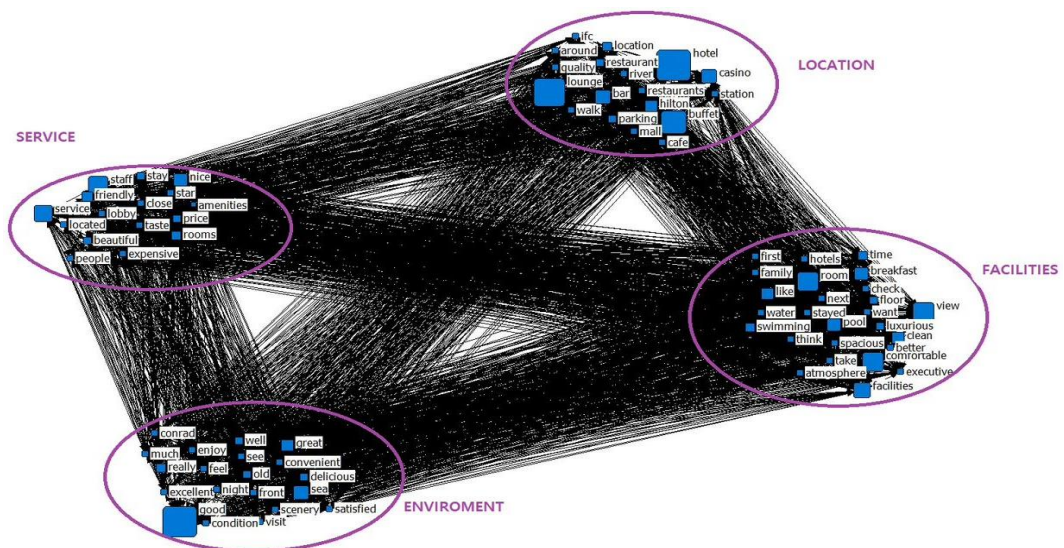

Figure 3. Visualization of CONCOR analysis.

Conclusion

This study was conducted to identify the key attributes of Hilton hotel customer experience and satisfaction based on online reviews. The first step in analyzing online hotel review data was to extract keywords via text mining, followed by calculating the frequency of words used by customers. After extracting the top 84 frequent words, network analysis was performed to visualize the network that reflects the frequency. Thereafter, CONCOR analysis was used to generate four clusters: 'Service,' 'Environment,' 'Location,' and 'Facilities.' They were also visualized by drawing networks and nodes in UCINET 6.0 using NetDraw.

Examining customer satisfaction will assist Hilton Hotels in understanding their guests' expectations and opinions of various hospitality components. This research contributes to the understanding of customer hotel selection qualities. In practice, managers can utilize online review analysis as a marketing tool because consumer feedback is a vital source for hotels to improve service and offer profit-generating promotions. The analysis also indicates the level of relevance of certain service traits, allowing the hotel sector to deploy resources appropriately. Online review analyses can provide reliable satisfaction ratings. The hotel business can also use this strategy to study their competitors' customer reviews in order to compare themselves in terms of customer satisfaction. These studies can be utilized to make long-term strategic marketing decisions against competitors.

References

1. Ban, H. J., & Kim, H. S. (2019). Understanding customer experience and satisfaction through airline passengers' online review. *Sustainability*, *11*(15), 4066.

2. Browning, V., So, K. K. F., & Sparks, B. (2013). The influence of online reviews on consumers' attributions of service quality and control for service standards in hotels. *Journal of Travel & Tourism Marketing*, *30*(1-2), 23-40.

3. Chow, K. E., Garretson, J. A., & Kurtz, D. L. (1995). An exploratory study into the purchase decision process used by leisure travelers in hotel selection. *Journal of Hospitality & Leisure Marketing*, *2*(4), 53-72.

4. Groves, R. M., & Lyberg, L. (2010). Total survey error: Past, present, and future. *Public opinion quarterly*, *74*(5), 849-879.

5. Hassani, H., Huang, X., Silva, E. S., & Ghodsi, M. (2016). A review of data mining applications in crime. *Statistical Analysis and Data Mining: The ASA Data Science Journal*, *9*(3), 139-154.

6. Hu, N., Zhang, T., Gao, B., & Bose, I. (2019). What do hotel customers complain about? Text analysis using structural topic model. *Tourism Management*, *72*, 417-426.

7. IvyPanda. (2021, September 7). Hilton Hotels: Customer Satisfaction and Decision Making (Accessed: 15.06 2022).

8. Jaredm Wright. 'Methodology Review, Part 2: Text Mining and Semantic Network Analysis.' The Digital Sociology Blog, jaredmwr.wordpress.com, 13 Mar. 2018.

9. Kim, H. S., & Noh, Y. (2019). Elicitation of design factors through big data analysis of online customer reviews for washing machines. *Journal of Mechanical Science and Technology*, *33*(6), 2785-2795.

10. Kim, S., Kandampully, J., & Bilgihan, A. (2018). The influence of eWOM communications: An application of online social network framework. *Computers in Human Behavior*, *80*, 243-254.

11. Kim, Y. J., & Kim, H. S. (2022). The Impact of hotel customer experience on customer satisfaction through online reviews. *Sustainability*, *14*(2), 848.

12. Lewis, R. C. (1984). Isolating differences in hotel attributes. *Cornell hotel and restaurant administration quarterly*, *25*(3), 64-77.

13. Lock, S. (2022, March 24). *Largest hotel chains by properties | Statista*. Statista; www.statista.com. https://www.statista.com/statistics/197869/us-hotel-companies-by-number-of-properties-worldwide/

14. Mun, J. Y., Ban, H. J., & Kim, H. S. (2020). A study on consumers' perception of meal-kit: After the spread of coronavirus infectious disease-19 (COVID-19). *Culin Sci Hosp Res*, *26*, 198-207.

15. Nasridinovna, T. O. (2024). Methods of Assessing the Competitiveness of Entrepreneurial Activity in Tourism Enterprises. Gospodarka i Innowacje., 46, 590-594.

16. Nasriddinovna, T. O. (2024). Prospects for the growth of tourism in Uzbekistan and the use of organizational and economic methods in the management of tourist complexes. International journal of artificial intelligence, 4(07), 98-103.

17. Nasridinovna, T. O. (2023). Factors affecting the management of competitiveness in tourism enterprises. Ethiopian International Journal of Multidisciplinary Research, 10(10), 159-163.

18. Nasridinovna, T. O. (2023). Preparation of Specialists of the Hotel Complex Analysis of the Quality of Services.

19. Shanahan, K. J., & Hyman, M. R. (2007). An exploratory study of desired hotel attributes for American tourists vacationing in China and Ireland. *Journal of Vacation Marketing*, *13*(2), 107-118.