CONTENT ANALYSIS OF MICHELIN RESTAURANTS ONLINE REVIEWS IN CROATIA

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Abstract: The Michelin Guide is considered by many to be the hallmark of global fine dining and quality cuisine. For five years now, renowned and selected Croatian restaurants have been included in the worldwide Michelin Guide. In the latest edition of Michelin Guide, seventy Croatian restaurants were included. Nowadays, to find the ideal restaurant, diners are increasingly using TripAdvisor and reviews on social media. Online reviews are a great source for capturing unique customer experiences. The purpose of this study is to gain insight into the components of restaurant guest experiences. The most recent online reviews on TripAdvisor of 17 Croatian Michelin guide listed restaurants (7 one-star restaurants and 10 Bib Gourmand) were analysed. This study follows a content analysis approach. Simple frequency counts were performed on the number of positive, negative and neutral comments. The empirical results showed that the overall customer satisfaction in the analysed restaurants was positive. The content analysis revealed that customers mainly focused on the food, menu offerings, ambiance, and service in the online reviews. This study contributes to the customer experience literature by applying data mining techniques and content analysis of online reviews to understand customers' views of the restaurant experience. The findings of this study also provide practical implications for restaurateurs by identifying the key determinants in customer reviews of restaurants.

Keywords: Online customer experience, Online review, Content analysis, Michelin Guide, Restaurant.

1. INTRODUCTION

Exploring restaurants on social media before visiting is now almost a must. Potential diners can Eresearch online for the restaurant's history, online reviews, and content posted on social media accounts. After researching, guests decide if this is the place for them. The reason guests search this way is because they want a great gastronomic experience, not just to satisfy their food needs.

The experience is a multidimensional complex concept. The importance of experience has been recognized in the hospitality industry as an important factor due to its influence to customers' emotions, satisfaction and behavioural intentions (Jang & Namkung, 2009). Few previous hospitality studies have examined specifically aesthetic components of customer experience (Bekar, 2017; Horng & Hsu, 2020, 2021). Aesthetic experience is a process to perceive-feel-sense an object, represent active sensation, emotion, cognition and integrate the aesthetic pleasure appraisal

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(Di Dio & Vittorio, 2009). Aesthetic experience is especially important for restaurant industry where consumers use all five senses in capturing overall perception.

Since experience is unique for every consumer, it is difficult to define and adequately measure. (Kandampully, Zhang, & Jaakkola, 2018). In today's digital economy, where consumers can share their experience online, it has become crucial for companies to have tools that will provide a better and faster understanding of the consumer experience and simplify the process to improve it. Online reviews are easy and cost-efficient (Bilgihan, Seo, & Choi, 2018) way to spread the word to more people in less time about the restaurant. Leaving the review helps not only the other guests in picking the restaurant, but the management of the restaurant to know what their guests think about the product or service that is given. TripAdvisor is one of the most popular and well-known social media platforms that provides information to travellers about the place they want to visit (Nicoli & Papadopoulou, 2017).

Michelin Guide is synonymous with quality service, food, and other aspects that create an unforgettable gastronomy experience. Recently Michelin Guide and TripAdvisor agreed that will significantly increase the visibility of the chefs and restaurants and increase restaurant booking ("The Michelin Guide – news," 2019). Croatian offer is well known to Michelin guide, and every year more and more restaurants win stars, and those who have already received them keep their place in the guide. Restaurants that go into the Michelin categorisation are fine dining restaurants or restaurants that give great value for money.

The purpose of this study is to examine the level of the overall aesthetic experience of Michelin restaurants guests based on online review analysis scraped from TripAdvisor. For analysis, 7 one-star and 10 Bib Gourmand Michelin restaurants from Croatia were selected. Thus, the objectives of this research are to: (1) analyse the quality of aesthetic restaurant experience by components for one-star and Bib Gourmand Michelin restaurants in Croatia, (2) analyse particles within each dimension by connotation for one-star and Bib Gourmand Michelin restaurants in Croatia, (3) determine the average ratings by dimensions for one-star and Bib Gourmand Michelin restaurants in Croatia, (4) compare the average ratings by dimensions for one-star and Bib Gourmand Michelin restaurants in Croatia. The structure of this paper is divided into theoretical background, methodology, results, and conclusion.

2. THEORETICAL BACKGROUND

2.1. Michelin Guide

The Michelin Guide is an important source for consumers and is known as the most considered system on the internet (Johnson, Surlemont, Nicod, & Revaz, 2005; Şahin, Çolakoğlu, & Özdoğan, 2021). Everywhere in the world, Michelin Guide is synonymous with quality service, food, and other aspects that create an unforgettable gastronomy experience. The same authors say that numerous guides are existing alongside online review sites, but none is internationally respected like the Guide Michelin or Guide Rouge. Getting the Michelin star by chefs is so important in terms of respectability; the given star has the same meaning as quality gastronomy (Şahin et al., 2021).

The first guide came out in 1900 and was pocket-sized and had about 400 pages (Johnson et al., 2005). The content of the guide was related to the car and its maintenance. Information about restaurants was introduced in 1922 (Snyder & Cotter, 1998), only for the larger cities. By the

1930s, it had developed into a tourist guide and has since been transformed into a gastronomy guide (Johnson et al., 2005).

In *Michelin Guide* (2020) there can be found that star-awarding system, as known today, started in 1926, for fine dining establishments, initially marking them only with a single star. Five years later, a hierarchy of zero, one, two, and three stars was introduced, and in 1936, the criteria for the starred rankings were published. A three-star restaurant is classed among France's "best tables and worthy of a special trip," two-stars "deserve a detour," and one star connotes a restaurant providing "a good table in its category" (Snyder & Cotter, 1998).

In order to select which restaurants are included in the Michelin guide, inspectors are sent to each restaurant to evaluate certain elements. Inspector visit restaurants in absolute secrecy (Snyder & Cotter, 1998), and no Michelin inspector ever published anything about his activities. Because of that, the Michelin rating system may appear unaccountably vague (Johnson et al., 2005). The same authors state that there are no written criteria or standards for the quality level required in various star levels. What Michelin Guide wants with that is to ensure creativity and individuality.

Many factors such as the spatial characteristics of the restaurant, the speed of the service, the guests' welcome, hospitality, the taste of the meals, the communication skills and the behaviours of the employees are the service elements of the restaurants (Şahin et al., 2021).

2.2. Aesthetic restaurant experience

Beauty is associated with pleasure and is the foundation of human existence and experience (Santayana 1896). Aesthetics involves what makes an object beautiful and what humans feel when they encounter a beautiful object (Horng & Hsu, 2020). The same authors state that beauty is based on simplicity, harmony and proportion.

The aesthetics have a great influence on the guest's overall gastronomic experience. The gastronomic experience in fine dining restaurants depends not only on the excellence of the food but also on the way it is served and on the ambience of the restaurant. Oh and Kim (2020) stated in their study that experience in fine dining restaurants is based on 10 elements: Ambiance, Service, Price, Reputation, Occasions, Location, View, Food, Drinks and Desserts. Taking into account all of these components and including all the senses, guests can experience a complete gastronomic experience.

Furniture, colour, lighting, décor, ambience (non-visual cues) and employees influence the most on guests satisfaction regarding the aesthetic component (Ryu and Shawn Jang, 2008). Aesthetic experience is a process to perceive-feel-sense an object, represent active sensation, emotion, cognition and integrate the aesthetic pleasure appraisal (Di Dio and Vittorio, 2009).

In a few of studies, the authors discussed the aesthetic component, mainly within areas such as: *food* (Correia *et al.*, 2008; Liu and Jang, 2009; Ryu, Lee and Kim, 2012; Canny, 2014; Horng and Hsu, 2020 Paakki et al., 2019, Marković et al., 2015, Oh & Kim, 2020; Ouyang et al., 2017), *beverage* (Bekar, 2017), *service* (Ryu and Shawn Jang, 2008; Wu and Liang, 2009, Apaolaza et al., 2020; Canny, 2014; Hanks & Line, 2018; Horng et al., 2013; Horng & Hsu, 2020, 2021; Jang & Namkung, 2009; Liu & Jang, 2009a, 2009b; Marković et al., 2011, 2013, 2015, 2010; Oh & Kim, 2020; Ryu & Han, 2011; Ryu & Shawn Jang, 2008; Tsaur et al., 2015; Walls et al., 2011; Wardono et al., 2012; Wu & Liang, 2009),

facility aesthetics (Bekar, 2017; Horng & Hsu, 2020, 2021; Marković et al., 2011; Canny, 2014; Carins et al., 2020; Liu & Jang, 2009b; Ryu & Han, 2011; Ryu & Shawn Jang, 2008; Wardono et al., 2012) and *experience* (Wu and Liang, 2009; Canny, 2014; Bekar, 2017; Horng and Hsu, 2020, 2021).

Service experience is defined as the customers' direct experience of the service process, the organisation, the facilities, other customers and how the customer is treated by the service firm's representatives (Johnston, 2005). The restaurant's service staff serves food and beverage to guests.

To make the gastronomic work of art, Hegarty and O'Mahony (2001) explained that it is consisted of balance and harmony in such areas as colour, temperature, taste and texture which in some cases can be dictated by the aesthetic demands of the raw materials which are used to create a gastronomic work.

Wooley and Wooley (1973) showed how salivation increases even just observing (or thinking) of palatable food. So given the importance of aesthetics, food aesthetics are defined by Loporcaro, Campo and Baldassarre, (2017) as an interaction between taste and sight that creates a certain influence on the customers' choices about food. Correia *et al.*, (2008) say that food consumption experience is a pivotal behaviour that can fulfil sensory, cultural, social and epistemic motivations. While for beverage factors, authors Bilgihan, Seo and Choi, (2018) included local, draught, taste, delicious and presentation.

All the environmental features of a restaurant, tangible or intangible one gave a significant impact on those psychological responses of customers. Facility aesthetics means architectural design, interior design and décor that contribute to the attractiveness of the dining environment (Wakefield & Blodgett, 1999). This segment supports the overall gastronomic experience because of the beautiful surroundings. Raajpoot (2002) defines the physical environment as the ambient, design, and product/service factors in the foodservice industry that evokes feelings of pleasure to facilitate employee productivity.

2.3. Online reviews of restaurants

Compared to traditional WOM (word-of-mouth marketing), eWOM is easy and cost-efficient and spreads to more people in a shorter period (Bilgihan et al., 2018). Online guest reviews can be defined as the subjective evaluation of experience service or product provided. They provide information about not just the product or service, but also aspects of the post-consumption experience such as quality, value for money and overall evaluation (Li, Ye, & Law, 2013).

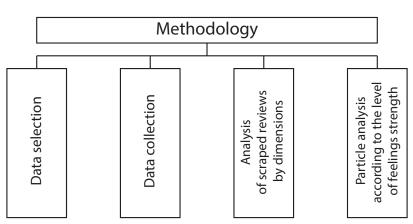
These reviews can be posted directly on the website of the restaurant visited or on a third-party website (Mudambi & Schuff, 2010). There is generally a numerical scale (usually from 1 to 5) in which reviewers indicate the degree of satisfaction. Except that, there is a space to write the textual review of the experience.

There is a possibility to leave a comment or return the public message to the person who left the comment. TripAdvisor.com nowadays feature manager accounts through which hoteliers can interact with reviewers and respond to their reviews (Xie, Zhang, & Zhang, 2014). De Pelsmacker, van Tilburg and Holthof (2018) say that online feedback can help managers track the attitudes, opinions, and satisfaction of guests and can serve as the basis for a series of management actions including responding to feedback, targeting investments in services that consumers would desire, and perpetuating positive actions. Customers that leave comments help not only the restaurants with their feedback, but they help other customers to know what to expect and what they can get in the given restaurant. Mudambi and Schuff (2010) say that helpful customer review is defined as a peer-generated product or service evaluation that facilitates the consumer's purchase decision process.

In the era of Big Data, companies can gain insights about their customers and gain a competitive advantage more than ever before. Making effective decisions based on Big Data analytics should be the primary goal of any business today. Holmlund et al. (2020) offered a conceptual framework for customer experience management based on customer experience insights derived from Big Data analytics. Since most companies today face the problem of how to capture, monitor, and analyse Big Data, they even created a step-by-step guide for managers on how to use Big Data analytics for customer experience management. In today's market, there are already several social media monitoring tools that help companies track and manage online conversations that are relevant to the business. The application of Big Data analytics in tourism and hospitality research is still at an early stage, but a variety of Big Data analytics have already been applied (Li et al., 2018). One of the most popular methods for analysing user-generated content is sentiment analysis. However, the application of sentiment analysis in tourism and hospitality literature is extremely limited (Mehraliyev, Kirilenko, & Choi, 2020). Sentiment analysis or opinion mining is "the computational study of people's opinions, appraisals, attitudes, and emotions toward entities, individuals, issues, events, topics and their attributes" (Liu & Zhang, 2012, p. 415). According to Nakayama & Wan (2019), restaurant reviews can be analysed in at least four aspects: food quality, service, ambiance, and price fairness. There are already some studies that have applied sentiment analysis to analyse online restaurant reviews (Yu et al., 2017; Nakayama & Wan, 2019; Mehraliyev et al., 2020; Tian, Lu, & McIntosh, 2021). This method has been shown to be useful in capturing and measuring individual opinion and determining the polarity of sentiment.

3. METHODOLOGY

This research was conducted in four steps, which is highlighted in the Methodological procedure (Figure 1): (1) data selection, (2) data collection, (3) analysis of scraped reviews by dimensions and constructs and (4) particle analysis according to the level of feelings strength.



The Methodological procedure shows four steps that were used and successfully completed in order to obtain the results.

Figure 1. Methodological procedure Source: Authors

3.1. Data collection and selection

Step 1: Data selection

In order to explore fine dining restaurants in Croatia, it is best to look for information in Michelin Guide. Michelin's guide in Croatia for the year 2020 included 7 one-star restaurants, 10 restaurants with the Bib Gourmand label, and 52 restaurants with the Michelin Plate label. Restaurants Boškinac (Novalja) and LD Terrace (Korčula) were awarded for one prestigious MICHELIN star, while Noel (Zagreb), Draga di Lovrana (Lovran), Pelegrini (Šibenik), 360° (Dubrovnik) and Monte (Rovinj) successfully kept their already previous years awarded stars (Croatia Full of Life, 2020). Monte was the first restaurant that received one Michelin star in Croatia in 2017. For the purpose of this study, all 7 one-star and 10 Bib Gourmand restaurants in Croatia were selected from Michelin Guide. Online reviews available on TripAdvisor for selected restaurants served as a data source for sentiment analysis.

Step 2: Data collection

In this study, online reviews were used from the social media platform TripAdvisor. TripAdvisor is one of the world's largest and well-known traveller's social media platform (Nicoli & Papadopoulou, 2017). This site provides database of individual online reviews that guests post related to their experience in the restaurant they visited.

ParseHub software was used to scrape online reviews from TripAdvisor. When scraping, only the content of the review was marked, and the last 40 reviews were scraped for each restaurant. For Michelin one-star restaurants, there were 280 scraped reviews and for Bib Gourmand restaurants 400. In total, 680 scraped online reviews have been further analysed.

3.2. Data analysis

Step 3: Analysis of scraped reviews by dimensions and constructs

Previously scraped data were first analysed by dimensions (Bilgihan et al., 2018): food, beverage, facility, experience and service. Consequently, the particles given by the scraped data were divided in three constructs: functional (food & beverage), mechanic (facility) and humanic (service & experience). After that, the particles were categorized according to the connotation into: positive, neutral and negative. The analysis of scraped reviews was performed in Monkeylearn software.

Step 4: Particle analysis according to the level of feelings strength

The following analysis consisted of particle analysis according to the level of feelings strength. Sentiment analysis has been already proven as the most reliable and realistic tool in the consumer dining experience analysis, because it secures the usage of spontaneous consumer data in natural consumption settings (Tian et al., 2021; Vidal, Ares, Machín, & Jaeger, 2015). SentiStrength software was used in this particle analysis to assess the strength of positive and negative feelings for identified particles within each dimension. What is more, the SentiStrength scale reports two sentiment strengths: negative (-1 to -5) and positive (1 to 5). In order to achieve the most precise results, particles which strength was neutral were eliminated.

4. RESULTS

As was previously mentioned, only the last 40 reviews were scraped from 7 Michelin one-star restaurants and 10 Bib Gourmand restaurants based in Croatia. The sample consisted of 280 scraped reviews of one-star Michelin restaurants and 400 reviews of Bib Gourmand restaurants. In total, there were 680 scraped online reviews which were divided by constructs and dimensions. The content of all particles has been analysed in Monkeylearn software according to the connotation (Table 1).

The analysis showed that all dimensions have accomplished extremely positive reviews by guests. The analysis has shown that the highest percentage of particles with positive connotations for one-star Michelin restaurants has the dimension "facility" (89.94%), while in Bib Gourmand restaurants has the dimension "beverage" (92.59%).

On the other hand, the highest percentage of particles with negative connotations for both Michelin one-star and Bib Gourmand restaurants address the dimensions "experience" and "service" which both belong to the "humanic" construct. Both dimensions have significantly negative percentage in comparison with other dimensions.

While the highest percentage of particles with neutral connotations has the dimension "beverage", there were no particles with neutral connotation in dimension "service" for One-Michelin-star restaurants. The highest percentage of particles with neutral connotations for Bib Gourmand restaurants has the dimension "facility", while the smallest number of neutral particles appear in the dimension "service".

CONSTRUCTS AND	MICHELIN RESTAURANTS WITH ONE STAR			BIB GOURMAND		
DIMENSIONS	positive	neutral	negative	positive	neutral	negative
FUNCTIONAL						
Food	85.89%	3.63%	10.48%	89.77%	6.53%	3.69%
Beverage	75.00%	20.00%	5.00%	92.59%	5.56%	1.85%
MECHANIC						
Facility	89.94%	6.29%	3.77%	85.34%	9.42%	5.24%
HUMANIC						
Service	88.78%	0.00%	11.22%	84.72%	2.78%	12.50%
Experience	84.80%	0.68%	14.53%	75.54%	6.47%	17.99%

Table 1. Analysis of scraped reviews by dimensions

In order to properly analyse the results, the dimensions were divided into three constructs: functional (food & beverage), mechanic (facility) and humanic (service & experience). The results are presented in Table 2.

In all three construct reviews are mostly positive. The highest percentage of particles with positive connotation for one-star Michelin restaurants has the construct "mechanic" (89.94%), while in Bib Gourmand has the construct "functional" (90.15%). On the other hand, the construct "humanic" has the largest percentage of particles with negative connotations for one-star Michelin restaurants (13.21%) and Bib Gourmand (14.65%). Furthermore, the highest percentage of particles with neutral connotations for one-star Michelin restaurants addresses the construct "functional" (7.62%) whilst in Bib Gourmand restaurants has the dimension "mechanic".

Table 2. Analysis of scraped reviews by constructs						
CONSTRUCTS	ONE STAR MICHELIN RESTAURANTS			BIB GOURMAND MICHELIN RESTAURANTS		
	positive	neutral	negative	positive	neutral	negative
FUNCTIONAL	83.23%	7.62%	9.15%	90.15%	6.40%	3.45%
MECHANIC	89.94%	6.29%	3.77%	85.34%	9.42%	5.24%
HUMANIC	86.38%	0.41%	13.21%	81.13%	4.23%	14.65%

For further analysis, every particle was processed in the SentiStrength software. The results of the analysis are presented in Table 3 and Table 4. Similar to previous analysis all dimensions were divided according to connotation into positive and negative for Croatian Michelin one-star restaurants and Bib Gourmand restaurants. Moreover, the results were categorized in order to calculate the mean and the standard deviation. As mention earlier SentiStrength scale reports two sentiment strengths: negative (-1 to -5) and positive (1 to 5). In order to achieve the most precise results, particles which strength was neutral were eliminated. In this research, the focus was set on mean results and their impact on the overall ratings of Michelin restaurants in Croatia. As it is pointed out in Table 3, particle analysis within each dimension shows that the highest average value of positive connotations for one-star Michelin restaurants has the dimension "beverage" (mean=1.94), while in Bib Gourmand restaurants the dimension "food" (mean=1.93). The highest mean value of negative connotations for one-star Michelin restaurants has the dimension "experience" (mean=-1.66), while in Bib Gourmand restaurants has the dimension "service" (mean=-1.86).

CONSTRUCTS AND DIMENSIONS	CONNOTATION	ONE STAR MICHELIN RESTAURANTS		BIB GOURMAND MICHELIN RESTAURANTS	
		Mean	SD	Mean	SD
FUNCTIONAL					
Food	positive	1.92	0.658	1.93	0.715
	negative	-1.40	0.548	-1.33	0.577
Beverage	positive	1.94	0.704	1.75	0.615
	negative	-1.25	0.500	0.00	0.000
MECHANIC					
E '1'4	positive	1.92	0.628	1.62	0.589
Facility	negative	-1.00	0.000	-1.00	0.000
HUMANIC					
Service	positive	1.66	0.659	1.61	0.704
	negative	-1.40	1.046	-1.86	0.864
Euronionaa	positive	1.73	0.698	1.74	0.627
Experience	negative	-1.63	0.744	-1.56	0.527

Table 3. Particle analysis according to the level of feelings strength by dimensions

Note: the abbreviation "SD" represents the standard deviation

Table 4 summarise the particle analysis of scraped reviews according to the level of feelings strength by constructs. The analysis of one-star Michelin restaurants' reviews has shown that guests are equally satisfied with the constructs "functional" (mean=1.93) and "mechanical" (mean=1.92); while the satisfaction is lowest for the construct "humanic" (mean=-1.51). Similar results are for Bib Gourmand restaurants, where the "functional" construct (mean=1.84) is the most positive, while the "humanic" construct (mean=-1.71) is the most negative. To conclude, the lowest level of guest's satisfaction is addressed to the construct "humanic", which is comprised of dimensions "service" and "experience".

CONSTRUCTS	CONNOTATION	ONE 3 MICH	-	BIB GOURMAND MICHELIN	
	CONNOTATION -	RESTAURANTS		RESTAURANTS	
		Mean	SD	Mean	SD
FUNCTIONAL	positive	1.93	0.013	1.84	0.124
	negative	-1.33	0.106	-0.67	0.943
MECHANIC	positive	1.92	0.628	1.62	0.589
	negative	-1.00	0.000	-1.00	0.000
HUMANIC	positive	1.70	0.047	1.67	0.093
	negative	-1.51	0.159	-1.71	0.213

Table 1 Dartiala analy	usis according to the	a laval of faalings	strength by constructs
Table 4. Faiticle anal	ysis according to the	e level of feelings	strength by constructs

Note: the abbreviation "SD" represents the standard deviation

5. DISCUSSION AND CONCLUSION

Croatian cuisine is famous across the world for its traditional and homemade dishes. The beacons of Croatian gastronomy are Michelin-rated restaurants based in Croatia. This study contributes to the measuring overall aesthetic experience of guests that have visited Croatian topnotch restaurants. What is more, in this research online reviews were scraped from renowned and very popular TripAdvisor social media. Online reviews scraped from TripAdvisor represent a great source for capturing unique and realistic customer experiences. The results of the research show the present state of overall aesthetic guest experience and emphasize which dimensions and constructs achieved the highest or the lowest level of guest experience. The study provides insights to restaurateurs on how their guests perceive the restaurant. In other words, the findings of this study also provide practical implications for restaurateurs by identifying the key determinants in customer reviews of restaurants. Following the content analysis approach, simple frequency counts were performed along with the usage of various data mining techniques. These techniques have completed the content analysis which helped to understand customer's views of the restaurant experience. The constructs and dimensions were set in order to categorize and to present results in precise and distinctive manner.

Therefore, the empirical results showed that the overall aesthetic guest experience in the analysed restaurants was positive. The content analysis revealed that guests are mainly focused on the food, menu offerings, ambiance, and service that have achieved the largest overall number of online reviews. The findings have shown that guests are the most satisfied with food, beverage and the facility of Croatian Michelin-rated restaurants. On the other hand, the guests are the least satisfied with construct ,,humanic", which include dimensions ,,service" and ,,experience". The selected restaurants are favourably rated, but there is still room for improvement, especially in the service providing sector. The improvement would not only raise the overall aesthetic rating of Michelin-rated restaurants but also increase the quality of Croatian gastronomy and consequently enrich Croatian tourist offer that will consolidate Croatia as a desirable gastronomic destination on the global market.

This study induces theoretical and managerial implications. Theoretical implication is associated with applied mixed qualitative and quantitative methods in analysing data from UGC (TripAdvisor) to gain a better understanding of customers' views on the restaurant experience. On the other hand, the managerial implications of this study are indicated in the fact that this study provides insights to restaurateurs on how their guests perceive the restaurant. Online reviews provide important information for restaurateurs regarding customer satisfaction and highlight areas for

improvement. Croatian top-notch restaurateurs should pay attention to raise the level of service and maintain the current level of quality in order to improve the overall rating of their restaurants.

This study has several limitations. First, only the 40 most recent reviews published on TripAdvisor in English for selected restaurants were analysed, which limits the sample of the study. Second, the collected data were manually categorised into dimensions and constructs that follow the previously established categories in Bilgihan et al.'s (2018) research. There is a possibility that other relevant factors that are important in measuring aesthetic guest experience may be omitted. To overcome the limitations of the study, future research should expand the sample to other geographical areas and include ratings in other languages in the analysis. It would be interesting to include available socio-demographic variables of reviewers in the datasets in future studies and investigate their characteristics. Finally, it would be beneficial to explore more advanced text analysis methods to gain a better understanding of the dining experience.

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REFERENCES

- Bekar, A. (2017). The Effects of Aesthetic Value in Food and Beverage Businesses on the Aesthetic Experiences and Revisit Intentions of Customers. *The Journal of Academic Social Science Studies International Journal of Social Science*, 54(1),373-388. http://dx.doi. org/10.9761/JASSS6915
- Bilgihan, A., Seo, S., & Choi, J. (2018). Identifying restaurant satisfiers and dissatisfiers: Suggestions from online reviews. *Journal of Hospitality Marketing and Management*, 27(5), 601–625. https://doi.org/10.1080/19368623.2018.1396275
- Canny, I. U. (2014). Measuring the mediating role of dining experience attributes on customer satisfaction and its impact on behavioral intentions of casual dining restaurant in Jakarta. *International Journal of Innovation, Management and Technology*, 5(1), 25–29. https://doi. org/10.7763/IJIMT.2014.V5.480
- Correia, A., Moital, M., Da Costa, C. F., & Peres, R. (2008). The determinants of gastronomic tourists' satisfaction: a second-order factor analysis. *Journal of Foodservice*, 19(3), 164-176. https://doi.org/10.1111/j.1745-4506.2008.00097.x
- De Pelsmacker, P., van Tilburg, S., & Holthof, C. (2018). Digital marketing strategies, online reviews and hotel performance. *International Journal of Hospitality Management*, 72, 47–55. https://doi.org/10.1016/j.ijhm.2018.01.003
- Di Dio, C., & Vittorio, G. (2009). Neuroaesthetics: a review. *Current Opinion in Neurobiology*, 19(6), 682-687. https://doi.org/10.1016/j.conb.2009.091
- Hegarty, J. A., & Barry O'Mahony, G. (2001). Gastronomy: A phenomenon of cultural expressionism and an aesthetic for living. *International Journal of Hospitality Management*, 20(1), 3–13. https://doi.org/10.1016/S0278-4319(00)00028-1
- Holmlund, M., Van Vaerenbergh, Y., Ciuchita, R., Ravald, A., Sarantopoulos, P., Ordenes, F. V., & Zaki, M. (2020). Customer experience management in the age of big data analytics: A strategic framework. *Journal of Business Research*, *116*, 356–365. https://doi.org/10.1016/j. jbusres.2020.01.022

- Horng, J. S., & Hsu, H. (2020). A holistic aesthetic experience model: Creating a harmonious dining environment to increase customers' perceived pleasure. *Journal of Hospitality and Tourism Management*, 45, 520–534. https://doi.org/10.1016/j.jhtm.2020.10.006
- Johnson, C., Surlemont, B., Nicod, P., & Revaz, F. (2005). Behind the stars: A concise typology of Michelin restaurants in Europe. *Cornell Hotel and Restaurant Administration Quarter-ly*, *46*(2), 170–187. https://doi.org/10.1177/0010880405275115
- Johnston, R. (2005). Service operations management: From the roots up. International Journal of Operations and Production Management, 25, 1298–1308. https://doi. org/10.1108/01443570510633666
- Kandampully, J., Zhang, T., & Jaakkola, E. (2018). Customer experience management in hospitality: A literature synthesis, new understanding and research agenda. *International Journal of Contemporary Hospitality Management*, 30(1), 21–56. https://doi.org/10.1108/ IJCHM-10-2015-0549
- Li, H., Ye, Q., & Law, R. (2013). Determinants of Customer Satisfaction in the Hotel Industry: An Application of Online Review Analysis. *Asia Pacific Journal of Tourism Research*, 18(7), 784–802. https://doi.org/10.1080/10941665.2012.708351
- Li, J., Xu, L., Tang, L., Wang, S., & Li, L. (2018). Big data in tourism research: A literature review. *Tourism Management*, 68, 301–323. https://doi.org/10.1016/j.tourman.2018.03.009
- Liu, B., & Zhang, L. (2012). A Survey of Opinion Mining and Sentiment Analysis. In C. Aggarwal & C. Zhai (Eds.), *Mining Text Data* (pp. 415–463). https://doi.org/https://doi. org/10.1007/978-1-4614-3223-4_13
- Liu, Y., & Jang, S. C. (Shawn). (2009). Perceptions of Chinese restaurants in the U.S.: What affects customer satisfaction and behavioral intentions? *International Journal of Hospitality Management*, 28(3), 338–348. https://doi.org/10.1016/j.ijhm.2008.10.008
- Loporcaro, G., Campo, R., & Baldassarre, F. (2017). The Effects of Food aesthetics on consumers. Visual stimuli and food marketing. *DIEM: Dubrovnik International Economic Meeting*, 3(1), 553-565. https://hrcak.srce.hr/187411
- Mehraliyev, F., Kirilenko, A. P., & Choi, Y. (2020). From measurement scale to sentiment scale: Examining the effect of sensory experiences on online review rating behavior. *Tourism Management*, 79, 104096. https://doi.org/10.1016/j.tourman.2020.104096
- Mudambi, S. M., & Schuff, D. (2010, March). What makes a helpful online review? A study of customer reviews on amazon.com. *MIS Quarterly: Management Information Systems*, 34, 185–200. https://doi.org/10.2307/20721420
- Nakayama, M., & Wan, Y. (2019). The cultural impact on social commerce: A sentiment analysis on Yelp ethnic restaurant reviews. *Information and Management*, 56(2), 271–279. https://doi.org/10.1016/j.im.2018.09.004
- Nicoli, N., & Papadopoulou, E. (2017). TripAdvisor and reputation: a case study of the hotel industry in Cyprus. *EuroMed Journal of Business*, *12*(3), 316–334. https://doi.org/10.1108/ EMJB-11-2016-0031
- Oh, M. (Moon), & Kim, S. (Sam). (2020). Dimensionality of ethnic food fine dining experience: An application of semantic network analysis. *Tourism Management Perspectives*, 35, 100719. https://doi.org/10.1016/j.tmp.2020.100719
- Raajpoot, N. A. (2002). TANGSERV: A multiple item scale for measuring tangible quality in foodservice industry. *Journal of Foodservice Business Research*, 5(2), 109–127. https:// doi.org/10.1300/J369v05n02 08
- Ryu, K., Lee, H. R., & Kim, W. G. (2012). The influence of the quality of the physical environment, food, and service on restaurant image, customer perceived value, customer sat-

isfaction, and behavioral intentions. *International Journal of Contemporary Hospitality Management*, 24(2), 200-223. https://doi.org/10.1108/09596111211206141

- Ryu, K., & Shawn Jang, S. (2008). DINESCAPE: A scale for customers' perception of dining environments. *Journal of Foodservice Business Research*, 11(1), 2–22. https://doi. org/10.1080/15378020801926551
- Şahin, A., Çolakoğlu, Ü., & Özdoğan, O. N. (2021). A research on customer experiences and perceptions for Michelin starred restaurants, *Journal of multidisciplinary academic tourism*, 6(1), 61-72. https://doi.org/10.31822/jomat.835486
- Santayana, G. (1896). The Sense of Beauty. NY, Charles Scribner's Sons
- Snyder, W., & Cotter, M. (1998). The Michelin Guide and Restaurant Pricing Strategies. *Journal* of Restaurant & Foodservice Marketing, 3(1), 51–67. https://doi.org/10.1300/j061v03n01_04
- The Michelin Guide news. (2019). Retrieved from The MICHELIN Guide, TripAdvisor and TheFork Launch an International Strategic Partnership website: http://www.somersetcot-tage.co.nz/blog/810/Michelin-Guide
- Tian, G., Lu, L., & McIntosh, C. (2021). What factors affect consumers' dining sentiments and their ratings: Evidence from restaurant online review data. *Food Quality and Preference*, 88. https://doi.org/10.1016/j.foodqual.2020.104060
- Vidal, L., Ares, G., Machín, L., & Jaeger, S. R. (2015). Using Twitter data for food-related consumer research: A case study on "what people say when tweeting about different eating situations." *Food Quality and Preference*, 45, 58–69. https://doi.org/10.1016/j.foodqual.2015.05.006
- Wakefield, K. L., & Blodgett, J. G. (1999). Customer response to intangible and tangible service factors. *Psychology and Marketing*, 16(1), 51–68. https://doi.org/10.1002/(SICI)1520-6793(199901)16:1<51::AID-MAR4>3.0.CO;2-0
- Wooley, S. C., & Wooley, O. W. (1973). Salivation to the sight and thought of food: a new measure of appetite. *Psychosomatic Medicine*, *35*(2), 136–142. https://doi.org/10.1097/00006842-197303000-00006
- Wu, C. H. J., & Liang, R. Da. (2009). Effect of experiential value on customer satisfaction with service encounters in luxury-hotel restaurants. *International Journal of Hospitality Man*agement, 28(4), 586–593. https://doi.org/10.1016/j.ijhm.2009.03.008
- Xie, K. L., Zhang, Z., & Zhang, Z. (2014). The business value of online consumer reviews and management response to hotel performance. *International Journal of Hospitality Management*, 43, 1–12. https://doi.org/10.1016/j.ijhm.2014.07.007
- Yu, B., Zhou, J., Zhang, Y., & Cao, Y. (2017). Identifying restaurant features via sentiment analysis on yelp reviews. *ArXiv*, 1–6.