The Effect of Online Reviews and Comments on the Intention of Visiting Restaurants: An Experimental Study

ABSTRACT

The Hospitality Industry and the FoodService sector have adapted to the new online platforms in order to expand their offerings to customers. However, the restaurant segment has felt the impact of these platforms in their business, which requires studies to understand the effect of online reviews and comments on customer behavior. The purpose of this research was to identify and analyze the effect of online evaluations and comments (functional versus emotional) on the intention of visiting a restaurant. Two experiments with 170 respondents took place and brought the following results: the intention of visiting the restaurant is higher when the evaluation score is 4.5 (vs. 2.5). When the customer considers the score 4.5 (vs. 2.5) and the online comment, the intention to visit the well-rated restaurant remains the same. However, in restaurants with evaluation 2.5, the intention to visit is higher when the client's comment is emotional).

Keywords: online reviews, online comments, food and beverage management

Introduction

The global restaurant industry moved \$2.1 trillion in 2017 (Plunket Research, 2017). By 2026, Brazil is expected to be the eighth largest market in the food and beverage sector (Chushman & Wakefield, 2017), which may also leverage business in the restaurant segment.

In addition to the economic and financial aspects of the restaurant segment, another important issue is the use of online platforms that, besides providing basic information about the address and telephone number of the places, also present online evaluations and clients' comments.

In the Hospitality Industry and the Food Service sector, which involves out-of-home food environments, the need to adapt to new technologies to stay competitive is also imminent. Specialized companies in the sector, such as TripAdvisor (focused on restaurants), Booking (Hotels) and Decolar.com (air transport and hotels), have centralized in their platforms a large group of companies, that can be evaluated by clients when registering their evaluations and / or online comments that are available on the site.

Considering the presence of companies in the same online platform, customers' evaluation of their websites and their comments on the quality of the service or the product they offer has worked as a reference source for other customers to make their purchase decisions. There are two popular evaluation models in online platforms, which are: a scale of ratings and comments that relate the customer experience to the place visited.

The main results from the surveys show that online reviews and comments have a significant influence on hotel choice (Yen & Tang, 2019) and also on the choice of restaurants (Jeong & Jang, 2011, Zhang, Ye, Law, & Li, 2010) which is the focus of this study. However, there is a gap on the effect of the ratings presented on the website and the content of the online comment made by customers.

Online ratings are scores generated by websites from consumer evaluation, and online comments are short texts made by clients and are available to the general public (Mariani, Borghi, & Gretzel, 2019). It is worth mentioning that these comments can be functional or emotional.

Functional comments report on service efficiency (Parikh et al., 2017), and emotional comments express feelings about the service received in the restaurant through affective words (Standing, Holzweber, & Mattsson, 2016).

However, the effect of evaluations (2.5 vs. 4.5) and online comments (functional vs. emotional) on client behavior is still not clear, since the method for achieving such evaluations is not clear, which can favor some companies to the detriment of others.

That is the reason for the elaboration of the following research question: What is the effect of online evaluations and comments on the intention of visiting a restaurant? To answer the research question, the main objective is to identify and analyze the effect of online evaluations and comments on the intention of visiting a restaurant.

The structure of this study follows a specific order: Introduction, Theoretical Framework on online evaluations and comments, and in the sequence, the method used, the results of the experiments and the discussion. Then, the theoretical and managerial contributions, limitations and suggestion of future research.

2. Theoretical framework2.1 The effect of online evaluations on intention of visiting restaurants

From the use of Information Technology functionalities that make it possible to consult websites and / or use applications developed for smart phones, an increasing number of users of these connectivity resources started to use them to choose tourist destinations, hotels, and restaurants according to their expectations and personal preferences (Park et al., 2007; Gretzel & Yoo, 2008).

According to Zang et al. (2010), online ratings and comments obtained from specialized websites such as TripAdvisor, can influence restaurant selections, on the other hand, few decisions are influenced by advertisements, journals or magazines (Díaz-Martín et al., 2000, Morgan et al., 2003, O'Neill et al., 2002, Shanka et al., 2002, Litvin et al., 2004). According to Zang et al. (2010) restaurants are facing intense competition due to an industry saturated by these business models, so managers need to improve the online attractiveness of their restaurants.

Corroborating the view of Zang et al. (2010), Vermeulen and Seegers (2009) conducted a survey of 168 hotel guests to assess the impact of online evaluations of their attitudes. The study found that online evaluations by customers significantly increase the awareness of hotel managers to improve on-site service, and positive ratings can further improve clients' attitudes toward actual hosting intent.

For Kim, Li and Brymer (2016) the higher the number of evaluations online, the better the restaurant performance is seen. Thus, restaurant owners should consider implementing an online experience sharing system that encourages customers to share their insights about the service provided and their dining experiences. Based on the studies reported and with the purpose of demonstrating that the phenomenon of the influence of online evaluations is recurrent and timeless, it is possible to support that **H1**: consumers will present greater intention to visit the restaurant when their online evaluation is 4.5 (vs. 2, 5).

2.2 The effect of online comments on the intention to visit restaurants

Studies that investigated the hotel and restaurant segment have presented the eWOM (electronic word-of-mouth) as a source of credible and useful information for the purchase of products and services (Mariani, Borghi, Gretzel, 2019; Kim, Li, Brymer, Ioannis and Pantelidis, 2010).

For the purpose of this study, the eWOM by the evaluator will be considered a type of online comment that the consumer makes in order to share its experience and also influence the opinion of other consumers. Online reviews are small texts written on digital social networks or digital platforms that are available to the general public (Mariani, Borghi, & Gretzel, 2019).

The main research findings in the area reveal that online reviews and comments have a significant influence on the choice of hotels (Yen & Tang, 2019) and also on the choice of restaurants (Jeong & Jang, 2011, Zhang, Ye, Law, & Li, 2010) that is the focus of this study.

It is important to highlight that business within the hotel industry, including the FoodService segment, suffer a strong influence of customers' online comments (Tsao et al., 2015).

Studies focusing on the online commentary phenomenon have evidenced their influence on consumer behavior in the catering environment (Jin, Ji, & Gu, 2016; Zhang, & Wang, 2018). In a study by Zhan and Wang (2018) it was possible to identify that cosmopolitan consumers have more favorable attitudes towards ethnic restaurants when they read reviews online, sometimes made by customers of ethnic groups other than the cuisine served by the restaurant. According to Jeong and Jang (2011) the quality of service of the restaurant, the ambience of the place, and the prices practiced are antecedents of eWOM, which in turn influences the intention of visiting the place.

In addition to seeking information on the evaluation of the place (restaurant), it is common for customers to read comments online left by those who have visited the place. These comments can come from experts, such as gastronomy critics or specialist journalists on the subject, or even by clients who want to share their restaurant experience (Parikh, Behnke, Almanza, Nelson, & Vorvoreanu, 2017).

It is also important to consider the functional and emotional nature of online comments. Functional comments usually cover food quality, service efficiency, restaurant ambience, or price (Parikh et al., 2017). Emotional comments are those in which consumers express their feelings about these attributes through affective words (Standing, Holzweber, & Mattsson, 2016) which in turn have a strong impact on consumer evaluations (Kemp & Bui, 2013), much more than functional comments (Walther, 1958) on Social Information Processing Theory.

Considering that there is evidence that clients give more reliability to online comments made by other clients than experts (Etta, Jong-Youn, & Widdows, 2008), and that the type of information (emotional vs. functional) has different effects on consumer evaluation (Kemp & Bui, 2013; Christophe & Rimé, 1997), it is possible to argued that online comments interact with the evaluation score presented by the website. At this point, **H2a** takes place, in which online comments of the clients will interact with the evaluation score presented on the website, and **H2b**, in which online comments with emotional content will interact with the website's rating, and will be superior to the functional content comment.

3.0 Method, data collection instrument and data analysis plan

Electronic forms (through GoogleForms) were adapted to each of the experiments in order to test the effect of online evaluations and comments made by customers on the dependent variable intending to visit a restaurant.

In all cases, the first part of the instrument presented the rating of the restaurant on TripAdvisor (Experiment 1) or the rating on TripAdvisor plus guest comments (Experiment 2), which could be functional or emotional information. In the second part of the questionnaire, there were affirmations regarding the intention of visiting a restaurant, followed by the stimuli manipulation check, and then, in the last part, the respondent's categorical data.

The following stimuli were elaborated in order to carry out the experiments: **Figure 1** - (evaluation 4.5 and restaurant), **Figure 2** - (evaluation 2.5 and restaurant), **Figure 3** - (evaluation 4.5 and emotional comments), **Figure 4** - (evaluation 2.5 and emotional comments), **Figure 5** - (evaluation 4.5 and functional comments), and **Figure 6** - (evaluation 2.5 and functional comments). In order to check the effectiveness of the stimuli (images), different groups participated on pre-tests, which used the following statements (Based on the TripAdvisor rating I think the restaurant is excellent / The customer comments show positive emotions about the restaurant) and a 7-point Likert scale, being totally disagree / strongly agree. The pre-tests presented the following results for online evaluation ($4.5_{excellent} = 5.32$; sd = 0.16 and $2.5_{average}=4.54$; sd = 0.14; t(32) = 2.981; p <0.05), and the content of the comment (Comment_{emotional} = 5.02, sd = 0.17 and 2.5 Comment_{functional} = 3.79, sd = 0.11, t(34) = 2.821, p <0.05).

For the final collection of the research, each guest received only one link to access one of the stimuli used in the experiments, focusing on a minimum of 25 observations per group (Hair et al., 2005). The data analysis used descriptive statistics and analysis of variance (ANOVA), through SPSS software version 15.0.0. For the hypothesis test, a level of significance of 5%

was accepted, that is, p <0.05, and this level was considered acceptable for applied social sciences (Hair, et al., 2005).



The following topics present the experiments, their respective results and partial discussion of the findings.

4.0 Experiment 1

Design: Simple factor - 2×1 : (evaluation: 4.5 excellent vs. 2.5 average x menu). For this experiment, the manipulation of online evaluations came in use in order to test their effects on the dependent variable intention to visit a restaurant.

4.1 Results of experiment 1

The initial total number of respondents was 72. However, for the composition of the final sample of the experiment, it was important to consider only the individuals who correctly responded to the manipulation check regarding restaurant evaluation in the advertisement (4.5 vs. 2.5).

For this purpose, a question with three options came in use (The restaurant in the advertisement has evaluation: 4.5 excellent, 3.5 very good, 2.5 average). Respondents who reported the wrong choice were excluded from the sample (n=13).

Thus, the final sample of this experiment was 53 respondents, 25 (47%) males and 28 (53%) females, with an average age of 28.6 (sd = 1.89), and monthly average income of R\$ 1,789.15 (sd=273.14). The number of respondents per group was balanced, with (n=26) individuals being exposed to the advertisement with a score of 4.5 and (n=27) responding to the advertisement with a score of 2.5.

After checking the manipulation, it was possible to observe the effects of the independent variable online evaluation (4.5 vs. 2.5), on the dependent variable intention to visit a restaurant. For the composition of the dependent variable (intention to visit the restaurant), it was necessary to include the four items used for measurement in a single variable that presented Cronbach's alpha (0.891) considered satisfactory (Hair et al., 2005).

The restaurant image presented in the advertisement composed the model as a covariant, in order to reduce its effects. Therefore, the covariate was measured through an affirmative of 7 Likert points (The restaurant shown in the photo is very beautiful).

Finally, the results were: Main effect of the independent variable online evaluation (4.5 vs. 2.5) on the intention to visit the restaurant (F(1.52) = 21.737, p <0.001) and covariable (F(1.52) = 0.037, p> 0.10). Figure 7 shows the averages of the evaluations.





4.1.2 Discussion of the results of experiment 1

Studies in the field of hospitality have shown that customers seek information online to make the evaluation and choice of tourist destination or hotel (Gao, Tang, Wang, & Yin, 2018; Jin et al., 2016). According to the results of this first study, the online evaluation had a significant effect on the dependent variable intention to visit the restaurant, with a 30% explanation, corroborating previous studies on the choice of tourist destinations and hotels (Natasha & La Are, 2018; Yen & Tang, 2019; Litvin, Goldsmith, & Pan, 2008). Thus, is possible to affirm H1, in which consumers would have greater intention of visiting a restaurant when their online evaluation was 4.5 (vs. 2.5).

The results of this first study add to the findings of previous research (Hlee, Lee, Yang, & Koo, 2018) and work as a platform for the second experiment, in which, comments from clients with content that could be functional or emotional are an addition to the evaluation score presented on the website.

4.3 Experiment 2

Design: 2 x 2: (Evaluation: 4.5 excellent vs. 2.5 average x Comments: functional vs. emotional).

4.3.1 Results of experiment 2

The initial total number of respondents was 123. However, for the composition of the final sample of the experiment, it was necessary to consider only those individuals who correctly responded to the manipulation check regarding restaurant evaluation in the advertisement (4.5 vs. 2.5). Respondents who reported the wrong choice were excluded from the sample (n = 6).

The final sample of this experiment had 117 respondents, 59 (48%) men and 64 (52%) women, with an average age of 30.1 (sd = 1.32), and a monthly average income of R\$ 1,948.05 (dp = 222.06). The number of respondents for each of the stimuli was balanced, and (n = 29) subjects were exposed to the online evaluation stimulus (4.5 and emotional commentary) and others (n = 33) to the online evaluation stimulus (4.5 and functional comment). Similarly, (n = 24) were exposed to online evaluation stimulus (2.5 and emotional comment) and (n = 31) online evaluations (2.5 and functional comment).

In this experiment, the customers' comments about the restaurant (Emotional vs. Functional) were measured as an independent variable and measured on a 7-point Likert scale by affirmative (Customer comments show positive emotions in their experiences with the restaurant). The results indicated correct manipulation of the stimuli (Comment_{emotional}=6.66, sd = 0.61 and Comment_{functional}= 5.21, sd= 0.77, t(121) = 3.541, p < 0.01).

In this sequence, it was possible to observe the effects of the independent variables (online evaluation: 4.5 vs. 2.5 and type of comment: emotional comment vs. functional comment), on the dependent variable intention of visiting a restaurant. In the same way as in the previous experiment, the 4 items used for measurement in a single variable that presented satisfactory Cronbach's alpha (0.882) came in use in order to form the dependent variable (restaurant visit intention) (Hair et al., 2005).

The results indicated the main effect of the independent variable online evaluation (F(1.122) = 16.173; p < 0.001), but no main effect of customer comment type (F(1.122) = 2.213; p > 0.10) in the intention of visiting a restaurant. It was possible to consider the effect of photo quality on respondent's evaluation as a covariant, in order to control its effect. However, after

analyzing this variable, it was possible to identify that it had no effect F(1.122) = 1.072; p> 0.10) in the dependent variable.

The results indicated an interaction effect between online evaluation and type of comment (F(1.122) = 5.092, p < 0.05). Figure 8 shows the main effects, and Figure 9 shows the interaction effects.



Figure 8. Main effect of online reviews and customers' comments

Figure 9. Interaction effects between online reviews and customers' comments



4.3.2 Discussion of the results of experiment 2

The main objective of this experiment was to identify and analyze the effect of online evaluation scores and customers' online comments in the intention of visiting a restaurant. As the previous experiment, the online evaluation (rating on TripAdvisor) had a significant influence on the intention of visiting a restaurant.

However, online comments made by customers, whether functional or emotional, had no effect on the dependent variable intention of visiting a restaurant when considered isolated.

In addition, it was possible to identify interaction effects between online evaluations and customer comments. Although previous studies show isolated effects of both variables on consumer evaluation, after theorizing (Etta, Jong-Youn, & Widdows, 2008; Kemp & Bui, 2013; Christophe & Rimé, 1997) it was possible to empirically support the hypotheses of **H2a**, in which customers' online comments would interact with the evaluation score presented on the website. Also **H2b**, in which online comments with emotional content would interact with the website's rating, and would still be superior to the comment of functional content.

5.0 General discussion

The results found in experiment 1, on the effect of the restaurant rating on TripAdvisor (4.5 vs. 2.5) showed to be significant in the intention of visiting a restaurant. Academic research has shown that tourists and hotel clients consult specialized websites in advance in order to obtain information about where they want to visit or even about the hotel they wish to stay.

According to the results of the first study, when the evaluation score presented at the website is 4.5 (vs. 2.5) the consumer presents greater intention of visiting a restaurant. The explanation for this phenomenon comes from the Anchoring Heuristic Theory in which the consumer uses mental shortcuts to ease their decision-making (Kahneman & Tversky, 1981). This way, the first hypothesis, **H1**, was confirmed, in which consumers had a higher intention of visiting a restaurant when the online evaluation was (4.5) excellent (vs. 2.5).

The second experiment used the evaluation score presented on the website, and the comments made by the clients. In general terms, the eWOM literature (Christophe & Rimé, 1997; Jeong & Jang, 2011) evidences the effect of online information on consumer choice and decision process, but it did not make it clear whether the content of the comment (functional vs. emotional) would make any difference in this process.

In the analysis of the results of experiment 2, it was not identified any effect from the content of the comment (functional vs. emotional) on the intention of visiting a restaurant when the place has a high evaluation score (rating 4.5). One explanation for this result can relate to what customers consider the basic requirements of a well-rated restaurant, its functional skills and positive experiences related to the service they provide to customers.

However, the respondents had greater intention of visiting a restaurant with a low score of 2.5 and a comment with emotional content (vs. functional), what indicates that the comments with emotional content have an interaction effect with the evaluation score. It is possible to justify this phenomenon from Etta, Jong-Youn, & Widdows, (2008) in which customers' comments are more reliable than comments made by experts, in this case, the score presented on the website. The results further suggest that online comments with emotional content have greater influence on other consumers than functional content comments. These results find support in the Social Information Processing Theory (Walther, 1958), in which online emotional comments with functional content. This way, it is possible to confirm H2a, in which clients' online comments would interact with the evaluation score presented on the

website. Also H2b, in which, online comments with emotional content would have an interaction effect with the website's rating, once comments with emotional content made by clients tend to contribute to a more positive evaluation when compared to other clients' evaluations (Zhao, Xu, & Wang, 2019).

5.1 Theoretical and managerial contributions

From a theoretical point of view, this research contributes to the understanding of how online reviews and comments influence consumer behavior. Specifically, this study contributes to the advancement in knowledge about online evaluations, showing that comments with emotional content have a greater influence on consumer evaluation than functional comments.

From the managerial point of view, this study shows the importance of online comments for the promotion of restaurants that present low evaluation scores. This way, it is important that restaurant owners and managers use comments made by customers to elaborate their marketing strategies and promotion of the place. At the same time, they should encourage customers to share their emotional experiences with the place, not just service efficiency (functional aspect).

This study also reveals that using other resources for consumers to express their feelings about their restaurant experience can create positive results and help the restaurant increase its clientele. Expressions of liking or the use of smiles (smiling expressions) can be more easily interpreted compared to the texts, and thus stimulate the habit of sharing the experience with the restaurant.

5.1.2 Limitations and future research

This research, like others, also presents limitations that can be opportunities for future studies. This study used evaluations (TripAdvisor scores) and positive comments (texts), which may limit the understanding of the phenomenon analyzed. Future studies may include negative comments from customers and experts in order to understand consumer evaluation behavior in a deeper level. Another limitation was the lack of control of the level of hedonism in relation to consumption in restaurants. Future studies may consider these variables and test them against other dependent variables, such as, trust in restaurant service, quality, and website recommendation.

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