

Fine-Grained Sentiment Analysis of Covid-19 Quarantine Hotels through Text Mining

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Abstract

The Covid-19 pandemic compelled countries to conduct mandatory quarantine for incoming travelers. Due to shortages in government facilities, hotels have become alternative quarantine sites. The quarantine procedures adopted by hotels have overlooked the guests' comfort and well-being. The objective of this study is to discover critical quarantine service attributes and understand quarantined guest sentiments. Fine-grained sentiment analysis was conducted by tokenizing and analyzing each word in each review sentence to categorize the hotel service attributes and detect the valence of guests' sentiments. A database was formed using extracted data from English and Chinese textual reviews from TripAdvisor and Trip.Com on 23 designated quarantine sites in the Hong Kong region. A total of 14,023 English review sentences and 17,226 Chinese review sentences were extracted from the period of December 2019 to November 2022. Natural Languages Processes (NLP) such as VADER Sentiment Analysis, Latent Dirichlet Allocation (LDA), and Skip-Grams were utilized to categorize the quarantine service attributes and gather key sentiments and insights. A comparative analysis of Quarantine Hotels and General Hotels was conducted using the Jaccard similarity index and results showed an overall similarity of only 15.79%. Managerial implications were suggested to improve quarantine services in the hotel industry. It is found that Chinese reviews emphasized staff, service, and facilities. While English reviews emphasized the overall quarantine stay, food, and check-in procedures. Negative review sentiments confirmed the disregard for guests' mental health while positive sentiments emphasized the importance of guest-staff interaction. The direct online interaction with staff through an app and conducting online group activities reflected high positive sentiment valence. Applying insights from this study to existing hotel service procedures may deem useful should another crisis hit the hospitality industry.

Keywords

Text Mining, Natural Language Processing, Sentiment Analysis, Quarantine Hotels

Biographies

Jaehun Park is currently an Associate Professor at Changwon National University in South Korea. He received a Ph.D. in Industrial Engineering from Pusan National University, South Korea (Advisor: Prof. Hyerim Bae). He was also a researcher at the Worcester Polytechnic Institute (WPI) and Massachusetts Institute of Technology (MIT), MA, USA. He was a senior researcher with the Defense Agency for Technology and Quality (DTaQ), in South Korea. His research interests are in the areas of big-data analytics, productivity modeling, benchmarking with DEA (Data Envelopment Analysis), and Business Intelligence (BI).

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