

# **Airline passengers' perceptions of service quality: themes in online reviews**

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## Airline passengers' perceptions of service quality: themes in online reviews

### Abstract

**Purpose:** This study's primary objectives were to identify the main themes shared in online reviews by airline travellers, as well as which of these themes were linked with higher and lower value for money ratings.

**Design/methodology/approach:** The research used mixed content analyses (i.e. quantitative and qualitative) to examine 1,200 reviews of six airline companies shared by airline travellers in a social media platform.

**Findings:** The analyses revealed nine themes in descriptions of airline travel experiences. These are the core services during 'flights', 'airport' operations, crew and ground 'staff', ticket 'classes', 'seats', inflight 'services', 'entertainment', overall experiences of 'airlines' and post-purchase recommendations of with which companies to 'fly'. Low value for money ratings are linked with the 'airport' and 'flights' themes.

**Originality/value:** The results offer useful insights into airline travellers' overall experiences based on social media information and facilitate the identification of the main themes linked with different value for money ratings.

**Keywords:** airline industry, Web reviews, content analysis, value for money, service quality

**Article Classification:** Research paper

### 1. Introduction

The provision of superior service quality is widely acknowledged as an important source of customer retention and loyalty, which can ultimately lead to superior competitive performance (Zeithaml *et al.*, 1996). Improving the quality of services provided and achieving customer satisfaction is particularly challenging in service-based industries (Ali *et al.*, 2015). This is true for the airline industry, which includes a quite strong service element (Frost and Kumar, 2000), as airlines provide extremely complex services and products. These involve multiple service encounter stages that can

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3 influence overall levels of customer satisfaction (Chen and Chang, 2005; Archana and  
4 Subha, 2012).

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6 Due to the homogeneity of the main service offered (i.e. moving people and goods from  
7 one destination to another) (Frost and Kumar, 2000), airlines achieve differentiation  
8 through the provision of better service quality (Gourdin and Kloppenbourg, 1991;  
9 O'Connell and Williams, 2005) when competing for customers (Hussain, 2016).  
10 Various studies have found evidence that service quality initiatives and customer  
11 relationship management have become vital to airlines' ability to gain competitive  
12 advantages (Atalik *et al.*, 2009; Nejati *et al.*, 2009) and retain customer patronage  
13 (Ostrowski *et al.*, 1993; Park *et al.*, 2004). Thus, airline service quality and its role in  
14 the key business strategy of differentiation have assumed greater importance in recent  
15 years (Tiernan *et al.*, 2008).

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17 Previous research has shown that service quality is central to airline passengers'  
18 satisfaction and that service quality is demanded by both business and leisure class  
19 clients (Young *et al.*, 1994). In order to stay competitive, airlines need to identify and  
20 prioritise clients' needs and expectations to ensure customer satisfaction (Chang and  
21 Yeh, 2002; Nadiri *et al.*, 2008; Nejati *et al.*, 2009). These companies have already  
22 developed and improved a variety of services to customers such as ticket reservation  
23 and purchase, airport ground service, on-board services, destination services, lost-  
24 baggage handling and delayed passenger services (Tsaur *et al.*, 2002).

25  
26 Researchers have largely employed survey methods to develop and test new instruments  
27 to measure service quality in the airline industry (see Li *et al.* [2017] for a review).  
28 However, a few recent studies have highlighted the advantages of analysing user-  
29 generated content on the Internet when studying customers' satisfaction with their travel  
30 experiences (Zhang and Cole, 2016). The airline industry is one of the most socially  
31 intensive sectors, and social media platforms allow airline companies to conduct two-  
32 way communication with their costumers (Liau and Tan, 2014).

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34 Moreover, electronic word of mouth (eWOM) shared by other customers is considered  
35 trustworthy by airline passengers. Messner (2017) found that higher value for money  
36 ratings shared online in social media platforms are linked with positive  
37 recommendations of airlines. Although perceived value for money and service quality  
38 have been shown to be linked with customers' positive behavioural intentions, the

existing literature is still unclear about which service features provide better value for money (Rajaguru, 2016).

Given this research gap, the present study sought to examine the narratives shared online by airline travellers. The two primary objectives of this study were to identify the main themes that describe overall impressions of airline experiences shared online and to identify the themes most closely aligned with higher and lower value for money ratings.

This paper is thus structured as follows. The literature review discusses the concept of service quality, presents the main dimensions of service quality in airline industry services, discusses the concept of value for money and analyses the role of Web content in service quality studies. The methodology section presents the sample, data collection, variables in the data set and mixed content analyses performed on the content of Web reviews. The results section then describes the main themes identified in the concept map generated and provides examples of customer narratives for each theme. The last section presents the conclusions and theoretical and managerial implications, as well as the study's limitations and suggested avenues for future research.

## 2. Literature Review

### 2.1 Service Quality

Service quality has been a popular topic of debate in the literature on services (Ooi *et al.*, 2011), and its conceptualisation, evaluation and measurement have received much scholarly attention (Abdullah *et al.*, 2007). A consensus has been reached in the literature on marketing that superior service quality is a vital factor in companies' success in this era of intense competition and that service quality acts as an order winner in the marketplace (Singh and Sushil, 2013). Service quality is a major determinant of service-based companies' ability to enhance their perceived superiority and differentiation in increasingly competitive domestic and global markets (Zeithaml, 1988; Nam *et al.*, 2011). Service quality thus helps companies to achieve genuine, sustainable competitive advantages (Sultan and Simpson, 2000).

Service quality can only be improved when it is regularly measured (Reichheld and Sasser, 1990), and the most accurate way to measure it is through consumers' eyes.

Therefore, evaluating customers' expectations and adapting services to meet them is vital for companies' survival and customer retention (Ardakani *et al.*, 2015). Securing customer satisfaction and loyalty through high-quality products and services is essential not only for long-term success but also for long-term survival (Reichheld and Sasser, 1990).

Service quality is defined as customers' opinion of the superiority or global excellence of a product or service (Zeithaml, 1988). Service quality can thus be broadly understood as meeting customers' expectations, requirements and satisfaction (Leong *et al.*, 2015). The concept of service quality is widely regarded as a multidimensional construct, but the number of elements and their contents are still debated (Chao, 2008).

Early on, Parasuraman *et al.* (1985) defined service quality as the discrepancy between consumers' service expectations and their perceptions of the actual services provided. According to this disconfirmation paradigm, customers will perceive quality positively only when service providers meet or exceed the clients' expectations. In line with this definition, Zeithaml *et al.* (1996) posited that a good understanding of customers' expectations is important to delivering quality services. The most important model for measuring service quality based on this theory is Parasuraman *et al.*'s (1985, 1988) Service Quality (SERVQUAL) gap model, a 22-item instrument covering five key elements of service quality: tangibles, reliability, responsiveness, assurance and empathy (Parasuraman *et al.*, 1988). This scale has received the most attention out of the various instruments proposed for measuring service quality (Ladhari, 2009). The instrument provides a comprehensive measurement scale for perceived service quality that has practical applications (Parasuraman *et al.*, 1994).

Several studies have also confirmed the positive direct influence of customer satisfaction on consumers' behavioural intentions (e.g. Hui *et al.*, 2007). Researchers have confirmed that service quality is strongly associated with repurchase intention (e.g. Ekiz and Arasli, 2007). Service quality also leads to positive word of mouth (WOM) (e.g. Cronin and Taylor, 1992; Shin and Elliott, 2001; Ekiz and Arasli, 2007), which provides organisations with a valuable form of indirect advertising (Park *et al.*, 2005). Service quality also serves as an exit barrier, helping to retain customers (e.g. Amin *et al.*, 2013) and securing brand loyalty (e.g. Chen, 2008).

## ***2.2 Service Quality in the Airline Industry***

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3 A growing amount of research has focused on the relationship between service quality  
4 and customer satisfaction and loyalty in the airline industry (e.g. Ostrowski *et al.*, 1993;  
5 Curry and Gao, 2012; Chen and Hu, 2013; Namukasa, 2013; Chow, 2014, 2015).  
6 Several studies have confirmed the antecedent role of service quality with respect to  
7 customer satisfaction in this industry (e.g. Han *et al.*, 2008; Saha and Theingi, 2009;  
8 Archana and Subha, 2012; Namukasa, 2013; Leong *et al.*, 2015; Hussain, 2016). The  
9 higher the perceived service quality, the more satisfied passengers are (Lau *et al.*, 2011).

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12 The results reported in the previous literature also suggest that passenger satisfaction is  
13 an important driver of behavioural intentions among airline clients (Park *et al.*, 2004,  
14 2006; Clemes *et al.*, 2008; Nadiri *et al.*, 2008; Saha and Theingi, 2009; Leong *et al.*,  
15 2015; Singh, 2015; Hussain, 2016; Liu and Lee, 2016). In the airline industry, passenger  
16 satisfaction plays an important role in measurements of the quality of services and  
17 influences the likelihood consumers will maintain their relationships with service  
18 providers. This can take the form of not only repurchase intentions but also positive  
19 WOM (Cronin and Taylor, 1992; Abdullah *et al.*, 2007; Saha and Theingi, 2009;  
20 Archana and Subha, 2012).

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23 Researchers have also established that airline service quality is directly related to  
24 passenger loyalty and passengers' choice of airlines (Ostrowski *et al.*, 1993; Taylor and  
25 Barker, 1994; Park *et al.*, 2005, 2006; Chen, 2008; Jou *et al.*, 2008; Chiou and Chen,  
26 2012; Hussain, 2016). When passengers are satisfied, they tend to repurchase the  
27 airlines' services, which not only leads to increased brand loyalty but also to a reduction  
28 in the number of complaints (Chow, 2015). Airlines that provide better services than  
29 their competitors are able to build a solid foundation of customer loyalty (Curry and  
30 Gao, 2012).

### 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 **2.3 Value for Money in the Airline Industry**

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47 Value for money can be defined as the trade-off between what consumers 'get' (i.e.  
48 benefits) and what these customers have to 'give up' (i.e. price) (Zeithaml, 1988). From  
49 the customers' perspective, airlines remain competitive if they deliver higher value for  
50 money than their main competitors do. Passengers flying on airlines that provide high  
51 value for money are expected to remain loyal and advocate that others use these

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3 companies (Messner, 2017). According to the literature on service, travel and tourism,  
4 value for money allows experts to predict overall customer satisfaction, loyalty,  
5 recommendation intentions and company profitability (Rajaguru, 2016).  
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10 Messner's (2017) study, for example, revealed a positive, extremely strong correlation  
11 between the perceived value for money shared online by airline passengers and their  
12 recommendation intentions. These results hold true both for economy and business class  
13 travellers. In addition, Rajaguru (2016) found that perceived value for money is a  
14 crucial factor for low-cost airlines' ability to achieve customer satisfaction and  
15 favourable behavioural intentions. In contrast, traditional full-service airlines survive on  
16 the balance between perceived value for money and service quality. Osaki and Kubota  
17 (2016) also found that customers pay more to receive higher process quality. More  
18 specifically, staff and premium service elements have a relatively strong influence on  
19 customer loyalty in the case of high value-added airlines.  
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#### 29 ***2.4 Service Attributes Relevant to Airline Service Quality***

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31 The service sector depends on service quality, so measurements of service quality need  
32 to reflect service providers' operational circumstances (Liou *et al.*, 2011) and the  
33 specific industry in question (Jiang and Zhang, 2016). Service quality in the airline  
34 industry is thus quite complex and differs from other industries (Feng and Jeng, 2005).  
35 This industry includes a chain of services, and service delivery can be divided not only  
36 into ground and inflight services (e.g. Chen and Chang, 2005; Li *et al.*, 2017) but also  
37 into core and peripheral services (e.g. Ozment and Morash, 1994; Anderson *et al.*,  
38 2008). Airline service items are defined by the International Air Transportation  
39 Association, including reservation seating capacity, ticketing, check-in processes,  
40 inflight services, baggage handling and post-flight services (Feng and Jeng, 2005).  
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47 Prior research reported in the literature has identified determinants of airline service  
48 quality. These are, among others, air safety, baggage handling, on-time arrivals and  
49 departures, employee courtesy, airplane cleanliness, amenities, flight schedules and  
50 alternate flight arrangements for passengers who miss flights (e.g. Gardner, 2004;  
51 Gursoy *et al.*, 2005; Pakdil and Aydin, 2007; Chau and Kao, 2009). Quite a few studies  
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3 have investigated airline service dimensions that matter most to passengers including  
4 safety, frequency, punctuality, penalties for ticket changes, cabin services and inflight  
5 seat comfort (Gilbert and Wong, 2003; Chen and Chang, 2005; Liou and Tzeng, 2007;  
6 Liou *et al.*, 2011; Martin *et al.*, 2011).

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10 Gilbert and Wong (2003), in turn, identified the most important airline service quality  
11 dimensions as reliability, assurance, facilities, employees, flight patterns, customisation  
12 and responsiveness. Park *et al.* (2005) assessed airline service quality using three  
13 dimensions, namely, inflight services, reliability and customer service, and convenience  
14 and accessibility. Pakdil and Aydın (2007) included multiple dimensions such as  
15 employees, tangibles, responsiveness, flight patterns, availability, image, and reliability  
16 and assurance.

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21 The SERVQUAL scale has been widely used by scholars in the airline industry (e.g.  
22 Clifford *et al.*, 1994; Sultan and Simpson, 2000; Chang and Yeh, 2002; Nejati *et al.*,  
23 2009). This scale has also been revised and adapted for this industry by other scholars  
24 (e.g. Tsaur *et al.*, 2002; Gilbert and Wong, 2003; Park *et al.*, 2005; Pakdil and Aydın,  
25 2007; Hussain *et al.*, 2015). These researchers have confirmed that the SERVQUAL  
26 scale provides general guidelines for service quality assessment in most service  
27 contexts, but scholars also suggest that the scale's factors ought to be examined and  
28 selected in light of industry-specific issues (Wu and Ko, 2013). In addition, Park *et al.*  
29 (2005) suggest that the airline industry has aspects of service quality (e.g. ticketing,  
30 baggage allowance and on-board facilities) that are different from those of other service  
31 industries and that are not considered in the SERVQUAL scale.

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40 The Service Performance (SERVPERF) scale has been shown to be a better tool to  
41 measure service quality in the airline industry, but this alternative has also been  
42 criticised for assessing customer satisfaction only in relation to specific transactions  
43 (Ostrowski *et al.*, 1993). Similarly to the SERVQUAL scale, SERVPERF has also been  
44 found to be too generic and unable to capture industry-specific dimensions of service  
45 quality in the airline sector (Cunningham *et al.*, 2004).

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50 In response to these issues, Nadiri *et al.* (2008) developed and validated the Airline  
51 Service Quality (AIRQUAL) scale, which comprises five distinct dimensions: airline  
52 tangibles, terminal tangibles, personnel, empathy and image. Wu and Cheng (2013) also  
53 found that their proposed assessment scale with four dimensions of service quality (i.e.  
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3 interaction, physical environment, outcome and access) was psychometrically sound.  
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5 However, the theoretical and conceptual basis for understanding the nature of  
6 passengers' perceptions of service quality in the airline industry is still in the  
7 developmental stage. Most measurement models are insufficiently comprehensive to  
8 capture accurately the service quality construct for this sector (Ali *et al.*, 2015).  
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11 To fill this gap, many scholars have proposed multi-dimensional models of service  
12 quality specific to the airline industry. Gourdin (1988) categorised airline service  
13 quality into three criteria, namely, price, safety and timeliness. Developing a similar  
14 model, Ostrowski *et al.* (1993) used timeliness, food and beverage quality and seat  
15 comfort in order to evaluate airlines' service quality. Elliott and Roach (1993), in turn,  
16 considered flight timeliness, freight services, quality of food and beverage, seat comfort,  
17 ticket purchase processes and services offered before getting onboard to be the six main  
18 criteria for service quality evaluation of airline carriers. Truitt and Haynes (1994) used  
19 the check-in process, timeliness, seat cleanliness, food and beverage quality and  
20 customer complaint handling as dimensions of airline service quality. Yavari Gohar  
21 (2005) measured this industry's service quality based on flight safety, management,  
22 timeliness, frequency, inflight services and flight promotions. Saha and Theingi (2009)  
23 further assessed airline service quality using the dimensions of tangibles, schedules and  
24 services provided by ground staff and flight attendants.  
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27 In addition, Namukasa (2013) assessed airline service quality based on reliability,  
28 responsiveness and discounts (i.e. pre-flight service quality); tangibles, courtesy and  
29 language skills (i.e. inflight service quality); and frequent flyer programmes and  
30 timeliness (i.e. post-flight service quality). Wu and Cheng (2013) included a  
31 hierarchical structure, classifying airline service quality into four primary dimensions:  
32 interactions, physical environment, outcomes and access. The cited authors identified 11  
33 sub-dimensions, namely, conduct, expertise, problem-solving, cleanliness, comfort,  
34 tangibles, safety and security, waiting time, valence, information and convenience. Li *et*  
35 *al.* (2017) measured inflight service quality in isolation by using items such as  
36 employees, facilities, flight schedule and information, supporting services and physical  
37 environment.  
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40 In view of the expanding literature on this topic, Lim and Tkaczynski (2017) conducted  
41 a comprehensive meta-analysis of 17 relevant studies published between 2003 and 2013  
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3 and identified a total of 32 service-quality elements, some of which were more widely  
4 used than others. The most commonly used were employee appearance (15 studies),  
5 seating comfort (14 studies), meal service (14 studies), employee responsiveness (13  
6 studies), inflight entertainment services (12 studies), baggage delivery (12 studies) and  
7 convenient flight schedule (12 studies).  
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## 10 11 **2.5 Role of Web reviews in service quality studies**

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13 As mentioned previously, researchers have mainly used surveys to identify and validate  
14 the key dimensions of airline passengers' experiences. One exception is the research  
15 done by Liao and Tan (2014), who applied text mining techniques to analyse Twitter  
16 data and called for the use of this type of data in more studies. The cited authors  
17 concluded that the most frequent themes shared on Twitter about low-cost carriers are  
18 customer service, ticket promotions, flight cancellations and delays and post-booking  
19 management. These significant findings confirm that this field of research could benefit  
20 from studies of tourists and travellers' narratives in different social media platforms.  
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24 Recent studies have highlighted the role of content analysis of travellers' online reviews  
25 in service quality studies. Researchers have 'recognised [these reviews] as a natural  
26 setting for the study of travellers' lived experiences' (Zhang and Cole, 2016: 16). With  
27 the rise of Web 2.0 and social media platforms, customers can now easily leave their  
28 feedback online for everyone to see. Overall, Web reviews are perceived as accessible,  
29 reliable, credible and readily available information by both consumers and researchers  
30 (Lu and Stepchenkova, 2012). For managers, online reviews offer a budget- and time-  
31 efficient way to collect customer feedback (Zhang and Cole, 2016).  
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35 Researchers have previously analysed Web travel reviews in order to identify the main  
36 dimensions of consumers' overall experiences in various areas of the hospitality and  
37 tourism industry. For instance, Wu *et al.* (2014) studied shopping tourism in China.  
38 Pearce and Wu (2016) studied romantic tourism attractions in Australia. Zhang and  
39 Cole (2016) investigated lodging services for guests with mobility challenges.  
40 Rodrigues *et al.* (2017) focused on medical tourism, while Brochado *et al.* (2017)  
41 studied Airbnb in India, Portugal and the United States (US) and Lupu *et al.* (2017)  
42 investigated Bran Castle experiences in Romania.  
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### 3. Methodology

#### 3.1 Data Collection

The source for the Web reviews analysed in the present study was the TripAdvisor website, which is considered the largest online travel community in the world (Lu and Stepchenkova, 2012). As in previous research using this type of data (Pearce and Wu, 2016; Brochado *et al.*, 2017; Lupu *et al.*, 2017; Rodrigues *et al.*, 2017), only English reviews were gathered for analysis.

The sample comprises 200 reviews of three companies from the two largest airline alliances – SkyTeam and Star Alliance (International Air Transport Association, 2016) – for a total of six companies and 1,200 reviews. The airlines selected from the SkyTeam were Air France, Delta Air Lines and Garuda Indonesia. The companies chosen from the Star Alliance were Air Canada, EVA Air and Lufthansa. Convenience sampling was employed to ensure the number of reviews needed to use Leximancer software, as well as to match the sample size of previous related studies. For instance, Pearce and Wu (2016) analysed 167 reviews, Rodrigues *et al.* (2017) used 603 reviews, Lupu *et al.* (2017) gathered 1,827 reviews and Brochado *et al.* (2017) collected 1,776 reviews.

Around 40% of the reviews were written by passengers from North America, 13.2% from Western Europe, 13.2% from Far East Asia and 9.7% from Oceania. In terms of gender, the sample is relatively equally distributed with 59.2% males and 40.8% females (see Table 1).

*Insert Table 1 here*

Table 2 summarises the descriptive statistics for the data on perceived service quality ratings. For all the items, the rating scale ranges from 1 to 5. The variable with the highest and lowest ratings are cleanliness (4.06) and food and beverage (3.53), respectively.

*Insert Table 2 here*

### 3.2 Data Treatment

Content analysis has gained increasing popularity as an effective method to interpret the fast-growing body of Web communications. Both qualitative and quantitative analyses can be used to process textual data (Zhang and Cole, 2016). Content analysis can thus be done with structured quantitative or unstructured qualitative methods. These involve, respectively, counting words or phrases and measuring observable text characteristics or making sense of what is written and extrapolating latent meanings from the data (Krippendorff, 2012). The mixed-method content analysis approach combines both types of methods to capture different, broader components of eWOM texts (Zhang and Cole, 2016).

The present study carried out quantitative content analyses of airline travellers' Web reviews using Leximancer, which transforms textual data from natural language into semantic patterns (Wu *et al.*, 2014). Leximancer is a software programme that analyses the content of collections of textual documents and visually displays the extracted information. This software then graphically represents the main concepts contained within the texts and provides information about how the concepts are interrelated.

Leximancer follows quantitative procedures based on Bayesian statistical theory using algorithms and employing nonlinear dynamics and machine learning (Wu *et al.*, 2014). The algorithms consider three main units: words, concepts and themes. This software uses a two-stage quantitative approach to extracting co-occurrence information in order to conduct both conceptual and relational analyses. Leximancer thus measures the presence of repeated concepts and the ways these concepts are semantically interrelated in order to produce a graphical representation of the results.

Since Leximancer conducts both conceptual and relational analyses, it measures not only the presence of defined concepts in the texts but also the ways the concepts are interrelated. The first step of the text analysis is the automatic identification of the words that most frequently appear in the texts. These words are the starting point for the definition of concepts, so the words are called 'concept seeds'. The objective of concept learning is to discover clusters of words that travel together throughout the texts in question and best represent concepts. These words are weighted according to their

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3 frequency of occurrence in sentences that include the concept compared with their  
4 frequency of occurrence elsewhere.  
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6 In addition, Leximancer also determines the frequency of co-occurrence between  
7 concepts. These frequencies are used to generate a visual representation called a  
8 'concept map'. Those concepts that are placed near one another on the map appear  
9 frequently together in the same segments of text. Finally, the concepts are clustered into  
10 higher-level 'themes' with minimal manual intervention (Brochado *et al.*, 2017). The  
11 themes aid further interpretation by grouping the concepts into clusters, which are  
12 shown as coloured circles on the map.  
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18 As in Brochado *et al.* (2017) and Lupu *et al.* (2017), the results of the present study's  
19 narrative (i.e. qualitative) analyses further indicate which source files (i.e. Web reviews)  
20 contain particular themes (Tkaczynski *et al.*, 2015). This step adds greater depth of  
21 meaning to each theme. Leximancer's analyses also facilitate conceptual comparisons  
22 (i.e. highlighting divergence or nondivergence) between groups in the data defined by  
23 tags. In the present study, information regarding value for money ratings was included  
24 in the concept map as tags, grouping the themes into two categories: high (i.e. 4 and 5  
25 out of 5 points) and low (i.e. 1 and 2 out of 5 points) ratings.  
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## 33 **4. Results**

### 34 **4.1 Overall Analysis**

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36 The content analyses revealed the existence of nine themes in travellers' online  
37 descriptions of airline experiences: 'flights', 'seats', 'services', 'staff', 'airlines',  
38 '(ticket) classes', 'airports', 'entertainment' and 'fly(ing)'.  
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43 *Insert Figure 1 here*  
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### 47 **4.1 General Description of Airline Travel Experiences**

#### 48 **4.1.1 Flights**

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50 The theme of flights includes the concepts of 'flight' (count = 1,747; relevance =  
51 100%), 'time' (623, 36%), 'plane' (327, 19%), 'check(-in)' (187, 11%) and 'return'  
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(156, 9%). This first and most important dimension addresses the core services offered by airline companies during flights.

A typical review reads, '[I b]oarded on time but even with an hour delay [before take-off], [the flight was] still on time. [The f]light was good, [and the] plane was [nice, with] a newer remodeled interior' (the US, male, Delta Air Lines). Another passenger shared, 'I originally booked the ticket because it was cheaper than other options, but [the airline] turned out to be great! Every flight I took with them was on time, [with] efficient boarding and disembarking' (Australia, male, Garuda Indonesia). A third passenger wrote, 'All flights were on time, [and] connected through Frankfurt outbound and Munich on return[;] both went smoothly' (the UK, male, Lufthansa).

#### 4.1.2 Seats

The theme of seats includes the concepts of 'seat' (count = 650, relevance = 37%), 'comfort' (300, 17%), 'leg' (204, 12%), 'room' (204, 12%) and 'trip' (211, 12%). A passenger shared online:

This was our second leg in a *Star Alliance Round the World* ticket. It was an upgrade from *Air Canada* and *Air China*, [with] by far better check-in and inflight service. I fly to *Europe* once a year and I have never had so much legroom and fantastic service! *Thank you[,] Air France!* (the US, female, EVA Air) (emphasis in original)

Another passenger wrote, 'The aircraft was superb [an A330-200] with good legroom in economy class and the cabin crew were excellent! Everything was on time and went very smooth[ly]' (Indonesia, male, Garuda Indonesia). A third passenger wrote, 'Me and my wife [sic] flew with [A]ir Canada for our international flight to Tokyo. On the 787 Dreamliner there was lots of legroom' (Canada, male, Air Canada).

#### 4.1.3 Services

The theme of services includes the concepts of 'service' (count = 712, relevance = 41%), 'food' (548, 30%), 'customer' (172, 11%) and '(beverages) served' (166, 10%). One passenger wrote, 'Even my granddaughter enjoyed the traditional food[;] a [sic]

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3 duck soup was her favourite. The seat ... turns into a comfortable bed, [and the] inflight  
4 entertainment, pajamas, [and] personal hygiene kit were all fabulous' (the UK, female,  
5 EVA Air). Another traveller reported, 'This is an excellent airline. The service is  
6 outstanding. From the food, the wine, chocolates [to the] juice, etc., [i]t is just another  
7 kind of service. [I w]ill fly with them whenever I can' (Australia, male, Lufthansa). A  
8 further passenger stated:  
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12 [I received f]antastic customer service from all Air France staff. [This was a  
13 c]omfortable flight. [The airline h]as [a] drink/snack bar open during the entire  
14 flight ... not limited to water and juice like some other airlines. Menu cards are  
15 provided on each flight so you can easily make your meal choice in advance.  
16 [The f]ood was better than [what] most airlines [offer]. All alcohol was  
17 included, [with] no extra charges. [This is one of my] favorite airline[s].  
18 (Canada, female, Air France)  
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#### 27 4.1.4 Staff

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29 The theme of staff comprises the concepts of 'staff' (count = 310, relevance = 18%),  
30 'boarding' (274, 16%), 'passenger' (272, 15%), 'friendl(iness)' (172, 11%),  
31 'helpful(ness)' (136, 8%) and 'nice (staff)' (151, 8%). A typical opinion given regarding  
32 the staff is '[this was a] very pleasant experience. [The airline had h]elpful staff starting  
33 from check-in to landing' (Romania, female, Air France). Another passenger described  
34 her experience as follows:  
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39 [The staff were c]ourteous, [h]elpful and friendly. [They h]elped with [l]uggage  
40 and seating. I am a senior and they were very pleasant [and kind enough] to  
41 place me in a seat closer to the front of the plane. [I g]reatly appreciated [this]. [I  
42 t]ake trips three to four plus times a year to New York. It's very important to be  
43 [well] treated by Air Canada [s]taff to ease my trip. I ... travel alone. [I h]ave  
44 travelled [with] numerous Air Lines [sic] and have confidence ... [that] Air  
45 Canada ... [will] ensure a pleasant easy trip. (Canada, Female, Air Canada)  
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51 A third passenger shared, 'I was travelling on business ... . The airlines crew members  
52 were very polite ... [and I received] ... very nice, decent [sic] service' (India, male,  
53 Lufthansa).  
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#### 4.1.5 Airlines

The theme of airlines includes the concepts of 'airline' (337, 19%) and 'experience' (232, 13%). A typical review reads, '[I had a g]reat experience as always by [sic] Garuda Indonesia. ... They always know how to service [sic] their customer like a KING [sic]' (Indonesia, female, Garuda Indonesia). 'This was an exceptional overall experience in relation to all aspects of my flight from the beginning to the end[;] it felt like I was a VIP [very important person]!!!' (the UK, female, Air France). Another passenger wrote, 'I recently flew with EVA [Air] from BKK [Bangkok] to LHR [London Heathrow] to BKK. The flight on a B777-300ER was brilliant and certainly [a] 5[-]star experience' (Thailand, female, EVA Air).

#### 4.1.6 (Ticket) Classes

The theme of (ticket) classes includes the concepts of 'class' (339, 19%), 'business' (320, 18%), 'economy' (231, 13%) and 'flying' (184, 10%). This theme links airline companies with the main ticket classes they offer.

A passenger wrote, 'This was my first even [sic] flight with EVA A[ir]. I ... have [had] extensive experience [with] business class ... [on] Singapore Airlines. This is equal or even better than SQ [Singapore Airlines] service' (The Netherlands, female, EVA Air). Another passenger reported:

I traveled for the 1st time with Air France and [it] was a superb experience ... all ... because of the cabin crew they have. [The staff were v]ery helping [sic] and friendly and [there were] comfortable seats even in economy class. (India, female, Air France)

Another passenger shared:

Although it was economy class, ... I felt like ... [it was] business class. [The] 1[-]hour trip was so amazing. We can [sic] order few [sic] types of drink, and also there was [a] snack with ...[some] of our traditional food. (Indonesia, male, Garuda Indonesia)



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3 An additional passenger wrote, 'My business class flights going both east and west were  
4 enjoyable' (the US, male, Delta Air Lines).  
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#### 7 8 9 *4.1.7 Airports*

10 The theme of airports includes the concepts of 'airport' (195, 11%), 'luggage' (251,  
11 14%) and 'gate' (119, 7%). One review states:  
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14 Delta almost always demonstrates that it is a well[-]managed airline. We had  
15 timely announcements in the gate area, loaded on time, left on time, and arrived  
16 on time. ... [The] FAs [flight attendants] did a good job of stowing carry-on  
17 luggage and getting meal service out efficiently. ... AMS [Amsterdam Schiphol  
18 Airport] is a good airport experience both arriving in Europe and departing  
19 Europe. (the US, male, Delta Air Lines)  
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24 Still another review reads:  
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26 The Lufthansa Business Lounge at the Frankfurt [A]irport was excellent. [It has  
27 v]ery good and spacious shower cubicles with a lot of space, good lighting and  
28 good ventilation. [It offers a] well-equipped lounge with a good choice of food,  
29 snacks and nibbles and not too bad choice of drinks too. Also, [there are]  
30 computers, newspapers and so on if needed. The best part of the lounge was one  
31 does not feel ... [like one is in] a very busy airport for a few hours while waiting  
32 for a connecting flight. (Australia, male, Lufthansa)  
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38 One passenger shared, '[The airport offered e]xcellent service – on-line check-in,  
39 speedy bag drop at [the] airport, quick security and boarding, on[-]time take off, [and]  
40 very good inflight service. All in all [this was] a most efficient and helpful journey' (the  
41 US, male, Air France).  
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#### 47 48 49 *4.1.8 Entertainment*

50 The theme of entertainment includes the concepts of 'entertainment' (185, 10%), 'long  
51 (flight)' (169, 9%) and 'cabin' (185, 9%). This theme describes the variety of inflight  
52 entertainment available for all types of traveller (i.e. adults and kids). A passenger  
53 wrote:  
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3 I was overall very pleased with this airline! ... On the way back from Mexico I  
4 was surprised to be on a plane that offered inflight entertainment with movies,  
5 games, flying updates, [and] live sports broadcasting, etc. on a personal monitor  
6 on the headrests of every seat. The airline even had free headphones for their  
7 travelers. (the US, female, Delta Air Lines)  
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11 Still another airline traveller said, 'The inflight entertainment was the best I'd every  
12 [sic] experienced. Plenty of movies, TV, podcasts and music ... help[ed] shorten the  
13 very lengthy flight' (the US, female, Air Canada). A further passenger reported, 'The  
14 entertainment system was really good, [with] a good range of movies and games ...  
15 They even had coloring books for the kids' (Australia, male, Garuda Indonesia).  
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#### 20 21 22 *4.1.9 Fly(ing)* 23

24 The theme of fly(ing) (184, 10%) describes the post-purchase behavioural outcomes of  
25 the overall experience. A typical review states, 'I'd definitely fly [with] them again' (the  
26 UK, female, EVA Air). Another passenger wrote, 'I haven't flown with Garuda for  
27 many years[. W]ow have I missed out on something. The flight was fantastic. ... I was  
28 amazed and will definitely fly [with Garuda] again when I can' (Australia, female,  
29 Garuda Indonesia).  
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34 One traveller said, 'I have had some of the most pleasant experiences on Lufthansa  
35 flights and we are going to use them to fly to Romania this summer (the US, male,  
36 Lufthansa). An additional review states:  
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40 When I boarded my plane, there was soft, relaxing music playing. Immediately,  
41 the flight attendants attended to my needs. They were so professional and  
42 committed to excellent customer service. Wow, there were flowers in the  
43 restrooms along with lotions and facial mist. I was fed 3 meals along with  
44 countless beverages. The plane's interior was clean [and] like new[,] with  
45 pillows and blankets [and] with TV screens for each seat. The flight was smooth,  
46 left on time and arrived early. I will definitely fly [with] this airline again! (the  
47 US, female, EVA Air)  
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#### 55 *4.2 Results of Value for Money Analysis* 56 57

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3 The present study's second research objective was to determine whether tourists who  
4 evaluate their airline experiences as high (i.e. 4 or 5 out of 5 points) or low (i.e. 1 or 2  
5 out of 5 points) value for money include different descriptions in narratives about their  
6 experiences and, thus, share different content in Web reviews. The results of the  
7 analysis show that airline passengers who give airlines a 4 ('Very good') or 5  
8 ('Excellent') rating for the value for money item more frequently share narratives  
9 around the themes of seats, entertainment, services and staff. The most common  
10 concepts are related to tangibles, including seat (60% likelihood of co-occurrence),  
11 comfort (72%) and legroom (57%). The second most likely focus is linked with staff  
12 (71%), which encompasses the concepts of helpful(ness) (70%), friendl(iness) (64%)  
13 and nice (staff) (59%). Entertainment (66%) is also an important theme for this segment  
14 of customers, as is services, which includes the concepts of food (59%) and service  
15 (58%).  
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18 In contrast, airline passengers that give airlines low value for money ratings (i.e. 1 or 2  
19 out of 5 points) are more likely to share narratives about the core flight services and  
20 airport operations. An assessment of the concepts linked to this group's narratives  
21 revealed that the most frequently mentioned concepts are airport (39%), luggage (39%),  
22 gate (31%), flight (27%), time (38%) and check(-in) (30%) (see Table 3).  
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*Insert Table 3 here*

Examples of negative reviews about the airport theme focus mainly on incidents related  
to luggage that involved delays, losses, damages and a lack of effective help from the  
airline companies. One reviewer wrote:

Upon arrival we had to talk to the Delta desk to find [our] missing luggage.  
Then [we] told customs about the problem but [we received] no assistance  
getting through the long line!! [We a]rrived at [the] gate at 5 after the departure  
time [but the] plane is [sic] there but no personnel at [the] desk!! Now half our  
luggage is [sic] on one plane [and] half on another plane and hopefully we ...  
[would soon be] on a third plane!! (the US, male, Delta Air Lines)

A further unhappy traveller said:

[My l]uggage was delayed by almost 3 days. However, that is NOT my  
complaint. My complaint with Air France is the way they handled the situation.

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3 How can an airline refuse to supply information to allow a person to follow up  
4 on the progress with [finding] his luggage and leave him [guessing] for almost 3  
5 days ...? (South Africa, male, Air France)  
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8 Negative reviews linked with the flight theme were mainly due to incidents associated  
9 with delays. One such review reads:  
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11 [This is our f]irst and last time flying [with] Lufthansa. They did nothing right.  
12 Checking a bag took forever. [The f]light was late. They rebooked the  
13 connecting flight (also Lufthansa) without even giving us a chance to make the  
14 connection, despite still having half a[n] hour before it took off. (the US, male,  
15 Lufthansa)  
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20 Another disgruntled passenger wrote, 'My evening flight from London to Jakarta was  
21 cancelled due to a technical error[. U]nfortunately these things happen, but Garuda were  
22 not prepared for this at all' (the UK, male, Garuda).  
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## 28 **5. Discussion and Conclusion**

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30 Even though customers are likely to be attracted by lower prices, service quality has  
31 consistently been identified as an important factor in customers' positive behavioural  
32 intentions such as loyalty and WOM (Liu and Lee, 2016; Li *et al.*, 2017). Therefore,  
33 service quality is of the utmost importance to airlines seeking to thrive in a highly  
34 competitive market by attracting new customers and retaining existing ones (Hussain,  
35 2016).  
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40 Given the increasing importance of user-generated content on the Internet in service  
41 quality studies (Lupu *et al.*, 2017), the present research examined dominant themes in  
42 travellers' narratives shared online. An advantage of this type of study is the  
43 opportunity to target travellers from all over the world and to avoid the potential for  
44 biases associated with traditional surveys (Liau and Tan, 2014)  
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49 The current study sought to achieve two research objectives of which the first was to  
50 identify the main themes in descriptions of airline experiences shared online. Based on a  
51 sample of reviews of six airlines shared online, content analyses revealed nine themes in  
52 descriptions of airline travel experiences: flights, seats, services, staff, airlines, (ticket)  
53 classes, airports, entertainment and fly(ing). These themes were further grouped into  
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3 core services during flights; airport operations; crew and ground staff; airline ticket  
4 classes; inflight tangibles such as seats, food and services, and entertainment; and post-  
5 purchase behaviours including continued patronage and recommendations.  
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8 The theme of flights is a dimension that covers the service quality element of airlines'  
9 core services identified by Lim and Tkaczynski (2017). This dimension mainly relates  
10 to overall travel experiences and flights' timeliness. Ardakani *et al.* (2015) concluded  
11 that timeliness is one of the most important criteria for airline passengers, and Min and  
12 Nin (2015) confirmed the importance of on-time arrivals and departures. In addition,  
13 flight cancellations and delays are one of the main topics discussed by consumers on  
14 Twitter (Liau and Tan, 2014) and thus an important driver of dissatisfaction.  
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20 Seats is an important dimension in the traveller narratives analysed in the present study,  
21 including many descriptions referring to legroom and comfort. According to the meta-  
22 analysis conducted by Lim and Tkaczynski (2017), seating comfort is among the most  
23 frequent items mentioned in airline service quality studies. The current results also  
24 confirm the relevance of the AIRQUAL scale developed by Ali *et al.* (2015), which  
25 includes airline tangibles as a dimension of airline experiences. Seating comfort is also  
26 an important dimension in Chen *et al.*'s (2008) research. Tangibles and physical  
27 elements are clearly an important dimension in previous studies (Namukasa, 2013; Wu  
28 and Cheng, 2013; Li *et al.*, 2017). In addition, inflight services such as food and inflight  
29 entertainment rank among the most common themes in service quality studies,  
30 according to Lim and Tkaczynski (2017)  
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38 The airline on-board crew and ground staff are linked in the present study with concepts  
39 such as employee characteristics (e.g. friendly, nice and helpful). Employee service has  
40 also been included in previous service quality scales, such as Lim and Tkaczynski's  
41 (2017) study. Personnel and their empathy are dimensions of the AIRQUAL scale (Ali  
42 *et al.*, 2015), while Saha and Theingi (2009) further distinguished between ground and  
43 inflight staff.  
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49 The airport dimension identified by the present research includes both airport tangibles  
50 and services (e.g. luggage, check-in and gate). Terminal tangibles is another AIRQUAL  
51 dimension (Ali *et al.*, 2015). In addition, the role of proper baggage delivery was  
52 highlighted by Lim and Tkaczynski (2017). As reviews are shared in the post-purchase  
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3 phase, passengers' narratives include overall assessments of airline experiences and  
4 intentions to fly again with the same company.  
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6 This paper offers valuable insights into how travellers perceived services provided by  
7 airline companies based on reviews these consumers share online. Leximancer's  
8 analytical tools facilitated the identification of the main themes in passengers' overall  
9 experiences, some of which proved to be more significant than other themes. In  
10 addition, this study's second research objective was to identify the main narrative  
11 themes aligned with higher and lower ratings of airlines' value for money. Content  
12 analyses revealed that these two passenger segments include different descriptions in  
13 their narratives about airline experiences, so the content shared online by the two  
14 segments contains contrasting themes.  
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21 These findings add to the existing literature (e.g., Rajaguru, 2016; Messner, 2017) by  
22 identifying service features linked with different value for money ratings. Airline  
23 passengers who evaluate airlines' value for money with high ratings (i.e. 4 or 5 out of 5  
24 points) more frequently share narratives including the themes of seats, entertainment,  
25 services and staff. Airline passengers who give airlines low value for money ratings (i.e.  
26 1 or 2 out of 5 points) are more likely to share their experiences of core inflight services  
27 (e.g. delays) and airport operations (e.g. lost, delayed or damaged luggage). Airline  
28 companies' failure to adopt a problem-solving approach is thus the primary source of  
29 negative reviews.  
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### 39 **6. Managerial Implications**

40 This study's results provide airline industry managers deeper insights into how  
41 travellers perceive airline service quality, as shown by their Web reviews.  
42 Understanding online reviews as a manifestation of passengers' experiences can help  
43 airlines to identify the main attributes required to achieve positive post-purchase  
44 behaviours and to minimise negative intentions. Therefore, travellers' reviews not only  
45 provide a cost-effective method for airline companies to collect feedback from their  
46 guests but also an opportunity to discover ways to generate positive post-purchase  
47 intentions.  
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3 In order to generate high customer ratings and positive eWOM, airlines should both  
4 provide good core services (e.g. inflight services) and ensure service quality in ground  
5 services in the airports in which they operate. In addition, airplanes' tangibles (e.g.  
6 seating comfort) are quite frequently mentioned in passengers' narratives, so these  
7 features are a further way to improve passengers' experiences. Finally, inflight services  
8 (e.g. entertainment and food and beverage) are linked with the themes of staff and seats  
9 and are also important to customer satisfaction.  
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14 The present results indicate that customers who classify their trips' value for money as  
15 very good or excellent also provide positive eWOM about the airlines' seats, staff,  
16 entertainment and food. Passengers giving low value for money ratings write about  
17 negative experiences with airport operations and inflight services, which can arise from  
18 factors that cannot be controlled by the airlines (e.g. delays and third party ground  
19 operators). Therefore, airline companies need to acknowledge the number of negative  
20 incidents connected to these themes, identify the main causes and implement plans do  
21 minimise negative impacts on consumers' experiences. Showing passengers that airline  
22 staff are dedicated to solving problems is of the utmost importance.  
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### 31 **7. Limitations and Future Research**

32 This study has some limitations that need to be taken into consideration. First, only six  
33 airlines and 200 reviews per airline were included in this study. Further research could  
34 contribute to a fuller understanding of the main narratives in airline passengers' online  
35 reviews by comparing different types of airline companies (e.g. low-cost vs. full-service  
36 airlines) and including more companies in samples. Larger samples might allow future  
37 studies to test whether differences exist in the associations between value for money  
38 ratings and the main themes of travellers' overall airline experience for each company,  
39 as well as facilitating comparisons between airlines' market positioning.  
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47 Second, the present research only focused in one social media platform. Further studies  
48 could compare user-generated content from different social media (e.g. Facebook,  
49 Twitter and Instagram) to assess congruence with this research's findings. Another issue  
50 that merits more study is to test whether the main themes of passengers' overall  
51 experiences vary according to traveller profiles (e.g. gender, nationality or business vs.  
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3 economic class). This may provide more insights regarding market segmentation in the  
4 airline industry. Future studies could also use other qualitative methods to add more  
5 depth to the present findings on airline travellers' perspectives.  
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**Table 1: Descriptive statistics for reviewers (number = 1200)**

Variable	Category		%
Origin	Africa	16	1.5%
	Central Asia	21	1.9%
	Eastern Europe	29	2.7%
	Eurasia & Middle East	7	0.6%
	Far East Asia	144	13.2%
	Latin America	27	2.5%
	North America	436	40.0%
	Oceania	106	9.7%
Gender	Western Europe	304	27.9%
	F	490	40.8%
	M	710	59.2%

**Table 2: Descriptive statistics for service quality ratings**

Variable	Average	Median	SD	Min	Max
Cleanliness	4.06	4	1.02	1	5
Check-in and Boarding	3.86	4	1.31	1	5
Customer Service	3.78	4	1.43	1	5
Legroom	3.66	4	1.17	1	5
Seat Comfort	3.63	4	1.15	1	5
Value for Money	3.58	4	1.32	1	5
Inflight Entertainment (Wi-Fi, Television, Movies)	3.54	4	1.32	1	5
Food and Beverage	3.53	4	1.30	1	5

Notes: SD = standard deviation; min = minimum; max = maximum

**Table 3: Main themes and concepts by value for money ratings**

Value for Money Rating	Theme	Concepts
Low (1 or 2 points)	Flight (services)	Time (38% likelihood), check(-in) (30%), flight (27%), return (27%), plane (22%)
	Airport	Airport (39%), luggage (39%), gate (31%)
High (4 or 5 points)	Seats	Comfortable (72%), seat (60%), leg (57%), room (57%), trip (50%)
	Entertainment	Entertainment (66%), (flight) log (54%), cabin (54%)
	Services	Food (59%), service (58%), customer (34%), beverages (served) (30%)
	Staff	Staff (71%), helpfulness (70%), friendl(iness) (64%), nice (staff) (59%), boarding (process) (46%), passenger (36%)

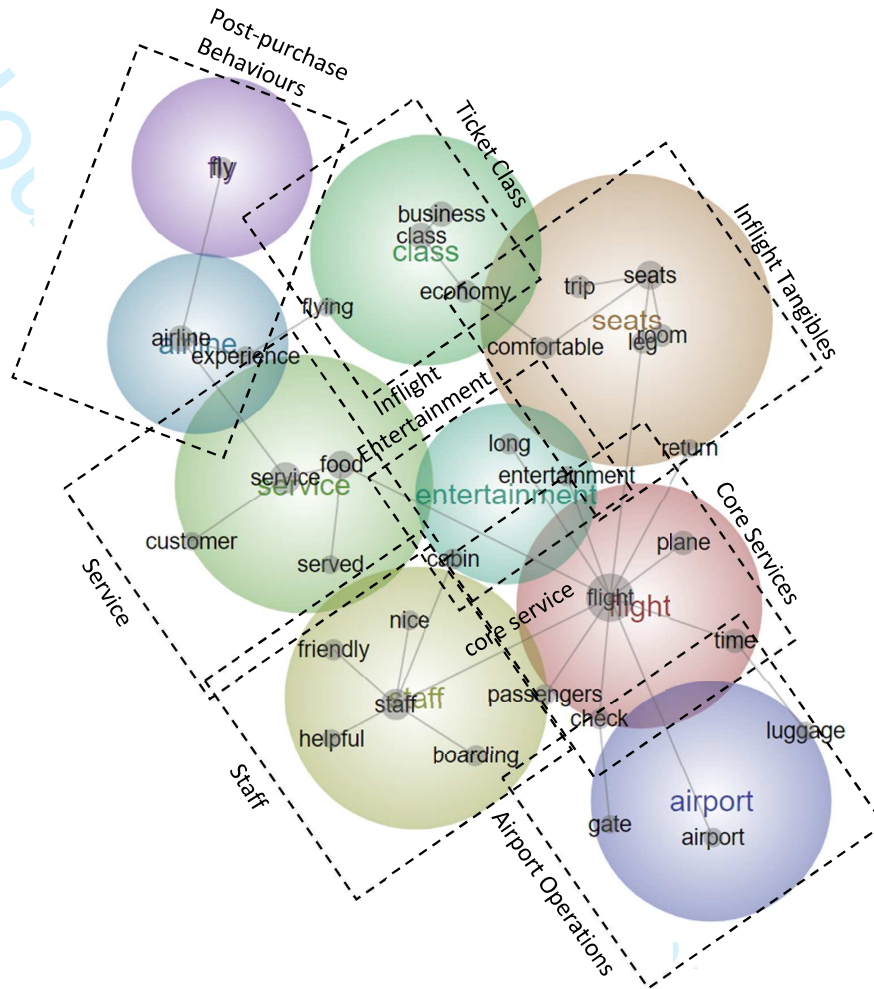


Figure 1: Concept map