

Discovery of factors affecting tourists' fine dining experiences at five-star hotel restaurants in Istanbul

Fine dining
experiences

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Abstract

Purpose – The purpose of this study is to discover the factors affecting customer delight, satisfaction and dissatisfaction in fine dining experiences (FDEs).

Design/methodology/approach – Online user generated 2,585 reviews on TripAdvisor for 46 five-star hotel restaurants operating in Istanbul were analyzed with the latent Dirichlet allocation (LDA) algorithm.

Findings – LDA created nine, eight and seven topics for delight, satisfaction and dissatisfaction, respectively. The most salient topics for customer delight, satisfaction and dissatisfaction in FDEs are staff (17.3%), view (19%), and food quality (23%), respectively.

Originality/value – This study is one of the few studies investigating customer delight and satisfaction together. The study shows that FDEs can be analyzed with text mining techniques. Moreover, the study contributes to the literature on customer delight by adding staff topic as an antecedent.

Keywords Customer delight, Satisfaction, Fine dining experience, Topic modeling, Latent Dirichlet allocation

Paper type Research paper

1. Introduction

Although food is a biological necessity, it is “one of the basic pleasures built into our nervous system” (Csikszentmihalyi, 2013, p. 113). When this basic pleasure is combined with the experience of dining at a restaurant defined as a kind of hedonic product (Li *et al.*, 2018), it has been taken to a different dimension as a tool of self-realization and prestige (Aktas-Polat and Polat, 2020). As services grow, the importance of customer satisfaction (Anderson *et al.*, 1997) and delight increases. The optimal aim of all restaurants is to satisfy their customers and to please them in the best condition (Andersson and Mossberg, 2004). Since the cost of the efforts to be undertaken by the enterprises is also high, the effects of these efforts should be known clearly (Vanhamme, 2000).

The factors affecting delight, satisfaction and dissatisfaction regarding the dining experience are reflected in customers' postexperience reviews. Through many online platforms that emerged with Web 2.0, customers have had an opportunity to evaluate products/services very easily and quickly. On the other hand, this situation has resulted in the emergence of a huge volume and variety of data. For this reason, the importance of all information to be transferred from the current customers to potential customers and business managers is constantly increasing.

Today, the issue of what others think in the decision-making process is an important piece of information (Pang and Lee, 2008) and a starting point for purchasing a product (Feldman, 2013). In addition, this information guides business managers in improving the product



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quality (Schuckert *et al.*, 2015). Online customer reviews that can be addressed in this context are the humanic clues of the customer experience (Berry *et al.*, 2002). The subjects of satisfaction and delight deserve further study due to customer satisfaction/dissatisfaction and post-dissatisfaction behavior (Day, 1977), the post-purchase outcomes of delight (Ma *et al.*, 2013), and the relationship between delight and customer experience (Torres *et al.*, 2014a).

In this study, customer delight and satisfaction are dealt with at the same time with the idea that online reviews provide guidance for determining customer satisfaction (Zhang *et al.*, 2014a; Kirilenko and Stepchenkova, 2020) and delight. The aim of the study is to discover the factors affecting delight, satisfaction and dissatisfaction in fine dining experiences (FDEs) by analyzing the online customer reviews generated by users.

2. Literature review

2.1 Customer satisfaction

Satisfaction is a cognitive assessment after consumption (Berman, 2005; Arora, 2012) and the emotional response given as a result of this assessment (Day, 1980). Customer satisfaction is one of the best indicators of the firm's future profit (Kotler, 1988). Therefore, satisfaction is one of the things companies apply to increase brand loyalty and market share (Oh and Parks, 1997). Through experiences, customers develop attitudes about a brand by establishing the norms or standards that determine what a brand should achieve (Woodruff *et al.*, 1983). Davis (1991) states that the intentions based on attitudes and the future behaviors based on the intentions are shaped. Customers' tolerance to price increases with satisfaction (Anderson *et al.*, 1994) and repeat purchasing behavior may occur (Söderlund and Öhman, 2005). For this reason, it can be stated that satisfaction is an important determinant of customer loyalty and positive word-of-mouth (WOM) (Bearden and Teel, 1983).

Customer satisfaction with a product is influenced by expectations about the product (Arora, 2012) and previous emotional experiences (Hosany and Gilbert, 2009). If the actual product results meet or exceed the expectations, satisfaction occurs, but if the results are below the expectations, dissatisfaction occurs (Arora and Singer, 2006). For customer satisfaction, establishing a long-term relationship with the customer to know him/her (Arora, 2012), fulfilling service expectations, and creating memories (Knutson, 1988) are mentioned. Satisfaction depends on the high level of service (Davis, 1991) which reduces short-term profits and increases labor costs. As it is difficult to maximize customer satisfaction, the way to minimize dissatisfaction is recommended (Andreassen, 1977). Therefore, it becomes important "to understand the link between the antecedents of satisfaction and satisfaction's behavioral and economic consequences" (Anderson and Sullivan, 1993, p. 125).

It can be stated that there is a consensus on the satisfaction antecedents in the studies conducted for the restaurant industry, such as food quality, service, service quality, atmosphere, price and value (Mattila, 2001; Yüksel and Yüksel, 2003; Sulek and Hensley, 2004; Namkung and Jang, 2008; Hyun, 2010; Uddin, 2019). Dissatisfaction leads to some negative consequences in repeat-patronage decisions, diners' suggestions (Sulek and Hensley, 2004), revisit intentions (Yan *et al.*, 2015), repurchase decisions, customer loyalty (Mattila, 2001; Uddin, 2019), and trust (Hyun, 2010). However, the marketing approach has shifted to delight due to the fact that satisfaction does not provide permanence in relationships, and the satisfied customer can leave the enterprise (Verma, 2003).

2.2 Customer delight

The favorable behavior of a customer is not only a matter of getting a satisfactory meal but also a psychological (cognitive-emotional) issue (Kim and Moon, 2009). Delight, which refers to a structure related to but different from satisfaction, is related to unexpected positive

events/surprises (Berman, 2005). “Customer delight was not widely used in academia until the 1990s” (Jiang, 2020, p. 3). While customer satisfaction is about utilitarian expectations, customer delight is about hedonic expectations (Chitturi *et al.*, 2008). The former refers to rational delight and the latter refers to emotional delight (Voss *et al.*, 2004).

Rational delight is the case of exceptional customer satisfaction (Vanhamme, 2008), positive disconfirmation of expectations (Schneider and Bowen, 1999; Verma, 2003) and performance exceeding expectations (Keiningham and Vavra, 2001; Barnes and Krallman, 2019). When perceived performance fails customer expectations, it may lead to dissatisfaction (Torres *et al.*, 2014b). In this context, customer satisfaction will be the logical antecedent of customer delight (Torres and Kline, 2006).

Rational delight is necessary but insufficient for emotional delight (Voss *et al.*, 2004). Emotional reactions such as joy accompany the feeling of delight associated with high satisfaction (Füller and Matzler, 2008). Emotional delight is a combination of surprise and happiness (Goswami and Sarma, 2014), and surprise and joy (Plutchik, 1991). Therefore, exceeding customer expectations with surprises for delight (Schneider and Bowen, 1999), going beyond mere satisfaction (Keiningham and Vavra, 2001) to reach a high level of satisfaction is in question (Jiang, 2020) that is 100 percent satisfaction (Ngobo, 1999).

The features adding benefits beyond expectations (Rust and Oliver, 2000) and excitement factors (Füller and Matzler, 2008) can result not only in a good but a pleasurable experience (Torres and Kline, 2006). The elements that delight customers in the service industry are problem solving (Verma, 2003; Barnes and Krallman, 2019), security, justice (Schneider and Bowen, 1999), the helpfulness of staff (Jiang, 2020), friendliness, consideration and courtesy (Verma, 2003). The antecedents of customer delight are determined in the studies conducted in the restaurant industry as wine types, the taste and quality of food (Crotts *et al.*, 2008), artistically presented meals (Arora and Singer, 2006), positive and joyous atmosphere (Arora, 2012) and personalized service (Tsaour and Lo, 2020).

As customer emotions intensify, experience becomes memorable (Tsaour and Lo, 2020) and self-esteem rises (Guchait *et al.*, 2014). In addition, positive WOM (Torres and Kline, 2006; Barnes and Krallman, 2019; Jiang, 2020), customer loyalty (Torres *et al.*, 2014b) and repurchasing intention (Crotts *et al.*, 2008) may arise. Furthermore, delighted customers are also effective in making employees friendly and problem solvers (Torres and Kline, 2013).

2.3 Customer satisfaction and delight in online restaurant reviews

Many studies have defined the important elements of customer satisfaction discussed in the reviews of the restaurant industry as food, taste, service, atmosphere, physical environment (Pantelidis, 2010; Zhang *et al.*, 2014a), food quality, price and value, service quality (Yan *et al.*, 2015), long wait time, exotic and creative cuisine, lack of cleanliness, rude attitude, portion size, outdoor ambiance (Kwon *et al.*, 2020), feeling, place, time (Jia, 2019) and overall experience (Keller and Kostromitina, 2020).

The most frequently used word in customer reviews is food (Büschken and Allenby, 2016; Pezenka and Weismayer, 2020) while the attributes that stand out along with food are service, environment, price, context (Gan *et al.*, 2017), place, order, service and product-type (Situmeang *et al.*, 2020). Food, drink, dessert, view, location, occasions, reputation, price, ambiance, and service (Oh and Kim, 2020) have been determined as the dimensions of fine-dining ethnic food restaurant experience.

Mathayomchan and Taecharungroj (2020) have determined the important restaurant features affecting the five-star rating in restaurant reviews: food, service, atmosphere and value, respectively. Zhang *et al.* (2014b) determined the motivational factors affecting delight and satisfaction as taste, environment and service by combining satisfaction and delight in the samples of low-end and mid-to-high-end restaurants.

In the sample of online restaurant reviews, it is noteworthy that the subjects of delight and satisfaction have not been investigated sufficiently. The fact that there are few studies on delight in particular leads to a huge gap in the current literature. This study seeks answers to the following four research questions (RQs) based on the natural language expressions of the customers.

- RQ1. What are the topics affecting delight in FDEs?
- RQ2. What are the topics affecting satisfaction in FDEs?
- RQ3. What are the topics affecting dissatisfaction in FDEs?
- RQ4. What are the most salient topics affecting delight, satisfaction and dissatisfaction in FDEs?

3. Material and methods

Figure 1 shows the stages of the study. The data were preprocessed and analyzed using KNIME (The Konstanz Information Miner) Analytics Platform 4.3.0.

3.1 Data collection and sampling

The sample is composed of online customer reviews for five-star hotel restaurants in Istanbul, Turkey, on TripAdvisor, a well-known platform for the tourism industry (Taecharungroj and Mathayomchan, 2019). According to the Ministry of Culture and Tourism (2020) there are 115 five-star hotels in Istanbul. The reviews written for 66 restaurants within 46 five-star hotels were accessed from TripAdvisor manually by the authors, and 2,585 reviews in English formed the dataset of the study.

In the study, customer satisfaction was interpreted with review scores (Xu and Li, 2016). In this context, 5-star reviews and 4-star reviews were respectively used for delight (Crotts et al., 2009; Barnes and Krallman, 2019) and satisfaction (Büschken and Allenby, 2016), and 1-, 2- and 3-star reviews were evaluated as dissatisfaction by the authors. In order to discover the factors affecting customer satisfaction and delight in FDEs, the data file was transformed into three different datasets as delighted customer (dataset₁, *n* = 1,613), satisfied customer (dataset₂, *n* = 605) and dissatisfied customer (dataset₃, *n* = 367).

3.2 Data preprocessing and transformation

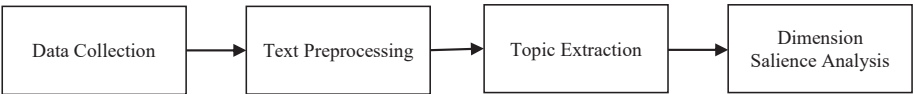
The dataset preprocessing was applied in two stages. In the first stage, all datasets were preprocessed with punctuation erasure, number filter, *n* chars filter, stop words filter tokenization (Feldman, 2013) and cleared of possible noise elements. In Figure 2, the result of the preprocessing is illustrated on an example review.

In the second stage, the dataset is subjected to bag-of-words and inverse document frequency processes using adjectives and nouns (Lucini et al., 2020) with a tagger filter. Figure 3 shows an example workflow of the process steps in KNIME.

3.3 Topic extraction and validation

The datasets passed through the preprocessing were analyzed with the latent Dirichlet allocation (LDA) algorithm. LDA is a well-known unsupervised method for topic modeling

Figure 1.
The stages of the study



1 The food is really great, and I'm telling that as an Italian. The location is beautiful and the waiters are really up to the task. The bill is OK, fair for the country and the location (40-50€ per person)	2 “The food is really great, and I'm telling that as an Italian. The location is beautiful and the waiters are really up to the task. The bill is OK, fair for the country and the location (40-50€ per person)”	3 “the food be really great, and lbe tell that as a italian. the location be beautiful and the waiter be really up to the task. the bill be ok, fair for the country and the location (40-50€ per person)”	4 “the food be really great and lbe tell that as a italian the location be beautiful and the waiter be really up to the task the bill be ok fair for the country and the location 40-50€ per person”	5 “the food really great and tell that italian the location beautiful and the waiter really the task the bill fair for the country and the location 40-50€ per person”	6 “food tell italian location beautiful waiter task bill fair country location 40-50€ person”
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Figure 2.
The preprocessing of the dataset₃ for id20

(García-Pablos *et al.*, 2018) and a probabilistic modeling technique proposed by Blei *et al.* (2003) for collecting discrete data. Probabilistic topic models aim to discover the hidden structure in documents (Blei, 2012). In the LDA proposal, Blei *et al.* (2003) do not make any epistemological claims about latent variables. For this reason, we can state that the term latent referred to in LDA defines the hidden structure within the reviews written by customers with natural language expressions. With the analysis conducted through LDA, the elements (previously known or unknown) behind this hidden structure become visible.

The LDA model assumes the presence of a fixed number of latent topics defined in a text or document by a collection of words with a relatively high probability of usage (Büschken and Allenby, 2016). “LDA is utilized to extract the dimensions of customer satisfaction, the importance of different dimensions, and the words related to the dimensions based on preprocessed comments” (Guo *et al.*, 2017, p. 470). This algorithm was earlier used on a satisfactory basis in restaurant (Jia, 2019; Situmeang *et al.*, 2020), hotel (Guo *et al.*, 2017; Sutherland *et al.*, 2020) and airline industries (Lucini *et al.*, 2020).

For topic modeling, the number of topics is an important decision (Sutherland *et al.*, 2020). The elbow method (Taecharungroj and Mathayomchan, 2019) was used to determine the most suitable number of clusters for LDA, and LDA was combined with the *k*-means algorithm (Khalid and Wade, 2020). The cluster quality control to determine whether the data point is assigned to the closest cluster was provided with within class sum squared error (Nadaf and Patil, 2015). The *k*-means algorithm was run with for different *k* values from 1 to 10 (Kassambara, 2017) with 100 iterations (Raykov *et al.*, 2016). LDA hyperparameters were set to $\alpha = 0.1$, $\beta = 0.01$ (Zhou *et al.*, 2017). “Alpha represents document topic density and Beta represents topic-word density” (Sumathi *et al.*, 2020, p. 181). Finally, the number of words representing the topic was set to ten.

The topics that emerged as a result of LDA were validated through a three-step procedure. First, a semantic connection was made with the most frequently repeated terms in the topic (Guo *et al.*, 2017), and the top ten terms representing each topic were examined. In this examination, the terms called the distinctive terms of the topic were only used in the relevant dataset. Second, the topic context (Sutherland *et al.*, 2020) was clarified by reading ten reviews with the highest proportion for each topic. Finally, the topics were named by the authors.

3.4 Dimensional salience analysis

The salience of a dimension was calculated by dividing the number of topically assigned reviews produced by LDA for each dataset by the total number of reviews in the relevant

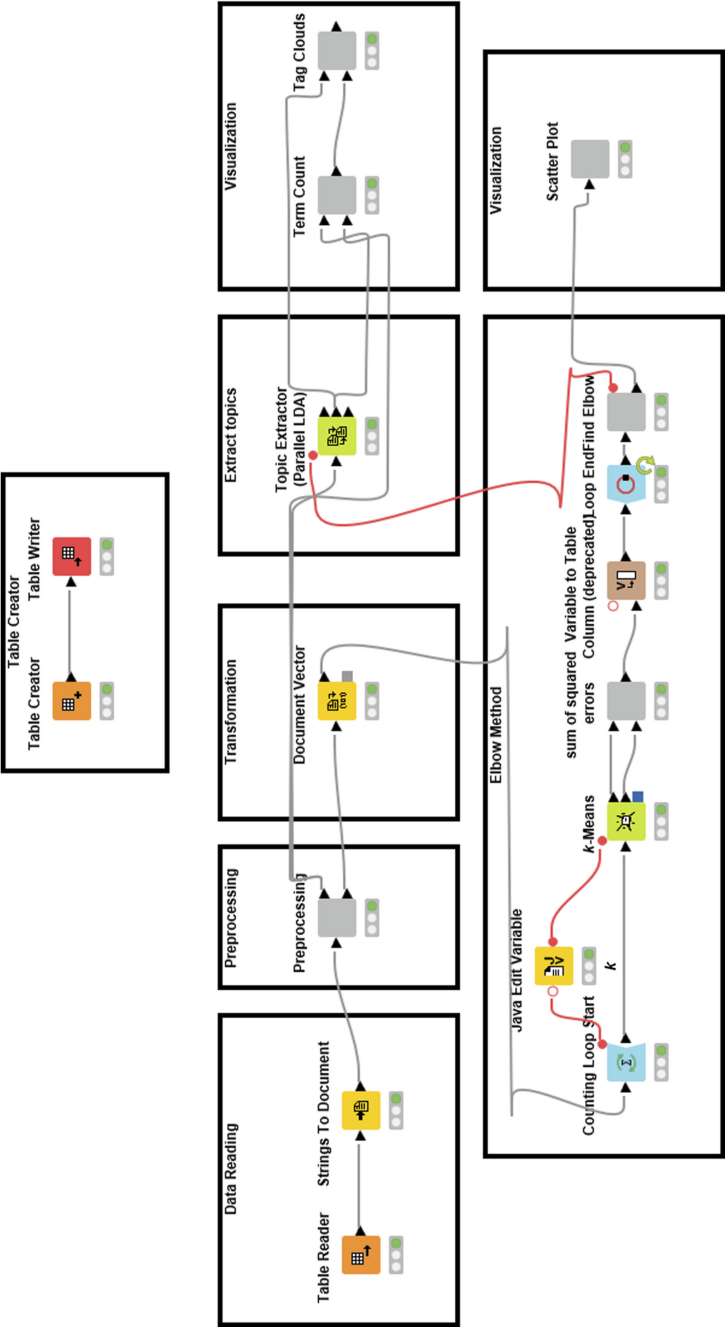


Figure 3.
KNIME workflow

dataset (Taecharungroj and Mathayomchan, 2019). Thus, the most salience topic for each dataset was determined, and the topic importance hierarchy was revealed for delight, satisfaction and dissatisfaction.

4. Results

4.1 Word frequency

The five most frequently repeated terms in the datasets were given in Table 1. The five most frequently repeated terms are food, service, restaurant, view and staff, respectively in the delight dataset; food, restaurant, service, view and hotel, respectively in the satisfaction dataset; and food, restaurant, service, hotel and view, respectively in the dissatisfaction dataset.

According to Table 1, it is noteworthy that the term staff is only included in the delight dataset although the top five most repeated terms for satisfaction and dissatisfaction are the same.

4.2 Topic extraction, identification and validation

The distribution of the number of the clusters produced by the k -means algorithm for the three datasets passed through the preprocessing process and the word cloud image for each dataset are shown in Figure 4.

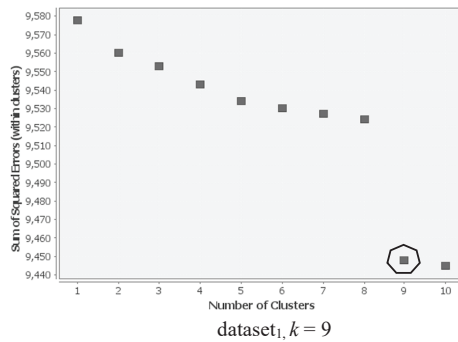
According to Figure 4, the k -means algorithm operated with 100 iterations for different k values from 1 to 10 determined the number k as 9, 8 and 7, respectively, for (a) dataset₁, (b) dataset₂ and (c) dataset₃. Moreover, it is seen in the word clouds in Figure 4 that the prominent terms are food, service and restaurant in the three datasets respectively for (d) delight, (e) satisfaction and (f) dissatisfaction.

With LDA run after this process, the terms that form the basis of each topic and the weight of each term have been extracted. The validation of topics was provided by the researchers for RQ1, RQ2 and RQ3 by reading the top ten reviews with the highest proportion of each topic together with the term list representing the relevant topic. Tables 2–4 show the topics affecting delight, satisfaction and dissatisfaction in FDEs and the prevalent underlying terms and weights for these topics.

4.2.1 Factors affecting customer delight in fine dining experiences. LDA has produced nine topics for delight (Table 2). The staff explains the dining experience, the behavioral characteristics of staff such as friendly and helpful, and the effect of the service success of staff on the dining experience through words like nice and amazing. The cuisine emphasizes cuisine especially in connection with food, restaurant and menu. The wine describes wine, the topic's distinctive term, as a complement to the beautiful experience with food, restaurant, meal, service, table and menu. The food experience emphasizes the beautiful moments lived with the presentation of delicious meals made by the chefs and the restaurant's atmosphere. The view emphasizes that the experience in the restaurant is even more beautiful with the view, and with price, one of the distinguishing words of the topic. Although the prices are expensive, it is worth it.

Delight		Satisfaction		Dissatisfaction	
Term	Frequency	Term	Frequency	Term	Frequency
Food	931	Food	383	Food	246
Service	766	Restaurant	292	Restaurant	196
Restaurant	679	Service	280	Service	186
View	633	View	229	Hotel	122
Staff	409	Hotel	172	View	109

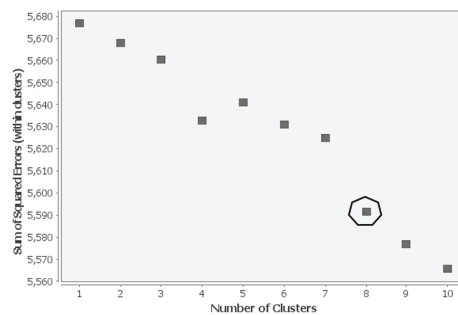
Table 1.
The most frequently repeated terms



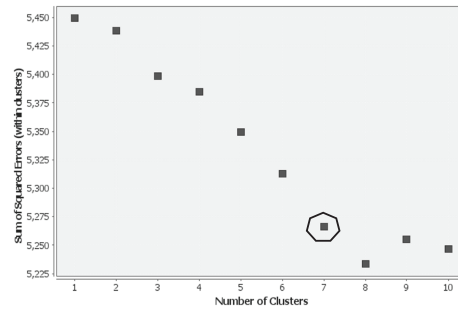
(a)



Word Cloud for delight

 $\text{et}_2, k = 8$ 

Word Cloud for satisfaction

set3, $k = 7$ 

Word Cloud for dissatisfaction

Figure 4.
Number of clusters and
word cloud

The self-esteem emphasizes that the person feels important with the restaurant's location, view, service, staff, quality, and meals by using distinctive words, such as palace, ottoman, and special. The menu emphasizes the variety of the menu through lamb, dessert, fish and salad. The atmosphere emphasizes the location and ambience of the restaurant through words such as view, music and night. The breakfast emphasizes diversity with breakfast and variety by combining the distinctive words of the topic such as breakfast, buffet, brunch and tea.

4.2.2 *Factors affecting customer satisfaction in fine dining experiences.* LDA has generated eight topics for satisfaction (Table 3). The different tastes describe the experience of

Term	Staff		Cuisine		Wine		Food experience		View	
	Weight	Term	Weight	Term	Weight	Term	Weight	Term	Weight	Term
Staff	550.0	Food	215.0	Wine	403.0	Food	413.0	Food	638.0	Food
Food	401.0	Restaurant	211.0	Turkish	199.0	Restaurant	333.0	View	552.0	View
Restaurant	317.0	Istanbul	174.0	Food	193.0	Service	169.0	Service	457.0	Service
Friendly	311.0	Hotel	166.0	Restaurant	163.0	Hotel	161.0	Excellent	304.0	Excellent
Service	269.0	Service	157.0	Meal	154.0	Time	134.0	Restaurant	287.0	Restaurant
Dinner	189.0	Lunch	141.0	Service	154.0	Istanbul	122.0	Price	215.0	Price
Nice	187.0	Chinese	122.0	Table	151.0	Staff	117.0	Nice	196.0	Nice
Amazing	185.0	[Hotel name]	103.0	Menu	146.0	Dish	114.0	Amazing	182.0	Amazing
Helpful	160.0	Excellent	99.0	Excellent	139.0	Delicious	91.0	Istanbul	176.0	Istanbul
Thanks	155.0	Menu	92.0	Hotel	102.0	Chef	83.0	Bosphorus	154.0	Bosphorus

Term	Self-esteem		Menu		Atmosphere		Breakfast	
	Weight	Term	Weight	Term	Weight	Term	Weight	Term
Palace	255.0	Lamb	248.0	View	428.0	Breakfast	360.0	Breakfast
Food	239.0	Dish	242.0	Bar	231.0	Buffet	236.0	Buffet
Service	213.0	Main	192.0	Service	207.0	Hotel	143.0	Hotel
View	189.0	Dessert	183.0	Drink	201.0	Brunch	130.0	Brunch
Restaurant	176.0	Restaurant	166.0	Amazing	186.0	Turkish	119.0	Turkish
Bosphorus	170.0	Fish	153.0	Istanbul	177.0	Tea	111.0	Tea
Ottoman	132.0	Delicious	129.0	Music	162.0	Variety	109.0	Variety
[Restaurant name]	126.0	Meal	127.0	Cocktail	142.0	Restaurant	97.0	Restaurant
Experience	125.0	Starter	125.0	Staff	123.0	Staff	95.0	Staff
Special	116.0	Salad	125.0	Night	122.0	Food	90.0	Food

Table 2. Topics of delight in FDEs

Table 3.
Topics of satisfaction
in FDEs

Different tastes		View		Breakfast		Dinner	
Term	Weight	Term	Weight	Term	Weight	Term	Weight
Japanese	84.0	View	210.0	Breakfast	194.0	Food	159.0
Restaurant	79.0	Food	176.0	Food	140.0	Dinner	113.0
Sushi	61.0	Service	167.0	Buffet	108.0	Staff	87.0
Food	57.0	Nice	87.0	Restaurant	85.0	Restaurant	83.0
Istanbul	53.0	Bosphorus	79.0	Staff	78.0	Service	75.0
Taste	44.0	Restaurant	77.0	Selection	66.0	Nice	66.0
[Restaurant name]	32.0	Delicious	49.0	Choice	56.0	View	65.0
Hotel	30.0	Lunch	45.0	Turkish	53.0	Chinese	64.0
Staff	27.0	People	44.0	View	51.0	Friendly	59.0
Service	24.0	Price	44.0	Quality	48.0	Hotel	56.0

Atmosphere		Food quality		Price		Main course	
Term	Weight	Term	Weight	Term	Weight	Term	Weight
Restaurant	122.0	Food	146.0	Food	186.0	Main	114.0
Hotel	97.0	Wine	98.0	Service	173.0	Turkish	100.0
Table	82.0	Service	95.0	Restaurant	143.0	Dish	83.0
Palace	75.0	View	93.0	Hotel	114.0	Restaurant	78.0
Time	62.0	Nice	68.0	Istanbul	89.0	Menu	75.0
Tea	61.0	Restaurant	65.0	Price	80.0	Wine	73.0
Service	60.0	Drink	59.0	View	74.0	Plate	64.0
Bosphorus	58.0	Terrace	56.0	Quality	71.0	Course	60.0
Beautiful	51.0	Hotel	53.0	Nice	62.0	Lamb	58.0
Food	50.0	Staff	52.0	[Hotel name]	53.0	Bit	55.0

different tastes with an emphasis on the authentic tastes, the staff and the restaurant itself. The view emphasizes the view of the restaurant. The breakfast indicates that the restaurant experience stands out in terms of breakfast with the distinctive terms of the topic breakfast, buffet, selection and choice. The dinner especially refers to dinner and the staff accompanying the dinner through the terms dinner and friendly. The atmosphere is used for the restaurant's tables, palace-like concept, service, scenery, tea time, etc. to describe the restaurant atmosphere through the distinctive words of the topic such as table, palace, time, tea and beautiful.

The food quality puts emphasis on food, which is the core element of the restaurant. Wine, service, view, and nice following the term food show that this topic makes a comparison. Considering the examples representing this topic, it can be stated that this comparison is related to the quality of the food. The price emphasizes the price of the meals served in the restaurant. This topic emerges as an evaluation in the context of food, service, restaurant, hotel, and view and the comparison of price and value. The main course focuses on the main courses that decorate the plates through the distinctive words of the topic; main, dish, menu, plate, course, lamb and bit.

4.2.3 Factors affecting customer dissatisfaction in fine dining experiences. LDA has generated seven topics for dissatisfaction (Table 4). The ethnic tastes indicate that customers who are in particular looking for ethnic foods cannot find what they are looking for in the context of the terms sushi, cheese and chicken. The table indicates the discomfort felt by the customers at the table they are sitting through the distinctive words of the topic table, dinner, palace and money. Because of this inconvenience they think it is not worth the price they pay to the restaurant. The perceived value indicates that in the context of the terms meal, average and bill, customers are not satisfied with the taste of the food they experience and the bill they pay. While the view emphasizes the beauty of the restaurant's view, it points to dissatisfaction with service, service time, and food and drinks.

Ethnic tastes		Table		Perceived value		View	
Term	Weight	Term	Weight	Term	Weight	Term	Weight
Sushi	104.0	Table	123.0	Food	125.0	View	137.0
Food	100.0	Restaurant	118.0	Restaurant	84.0	Food	109.0
Restaurant	77.0	Food	61.0	Chinese	82.0	Service	109.0
Waiter	53.0	Dinner	47.0	Service	62.0	Nice	86.0
Turkish	41.0	Palace	46.0	Dish	52.0	Minute	80.0
Japanese	40.0	Price	38.0	Meal	44.0	Drink	77.0
Cheese	40.0	View	38.0	Istanbul	40.0	Time	56.0
Bad	38.0	Istanbul	37.0	Average	39.0	Menu	48.0
Chicken	37.0	Money	36.0	Turkish	39.0	Hotel	45.0
Menu	37.0	[Restaurant name]	33.0	Bill	37.0	Turkish	44.0

Service		Food quality		Main course	
Term	Weight	Term	Weight	Term	Weight
Restaurant	133.0	Hotel	199.0	Main	86.0
Service	118.0	Food	173.0	Food	77.0
Food	101.0	Restaurant	111.0	Starter	75.0
Waiter	94.0	Staff	93.0	Restaurant	67.0
Time	63.0	Service	85.0	Wine	54.0
Bill	58.0	Breakfast	84.0	Menu	53.0
Bad	45.0	View	61.0	Dish	47.0
Indian	40.0	Buffet	60.0	Course	46.0
Worst	26.0	Star	57.0	Salad	44.0
Experience	25.0	Standard	41.0	Price	41.0

Table 4.
Topics of
dissatisfaction in FDEs

The service emphasizes dissatisfaction with food and the service in particular presented by the staff through the terms worst and experience. The food quality with the terms star and standard, which are the distinctive terms of the topic, indicates that restaurant meals and food quality do not meet the hotel's five-star status. The main course can be defined by the distinctive terms of the topic main and course. This topic points the dissatisfaction felt depending on especially main courses as well as starters, wine, salads and high price.

4.3 Dimensional salience analysis

After determining the topics, the dimensional salience of each topic was calculated for RQ4 by the following formula (Taecharungroj and Mathayomchan, 2019):

$$\text{Dimensional Salience of Topic} = \frac{\text{Topic Reviews}}{\text{Total Reviews}}$$

The salience rates calculated for three datasets are shown in Figure 5. According to Figure 5, the most salient topic for the factors affecting customer delight in FDEs was staff (17.3%) followed by the topics, namely view (16%), atmosphere (12.7%), self-esteem (10.1%), food experience (9.8%), wine (9.4%), menu (9.1%), cuisine (8.8%) and breakfast (6.8%).

Figure 5 shows that the most salient topic for the factors affecting customer satisfaction in FDEs was view (19%) followed by the topics, namely price (15%), dinner (14%), food quality (13.6%), breakfast (12.2%), atmosphere (9.8%), main course (11.7%), and different tastes (4.6%). The most salient topic for the factors affecting customer dissatisfaction in FDEs was food quality (23%) followed by the topics view (17.9%), perceived value (13.9%), main course (13.4%), service (13.1%), table (9.8%) and ethnic tastes (9%), respectively.

5. Discussion and implications

5.1 Research implications

This study provides empirical evidence on the factors affecting customer satisfaction and delight in FDEs. Food occurs as the most frequently mentioned word in the reviews for FDEs in three datasets in the study. This result overlaps with the previous research studies on restaurant reviews (Pantelidis, 2010; Situmeang *et al.*, 2020; Pezenka and Weismayer, 2020). Moreover, this study revealed that the staff has a distinctive feature in delight.

Some of the topics generated in this study for FDEs coincide with the dimensions that Oh and Kim (2020) defined for the fine-dining ethnic food restaurant experience as food, view, location, ambiance, price and service. Moreover, the elements such as food, service, and atmosphere mentioned in the studies on 5-star ratings in restaurant reviews (Keller and Kostromitina, 2020; Mathayomchan and Taecharungroj, 2020) corresponded with staff, food experience and atmosphere generated by LDA in this study.

The most salient topic in the delight dataset is staff. This topic confirms that staff's politeness such as friendliness, consideration, courtesy (Verma, 2003) and helpfulness (Jiang, 2020) have an effect on customer delight. Another reflection of this topic appeared in the service topic generated by the dissatisfaction dataset. This topic supports the findings of the studies where it is determined that service (Mattila, 2001; Arora, 2012; Zhang *et al.*, 2014b), rude attitude (Kwon *et al.*, 2020), responsibility, courtesy, attention, ability and the service performance of staff (Sulek and Hensley, 2004; Namkung and Jang, 2008; Zhang *et al.*, 2014a) have an effect on customer satisfaction. This study underlined that the view of the restaurant as the most salient topic for the satisfaction dataset is a determining element of the customer's fine dining experience. The view topic appears in the current literature with location (Hyun, 2010) and place (Jia, 2019). This topic, encountered in all three datasets, revealed that the view of the restaurant has a significant effect on customer feelings. The food quality is the most salient topic for the dissatisfaction dataset. This finding supports that food quality has an effect on satisfaction (Mattila, 2001; Sulek and Hensley, 2004; Hyun, 2010; Yan *et al.*, 2015; Uddin, 2019).

The atmosphere generated in the delight and satisfaction datasets confirms the literature (Mattila, 2001; Arora, 2012; Zhang *et al.*, 2014b; Yan *et al.*, 2015; Pezenka and Weismayer, 2020). The food experience appeared among the delight topics is a topic that coincides with the artistic presentation of food specified by Arora and Singer (2006), and the expression of Torres and Kline (2006) is not only good but also a pleasurable experience presented to the customer. Feeling important with the quality and the unique presentation of food has an effect on self-esteem. Although the self-esteem topic generated by LDA is an extension of the topic called food experience, the emotional delight mentioned in the delight topic is a topic that we can reconcile (Schneider and Bowen, 1999; Torres and Kline, 2013; Guchait *et al.*, 2014). Self-esteem will be possible by exceeding the expectations of comfort and luxury stated

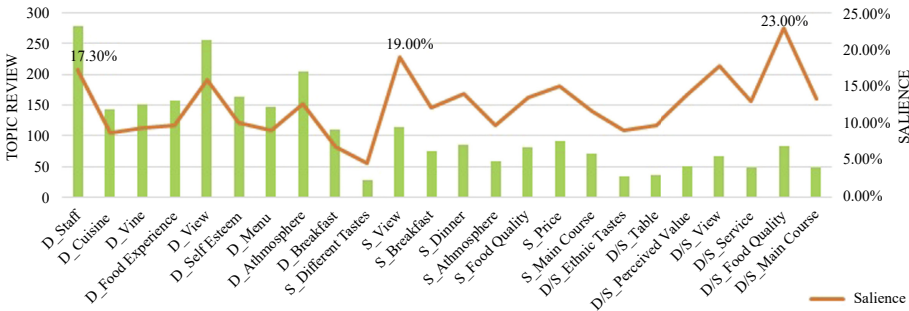


Figure 5.
Dimensional salience
analysis

by [Crotts et al. \(2009\)](#) for delight. For this reason, self-esteem can be considered as a result of delight. The study with this finding confirms the idea that food has become a tool that responds to many implicit needs, such as status, prestige, reputation and self-realization beyond physiological needs ([Aktas-Polat and Polat, 2020](#)).

The menu diversity is one of the features adding benefits beyond what is expected to the product expressed by [Rust and Oliver \(2000\)](#) for delight in addition to the excitement factors ([Füller and Matzler, 2008](#)). This topic can be an indicator that the variety of the menu can add excitement to the experience, especially for those who want to experience different tastes. The different tastes, ethnic tastes, main course, cuisine and wine topics produced by the algorithm can be expressed as a reflection of the menu diversity. According to this study, breakfast is important for customer delight and satisfaction because the food experienced by the customers at the beginning of the day and the behaviors of the staff will make the customers feel good. Meals were another striking finding of this study. Breakfast in the delight dataset and dinner in addition to breakfast in the satisfaction dataset were the meals emphasized.

The price topic and the perceived value topic have been found respectively in the satisfaction and dissatisfaction datasets coinciding with the studies that determined a relationship between satisfaction and price and perceived value ([Yüksel and Yüksel, 2003](#); [Hyun, 2010](#); [Yan et al., 2015](#); [Jia, 2019](#)). Price is a remarkable topic as a benchmark between what customers receive and what they pay. The perceived value topic was supported by the table created by the dissatisfaction dataset. This topic supports the findings of the studies that found that waiting area comfort ([Sulek and Hensley, 2004](#)) and seating arrangement ([Namkung and Jang, 2008](#)) have an effect on satisfaction.

5.2 Practical implications

The findings of this study show the necessity of efforts to improve staff, cuisine and menu variety, food quality, and service quality for restaurant businesses. The fact that the primary factor for delight is the staff, especially necessitates the enterprises to focus on this issue. This issue seems to be the fundamental element for customer delight. Nevertheless, the low tolerance ranges of customers for food quality causes dissatisfaction. Therefore, restaurant managers should not overlook the food quality while paying attention to the staff.

This study indicates that the dining experience of customers in the restaurant accompanied by helpful staff, a beautiful view, and a pleasant atmosphere increases their self-esteem and that FDEs have a psychological dimension. For this reason, it is seen that the customers looking for FDEs cannot experience this feeling they are looking for in case of missing any of these elements, and they reflect this discontent in their reviews. For this reason, the fine dining restaurant operators are recommended to prioritize the practices that will make the customers feel special, important and respected.

6. Limitations and future studies

The current study has some limitations. First, FDEs were only interpreted in the five-star hotel restaurants. Second, FDEs have been examined only on TripAdvisor's reviews. Third, the study evaluates the reviews of 66 restaurants within 46 five-star hotels accessed by the authors in Istanbul, so it does not include the restaurants that are not rated on TripAdvisor. Another limitation is that the topics determined by this study are limited to the periods the data were collected. Moreover, evaluating only English reviews is another limitation of the study.

Researchers can use this method by expanding it across different platforms by expanding the geographical area for future research. Moreover, it can be applied to different areas, such as accommodation facilities, museums and tourism destinations. Furthermore, the text mining techniques used for the analysis of natural language expressions will be able to create

new topic models with the data to be added each time even if the topic models do not change, the weighted terms may also change.

7. Conclusions

This study explored the topics affecting customer delight, satisfaction and dissatisfaction in FDEs through LDA. The LDA algorithm identified nine, eight and seven topics affecting customer delight, satisfaction and dissatisfaction, respectively. After discovering the topics, the importance of the hierarchy of the topics was determined through salience analysis. The most salient topics are staff, view and food quality, respectively for customer delight, satisfaction and dissatisfaction. Based on the idea that satisfaction is an antecedent of delight (Torres and Kline, 2006) it can be stated that after satisfying the customers, it is necessary to pay attention to the factors that lead to delight. In conclusion, the issues related to food are the crucial factors leading to satisfaction or causing dissatisfaction. Nevertheless, staff is the most important factor leading to customer delight.

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