Articles - Tourism Management

Adapting and testing an instrument to assess users’ satisfaction and loyalty in hotel and airbnb hosting services

Adaptação e teste de um instrumento para avaliar a satisfação e a lealdade dos usuários em hotéis e hospedagens airbnb

Adaptación y prueba de un instrumento para evaluar la satisfacción y la fidelidad de los usuarios en hoteles y servicios de alojamiento de airbnb

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- Airbnb
- Hotels
- Loyalty
- Satisfaction

Abstract

This article proposes an instrument to assess the level of satisfaction with the hosting services of Airbnb and hotels, and to examine the relationship between service performance, customer satisfaction, and loyalty. The data collection instrument examines hosting services (attendance, installation, reliability, service, and value), customer satisfaction, and loyalty. The instrument was answered by 645 users across the Brazilian territory, being collected by accessibility and convenience. Confirmatory factor analysis and structural equation modeling were used for data treatment and analysis. The results confirm that hosting services transfer 0.173 of their own evaluation to loyalty and 0.915 to satisfaction, and satisfaction with the hosting services influences loyalty by 0.746 of its own assessment. This study contributes to the expansion of theory about hosting services, and contributes to management by providing a self-assessment instrument for the level of hosting services offered.

Resumo

Este artigo propõe um instrumento para avaliar o nível de satisfação com os serviços de hospedagem do Airbnb e da rede hoteleira, e examinar a relação entre os serviços de hospedagem e a fidelidade e satisfação. O instrumento de coleta de dados examina os serviços de hospedagem (atendimento, instalação, confiabilidade, serviço e valor), satisfação e fidelização do cliente. O instrumento foi respondido por 645 usuários em todo o território brasileiro, sendo coletado por acessibilidade e conveniência. A análise fatorial confirmatória e a modelagem de equações estruturais foram utilizadas para o tratamento e análise dos dados. Os resultados confirmam que os serviços de hospedagem transferem 0,173 da sua avaliação para lealdade e 0,915 para a satisfação, e a satisfação com os serviços de hospedagem influencia a lealdade em 0,746 da sua avaliação. Este estudo contribui para a ampliação da teoria sobre os serviços de hospedagem, e contribui para a gestão ao fornecer um instrumento de autoavaliação do nível de serviços de hospedagem oferecidos.

Resumen

Este artículo propone un instrumento para evaluar el nivel de satisfacción con Airbnb y los servicios de hospedaje de cadenas hoteleras, y examinar la relación entre los servicios de hospedaje y la lealtad y satisfacción. El instrumento de recopilación de datos examina los servicios de alojamiento (servicio, instalación, confiabilidad, servicio y valor), la satisfacción y la lealtad del cliente. El instrumento fue respondido por 645 usuarios en todo el territorio brasileño, siendo recolectado por accesibilidad y conveniencia. El análisis factorial confirmatorio y el modelado de ecuaciones estructurales se utilizaron para el procesamiento y análisis de datos. Los resultados confirman que los servicios de alojamiento transfieren 0,173 de su propia evaluación a la lealtad y 0,915 a la satisfacción, y la satisfacción con los servicios de alojamiento influye en la lealtad en 0,746 de su propia evaluación. Este estudio contribuye a la expansión de la teoría sobre los servicios de alojamiento y contribuye a la gestión al proporcionar un instrumento de autoevaluación para el nivel de los servicios de alojamiento ofrecidos.
Adapting and testing an instrument to assess users’ satisfaction and loyalty in hotel and Airbnb hosting services

1 INTRODUCTION

The use of hosting services occurs at all times of interaction between the user and the service provider. That is, at the time before and after the use of the services, and not just at the time of stay (Pinotti & Moretti, 2018). According to Verhoef et al. (2009), the comprehensiveness of the user’s experience includes the stages of information search, service acquisition, consumption, and post-purchase.

Given the reality and impact of the pandemic on the supply and demand for Airbnb and hotel services, the relationship between users and providers of these services has changed. Risk of contagion, hygiene measures, and limitations to agglomerations became part of customer expectations, including location and offered structure (Hung et al., 2018; Nhamo, Dube, & Chikodzi, 2020). In this sense, due to the transformation of the world economic order, analyzing the perception of Airbnb and hotel users is relevant for developing actions aimed at improving their experience (Jerônimo et al., 2015; Petry, Pickler, & Tomelin, 2016).

Due to the adversities of the economic and social scenarios, Kim et al. (2012) expose the need to expand the number of research about consumer experience, as changes arising from the pandemic significantly influence the judgment and behavioral intentions of customers. Among the stimuli that lead consumers to loyal behavior, the authors highlight the need to understand customer satisfaction and the consumption experience. Likewise, Tussyadiah (2016) highlights the need to satisfy customers as one of the biggest challenges faced by service providers. As adversities directly affect consumption habits, this theme has become an object of study in several previous research. Silveira et al. (2016) mention that researches in this area can help to clarify the values inherent to users when choosing Airbnb or hotels. Thus, business models (traditional and contemporary) conflict with the new needs of customers and the market, justifying studies on the subject (Lasmar Jr. et al., 2017).

Given the above, this article aims to propose an instrument to assess the level of user satisfaction with Airbnb and hotels, as well as to examine the relationship between hosting services and customer satisfaction and loyalty. This study brings a relevant theoretical contribution insofar, as it proposes a simplified model for evaluating hosting services of both, Airbnb, and hotel services. Thus, the research is justified due to the search for answers that identify the motivating factors of consumer choice and satisfaction (Hamari, Sjöklint & Ukkonen, 2015; Spalenza, Ramalho & Rigo, 2017; Tussyadiah, 2016).

2 LITERATURE REVIEW

2.1 Airbnb and Hotels

Multinationalization stimulated the growth of world tourism, and, with technological advances, the era of innovations was born. This led to a process of changes and adaptations concerning the services offered by organizations such as Airbnb and hotels. According to Guttentag (2015), Airbnb is a platform where common people rent their spaces as accommodation for tourists. The rental model is carried out in a very simple way, where the owners, called “hosts”, advertise their property for free on the platform’s website, and interested parties (guests) can effectively book accommodation available anywhere in the world.

Regarding hotels, the services are linked to the needs of tourists and travelers, consisting of hotels, inns, and pensions that provide services, mainly to tourists (Mello & Goldenstein, 2016). According to Duduche et al. (2011), hotels can be considered as “service providers whose main activity is accommodation, differing from other economic activities, depending on their customers for their operation” (p.106). Hotels can be classified as a service industry, with peculiar characteristics, with the main objective of providing accommodation, food, leisure, safety, and comfort to guests (Ferrando, Prusaczyk, & Tejera, 2012; Maurício & Ramos, 2011).
It is indisputable that services such as Airbnb and hotels, both of which provide accommodation, have tourists and travelers as their main audience. However, customer needs are different to those who decide for a more cautious experience, and others who choose a more singular experience (André, 2018).

The growing demand for economy-sharing providers in several consumer markets tends to increase competition in the hotel sector. Considered its main adversary, Airbnb has been identified as the largest global provider of peer-to-peer accommodation services, after a sequence of acquisitions (Almeida, Costa, & Simões, 2014).

André (2018) portrays that the hotel industry at a global level has endeavored to promote new brands and concepts, to better compete with Airbnb. The author notes the need for hotels to create new models of lodging services, offering a more authentic experience. On the other hand, Elliott (2016) mentions that themes such as equitable conditions, occupancy rates, and non-compliance with legal health and safety requirements, formed several criticisms by the hotel sector about the models of the sharing economy.

Guttentag et al. (2017) show that users of the Airbnb platform can be divided into market segments, according to the motivations for which they prioritize the use of this platform. Some motivations comprise the most practical aspects (price, space, and location), while others have more experimental characteristics (novelty, interaction, and experience factor). The price factor has repeatedly stood out as one of the essential motivators. Still, factors such as sustainability, authenticity, space, and interaction are also reported by consumers in this service segment (Guttentag et al., 2017).

Ariffin (2013) and Hamari et al. (2015) suggest that the dimensions of ethical consumption and hospitality play an important role in creating memorable experiences. It is up to hotels to further expand the hosting experience, incorporating additional dimensions that can be critical to their guest experiences (Teng, Wu & Liu, 2015). Castillo and Quintero (2013) announce that the development of the hotel industry must accompany the growth of the tourism sector, being attentive to the demands that manifest themselves with technological evolution and new generations of customers. Environmental factors such as economy, consumer behavior, and social networks, directly affect the hotel sector (Becerra, Santaló, & Silva, 2013).

Generation Y, also known as Millennials, are part of a considerable number of consumers, but not just the only ones in Airbnb's strategic focus (Airbnb Citizen, 2021). In this sense, hotels seek, through a differentiated strategy, to offer a more homely experience and interaction with the people who use them (Oskam & Boswijk, 2016).

Due to the competition with Airbnb, in 2016 the Accor group integrated its structure in the startup "Onefinestay". This model is characterized by the short-term rental of private homes. Although Accor belongs more to the luxury segment, the principle of this initiative is to offer stays in private homes, providing a more familiar and unique experience for guests (Onefinestay, 2017). Known as Rent by Season, the model is defined through the establishment of partnerships between independent organizations of local tourist accommodation. Created by the Choice Hotels group, owner of Clarion, Comfort Inn, Quality Inn brands, among others, this business model is carried out only in the United States of America. The client does not have a direct relationship with the group, only with partner entities for renting beach houses, tents, condominiums, among others (Vacation rental, 2021).

Regardless of the strategy used, according to André (2018), the hotels' service still presents an imprecise scenario regarding the tendency to resemble the concept of services established by Airbnb, essentially about the effective results and the re-acquisition of its market share. According to Soares (2017), the expansion of brands in virtual domains and the creation of competitive solutions for consumer loyalty as the main challenges emerging from the hotel sector, with greater reflex in the commercialization and strategic development.

2.2 Loyalty and Satisfaction

According to Oliver (1999), loyalty consists of "a profound behavior in repurchasing or favoring a product/service in the future, causing a repetition of the brand [...] notwithstanding situational influences and marketing efforts have the potential to cause an exchange behavior" (p.34). According to Li and Petrick (2008), behavior can be understood as a predecessor of loyalty, and exchange behavior must be seen as a profitability driver (Anderson & Mittal, 2000).

We can understand behavior as a precursor of loyalty, especially when the customer purchases the service again, expresses favorable comments about the hotel, its products, and services, becomes less susceptible to prices, and contributes with suggestions regarding products and services (Kotler & Keller, 2006).
For users of the Airbnb platform, the way the customer behaves, acts, or reacts to a given situation, in the face of inconvenience when experimenting with the services, can be considered as the most common manifestation of loyalty in the hospitality and tourism literature. It is defined as "a deep psychological commitment to repurchase a product or reproduce a service in the future" (Oliver, 2010, p.23). Thus, service providers must invest in the creation of facilities, providing users with unique and unforgettable experiences, with the purpose of customers to reuse the offers (Kim, Brent, & McCormick, 2012).

The quality of the services provided by segments considered traditional, as the hotels' sector, must be offered in a way that the clients perceive the quality, and their expectations about it are realized. Services must be provided within detailed parameters of the sector, enabling changes to take place, and quality to evolve, to win the loyalty of current and potential customers (Souza, Meira, & Maske, 2012). To increase the level of customer loyalty it is necessary to add factors that substantially instigate customer behavior (Kim, Brent, & McCormick, 2012).

According to Ribeiro (2011), diversifying and increasing the quality of services provided are essential for developing customer loyalty. The author explains that investments in improving the quality of accommodation, facilities, and agility in service imply a better balance of costs and increased revenue. For satisfaction to be measured, it is necessary to understand the customer's perception of the product or service. In this sense, Albrecht (1992) mentions that identifying the characteristics of the product or service becomes crucial to create a competitive differential to competitors.

Oliver (2010) defines customer satisfaction as "the contentment of the consumer when judging the products or services offered, which may be greater or lesser according to their assessment" (p.13). This definition was summarized in Solomon's (1999) statement, defining satisfaction as a reaction, or feeling, about an expectation.

According to Longenecker, Petty, and Moore (1997), service excellence is nothing new for service providers looking to expand their competitive advantage. According to the authors, there are three factors responsible for the increase in the level of dissatisfaction: a) the behavior or performance contributes to 20% of the dissatisfaction; b) unnecessary rules and procedures contribute 40% of dissatisfaction; c) and the remaining 40% is due to improper use of products by customers. Excellent service and the intensity of pleasant memories of guest experiences influence word-of-mouth communication and overall satisfaction (Vanhamme, 2000).

According to Hoffman (2001), measuring the level of customer satisfaction significantly contributes to hosting service providers to increase their customers' satisfaction and loyalty. It allows the company to recognize possible problems, identify the degree of service provided by employees, compare the company's performance with the competition and, mainly, disseminate the concept of caring for the well-being of customers. The customer recognizes the quality of service through the people who perform them (LoveLock & Wright, 2006).

Santos, Vassallo, and Rabahy (2009) show that satisfaction with the products and services offered is based on the customer's perception of structural and human components. Renovating the facilities and having modern equipment is essential to increase the customer's perception of quality. In addition, the perception of human components can be considered a characteristic of the reliability of the service provided, putting into practice the promises made to customers, being solicitous, solving impasses, keeping the information registered by the customers updated. Lu and Shiu (2011) define the training of employees as essential, raising their level of competence to improve communication with customers and their perception of the services offered.

Constantinides (2014) mentions that social media act as a marketing strategy, providing greater brand exposure, reducing advertising costs, bringing greater satisfaction and recommendation of products and services by customers, and, consequently, increasing revenue. Customers seek to enhance the relationship between the cost of purchasing the product or service and the benefit received, increasing the level of satisfaction with the services provided.

Among the perspectives of guests using Airbnb is having different experiences in each place visited. Thus, the main aspects analyzed by customers can be considered the price paid to obtain the service, and the costs of time, research, convenience, feelings, and people's behavior (Cabral, 2015).

Given the reflections on loyalty and satisfaction, two hypotheses were made (Table 1), as follows:
The three hypotheses based on the theoretical framework were tested empirically, and how this occurred is presented below.

3 RESEARCH METHODOLOGY

The instrument for data collection, containing three sections, was appropriated from previous works (Table 2). The first section, containing 22 statements in five dimensions (attendance; installation; reliability; service; value), measures the services’ performance; and the six variables of the second section assess customers’ loyalty and satisfaction. All the statements in both sections use a seven-point interval scale, ranging from (1) very dissatisfied to (7) very satisfied. And the third section of the instrument gathers the respondents’ demographics and general characteristics.

The first version of the data collection instrument was submitted for content validation through the analysis of fifteen specialists (researchers and managers) with knowledge acquired from experiences lived by users of Airbnb and hotels services. Then, data was collected by Internet, using google forms. The survey data were collected between October 2020 and January 2021 throughout Brazil.
The sample is non-probabilistic and obtained by convenience, composed by respondents who were willing to participate in the survey by answering the data collection instrument, separated into two groups (Airbnb; Hotels) based on the last stay (Hair Jr. et al., 2009).

The total collected sample is 665 respondents. Of these, 645 answers were validated, with complete data, without filling errors, low variance, or incompleteness, this being the final sample size of the research. The data were tabulated in an Excel® spreadsheet, imported, and treated with the help of statistical software SPSS® (Statistical Package for the Social Sciences) version 22. The sample characteristics are shown in Table 3.

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>259</td>
<td>40.2</td>
</tr>
<tr>
<td>Female</td>
<td>386</td>
<td>59.8</td>
</tr>
<tr>
<td>Marital status</td>
<td>Frequency</td>
<td>Percent</td>
</tr>
<tr>
<td>Married</td>
<td>349</td>
<td>54.1</td>
</tr>
<tr>
<td>Not married</td>
<td>296</td>
<td>45.9</td>
</tr>
<tr>
<td>Education</td>
<td>Frequency</td>
<td>Percent</td>
</tr>
<tr>
<td>Postgraduate studies</td>
<td>438</td>
<td>67.9</td>
</tr>
<tr>
<td>University education</td>
<td>164</td>
<td>25.4</td>
</tr>
<tr>
<td>High school</td>
<td>40</td>
<td>6.2</td>
</tr>
<tr>
<td>Elementary School</td>
<td>3</td>
<td>0.5</td>
</tr>
<tr>
<td>Total</td>
<td>645</td>
<td>100.0</td>
</tr>
<tr>
<td>Age Group</td>
<td>Frequency</td>
<td>Percent</td>
</tr>
<tr>
<td>Over 51 years old</td>
<td>61</td>
<td>9.5</td>
</tr>
<tr>
<td>From 41 to 50 years</td>
<td>116</td>
<td>18.0</td>
</tr>
<tr>
<td>From 31 to 40 years</td>
<td>220</td>
<td>34.1</td>
</tr>
<tr>
<td>From 18 to 30 years</td>
<td>248</td>
<td>38.4</td>
</tr>
<tr>
<td>Total</td>
<td>645</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: research data (2021).

To assess the influence of the quality of Airbnb and Hotel services on customer satisfaction and loyalty, the Structural Equation Modeling (SEM) procedure was used using the software Amos Graphics® version 21, as this is the appropriate analysis system for the sample size.

Based on the proposed research instrument, we proceeded with descriptive statistics to better understand the perception of users of Airbnb and Hotels, observing the level of performance and the impact of the investigated dimensions on loyalty and satisfaction before and during the pandemic.

Specifically, in this study, we model five first-order dimensions to assess the level of satisfaction of the services offered, which, together, form a second-order construct (Hosting services) – combining the list of services provided to Airbnb and or hotels users. For Astrachan, Patel, and Wanzenreid (2014), methods based on Structural Equation Modeling are essential in the development and expansion of theories, in particular, when second and even third-order factors provide a better understanding of the relationships that may not be initially apparent.

Finally, a comparison was made between the level of service satisfaction observed by the researched hosting service and the average loyalty and satisfaction, using t-test. Differences between groups are characterized by the criterion: level of service satisfaction. The Student’s t parametric test is used to test the hypothesis that two means of a quantitative variable are equal, considering two independent groups. (Gaddis & Gaddis, 1990).

4 RESULTS

To test whether the data fit the model based on the theoretical framework, unidimensionality and convergent validity were verified through Confirmatory Factor Analysis [CFA]. To verify if the reliability levels of the model are acceptable and, thus, to conclude if the dimensions that compose it are significant, the following criteria were applied: factor loading > 0.700; T-statistic > 1.8; p-value <0.050; and R²> 0.500 (Hair Jr. et al., 2009). Only three statements did not meet the defined criteria, being excluded from the model. After this deletion, all claims were confirmed.

The results (Table 4) exceeded the recommended values: the Cronbach’s Alpha [CA] and the Composite Reliability [CR] were above 0.700 and the Average Variance Extracted [AVE] was greater than 0.500 (Hair Jr. et al., 2009).

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Cronbach’s alpha</th>
<th>Composite Reliability</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attendance</td>
<td>0.914</td>
<td>0.920</td>
<td>0.690</td>
</tr>
<tr>
<td>Installations</td>
<td>0.909</td>
<td>0.910</td>
<td>0.720</td>
</tr>
<tr>
<td>Reliability</td>
<td>0.862</td>
<td>0.870</td>
<td>0.690</td>
</tr>
<tr>
<td>Service</td>
<td>0.797</td>
<td>0.800</td>
<td>0.570</td>
</tr>
<tr>
<td>Value</td>
<td>0.963</td>
<td>0.960</td>
<td>0.870</td>
</tr>
<tr>
<td>Loyalty</td>
<td>0.894</td>
<td>0.900</td>
<td>0.750</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>0.960</td>
<td>0.960</td>
<td>0.890</td>
</tr>
</tbody>
</table>

Source: research data (2021).
Convergent validity was attested by the values of Average Variance Extracted (AVE), that consider adequate values greater than 0.50 (Fornell & Larcker, 1981). The AVE was greater than 0.5, indicating that there is convergent validity. The Composite Reliability exceeded 0.8 in all the factors, surpassing the recommended minimum of 0.7 (Henseler, Ringle, & Sinkovics, 2009; Tenenhaus et al., 2005).

The discriminant validity was assessed by the Fornell-Larcker (1981) criteria (Table 5), what establishes that the square root of each factor’s AVE must be greater than the correlation between the factor itself and all the other factors in study (Brambilla, 2011). As can be seen at Table 5, all the AVEs square roots (in the main diagonal) exceed the corresponding correlations, what attests the presence of discriminant validity.

### Table 5 - Discriminant validity using the Fornell and Larcker method

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Attendance</th>
<th>Installations</th>
<th>Reliability</th>
<th>Service</th>
<th>Value</th>
<th>Loyalty</th>
<th>Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attendance</td>
<td>0.831</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Installations</td>
<td>0.678**</td>
<td>0.849</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reliability</td>
<td>0.645**</td>
<td>0.670**</td>
<td>0.831</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service</td>
<td>0.499**</td>
<td>0.557**</td>
<td>0.442**</td>
<td>0.755</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Value</td>
<td>0.562**</td>
<td>0.600**</td>
<td>0.645**</td>
<td>0.432**</td>
<td>0.933</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loyalty</td>
<td>0.544**</td>
<td>0.616**</td>
<td>0.623**</td>
<td>0.419**</td>
<td>0.677</td>
<td>0.866</td>
<td></td>
</tr>
<tr>
<td>Satisfaction</td>
<td>0.661**</td>
<td>0.730**</td>
<td>0.722**</td>
<td>0.523**</td>
<td>0.761</td>
<td>0.808**</td>
<td>0.943</td>
</tr>
</tbody>
</table>

**. The correlation is significant at the 0.01 level (2 ends).

Source: research data (2021).

To evaluate the structural model, we examined the values of the path coefficient, its statistical significance, and the determination of the coefficient (R²). Figure 1 shows the structural model with the path coefficient estimated in the model itself.

The indices (Table 6) indicated a good fit of the model to the data, obtaining the CMIN/DF of 3.796 (Chi-square (χ²) of 1013.580 divided by the degree of freedom (df) of 267), which compares the matrix of covariance with the observed matrix. A value less than 5.0 is recommended, is statistically significant at the p-value level of 0.000 (Byrne, 2010; Hair Jr. et al., 2009). The Goodness of Fit Index [GFI] was 0.880, with a GFI index > 0.900 being recommended. However, the index obtained is at the level of peripheral acceptance (Hair Jr. et al., 2009). The Comparative Fit Index [CFI] of 0.953 and the Tucker-Lewis Index [TLI] of 0.947 reached the value proposed in the literature (CFI > 0.900 and TLI > 0.900). The Root Mean Square Error of Approximation [RMSEA] presented the index of 0.066, respecting the suggested index of 0.04 to 0.08. The results obtained are summarized in Table 6.

### Table 6 - Model Fit Indices

<table>
<thead>
<tr>
<th>Adjustment Indices</th>
<th>The value found in the model</th>
<th>Recommended Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-square (χ²) and p-value</td>
<td>1013.580 (p &lt; 0.000)</td>
<td>(p less than 0.000)</td>
</tr>
<tr>
<td>Degree of Freedom (df)</td>
<td>267</td>
<td>3.796</td>
</tr>
<tr>
<td>CMIN/DF (χ²/df)</td>
<td>0.880</td>
<td>Greater than 0.90</td>
</tr>
<tr>
<td>GFI</td>
<td>0.947</td>
<td>Greater than 0.90</td>
</tr>
<tr>
<td>TLI</td>
<td>0.953</td>
<td>Greater than 0.90</td>
</tr>
<tr>
<td>CFI</td>
<td>0.078</td>
<td>Less than 0.10</td>
</tr>
<tr>
<td>RMSEA</td>
<td>0.066</td>
<td>Between 0.04 and 0.08</td>
</tr>
</tbody>
</table>

Source: research data (2021).

It should be noted that the second-order construct, using together with the dimensions of hosting services, contributed to a more parsimonious model, presenting a significant improvement in the Goodness-of-fit parameters (CMIN/DF; GFI; CFI; TLI; RMSEA). For Hair Jr., Gabriel, and Patel (2014), modeling with a second-order construct presents more theoretical parsimony and reduces the complexity of the model.

5 DISCUSSION

The test of the general research model indicates that the quality of the services offered to users of both, Airbnb and hotels, positively influences loyalty and satisfaction. The offered services positively influence loyalty by around 84%, and satisfaction by 91%. Observing the structural model, it is also possible to identify that when adding 1 to the
level of services offered, loyalty increases by 0.173 and satisfaction by 0.915; however, satisfaction with hosting services indirectly increases loyalty by 0.746; these results confirm hypotheses 1, 2 and 3.

Previous studies also identified a positive relationship between hosting services and loyalty and satisfaction. In this sense, Minciotti, Santolia, and Kaspar (2008) present in their research that the provision of inadequate service results in frustration and annoyance. In contrast, a service with the desired quality will please and surprise the customer, making it possible earning his/her loyalty.

According to Ellis (2000), loyalty is a result of the perception of past and present impressions of hosting services, based on reliability, accessibility, emotions, and feelings. According to Kotler and Armstrong (2006), loyalty is also a result when the service provider's performance meets the consumer's expectations.

In agreement with the results of the present research, Hasegawa (2010) identified that the general satisfaction of users with hosting services is influenced by the availability of differentiated meals and a pleasant lodging environment. According to Tasci and Boylu (2010), the environmental quality factors of the destination, hospitality, services of food, entertainment, shopping, hygiene, and safety, are the most relevant factor that influences the general satisfaction of users.

Weed (2013) mentions that satisfaction with the hosting service results from improved accessibility, waste disposal, reservation, and occupancy control, cleaning and maintenance, check-in and check out, among others. Nisara and Prabhakar (2017) confirmed a direct relationship between quality of service, loyalty, and satisfaction.

For Tussyadiah (2016), consumer satisfaction increases when he/she perceives greater added value and a lower cost concerning the services offered, thus revealing positive effects of economic benefits on satisfaction.

The diversification of hosting services with a high level of quality has become a preponderant factor for satisfaction. Satisfied customers provide recommendations and maintain loyalty to hosting service providers (Reichheld & Teal, 1996). The higher the level of user satisfaction with hosting services, the greater the level of customer loyalty (Caruana, 2002; Flint, Blocker, & Boutin, 2011; Lima, 2015; Dao, 2017).

Soares et al. (2018) and Yang et al. (2017), show in their results that the additional amenities give credibility to hosting services, generating a great deal of loyalty in relationships and transactions. In this regard, Anaza and Zhao (2013) demonstrated that facilitating services influences loyalty, commitment, and satisfaction.

According to Campos (2018), personalized service is an essential factor in the consumption of services, necessary to meet customer requirements and increase their level of satisfaction. The service comprises promptness, cordiality, communicability, and availability in the provision of services and information.

Table 7 shows the average, median, and standard deviation of hosting services and the influence of each dimension on loyalty and satisfaction (strength of the path of the structural equation). The level of user satisfaction differs most significantly between Airbnb and Hotel services in terms of the service. The hotels (M = 6) establish the provision of services in a more structured way, thus showing a slightly higher level of satisfaction.

It was evidenced that Airbnb presented a higher average value (X̄ = 6.14) regarding reliability. However, Airbnb was classified with the lowest average value (X̄ = 4.82) in the service dimension, where user satisfaction still demands improvements in hosting services.

<table>
<thead>
<tr>
<th>Table 7 - Level of satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimension</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Attendance</td>
</tr>
<tr>
<td>Installations</td>
</tr>
<tr>
<td>Reliability</td>
</tr>
<tr>
<td>Service</td>
</tr>
<tr>
<td>Value</td>
</tr>
<tr>
<td>Grand total</td>
</tr>
</tbody>
</table>

Subtitle: (Averagé); M̄ (Median); σ (Standard deviation).
Source: research data (2021).
Considering the influence of each dimension of hosting services, the dimensions of reliability (ateway 0.844) and facilities (ateway 0.828) had the greatest impact on loyalty and user satisfaction. However, the service dimension (ateway 0.644) is less related to loyalty than satisfaction.

When observing the difference in the average values of the dimensions using the Student's t-test, according to the researched hosting service, only the “service” dimension presents a statistically significant difference between the average values of the Airbnb hosting services and the hotels (Table 8). The average difference between Airbnb and hotels is mainly due to the non-contribution of the Airbnb hosts regarding the availability of meals and the extra comfort offered (amenities). The p-value smaller than 0.05 values demonstrate that the groups are significantly different according to the Student's t-test.

### Table 8 - Student's t-test

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Attendance</th>
<th>Installations</th>
<th>Reliability</th>
<th>Service</th>
<th>Value</th>
<th>Loyalty</th>
<th>Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airbnb and Hotels</td>
<td>Result</td>
<td>≅ AAV</td>
<td>≅ AAV</td>
<td>≅ AAV</td>
<td>≠ AAV</td>
<td>≅ AAV</td>
<td>≅ AAV</td>
</tr>
<tr>
<td>p-value</td>
<td>0.486</td>
<td>0.750</td>
<td>0.727</td>
<td>0.000</td>
<td>0.362</td>
<td>0.829</td>
<td>0.445</td>
</tr>
<tr>
<td>T test</td>
<td>0.697</td>
<td>-0.318</td>
<td>0.349</td>
<td>-3.898</td>
<td>0.913</td>
<td>0.216</td>
<td>0.764</td>
</tr>
</tbody>
</table>

**Subtitle:** ≠ (Difference); ≅ (Similarity and or equality); AAV (Average assigned value).

**Source:** research data (2021).

Considering the results presented in Table 8, it is possible to verify that Airbnb and Hotels services do not differ statistically in most dimensions. This means that the level of user satisfaction, regardless of the hosting service, demonstrates certain linearity, confirming that the proposed research instrument can be applied to both, Airbnb and hotels.

### 7 FINAL CONSIDERATIONS

This study aimed to propose an instrument to assess the level of satisfaction of the hosting services of Airbnb and the Hotels, and to examine the relationship between hosting services, satisfaction, and loyalty. These objectives were achieved based on statistical tests carried out on 645 users of hosting services.

The main results show that, in general, the conceptual model is statistically valid. In addition, hosting services tend to influence loyalty and satisfaction in a positive and statistically valid way (p-value < 0.01), with strong explanatory power, in line with the findings of previous studies (Anaza & Zhao, 2013; Campos, 2018; Hasegawa, 2010; Minciotti, Santolía, & Kaspar, 2008; Soares et al., 2018; Yang et al., 2017). Through the observation of the structural model, it is also possible to identify that an increase in hosting services increases loyalty and satisfaction. Thus, a high level of hosting services positively influences loyalty and satisfaction, confirming hypotheses 1, 2, and 3.

Given the differences observed between Airbnb and hotels, we can highlight the challenges regarding the services provided by hotels. Due to their investments in economic feasibility, tailored architecture, structure, and equipment, in addition to the formation of teams, translated into the art of receiving, accommodating, and treating the customer well, and offering a feeling to the guest of being always welcome, they generally do not have the right to make mistakes. In the case of Airbnb, guests find some small slips, flaws, and improvisations, but the application's virtue of recovering the human touch of a family home, which receives a relative or friend with affection, minimizes the real evaluation of the accommodation and hosts.

The scientific contribution of this study is the description of a model, based on previous research, to assess the level of hosting services practices. The instrument was tested using confirmatory factor analysis and the results demonstrate that it is reliable for practical application. The study also makes a significant contribution in terms of quantitative research carried out to evaluate hosting services. The results help to validate that the proposed model can be applied to any type of organization that provides hosting services.

This investigation contributed at a managerial level to a greater understanding of the hosting services practices derived from the model conceived in this research and its influence on the loyalty and satisfaction of the users of hosting services. This study can be useful because it offers an instrument for diagnosing the level of hosting services offered, identifying strengths and weaknesses.
Despite the scientific rigor employed and methodological care, the research has limitations. The first limitation is the fact that the sample is not probabilistic, considering hosting organizations with different classifications, purposes, and types of assistance. Another research limitation may have occurred during data collection, because of the pandemic (COVID-19), thus reducing the time availability of hosting users and, consequently, the number of respondents in this research. The use of different types of hosting organizations considering a cross-section can also be considered a limitation of the study. Considering that the different types of hosting organizations have specific characteristics, the data may not express the results that would be obtained if they were analyzed in each of their specificities.

In future studies, the validity of the results obtained in this research could be improved, extending the sample to a greater number of users of hosting services, through a longitudinal study to verify the phenomenon, using a timeline to obtain information that can attest to the gradual increase or not in the levels of hosting services and their relationship with loyalty and satisfaction.

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Adapting and testing an instrument to assess users’ satisfaction and loyalty in hotel and airbnb hosting services


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