Passengers' service perceptions emerging from user-generated content during the pandemic: the case of leading low-cost carriers

Service perceptions from UGC during pandemic

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Abstract

Purpose – Although a vast amount of research has been started to gauge customer satisfaction using surveys, the influence of COVID-19 on passengers' satisfaction has not received enough attention. Hence, the primary purpose of this research is to determine the dominant themes that emerged from airline travelers' online reviews and to determine attributes that are pertinent to the satisfaction of passengers flying with low-cost carriers (LCC) during the COVID-19 outbreak. In addition, this study investigates whether the salient themes of passengers' overall experiences vary by traveler origin, which may give more insight into airline sector market segmentation.

Design/methodology/approach – Leximancer software was used to construct concepts from words, followed by themes in the data analysis.

Findings – The analyses revealed eight themes in descriptions of "travel experiences" for airline passengers. These are "flights," "staff," "service," "hygiene," "cancellations," "legroom," "COVID-19" and "test". Negative reviews associated with "cancellations," "refund," "waiting" and "baggage" (handling) concepts.

Originality/value – The findings provide important information about airline passengers' overall experiences. Limited studies have comprehensively considered various satisfaction categories of airline travelers using online reviews.

Keywords Low-cost airlines, Service perception, Satisfaction, Content analysis, Online reviews **Paper type** Research paper

1. Introduction

Two of the most prevalent kinds of user-generated content (UGC) that enable travelers to express their preferences for tourism services and share their experiences are online reviews and ratings (Arasli *et al.*, 2021; Saydam *et al.*, 2022; Xu *et al.*, 2021). Scholars believe that online reviews and ratings in the hospitality and tourist industries are frequently utilized to gauge customer satisfaction (Arasli *et al.*, 2020b; Noviantoro and Huang, 2022). Numerous studies on customer satisfaction have been undertaken, with the majority focusing on the quantitative approach (Saydam *et al.*, 2022). On the other hand, different strategies are required to comprehend online evaluations from social media, where millions of users read and post remarks (Nilashi *et al.*, 2021). This will enable researchers to gain a relevant picture from travelers' comments, assisting decision-making and improving the quality of service (Arasli *et al.*, 2020b). As a result, numerous machine learning (ML) approaches have been used to analyze such data in the tourist and hospitality industries (Brochado *et al.*, 2021). The methods described above reveal how ML could be utilized to extract customer satisfaction attributes from big datasets (Nilashi *et al.*, 2021). In contrast to statistical methodologies for survey-based



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The TQM Journal © Emerald Publishing Limited 1754-2731 DOI 10.1108/TQM-06-2022-0208 research, ML algorithms can effectively uncover consumer choices and preferences from big datasets in the form of online customer evaluations and ratings (Nilashi et al., 2019).

Following an assessment of the pandemic's intensity and its alarming levels of spread, the World Health Organization (WHO) declared the newest coronavirus (COVID-19) outbreak a worldwide pandemic (Wen *et al.*, 2021). Consequently, many individuals were forced to delay holidays in the following months (Nilashi *et al.*, 2021). The pandemic of COVID-19 has profoundly affected world healthcare and the economy (Colamatteo *et al.*, 2021; Esposito *et al.*, 2022; Jafari *et al.*, 2021; Karatepe *et al.*, 2022; Rezapouraghdam and Karatepe, 2020). In addition, the calamity of COVID-19 has altered travelers' behavior considerably, primarily due to confinement-related issues (Jafari *et al.*, 2020). The outbreak of COVID-19 has wreaked havoc on several famous vacation spots. As a result of the pandemic, tourists who had planned to travel abroad were postponing or canceling their vacations (Nilashi *et al.*, 2021).

From an aviation standpoint, in 2020 as airline customer earnings are expected to decline by 69%, amounting to a US\$421 billion loss, in comparison to the pre-pandemic year of 2019, while aggregated losses are expected to total US\$118 billion, four times more than the amount lost in 2009 following the global financial crisis (IATA, 2020b). According to an IATA analysis, COVID-19 has evolved into the most dangerous virus in aviation history (Liu et al., 2021), with its effects expected to endure until no later than 2024 (IATA, 2020a). Another study by Gudmundsson et al. (2021) predicted the same healing direction, with the best likely outcome in mid-2022 and the worst-case scenario in 2026.

In light of the scenario mentioned above, it is crucial to observe travelers' satisfaction levels during the pandemic to determine their airline service preferences. Online passenger comments are valuable sources for locating the consumer voice during an outbreak. Indeed, customer reviews on the Internet make it simple to determine passengers' main issues and their level of consent. Accordingly, new data analysis procedures and tools for gathering and interpreting information from online customer reviews should be developed. Indeed, conventional statistical approaches based on survey data collection would be inadequate for determining customer satisfaction during the COVID-19 pandemic. At the same time, online reviews will be the best cure to understand travelers' satisfaction rates (Nilashi *et al.*, 2021). As previously stated, a significant amount of research in the service-based sectors has depended on the drop-off/pick-up method for household surveys to assess the quality of service (Brochado *et al.*, 2019; Cobelli *et al.*, 2022). However, several recent findings have shown the benefits of evaluating UGC on the media when determining passenger satisfaction with their travel experiences (Noviantoro and Huang, 2022). The aviation sector is considered one of the most socially intense sectors, yet online platforms enable airlines to interact with their travelers in "two-way" directions (Brochado *et al.*, 2019).

Furthermore, airline travelers perceive online reviews conveyed by other customers as reliable (Sulu et al., 2021). Again, Sulu et al. (2021) demonstrated that higher online evaluations provided on social media platforms are associated with positive airline recommendations. The research conducted by Sezgen et al. (2019) showed the primary determinants of customer satisfaction and discontent economy and premium cabins. Using text mining techniques, Lucini et al. (2020) analyzed online passenger reviews to provide competitiveness standards for the airline industry. During the COVID-19 pandemic, Saydam et al. (2022) examined the online opinions of tourists and determined which service attributes are connected with higher and lower levels of satisfaction. Although perceived customer evaluation and service quality have been linked to consumers' positive behavioral intentions, the literature on service aspects provides (dis)satisfaction is still unclear (Noviantoro and Huang, 2022). Unsurprisingly, hospitality researchers have called for future research to focus on the UGC during COVID-19 to understand travelers' perceptions toward service (Nilashi et al., 2021; Saydam et al., 2022). Brochado et al. (2019) have also called studies to see if the critical themes of airline customers' overall experiences differ according to traveler gender (e.g. male vs. female). In response to this call, we also distinguish the main themes shared online by the gender of travelers. The current study looked at airline passengers' online narratives due to the gap in the research above. The study's three main goals are to (1) identify the major themes that depict overall impressions of airline customers' experiences shared online during the pandemic; (2) determine the themes that are most closely associated with higher and lower satisfaction ratings, and (3) ascertain the main themes shared online by gender.

Service perceptions from UGC during pandemic

2. Literature review

2.1 Customer experience

Experience is a multifaceted and all-encompassing view of tourists. Numerous travel and hospitality scholars have emphasized the significance of personal experience in the travel and hospitality industry (Chiu *et al.*, 2017; Sulu *et al.*, 2021). Positive visitor experiences benefit local companies and communities through increased spending, return visits, and/or positive word-of-mouth. However, it is difficult to evaluate and quantify an individual's experience (Chiu *et al.*, 2017).

The customer's journey through all encounters with the business—pre-, during- and post-consumption—is reflected in the customer experience (CE) (Kandampully and Solnet, 2018). Therefore, CE is more than just the outcome of one encounter; it is influenced by each stage of the customer's interaction process with a company and frequently results from the interactional activities of actors. The CE in hospitality settings is derived from a variety of supporting features and functions, including websites, technology, online and offline interactions, in-room entertainment, facility designs and interactions with service staff and other guests, in addition to the food, drink, lodging and entertainment provided (Kandampully *et al.*, 2018). Therefore, managing CE is a tough challenge for hospitality businesses. Even if the CE topic has gained attention in the literature on hospitality, more research is necessary for a thorough understanding and measurement of experience (Vesci *et al.*, 2020), particularly in the context of airlines. In fact, according to Forrester Research (2014), only a small percentage of businesses mature in their use of CE management. Therefore, the subject merits more scholarly investigation.

Studies of CEs in the past have combined perspectives from marketing, consumer behavior, and psychology to offer new insights into how consumers process information about experiential stimuli that have the potential to influence their purchasing decisions (Holbrook and Hirschman, 1982). These studies are primarily based on three theoretical frameworks: (1) informational economics thought, which emphasizes categorizing goods or attributes based on the purchase context (Nelson, 1970); (2) experiential economics thought, which emphasizes pleasures experienced during product evolution as a result of economic development (Pine *et al.*, 1999); and (3) holistic experience thought, which promotes a holistic view of experience combining various experiential. All three paradigms assume that all experiences arise from direct observation and involvement in events due to marketing efforts or stimulation before or after purchase (Yoon and Lee, 2017).

2.2 Airline passenger satisfaction

Since customer satisfaction is acknowledged as a significant motivator of purchases and loyalty, marketing and consumer behavior literature are interested in learning more about its causes and effects (Lin, 2021). Satisfaction is described as a feeling of excitement or just the opposite; disappointment when a consumer compares a product or service's perceived performance to their former expectations (Oliver, 1981; Tse and Wilton, 1988). Therefore, customer satisfaction is an issue related to a post–purchase experience. Although both phrases refer to comparing quality expectations with actual service obtained, one should note that customer satisfaction and service quality are not synonymous (Jiang and Zhang, 2016). In the airline service industry, understanding travelers' expectations are critical as

passengers evaluate their performance to their expectations (Shah et al., 2020). Poor airline service quality causes passenger dissatisfaction, according to Hu and Hsiao (2016). Customers' perceptions have a significant impact on service sectors since they serve as quality inspectors (Al Shraah et al., 2022). Service quality has been an essential marketing and management topic for decades. Quality relates to customer satisfaction or organizational procedures that contribute to the delivery of a quality product or service (Schiavone et al., 2022). Several service quality models, including the SERVQUAL model, have been developed to quantify the factors contributing to customer satisfaction. The original SERVQUAL paradigm, which has five dimensions (including tangibles, reliability, responsiveness, assurance and empathy), was first presented by Parasuraman et al. (1988). In the pioneering study. Parasuraman et al. (1991) proposed a three-factor model, with tangibles, reliability and quality of persons as the main aspects (responsiveness, assurance and empathy were integrated into a single variable). According to Chen (2008), traveler satisfaction is indirectly affected by perceived service quality performance, which is regulated by perceived value. Noviantoro and Huang (2022) found that "boarding", "wi-fi", "baggage handling," as well as "entertainment" are the most critical factors affecting passengers' satisfaction. According to Sezgen et al. (2019), the factors impacting passenger contentment differ greatly based on the class of air travel purchased. For those traveling in economy class, "personnel," "friendliness," and "helpfulness" are critical elements; for those traveling in luxury cabins, the value of the product is essential; while in a low-cost one, price is the main component of satisfaction among passengers.

The consequences of the pandemic forced airlines to rethink passenger experiences. To apply suitable management techniques, airline executives ought to be conscious of the instant as well as unprecedented strategies that emerged from the calamities (Sulu *et al.*, 2021). In addition to the studies indicated above, we acquired data from the most popular travel website, "TripAdvisor," during the COVID-19 pandemic on low-cost carriers (LCC) passengers' opinions expressed through online reviews. As a result, this study fills a scarcity in the literature by providing a qualitative analysis of UGC that includes text mining approaches under challenging situations.

2.3 Information content of online reviews

Online reviews provide businesses with an economical method of acquiring and retaining consumers. Managers can use such processes to recognize/her own and their competitors' strong points and deficiencies, while the power and speed with which information is disseminated through online communities can also be used to enforce contractual obligations (Brochado *et al.*, 2019). In addition, customers use UGC from others to lessen risk and knowledge asymmetry about a service or product (Korfiatis *et al.*, 2019). As a result, the opinions of other customers in review aggregators substantially impact their purchasing decisions.

Consumers and managers now have more access to reviews thanks to social travel media sites such as Yelp! and TripAdvisor. Decision-makers can use such aggregators to evaluate the success of service/product offerings in a comparative and consolidated manner (Korfiatis et al., 2019). Nonetheless, literature has discovered various flaws in its design, including "response bias" (Stamolampros et al., 2019), "self-selection bias" (Smironva et al., 2020), "sequence bias" (Ruiz-Mafe et al., 2020), and "psychological biases" (Stamolampros and Korfiatis, 2018). Because online reviews affect travelers' selections as well as their sales (Floyd et al., 2014), enterprises should incorporate this knowledge into their profession's strategy even if such biases exist.

Increasing consumer engagement in websites provides essential data for researchers and marketers in the airline industry (Sezgen et al., 2019). Big data scraped from online domains

Service perceptions from UGC during pandemic

can throw light on firms and provide recommendations for them to design strategies compared to standard data analysis approaches (Arasli et al., 2021). Although it is favorable for airlines to weigh customer satisfaction and propose corrective steps, genuine passenger feedback appears challenging to gather using standard methods (Sezgen et al., 2019). Most clients are hesitant to submit constructive feedback to their service provider, especially when it involves unhappiness (Berezina et al., 2016). According to a recent study, airline passengers' complaint behavior varies depending on demographic variables. They express their dissatisfaction directly to the company, privately using word-of-mouth, or through a website (Sezgen et al., 2019). Word-of-mouth is said to be a result of client attitude, satisfaction levels and environmental impressions. Positive environmental perceptions may lead to the dissemination of positive information, such as recommending a service provider, sharing compliments about particular service features, and, in particular, urging friends and family to make purchases from a provider whose offering is tangible and experience-based (Conti et al., 2020). Because airlines are fundamentally multicultural enterprises, gaining a better understanding of their wide variety of customers to develop service improvement practices would be tremendously advantageous (Sulu et al., 2021). Customers discuss their experiences through numerous online channels, allowing airlines to accomplish this (Sulu et al., 2021). However, there is inadequate research in the airline industry has employed online customergenerated content to identify essential features of airline services by conducting "sentiment analysis" of sites such as TripAdvisor (Brochado et al., 2019; Korfiatis et al., 2019; Sezgen et al., 2019; Sulu et al., 2021) and recommended the application of this sort of data in further research.

Online data are typically fragmented, making it difficult to manually and accurately analyze such a massive volume of data. On the other hand, this study employs Leximancer, a well-known statistical tool for uncovering hidden meanings in unsolicited data (online reviews). We sought to analyze the dominant concepts that illustrate general impressions of airline experiences shared online during the pandemic; (2) to identify the themes most closely associated with higher and lower satisfaction ratings; and (3) to understand the significant themes shared by females and males.

3. Method

3.1 Data and procedures

The current research used TripAdvisor.com as a source of data. This web page allows visitors to review and comment on many sectors such as restaurants, hotels and airlines (Ozturen et al., 2021). By allowing travelers to give feedback on their flight experience, TripAdvisor has created a leading e-WOM database worldwide. According to the statistics, the platform mentioned above has recorded 411 million monthly users perusing more than 700 million reviews. It is known as a "game-changer" in the hospitality and tourism industries (Filieri et al., 2021). In this study, we only considered reviews written in English for scraping and discarded any that were too brief. The use of longer reviews was recommended by previous studies (Cassar et al., 2020). We base our analysis on information provided by SKYTRAX, which annually recognizes the world's best airlines, SKYTRAX announced a total of twenty successful LCCs. All TripAdvisor reviews written about twenty LCC described above were probed using "virus," COVID-19," and "pandemic" terms. In the study of Davras and Durgun, this method of data gathering was preferred (Davras and Durgun, 2022). A total of 2 839 individual reviews were found to be valid. Judgmental sampling was utilized, a common technique when some members of the population are judged more suitable for the study than others; this sampling method is appropriate to be followed (e.g. Darban et al., 2022; Rezapouraghdam et al., 2018).

3.2 Data analysis

We gathered Internet comments for this study and then used Leximancer software to evaluate the data (version 5.0). According to "Bayesian statistical theory," this software assembles evidence fragments that best portray what comes about in the written texts under exploration (Arasli et al., 2020b). In general, the computer produces a "thesaurus" before using an ML algorithm to detect the optimal "thesaurus" of words retrieved from the input data, organizing them by themes and displaying the findings in a conceptual map (Dambo et al., 2021). This type of map allows researchers to acquire insights into and cognition of natural language through a procedure comprised of three stages (Figure 1). Leximancer provides conceptual and relational analysis, assessing both the presence of defined ideas in texts and their relationships to one another. Concept learning aims to identify word groups that frequently appear together in texts (i.e. concepts). The software then arranges and categorizes the ideas into themes, giving context information about how frequently they appear together in a particular text. Following a content analysis by Leximancer that identifies the primary themes and concepts, the computer calculates the frequency of co-occurrence between concepts. It uses that information to create a concept map. Nearby concepts on the map commonly appear together in the texts, typically in the same portions (Brochado et al., 2021).

In a conceptualized map which is composed of concepts (represented by grey dots) – that are then assembled into "themes" (represented by colorful spheres) –, Leximancer collected semantic template information that allowed researchers to pinpoint the significant themes and concepts displaying the experiences of airline passengers (Brochado *et al.*, 2019). Enabled by a theme heat-mapped from hottest to coolest, each color represents the importance of a theme (i.e. the most prominent theme (hottest) is characterized by red, whereas; the least related theme (coolest) is shown by purple) (Arasli *et al.*, 2021). The "brightness" of a concept's label is associated with the frequency with which it appears in the written text. The brighter a concept label is, the more times it appears in the script (Ozturen *et al.*, 2021).

To achieve interpretable outcomes from the analysis, unessential grammatical particles like "I'm," "the," "as," and "an" was excluded from the input data. In the next stage, the reviews' numerical ratings related to the two user-defined tags were entered into a data file. That means "Rate: Excellent and Very Good," a tag for positive experiences, and "Rate: Poor and Terrible," a tag for negative ones. — is associated with negative online reviews.

Unlike "NVivo" or "ATLAS," Leximancer software does not support a word frequency analysis (Tseng *et al.*, 2015). The most common concept appears as the cluster's theme, whereas concepts emerge due to their frequency of occurrence (Brochado *et al.*, 2019; Olorunsola *et al.*, 2022). The software generates natural coding inside the text, which

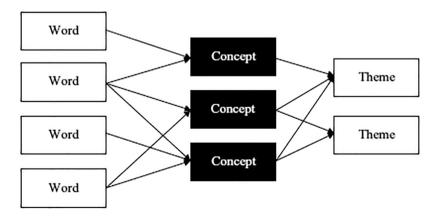


Figure 1.
A primary model of
Leximancer's semantic
configuration
extraction

overcomes the issue of "reliability" and "validity" because the Leximancer generates the most dominating topics without investigator intervention (Arasli *et al.*, 2021). However, contradictions in how coders classify data might impair the reliability of coding results, which can assist limit researcher bias and boost the validity of results (Brochado *et al.*, 2021). Human-coded content analysis is notoriously difficult to achieve high levels of reliability, especially when dealing with large amounts of data because of the researcher's chances of making an error during the coding phase increase (Arasli *et al.*, 2021). As highlighted above, the program is reliable as it needs less manual interaction from the observer. It does objective data analysis by eliminating observer bias and coder subjectivity, which improves the results' validity (Dambo *et al.*, 2021).

Service perceptions from UGC during pandemic

3.3 Characteristics of LCC

Compared with full-service carriers (FSCs), LCC focuses solely on the most basic mode of transportation. Additional charges for luggage, food and beverage, hot seats and other aspects of the product are either not supplied individually or not at all. LCCs strive to reduce operational costs, which they subsequently pass on to the traveling public through lower, more reasonable airfares, attracting more people to fly on their flights. 2014 (Shen and Yahya, 2021).

In the global air travel sector, competition between LCCs and FSCs has increased (Lim and Lee, 2020). For example, LCCs, which have just lately entered Asian and emerging air travel markets, are steadily growing their market share while focusing on cost-cutting methods to attract budget-conscious consumers (Kim and Lee, 2011). On the other hand, FSCs strategically focus on their hub airports to respond to LCC concerns, a plan that goes opposed to LCCs' point-to-point approach (Lim and Lee, 2020).

Passenger satisfaction favors LCC passenger experiences and survivability (Malik and Lenka, 2019). On the other hand, LCCs have struggled to compete with major carriers due to a misperception of their distinct business operations model (Herjanto et al., 2022). As a result, it negatively impacts LCC service quality and passenger sentiment (Lim and Lee, 2020). Despite this knowledge, current research pays little consideration to the impact of LCC on passenger perceptions (Herjanto et al., 2022). Emotions cause (un)favorable reactions and affect passengers' emotional coping systems and behavior (Hai et al., 2019). However, current literature is silent on passenger perceptions of LCCs based on online reviews, which is a huge void, especially during a pandemic.

4. Findings

A concept map was created to address the current research's goal, highlighting the most frequent concepts and themes revealed in terms of "occurrences" and "co-occurrences." The nodes on the map represent abstraction, which is organized into themes, represented by the larger shaded bubbles. The analysis result thus discovered eight themes with connectivity rates (CR) ranging from 10 to 100 percent (Table 1). CR refers to the extent to which themes are associated with other concepts on the map and the times (in percentage) that internal items in the themes are mentioned together (Brochado and Brochado, 2019). The concept map below depicts a pictorial illustration of the descriptions, which encapsulates the prevalent themes as well as concepts in the shared content (Figure 2).

The generated map for the present research illustrates that the most prominent theme is "flight" (Relevancy of 100%, mentioned 2,193 times). This is followed by "staff" (71%, 1833 times), "service" (53%, 987 times), "hygiene" (43%, 401 times), "cancellations" (21%, 232 times), "legroom" (19%, 223 times), "COVID-19" (12%, 301 times) and "test" (12%, 109 times). The theme that is related to flights includes the concepts of "flight" (100%, 2,532times),

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Table 1.
Themes and their degrees of connectivity

"baggage" (31%, 724times), "pay" (18%, 411times), "airport" (12%, 213times), "passengers" (10%, 197times), "and "take-off" (9%, 109times). The brightness of a concept on the map in Figure 2 is proportional to its frequency; therefore, the brighter the concept, the more frequently it appears in the texts. Colored circles surround local groups of concepts with names. These clusters are the progenitors of thematic clusters, and they form around highly related concepts (Brochado et al., 2021). For example, one review reads, "Unfortunately, on our trip, both my husband and I contracted COVID-19 and were stuck in Malta for an extra two weeks in quarantine. We tried to contact EasyJet numerous times to let them know we would not be able to board our returning flight. The advisor told us that it was our fault we caught COVID,

Themes	Connectivity (%)		
Flight	100		
Staff	63		
Service	49		
Hygiene	32		
Cancellations	21		
Legroom	18		
COVID-19	11		
Test	10		

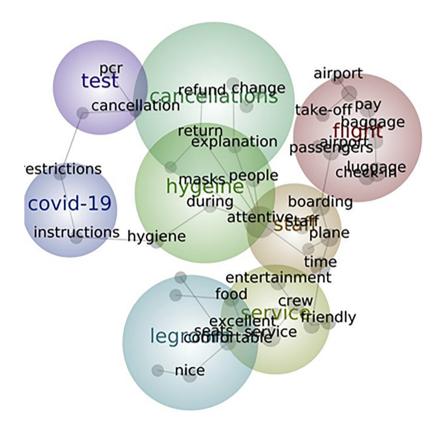


Figure 2. Concept map

and they could not help. He kept shouting down the phone, saying, "well, what do you want me to do?". Another passenger added, "Had a pleasant flight during a difficult period of COVID-19 pandemic:

Service perceptions from UGC during pandemic

- Felt safe and COVID protocols well-enforced". One passenger shared, "One of my flights was delayed several hours due to weather, and while the other airlines did nothing, Southwest offered me a \$100 voucher. They have been dependable with quick changes due to COVID-19 travel plan changes in my life".

On the other side, the staff theme includes the concepts of "stuff" (41%, 1,871 times), "attentive" (41%, 431 times), "plane" (12%, 221 times) and, "time" (11%, 172 times). A typical review shared about the staff is, "With the COVID-19 regulations, they have seriously fallen short regarding customer service. It is frustrating that there is no alcohol service anymore, and the flight attendants have become so incredibly rude. On the flight, I was just on, one of the flight attendants either had a problem with staring or a problem with me. It has become obvious that most of the southwest staff has no interest in going above and beyond or even in pleasing guests, period. "Another passenger stated, "The check-in, even with COVID-19 rules, was simple and quick. You do not have a problem if you follow the rules when to check in online and print boarding passes. Staff on board were polite and efficient, even when people ignored COVID-19 rules for the use of the toilets". Another passenger shared, "Great service onboard. Staff is very professional and helpful, attentive to economy class in the same way as to business class passengers".

The theme of service contains the concepts "service" (1,253, 71%), "excellent" (410, 31%), "crew" (213, 21%), "friendly" (198, 21%), "food" (179, 20%) and "entertainment" (151, 12%). One added, "Having been forced to use Ryanair several times during COVID, I was pleasantly surprised by the level of service." Another passenger included, "Very poor customer service Jet2 holidays—stop bemoaning COVID-19 impact and get back to the basics". One review still reads, "I have just contacted Jet2.com customer services and spoke to a lovely lady named Tunde. I had a flight booked from Manchester that was due to fly mid-November, within the new COVID-19 lockdown restrictions period. Within a 10 min call, my flight was confirmed to be canceled, and my refund was issued to me".

The theme of hygiene includes the concepts "masks" (257, 51%), "people" (173, 31%) and "during" (COVID-19). The theme of hygiene is frequently associated with both positive and negative tones, and it was used in conjunction with flight and staff. For example, one passenger shared, "Hygiene and precautional rules against pandemic: kudos to the airline policies.

"The crew immediately got masks for passengers that did not wear it". Another flyer stated, "Expected much higher level of hygiene, but nothing of this. The flight was boarded immediately after offboarding the previous one, and the cabin was not cleaned".

The theme of cancellations includes the concepts "refund" (482, 61%), "change" (345, 31%), "return" (183, 12%) and "explanation" (109, 10%). The majority of passengers were dissatisfied, and they expressed their dissatisfaction in terms of the refund policy as well as the lack of an explanation mechanism, as they attempted to contact the company but were unable to do so. A typical review concerning the historical theme is as follows:

"Appalled to find that Ryanair charges a fee per person when flights are changed due to COVID-19 infection! One would have thought that Ryanair would have been more understanding when flights had to be changed for circumstances out of our control." Another passenger stated, "EasyJet Flight Cancellations for profit 838250240 Originally booked flight to Berlin for December 2020. Unfortunately, they were canceled. Rebooked. Canceled. Rebooked. Canceled. So rebooked for a fourth time May 29th returning a week later". One flyer added, "My flight for December 2020 was canceled, and I requested a refund. Both times I received a fast reply telling me I would get my money

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back as soon as possible. However, I did not receive anything three months after the cancellation. Since I have to fly frequently, this was not my first experience with canceled flights during COVID, but I have to say that even Ryanair handled this better . . . Just stay away from Eurowings! I liked Eurowings, but I will avoid them even after COVID".

The theme of legroom includes the concepts "seats" (322, 41%), "comfortable" (178, 31%), and "nice" (147, 10%). A delighted passenger stated, "Legroom is awful. I am 163cm (5ft 4in) and find it very cramped. Jetstar appear to have forgotten their business relies on customers". Another flyer included, "We had to bring on a personal item + large suitcase (did not want to risk checking in), so we bought the extra legroom ticket which allowed for the extra carry-on baggage—worked great. I would fly EasyJet again".

The theme of COVID-19 includes the concepts "restrictions" (145, 41%) and "instructions" (101, 31%). COVID19 was another prevalent subject that emerged in the passenger reviews. Due to disruptions in the travel industry's channels of supply and demand, the pandemic started a wave of economic collapse around the globe. The number of flights decreased extremely as a strategy to better respond to the spread of infection. Other strategies such as border closures and the closure of tourism attractions all affected the industry negatively. This occurred at a time when infection rates were on the rise. Passengers combined the COVID-19 motif with diverse topics in their storytelling. A typical comment shared, "During the pandemic where COVID-19 is still a risk and prominent, we did not feel looked after in that respect. Disappointed in the cleaning regime and would look for them to improve on this dramatically!". Another passenger included, "I had a negative test for COVID, PCR test which was done on Thursday and my flight was supposed to be on Sunday 12 December 2021. I had all the rest required documents about coronavirus. I was told because I did my coronavirus one day earlier, the boarding for me will be denied. I asked what the options were as I needed to fly urgently and WAS TOLD TO GET LOST, and I was guilty myself in this situation. I was not offered anything, NO HELP WHATSOEVER!!! NO OFFER OF NEW FLIGHT, NO OFFER TO HELP!!". Another review still reads, "Very Reluctantly had to cancel our Flights to Lanzarote, due to COVID rules. Requested refund on Sunday 19th Dec . . . FULL REFUND in my bank Wednesday 22nd Dec" (see Table 2).

4.1 Different satisfaction rating groups' representations of the airline experience

The second objective of this research was to check if passengers who rate their airline experiences (excellent vs. poor) include various descriptions in their narratives and provide different information in online comments. Excellent ratings comprised 4 or 5 (out of 5 points), and poor ratings were 1 or 2 (out of 5 points). The rating analysis results show that passengers who give airline higher ratings more frequently share narratives with concepts related to instructions (likelihood = 91%), business class (experience) (71%, tour), hygiene

Concept (concept count in brackets is the single word occurrence)	Staff	Service	Hygiene	Cancellations	Legroom	COVID-19	Test
Flight Staff Service Hygiene Cancellations Legroom COVID-19	1829	832 780	742 341 285	502 105 85 41	363 53 78 55 31	301 384 203 123 98 31	112 52 32 28 31 10 50

Table 2. Frequency count matrix – the proportion of times that these words appeared within 3 sentences of each other

Count

(81%), staff (experience) (82%), friendly (79%), clean (78%), entertainment (81%), food (71%), legroom (71%), safety (73%) and time (69%). On the other hand, the group that assigns lower overall satisfaction ratings is more likely to write about concepts of tickets (41%), a refund (38%), waiting (38%), cancellation (31%), PCR (28%), test), extra (27%), baggage (21%) and check-in (21%) (see Figure 3).

Service perceptions from UGC during pandemic

Three newly emerged themes from the separate analysis of negative reviews were "tickets," "refund," and "cancellation." The most important negative attribute is "cancellation." One flyer commented, "I have had one of my flights canceled because of COVID, and I have never received a refund (they claim they refund all tickets if they are canceled because of COVID). I have called them; I have emailed them – nothing helps. Lost few hundred euros". Another dissatisfied passenger stated, "My flight was canceled by the airline. I have submitted a claim regarding my money back. I received an answer that they made a refund to my bank account. Two months passed, and still no money on my account. Seems like this company uses NO MONEY BACK POLICY".

4.2 Tourists' experiences by gender

Gender variations in rating quality have been addressed in previous studies, and it has been argued that males and females have different perspectives on service (Zhong and Moon, 2020). Gender has been studied as a differentiating socio-demographic component in market segmentation (Wang and Kim, 2019). According to research, gender differences are linked to "biological," "cognitive," "behavioral" and "social traits" (Sun *et al.*, 2010). Chambers Travel (1995) stated that the airline sector is becoming more conscious of gender-specific product requirements. According to the literature, there have been a minimal number of studies specifically concentrating on the impact of gender on airline services (Kurtulmusoglu *et al.*, 2018).

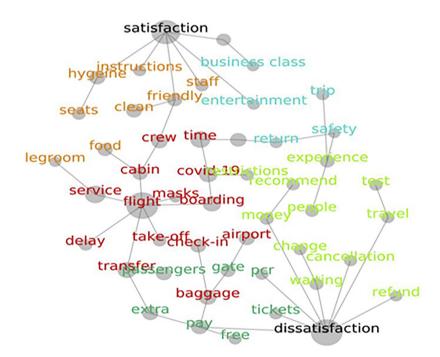


Figure 3.
Satisfaction rating groups' representations of the LCC experience

TQM

Moreover, Brochado *et al.* (2019) called studies to see if gender (e.g. male vs. female) plays a role in passengers' overall experiences. In response to this call, we observed the main themes shared online by the gender of travelers as the third objective of this research. We analyzed the data using the defined tags separating reviews from females and reviews from males to interpret the passengers' experiences, feelings and opinions and thereby identify emergent concepts (Figure 4). As depicted in Figure 4, female passengers gather around themes such as hygiene and staff, service (ground) and flight. In contrast, male passengers were more focused on cancellations, food, COVID-19 (restrictions), and the check-in process.

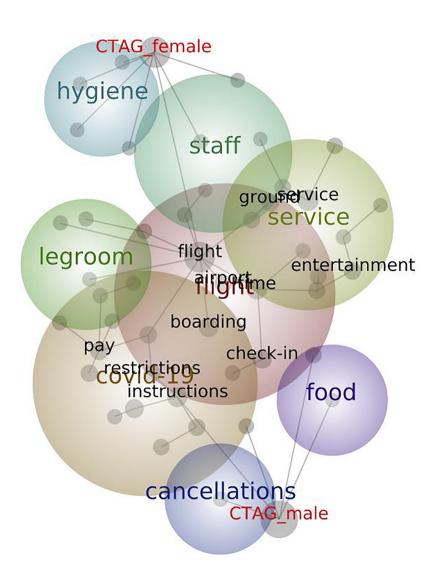


Figure 4. Female vs. male groups' evaluation of LCC experience

5. Discussion and implications

The theme of "flights" is an aspect that shelters the service quality component of airlines' fundamental services acknowledged by Brochado *et al.* (2019). The theme of "flight" is frequently used with the concepts of "baggage, "pay," "airport, "passengers," "and "take-off." Rezaei *et al.* (2018) concluded that the airline baggage handling system is one of the most important criteria for airline passengers and confirmed the importance of airport service quality for a smooth flight experience.

Service perceptions from UGC during pandemic

The theme of "stuff" was identified as being a part of flight experiences, which is consistent with earlier passenger research, which found that passengers want experiences that allow them to have a pleasant flying experience (Brochado *et al.*, 2019). In our study, the theme of "stuff" was mostly used in positive tones in the reviews shared by travelers. This result, however, is not exceptional. Our findings align with Brochado *et al.* (2019) and Sulu *et al.* (2021) studies, which indicated that most travelers were satisfied with the staff during their flight.

Another dominant theme that appeared in this study was "service." The theme of "service" is mainly used with the concepts such as "food" and "entertainment." These findings corroborate the study conducted by Noviantoro and Huang (2022) and Punel et al. (2019). The cited authors also concluded that in-flight entertainment is crucial to modern airline passengers. Furthermore, another consistent conclusion from Han et al. (2019)'s study, which discovered similar findings to ours, is that in-flight food and beverage quality significantly improves passengers' contentment as well as re-flying behavior.

One of the most recurrent passenger reviews was the theme of "hygiene". In the middle of the pandemic, people are being recommended to maintain physical distance and basic hygiene habits to prevent the spread of germs and viruses. As a result, airlines are increasingly competing on hygiene grounds as a cornerstone of tools to outwit competitors to keep up with the competition and remain at the forefront of health and safety regulations. In addition, to compete, many airlines will need to employ touchless technologies to cut costs and provide the highest level of hygiene (Amankwah-Amoah, 2021). In this study, we have found the theme of "hygiene," and most passengers were content with the airline's hygiene policy.

Another dominant theme that appeared in this study was "legroom." The seat quality and legroom details are important to customers. In our study, the theme of "legroom" was used in a positive tone. Surprisingly, the research conducted by Sezgen *et al.* (2019) showed that the service attributes of seat comfort and legroom were the main reasons for passengers' dissatisfaction.

The theme of "cancellation" is frequently mentioned among passengers with the concept of "refund." However, most passengers expressed dissatisfaction with the cancellation and refund policies. Similar findings were revealed in a study by Sulu *et al.* (2021), in which the researchers noted that airlines failed to refund ticket fees and provide cancellation explanations.

Female passengers tend to discuss staff, service (on the ground), hygiene and flights, as was previously stated. Contrarily, male passengers were more stressed about check-in, food, COVID-19 (restrictions) and cancellations. Results from earlier studies on the impact of gender on customers' perceptions of service quality have been mixed. For instance, Snipes et al. (2006) discovered that male and female clients rate the quality of the services differently. Compared to their female counterparts, male customers were more inclined to rate the fairness and quality of the provided services higher. Additionally, gender and education have a statistically significant influence on service quality dimensions, particularly those about the tangible and assurance dimensions Buda et al. (2006). Further evidence that female customers rank service quality less favorably may be found in several different cases in the marketing literature (Lee et al., 2011).

Based on the reviews that customers leave online, this article provides valuable information about how they perceive the LCC's services. The analytical capabilities in

"Leximancer" made it possible for the scholar to rapidly pinpoint the dominant themes in passengers' overall experiences, some of which turned out to be more critical than others. Furthermore, this research adds to the literature by highlighting the key narrative themes associated with satisfactory and dissatisfactory assessments. Using genuine data to determine satisfaction and dissatisfaction in hospitality is made more accessible by choosing UGC as a data source (Arasli et al., 2020b). We combined UGC data with text tags by continent and passenger satisfaction and dissatisfaction data with the aid of Leximancer, which may be regarded as an original contribution to broadening the application of research in tourism and hospitality utilizing UGC (Rodrigues et al., 2022). Undoubtedly, the content analysis found that these two passenger categories use various explanations of airline experiences in their online reviews, resulting in contradictory themes in the information shared online by the two parts. The themes in this study were found dissatisfactory: refund policy, long waiting time in line, cancellation, PCR (test) process, baggage handling process and check-in. In contrast to dissatisfactory attributes, satisfactory attributes are mainly associated with. In contrast, the high value for money ratings are associated with hygiene, staff, clean(lines), entertainment, food, legroom, seats, safety and time (departure/arrival). Because prior research has been unable to determine which service features cause satisfaction/dissatisfaction among passengers (Brochado et al., 2019), the findings of this study add to the current literature by identifying service features associated with satisfaction/dissatisfaction groups. Lastly, to better understand market segmentation in the airline industry, our study looked at whether the key themes of passengers' overall experiences differed by traveler gender. Therefore, our study answers the call made by Brochado et al. (2019) that subsequent research should look at how gender affects the overall experiences of passengers.

The findings of this study offer airline administrators a better understanding of how passengers perceive airline service quality, as seen by their online reviews. First, to decrease waiting or check-in process, the essential function is "online boarding," often known as "mobile boarding," because passengers can obtain their online boarding permit using their mobile device, resulting in a paperless boarding system. Passengers save time and energy by using "online/mobile boarding" on their mobile devices. At airport security checkpoints, the passenger's mobile phone can scan the barcode on the screen after receiving a boarding pass. The passenger benefits from mobile boarding since it is quick and convenient. Second, the majority of passengers were dissatisfied with the baggage handling procedure. To fulfill passenger contentment, airline baggage handling service performance must be improved. "Artificial intelligence," "online check-in," and "self-service" choices at the airport are examples of new efficient technologies that the airline might use to enhance efficiencies (Noviantoro and Huang, 2022). Third, during the pandemic, airline management should handle passenger reviews differently. Airlines, for example, can set themselves apart by responding more quickly to the pandemic and automatically issuing ticket refunds, flight certificates, and flight credits, which could include "seat upgrades," "flight tickets," "travel insurance" and "luggage refunds." This is also an excellent time for airlines to review their refund policies and procedures to reduce consumer complaints and waiting times. These unwanted activities should be handled more efficiently and comfortably by an automated, intelligent system. A positive airline image will improve the company's reputation, as well as consumer loyalty and trust (Chang et al., 2022). Lastly, the study results can offer guidance to airline management during the pandemic. This study identified a key factor influencing travelers' happiness: the necessity of maintaining the caliber of the services offered. Online reviews reveal that customers are now focusing on new "services" dimensions, a sign that travelers anticipate receiving additional services about the issue. Additionally, guests are more concerned about the airline's pandemic prevention practices, which include keeping track of the number of guests, taking temperatures and maintaining hygienic standards. This is about the observation that travelers are more concerned with their health and safety, which

offers valuable information for airline managers. It is anticipated that even after the crisis, safety and sanitary standards will continue to be crucial components of the services' quality and airline management will be more adaptable to unforeseen circumstances (Nilashi et al., 2022).

Service perceptions from UGC during pandemic

6. Limitations and future research

Although this study is a step forward in utilizing online textual data, it is crucial to note the limitations. As a representative platform, we only obtained a sample of reviews from LCC via TripAdvisor site. Hence, our findings are confined to that website without focusing on FSC. It is also worth mentioning that the study only looked at English-language reviews, so the results may not reflect the views of travelers who commented in other languages. Another issue that appears additional research can be conducted to analyze whether the dominant themes of flyers' overall experiences show differences in terms of passenger's cabin type (business vs. economic class). This could give us more information about market segmentation in the airline business.

7. Conclusion

This study's major objective was to identify the predominant themes that emerged from online airline traveler reviews and to identify the factors that are relevant to the satisfaction of customers flying with LCC during the COVID-19 outbreak. In addition, our study examined whether the dominant themes of passengers' overall travel experiences varied by traveler origin, which may provide more insight into airline industry market segmentation.

The findings revealed that most prominent themes representing passengers' flight experiences during the pandemic were "flight," "staff," "service," "hygiene," "cancellations," "legroom," "COVID-19" and "test," according to a content analysis of a sample of online reviews of the leading LCC.

The study's second goal was to see if passengers who score their airline experiences as high (i.e. 4 or 5 out of 5) or low (i.e. 1 or 2 out of 5) score include different descriptions in their narratives and, as a result, present additional information in online comments. The rating analysis results show that passengers who were content with the airline experience mainly used concepts such as hygiene, staff, cleanliness (lines), entertainment, food, legroom, safety and time (departure/arrival). On the other hand, the unhappy group shared narratives about tickets, refunds, waiting, cancellation, PCR (test), extra baggage and check-in.

The final focus of this research was to identify the main themes shared online by travelers' gender. We interpreted the passengers' experiences, sentiments, and opinions using the defined tags differentiating reviews from females and reviews from males and so identified emergent concepts (Figure 4). For example, as shown in Figure 4, female passengers congregate around topics such as hygiene and staff, service (on the ground) and flight. On the other hand, male passengers were more concerned about cancellations, food, COVID-19 (restrictions), and the check-in process.

Due to the paucity of studies of this type in the context of LCC, this study has made a valuable contribution to closing this research lacuna and adding to the expanding body of information in this field of work, which has practical implications for LCC managers and policymakers.

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