

Papers

The effect of perceived usefulness of online reviews on hotel booking intentions

A influência da percepção de utilidade de avaliações online na intenção de compra de serviços de hotelaria

La influencia de la percepción de utilidad de evaluaciones online en la intención de compra de servicios de hotelería

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Palavras-chave:

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ção;
Intenção de compra.

Abstract

The growth of the Internet has enabled consumer-to-consumer interactions through online platforms where users share content and influence the purchase decisions of other consumers. The objective of this research is to identify the effect of perceived usefulness of online reviews on hotel booking intentions. The approach is quantitative, using a questionnaire to collect data from consumers who use online reviews before booking a hotel. The data were analyzed using structural equation modeling. The results showed the direct influence of perceived information usefulness on purchase intention, and the antecedent constructs—needs of information, information credibility, and information quality—had a positive and significant impact on perceived usefulness of online reviews. Comparing these results with research by Erkan and Evans (2016) conducted with UK consumers that use social media to decide about their purchases, in this study information credibility was more relevant than information quality, suggesting a more skeptical behavior of Brazilian consumers. These findings have implications for the management of digital marketing of organizations inserted in this environment, mainly regarding the impact of credibility and quality of online reviews on hotel booking intentions, being this a practical contribution of the research.

Resumo

O crescimento da internet facilitou a interconectividade dos consumidores por meio de fóruns online que permitem os consumidores a gerar conteúdo e influenciar os outros em suas decisões de compra. O objetivo desta pesquisa foi identificar a influência da percepção de utilidade das avaliações online na intenção de compra de serviços de hotelaria. Utilizou-se de abordagem quantitativa, onde foram aplicados questionários junto a consumidores que usam avaliações online para reserva de hospedagens, e os dados foram analisados por meio de modelagem de equações estruturais. Os resultados mostraram a influência direta da percepção de utilidade da informação na intenção de compra, sendo que os construtos antecedentes, descritos como necessidade da informação, credibilidade da informação e qualidade da informação, apresentaram impacto positivo e significativo na percepção de utilidade das avaliações online. Comparando esses resultados com pesquisa realizada por

Erkan e Evans (2016) com consumidores do Reino Unido que se utilizam de mídias sociais para decisão sobre suas compras, neste estudo a credibilidade da informação mostrou-se mais relevante em relação à qualidade da informação, evidenciando um comportamento mais cético dos consumidores brasileiros. Os resultados encontrados merecem atenção dos profissionais que gerenciam o marketing digital das organizações inseridas nesse ambiente, principalmente em relação a importância da gestão da credibilidade e da qualidade das avaliações online na intenção de compra de serviços de hotelaria, sendo esta uma contribuição prática resultante da pesquisa.

Resumen

Palabras clave:

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El crecimiento del Internet ha facilitado la interconectividad de los consumidores a través de foros en línea que permiten a los consumidores generar contenido e influir a otros en sus decisiones de compra. El objetivo de esta investigación fue identificar la influencia de la percepción de la utilidad de las evaluaciones online en la intención de compra de servicios de hotelaria. Se utilizó un enfoque cuantitativo, donde se aplicaron cuestionarios a consumidores que utilizan evaluaciones en línea para la reserva de hospedaje. Los datos se analizaron mediante el modelado de ecuaciones estructurales. Los resultados mostraron la influencia directa de la percepción de la utilidad de la información en la intención de compra, siendo que los constructos predecesores, descritos como necesidad de la información, credibilidad de la información y calidad de la información, presentaron impacto positivo y significativo en la percepción de utilidad de las evaluaciones online. Comparando estos resultados con una investigación realizada por Erkan e Evans (2016) con consumidores del Reino Unido que utilizan las redes sociales para decidir sobre sus compras, en este estudio la credibilidad de la información se mostró más relevante en relación a la calidad de la información, evidenciando un comportamiento más escéptico de los consumidores brasileños. Los resultados encontrados merecen la atención de los profesionales que administran el marketing digital de las organizaciones insertadas en ese ambiente, principalmente en relación con la importancia de la gestión de la credibilidad y de la calidad de las evaluaciones online en la intención de compra de servicios de hotelaria, siendo esta una contribución práctica resultante de la investigación.

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1 INTRODUCTION

The Internet has provided great opportunities for online consumer-to-consumer interactions. In the early days of the Internet, online discussion forums encouraged users to talk about various subjects, but over time these forums became increasingly specialized, focusing on specific topics (Erkan & Evans, 2016).

Almeida (2018) clarifies that until the beginning of the 21st century, the best known way to assess service quality and its impact on satisfaction was to carry out surveys; however, the expansion of the Internet has changed this scenario, as it gave rise to different social networks where people share different aspects of their lives. In recent years, a growing number of web-based opinion platforms have been created, offering users product or service reviews and ratings (Ladhari & Michaud, 2015).

In this new information exchange environment, the online hotel booking market has been growing, reaching US\$1.48 billion in 2016 revenue in the USA, with the largest sites being TripAdvisor, Hotels.com, Marriott International, Booking.com, and Airbnb. Together, these companies accounted for 28.1% of the US market share in 2016, when global online travel sales totaled US\$564.87 billion, projected to grow by a third to US\$755.94 billion in 2019 (Statista.Com, 2018).

According to a survey conducted in Latin America, *Latin America Online Travel Overview*, published by Phocuswright.com, Latin America's total online travel market reached US\$60.2 billion in 2015. Together, Brazil and Mexico represent more than 70% of this market. The study also points out that online travel in Latin America is expected to grow an average of 10% in the coming years (PHOCUSWRIGHT.COM, 2016). These figures emphasize the relevance of this new mode of buying travel services in the Brazilian market, as well as its potential for growth. According to Phocuswright's (2018) report *The Brazilian Digital Traveler*, despite recent economic and political uncertainty, Brazil's online travel market has been resilient and continues to

grow thanks to tech-savvy consumers, and therefore travel companies need to understand consumer behaviors and preferences that influence purchase decisions.

It is important to highlight that accommodation services are the last link in the tourism chain and are one of the most relevant, representing a temporary “home” for tourists, who seeks to find an extension of their home (IBGE, 2016). In the same vein, Medeiros, Gosling and Vera (2015) note that such services are the main source of consumer dissatisfaction during their travels. Thus, before booking, there are several factors that influence consumers, such as previous experiences, the information acquired which, over time, has become increasingly sophisticated (Silva, Mendes Filho, & Marques Júnior, 2019).

It is known that satisfaction plays an increasingly important role in maintaining the competitiveness of accommodation establishments, mainly because of the variety of channels available to consumers to share their experiences, the good and the bad ones (Almeida, 2018). However, many hotels are not sure how to respond to users' opinions, and this uncertainty may be partly due to a lack of understanding of how consumers use online reviews in guiding their buying decisions (Ong, 2012). Given this context, it is increasingly important for hospitality service managers to recognize the influence of this new communication channel on their business, to develop managerial actions that improve the quality of service, and as a way of understanding the impact of user reviews on the process of choosing potential customers.

The studies by Browning, So and Sparks (2013), Hernández-Méndez, Muñoz-Leiva, Sánchez-Fernández (2015), Ladhari and Michaud (2015), Ong (2012), Park, Xiang, Josiam and Kim (2014), and Tsao, Hsieh, Hsieh and Lin (2015) examined the influence of online consumer reviews of hotel services, but they are still limited and need further studies are needed, especially because they fail to examine the effect of perceived usefulness of online reviews on purchase intention. This is the main gap addressed in this research. It is also considered that these services present a high degree of subjectivity, due to their more intangible nature, besides being susceptible to sociocultural factors. With this, the main objective of this research was to identify the effect of perceived usefulness of online reviews on hotel booking intentions in Brazil. As a specific objective, the study also aims to evaluate the antecedent variables that impact perceived usefulness of online reviews.

Recent advances in the Internet and the development of social media have promoted consumer-to-consumer interactions through online forums, virtual communities, ratings and recommendations, creating a new flow in e-commerce that allows consumers to generate content and influence others in a process of value creation (Hajli, 2013). Recognizing the factors that influence the perceived usefulness of information produced and disseminated in the new digital media, as well as the effect of this perception on hotel booking intentions, are the main theoretical contributions of this study, with practical managerial implications. Therefore, the research is justified by addressing a new and relevant topic, which is increasingly affecting the marketing and sales processes of accommodation services.

2 THEORETICAL FRAMEWORK

The model proposed in this study is an adaptation of the information acceptance model developed by Erkan and Evans (2016). This model is an extension of the information adoption model developed by Sussman et al., (2003), drawing on components of the rational action theory of Fishbein and Ajzen (1975).

According to Erkan and Evans (2016), the information acceptance model shows that the influence of online reviews available on social media depends not only on the characteristics of online information, such as quality and credibility, but also depends on consumers' behavior regarding this information. Therefore, the literature review carried out focuses on the information acceptance model, with emphasis on the constructs that make up the perceived usefulness of information, and influence purchase intentions.

Recent studies have sought to understand the impact of online reviews in social media and specialized sites on consumers' purchase intentions, such as Erkan and Evans (2016), Wani, Ali and Farooq (2016), Elseidi and El-Baz (2016), Farley and Murched (2016), Bataineh, (2015), Hajli (2013), and Jalilvand and Samiei (2012). In making their decision, consumers often get recommendations from friends through word of mouth, get information in the media, including marketing and advertising campaigns, or refer to sources on the Internet (Browning, So & Sparks, 2013).

For Jardim and Sant'Anna (2007), with the digital revolution, marked by rapid transformations in information and communication technologies driven by the Internet, the tourism and travel sector has been rapidly inserted into the online world with the intention of promoting and selling products and services. Therefore, the Internet is being increasingly used by consumers as a source of information when making choices about holiday destination or hotel to stay, because without experiencing the hotel or destination, travelers have limited opportunities to assess the quality of service and if it will meet their expectations (Browning, So & Sparks, 2013).

If consumers take into consideration online messages, these can be transformed into buying actions on corporate or shopping websites, which makes reviews very powerful. Researchers have become interested in understanding how this process influences purchase intention (Erkan & Evans, 2016). Thus, it is important to analyze consumers' perceived usefulness of opinions on online hotel booking platforms, and how this information affects the decision-making process.

Information usefulness refers to people's perception about new information which increases their performance, leading them to believe that such opinions could be useful to help them improve their purchasing decisions (Cheung, Lee & Rabjohn, 2008), and is considered the main predictor of information adoption (Davis, 1989; Erkan & Evans, 2016) and purchase intention (Lee & Koo, 2015) because consumers tend to get involved with information when they find it useful.

In their information acceptance model, Erkan and Evans (2016) considered information quality as an antecedent of perceived information usefulness. The quality of online reviews can be described as the power of persuasion of comments expressed in an informative message (Bhattacharjee & Sanford, 2006). When customers seek information, the quality of information will possibly impact on consumers' acceptance of the communication channels that offer online reviews (Cheung & Thadani, 2012).

Park, Lee and Han (2007) defined online review quality as to relevance, clarity, sufficiency, and objectivity of contents. Previous research has found that the quality of online reviews positively influences purchase intention (Bataineh, 2015; Erkan & Evans, 2016; Lee & Shin, 2014; Park, Lee & Han, 2007). Thus, the present research sought to examine the effect of quality of online reviews on perceived information usefulness, and, consequently, on purchase intention, taking as hypothesis the following proposition.

H1: The quality of online reviews positively influences perceived information usefulness.

Given the huge amount of information that individuals share online, most of them during shopping may need a reference to strengthen their confidence or to decrease the feeling of making mistakes or risks, because the quantity of online reviews can be a sign of how valuable and popular the product is (Bataineh, 2015). According to Lee, Park and Han (2008) and Bataineh (2015), the amount of information received by consumers affects their purchase decisions.

Park, Lee and Han (2007) measured the quantity of reviews by the number of online consumer ratings for a product, and found that the quantity of online reviews was probably a signal of product popularity and possibly of sales success. In addition, many user reviews would likely lead consumers to rationalize their purchasing decisions by associating such high number of comments with probable quality, serving as a risk reduction strategy and, in turn, increasing purchase intentions (Park, Lee & Han, 2007). Thus, the present research sought to examine the effect of the quantity of online reviews on perceived usefulness of information, taking as hypothesis the following proposition.

H2: The quantity of online reviews positively influences perceived information usefulness.

The need for information is another determinant of consumers' purchase intentions (Erkan & Evans, 2016). Wolny and Mueller (2013) acknowledged it as one of the motivations for writing online reviews. Given the increasing availability and popularity of user-generated content platforms, online reviews have become a prominent phenomenon and have heightened their role in consumer purchasing decision (Browning, So & Sparks, 2013; Zhu & Zhang, 2010). According to Ladhari and Michaud (2015), social media provides a user-friendly platform for searching information that is becoming increasingly essential to people. In this study, drawing on Erkan and Evans (2016), needs of information were proposed as antecedents of perceived information usefulness. Thus, as hypothesis to be tested, the following proposition is presented.

H3: The need for online reviews positively influences perceived information usefulness.

Information credibility refers to the recipients' perceptions of source trustworthiness (Erkan & Evans, 2016). Ladhari and Michaudi (2015) point out that online reviews are considered reliable and unbiased sources of information. However, given the importance of tourists' reviews as sources of travel-related information, source credibility is becoming an increasingly crucial issue in research and application, as there are concerns about the lack of credibility of travel online reviews (Park, et al., 2014). The greater the feeling of risk associated with the choice of accommodation, the greater the customer's demand for knowledge about the product of their interest, especially if the purchase is made through e-commerce (Jardim & Sant'Anna, 2007).

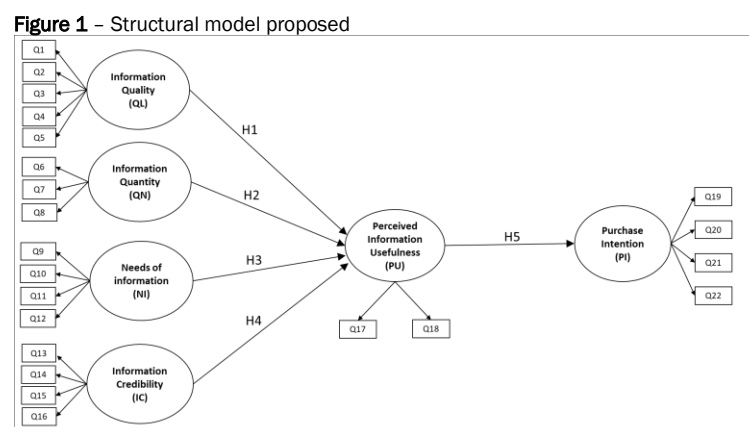
Park et al. (2014) demonstrated that disclosing personal profile information such as interest and travel location can serve as cues for assessing credibility and relevance of online reviews, suggesting that trust and credibility can be fostered among peers who share information on topics of interest. The results of the study by Erkan and Evans (2016) have shown the direct positive effect of information credibility on information usefulness, concluding that consumers consider social media information useful when it is credible. Thus, the following hypothesis was proposed:

H4: The credibility of online reviews positively influences perceived information usefulness.

Erkan and Evans (2016) found a positive influence of perceived usefulness on purchase intention. In addition, Lee and Koo (2015) conducted an experiment with online reviews to test the relationship between message usefulness and purchase intention, where the results showed that information usefulness is positively associated with purchase intention. Thus, the following hypothesis was proposed.

H5: Perceived usefulness of online reviews positively influences purchase intention.

Considering the theoretical concepts presented, and previous empirical studies that support the proposed hypotheses, the structural model was developed based on the study by Erkan and Evans (2016). The information acceptance model proposed by these authors (2016) examines the relationships among the following constructs: information quality, information credibility, needs of information, attitude toward information, information usefulness, information adoption, and purchase intention. According to the results found by Erkan and Evans (2016), information adoption was not statistically significant to perceived information usefulness, and thus, in this study the construct was not considered in the structural model. The variable information quantity—considered in the model developed by Bataineh (2015)—was added to the model adapted from Erkan and Evans (2016), enabling the analysis of the effect of the number of online reviews on perceived information usefulness. Thus, the present research aims to identify the relationships between the constructs presented in Figure 1.



Source: The authors

3 METHODOLOGY

The proposed research is empirical in nature using a descriptive and quantitative design. It sought to identify the influence of hotel guests' reviews on consumers' purchase intentions by collecting data through a closed-

ended questionnaire and applying statistical techniques to measure the relationships between the variables in the structural model.

Data collection was conducted in July 2018 using an online questionnaire with items answered on a five-point Likert scale. Due to easier access, the sample was composed of students, teachers, and staff of educational institutions located in the state of Espírito Santo, Brazil. The constructs and variables included in the survey instrument were based on the literature review. The measurement scales used in the studies of Erkan and Evans (2016) and Bataineh (2015) served as reference being adapted to the hotel industry to meet the objectives of the present research. The indicators and measurement scales, with their respective references, are presented in Appendix A.

To determine eligibility for study participation, this study used two screening questions taken from the study by Ong (2012). These questions sought to assess the extent to which respondents used online reviews when booking accommodation, and frequency of use of online reviews to choose accommodation in the last twelve months. Regarding the first question, respondents who did not use online reviews, and/or have never booked accommodation, have been excluded from the database. Regarding the second question, to participate in the survey, respondents must have had booked accommodation at least once in the last twelve months and used online reviews.

To test the suitability of questionnaire items to the Brazilian context, a pilot test was conducted with 37 people selected by convenience. From the statistical results obtained, small adjustments were made in the collection instrument, to make questions clearer. After data collection, the analysis of the results was done using multivariate statistics, namely, structural equation modeling (SEM) with RStudio software, version 1.1.453, as this open source software allows the use of multiple algorithms. Specifically, in this research the PLS-SEM algorithm was employed. From the results obtained, analysis and interpretation were made to test the hypotheses outlined in the theoretical framework of this study.

3.1 Sample and data processing

In the present study, a total of 252 questionnaires were collected. Data were analyzed as to the screening questions, missing data, and suspicious data. Of the total, 53 questionnaires did not meet the sample criteria and were excluded from the data set. In two cases, responses with equal scores were found for all the questions, which characterizes suspicious behavior and, therefore, were also excluded. No missing data were observed.

In total, 197 valid responses were obtained, a number considered to be sufficient and acceptable in the literature for statistical analysis. According to Hair, Hult, Ringle and Sarstedt's (2014) rule of thumb the sample size should be equal to the larger of the following: ten times the largest number of indicators used to measure the most complex construct in the measurement model, or ten times the largest number of structural paths directed at a particular construct in the structural model.

4 ANALYSIS AND DISCUSSION OF RESULTS

4.1 Sample characteristics

The demographic information collected from respondents was age and gender. Accordingly, 40.1% of respondents were between 21 and 30 years of age, followed by 35.5% between 31 and 40, and 14.7% between the ages of 41 and 50. The age groups in the extremes had a lower participation, with 6.1% of respondents over 51 years old, and 3.6% under 20 years. In terms of gender distribution, 112 respondents were women and 85 were men, representing 56.9% and 41.1%, respectively.

Of the total valid responses, when participants were asked about the frequency of use of online shopping sites, 37.6% answered that they use them more than once a month, 35% once a month, and 26.9% reported that they very rarely buy online. Analyzing the frequency that respondents use or read online customer reviews before booking a hotel, it is noted that among the valid answers, 25.9% reported that they frequently use this information, and 58.4% answered that they always use or read online reviews before booking a hotel. As to

the number of times respondents estimated they used or read online customer reviews when choosing accommodation in the last 12 months, 55.3% said between 1 and 3 times, 17.3% between 4 and 6 times, and 27.4% stated that they used the online reviews more than 7 times in this period. In view of this results, it is clear respondents were very qualified to participate in the survey.

4.2 Data processing criteria

To process the data in the PLS-SEM algorithm, the criteria recommended in the literature for critical tolerance and maximum number of iterations— $1e-07$ and 300 respectively—were used. According to Hair et al. (2014), if the PLS-SEM algorithm does not converge in less than 300 iterations, it could not find a stable solution. In this study the convergence occurred in the third iteration, thus, the interruption of the process occurred because the minimum difference of the sum of the weights obtained between two iterations was reached, as established in the critical tolerance, and not by the maximum number of iterations. Bootstrapping with 5,000 subsamples was used, as recommended by Hair et al. (2014). For all statistical tests, the level of significance (α) was set at 0.05.

4.3 Evaluation of the measurement model

In this research, the measurement model consists of reflective indicators. The model was tested for reliability and validity, namely, tests of unidimensionality and internal reliability of the indicators, convergent and discriminant validity. For internal consistency analysis, Cronbach's alpha (C. alfa) was used as criterion, which according to Hair et al. (2014) provides an estimate of the reliability based on the intercorrelations of the observed indicator variables. Values between 0.60 and 0.90 are regarded as acceptable. Another measure used to assess the unidimensionality of a reflective model is the Dillon-Goldstein's rho coefficient (DG. Rho) which focuses on the variance of the sum of the indicators in the construct of interest (Sanchez, 2013). According to this author, as a rule of thumb, a construct is considered unidimensional when the DG. rho is greater than 0.7. This index is considered to be better than Cronbach's alpha because it takes into account to which extent the construct explains its block of indicators. Table 1 shows that all the constructs presented adequate internal consistency and unidimensionality.

Table 1- Unidimensionality

Construct	C. alpha	DG. rho
QL	0.70	0.83
QN	0.60	0.79
NI	0.83	0.89
IC	0.82	0.88
PU	0.74	0.88
PI	0.89	0.94

Source: The authors

Convergent validity analysis was performed considering the indicator's outer loadings and the average variance extracted (AVE) of constructs. According to Hair et al. (2014), the outer loading should be greater than 0.708 and the AVE, which is equivalent to the communality of a construct, should be higher than 0.5.

As shown in Table 2, the indicators Q1, Q2, and Q3 have outer loadings less than 0.708, and AVE of 0.49 for the QL construct. By eliminating the lowest loading indicators (Q1 and Q2) of the QL construct, the AVE increased to 0.63. According to Hair et al. (2014), when there is a considerable variation in the construct's average variance extracted, the indicators should be considered for removal. With the exclusion of Q1 and Q2, the outer loading of the Q3 indicator reached 0.813, above the recommended threshold.

As to the indicator Q7, with an outer loading of 0.66, its removal from the structural model did not substantially alter the AVE, and therefore, it was kept in the measurement model, as recommended by Hair et al. (2014). Therefore, the results presented below were obtained after the elimination of the indicators Q1 and Q2.

Table 2 - Convergent validity – outer loadings and AVE

Construct	Indicator	Outer loadings		AVE	
QL	Q1	0.642	*	0.49	0.63
	Q2	0.666	*		
	Q3	0.671	0.813		
	Q4	0.765	0.862		
	Q5	0.734	0.692		
QN	Q6	0.791	0.791	0.54	0.54
	Q7	0.661	0.661		
	Q8	0.749	0.748		
	Q9	0.783	0.783		
NI	Q10	0.853	0.853	0.66	0.66
	Q11	0.858	0.858		
	Q12	0.763	0.763		
	Q13	0.818	0.818		
IC	Q14	0.735	0.735	0.65	0.65
	Q15	0.846	0.846		
	Q16	0.814	0.814		
PU	Q17	0.895	0.894	0.79	0.79
	Q18	0.884	0.885		
	Q19	0.813	0.813		
PI	Q20	0.922	0.922	0.75	0.75
	Q21	0.887	0.887		
	Q22	0.831	0.831		

Source: The authors

Discriminant validity—the extent to which a construct is truly distinct from other constructs in an empirical model—was tested by examining the indicator’s cross loadings and comparing the square root of the AVE values of constructs. According to Hair et al. (2014), the discriminant validity is met when an indicator’s loading on the associated construct is higher than its loadings on the other constructs of the model. As the results in Table 3 show, discriminant validity was satisfied in all comparisons.

Table 3 - Discriminant validity – cross loadings

Construct	Indicator	QL	QN	NI	IC	PU	PI
QL	Q3	0.813	0.069	0.150	0.314	0.318	0.203
	Q4	0.862	0.071	0.217	0.436	0.337	0.247
	Q5	0.692	0.167	0.295	0.531	0.303	0.324
	Q6	0.078	0.791	0.158	0.225	0.221	0.248
QN	Q7	0.033	0.661	0.133	0.207	0.134	0.173
	Q8	0.141	0.748	0.304	0.312	0.263	0.342
	Q9	0.279	0.239	0.783	0.293	0.419	0.500
NI	Q10	0.224	0.203	0.853	0.337	0.463	0.604
	Q11	0.259	0.261	0.858	0.344	0.478	0.684
	Q12	0.131	0.240	0.763	0.371	0.378	0.626
	Q13	0.365	0.335	0.423	0.818	0.504	0.502
IC	Q14	0.340	0.311	0.247	0.735	0.299	0.389
	Q15	0.494	0.269	0.352	0.846	0.473	0.445
	Q16	0.524	0.205	0.263	0.814	0.410	0.387
PU	Q17	0.326	0.230	0.506	0.423	0.894	0.619
	Q18	0.393	0.297	0.446	0.537	0.885	0.536
	Q19	0.335	0.191	0.662	0.423	0.672	0.813
PI	Q20	0.323	0.315	0.692	0.477	0.524	0.922
	Q21	0.191	0.387	0.627	0.466	0.515	0.887
	Q22	0.246	0.404	0.554	0.508	0.488	0.831

Source: The authors

In addition, discriminant validity was assessed using the Fornell-Larcker criterion, which is a second and more conservative approach (Hair et al., 2014). In this method, the square root of each construct’s AVE should be higher than the other correlation coefficients for an adequate discriminant validity, a condition fully met, according to the results presented in Table 4.

Table 4 - Discriminant validity – Fornell-Larcker criterion

Construct	QL	QN	NI	IC	PU	PI
QL	0.792					
QN	0.127	0.736				
NI	0.277	0.288	0.815			
IC	0.537	0.346	0.411	0.804		
PU	0.404	0.295	0.536	0.538	0.890	
PI	0.324	0.364	0.741	0.541	0.650	0.864

Source: The authors

4.4 Evaluation of the structural model

The analysis of the structural model aims to identify the correspondence between the theoretical concepts and the path models obtained from the empirical observations, in order to verify if the theoretical assumptions are statistically supported (Hair et al., 2014). In this section, the indices tested were the significance and relevance of path coefficients (β), and the coefficients of determination (R^2), which are presented and discussed below.

First, multicollinearity was examined to check for redundancy in case of high correlation between constructs. The results obtained, as shown in Table 5, did not demonstrate such an undesirable effect, since the variance inflation factors (VIF) of constructs were less than five, considering the analysis criteria established by Hair et al., 2014.

Table 5 - VIF of the constructs

Construct	QL	QN	NI	IC
PU	1.425	1.180	1.249	1.694

Source: The authors

Based on the analysis of the results, the path coefficients between the constructs in the structural model were mostly significant, since the p-values were all less than the significance level of 0.05, except for the H2 hypothesis, as presented in Table 6.

Table 6 - Path coefficients between constructs and significance analysis ($\alpha = 0.05$)

Relationship	Coefficient (β)	Standard error	P value	Hypothesis
QL -> PU	0.139	0.065	0.0346	H1 – supported
QN -> PU	0.074	0.059	0.2154	H2 – not supported
NI -> PU	0.356	0.061	0.0000	H3 – supported
IC -> PU	0.292	0.071	0.0001	H4 – supported
PU -> PI	0.650	0.054	0.0000	H5 – supported

Source: The authors

More specifically, the hypotheses H1, H3 and H4 were supported, since the relationships between the constructs of information quality, needs of information, and information credibility and perceived information usefulness were significant, presenting path coefficients of 0.139, 0.356 and 0.292, respectively. In this way, the comparison between the coefficients shows that needs of information is the variable that most impacts on the perceived information usefulness, followed by information credibility, and information quality.

These results, in terms of significance of the path coefficients between the constructs of QL, NI, and IC and PU, are consistent with those of Erkan and Evans (2016), as presented: QL -> PU ($\beta=0.26$, $p < 0.05$); NI -> PU ($\beta=0.41$, $p < 0.05$); and IC -> PU ($\beta=0.22$, $p < 0.05$). Regarding relevance, it is observed that in the present study needs of information presented the greatest relevance, when compared to other constructs antecedents of perceived information usefulness, a result similar to that of Erkan and Evans (2016). However, as regards the constructs of information quality and information credibility, there is an inversion in terms of relevance. The findings in this research show that information credibility has a greater influence on perceived information usefulness, in comparison to the construct information quality. This result shows the differences in the perceptions of Brazilian consumers regarding online reviews compared to the results obtained from consumers in the United Kingdom, the population studied by Erkan and Evans (2016). This difference

shows that cultural and socioeconomic aspects may influence perceived information usefulness, due to the different contexts wherein the consumers are inserted.

Observing the findings of the study by Bataineh (2015), the relationship between the QN construct and PI showed to be significant, evidencing that this variable influences the perception of online reviews and the purchase process, but with less relevance when compared to the other two constructs (quality and information credibility). As shown in Table 6, the hypothesis H2—which held that the amount of information positively affects perceived usefulness—was not supported. This result shows that for the participants in this study, the number of online reviews regarding an accommodation establishment is not a decisive factor in the perception of information usefulness, comparatively to the other antecedent constructs. This finding reinforces that perceived information usefulness is much more influenced by needs of information, its credibility and quality, and these should be the main factors guiding information management in online hotel booking.

Hypothesis H5, which posited that perceived information usefulness positively influences purchase intention, was supported, presenting a significant path coefficient of 0.65. Thus, it is evident that consumers' perception of the usefulness of online reviews on booking websites strongly influences the purchase decision-making process for this type of service.

The coefficients of determination obtained for the endogenous constructs of the model are presented in Table 7. A R^2 of 0.426 was observed for PU construct, indicating that 42.6% of the variation observed in PU is explained by the constructs of QL, QN, NI, and IC. As to PI, an R^2 of 0.423 was observed, indicating that the variation of this construct is explained in 42.3% by PU.

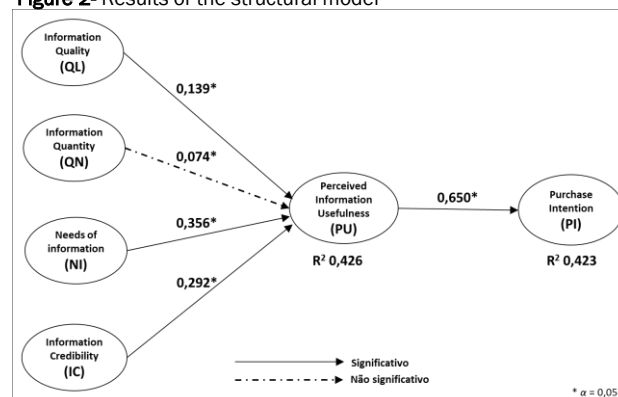
Table 7 - R^2 values of the endogenous constructs

Construct	R^2
PU	0.429
PI	0.423

Source: The authors

Therefore, given the main objective of this research, this result shows that perceived information usefulness of online reviews positively influences the intention of purchasing accommodation services. Figure 2 provides a summary of the structural model results.

Figure 2- Results of the structural model



Source: The authors

5 CONCLUSIONS

This study was empirically developed by collecting the opinions of users of online reviews to analyze the options of hotel services and sought to investigate the influence of perceived usefulness of online reviews on purchase intention, as well as identifying the variables that affect perceived usefulness of online reviews. The results show that the constructs of information quality, needs of information, and information credibility positively influence perceived usefulness, and therefore, it is increasingly important that marketing and business operations managers have a better understanding of this process.

The findings suggest that, in terms of relevance, needs of information is the factor that most influences consumers' perceived usefulness of online reviews. In other words, in a digital information exchange environment with large amounts of data, reviews on specialized websites are increasingly useful to consumers, who have a pressing need for recommendations on services offered, seeking for online reviews to guide their purchasing decisions. Considering this observation, it is recommended that marketing and customer relationship managers of review and hotel booking websites develop communication platforms that are clear and easy to access, thus facilitating information search.

The second factor that most influences perceived usefulness of online reviews is information credibility, which is more relevant than information quality available on hotel booking platforms. The ranking of factors differs from the findings of Erkan and Evans (2016) carried out with users in the United Kingdom. The probable cause of this result is the different cultural and socioeconomic contexts of these countries. This point suggests that perhaps Brazilian consumers are more skeptical regarding online opinions when compared to consumers from developed countries. Another factor that may have influenced the difference in this result is the focus of the surveys. The study of Erkan and Evans (2016) aimed to analyze the influence of social media on purchase intention, within a broad context, without specifying the product or service. In this research, the focus was to analyze the influence of online reviews on hotel booking decisions, which present a high degree of subjectivity, due to their more intangible nature, and are very susceptible to sociocultural factors. This fact may have contributed to a greater relevance of the construct of information credibility.

In addition, as the main theoretical contribution of this study, it is highlighted the evaluation of the model proposed by Erkan and Evans (2016) in a context associated to the hotel industry, validating for this market segment that perceived usefulness of online reviews positively influences the process of buying accommodation services. Thus, the results found broaden the knowledge base on digital marketing related to the hotel industry.

As a practical contribution, this research recognizes the importance of online information credibility and recommends that websites invest in tools and certification processes that minimize the creation and dissemination of content that does not truly represent users' opinions. It is also important that websites clearly communicate the efforts made to ensure the credibility of the information, so that consumers feel more confident in using online reviews when purchasing. Also, the findings suggest that the adoption of managerial measures to improve the information quality in websites and social media would be of value for those managing digital marketing in organizations inserted in this environment. Digital platforms that enable the creation and dissemination of relevant and understandable online reviews providing sufficient and clear information are better perceived by potential customers, and have a greater capacity to positively influence the hotel booking process.

Finally, the increasing digital interconnectivity, facilitated by the expansion of specialized websites and social media, lead more consumers to choose accommodation based on perceived usefulness of online reviews. It can also be said from the research findings that, indirectly, consumers' purchasing decisions are affected by their need to seek information about hotel options, credibility, and quality of online reviews. As for the quantity of reviews made available on digital platforms, the research results showed that this factor does not significantly affect the perceived information usefulness of Brazilian consumers, and, consequently, also does not influence purchase intention.

Future research should further investigate information credibility, seeking to identify the influence of cognitive and affective aspects related to this construct on purchase intention. Thus, issues such as platform reputation and consumer profiles of those posting reviews can be investigated to identify their effects on information credibility and hotel booking intentions. Recent research has identified information credibility as a mediator of the relationships between constructs of an informative and behavioral nature, such as those developed by Forgas-Coll, Palau-Saumell, Sánchez-García and Caplliure-Giner (2014), Namahoot and Lao-havichien (2018), and Frederico, Teixeira, Ahmed and Ghani (2017), this being another opportunity for future research on hotel choice. In addition, the identification of possible moderating effects in this process, such as in terms of gender, age, and income of consumers, may also be the subject of further research.

This research, like other studies, also presents limitations. The sample, although composed of respondents with an adequate profile, was collected in a single Brazilian metropolitan region, with groups of people linked

to higher education institutions, limiting the generalization of results according to regional particularities that may affect the analysis of the effect of online reviews on hotel booking intentions. Another limitation is the fact that this research has addressed the influence of online reviews available on digital platforms in a broad way, without focusing on a specific social media or website, which could yield different results and conclusions.

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APPENDIX A – Indicators and measurement scale

Key-question for the constructs of QL, QN, NI, IC, and PU	Information about hotel services that are shared in social media, specialized websites ...
Information Quality (QL) (Park, Lee & Han, 2007)	Q1 – I think online reviews are well-founded. Q2 – I think online reviews are factual. Q3 – I think online reviews are understandable. Q4 – I think online reviews are clear. Q5 – In general, I think the quality of online reviews is high.
Information Quantity (QN) (Bataineh, 2015)	Q6 - The large number of online consumer reviews indicates that the hotel is popular. Q7 – The large number of online consumer reviews indicates that the hotel is trendy. Q8 - High-rated hotels and with a large number of online reviews indicate that the hotel offers high-quality services.
Needs of Information (NI) (Chu & Kim, 2011)	Q9 – I like to use online reviews when I consider booking new hotels. Q10 – If I have little experience with the hotel, I often use online reviews. Q11 – I usually use online reviews to choose the best hotel options. Q12 – Frequently, I analyze a set of online reviews before booking a hotel.
Information Credibility (IC) (Prendergast et al., 2010)	Q13 – I think online reviews are convincing. Q14 - I think online reviews are strong. Q15 - I think online reviews are credible. Q16 - I think online reviews are accurate.
Perceived information usefulness (PU) (Bailey & Pearson, 1983)	Q17- I think online reviews are generally useful. Q18 - I think online reviews are generally informative.
Purchase Intention (PI) (Coyle & Thorson, 2001; Prendergast et al., 2010)	After considering information about accommodation services which are shared on social media or specialized websites... Q19 - It is very likely that I will book a hotel considering online reviews. Q20 - I will book a hotel next time I need accommodation considering online reviews. Q21 - I will definitely try a hotel considering online reviews. Q22 - I will recommend the hotel to my friends considering online reviews.