Predicting customer loyalty to Airbnb using PLS-SEM: the role of authenticity, interactivity, involvement and customer engagement

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Abstract
Purpose – Drawing on social exchange theory, this study clarifies the roles of authenticity, interactivity and involvement in predicting customer engagement (CE) and, ultimately, customer loyalty towards an online peer-to-peer accommodation platform. In addition, the study explores the effect of interactivity in increasing authenticity.

Design/methodology/approach – Data were collected through an online questionnaire of a sample of Italian tourists who had previously booked a service on Airbnb. The analyses were conducted by adopting partial least squares structural equation modelling.

Findings – The model has high power in predicting customer loyalty to an online peer-to-peer accommodation platform. Specifically, involvement is the primary predictor of CE and customer loyalty. Authenticity and interactivity also have a significant and positive effect both on CE and customer loyalty. In addition, CE partially mediates the relationship between authenticity, interactivity and involvement and customer loyalty. Finally, interactivity has a significant positive effect on authenticity.

Practical implications – The results encourage hospitality service providers to invest in the creation (and co-creation) of authentic experiences to increase CE and customer loyalty. Hospitality managers can also enhance CE by increasing involvement and interaction with customers through various touchpoints (online and offline) in different moments of the customer journey.

Originality/value – This study proposes an original model to predict customer loyalty to peer-to-peer hospitality platforms. The findings shed new light on the drivers of CE and provide empirical support for the mediating effect of CE. The study also contributes to the literature on authenticity by demonstrating the positive effect of interactivity on authenticity.

Keywords Authenticity, Interactivity, Involvement, Customer engagement, Customer loyalty, Sharing economy, Airbnb, Italian tourists, Accommodation

Paper type Research paper

Introduction
Customer engagement (CE) research has gained increasing importance in the past 15 years. While the first studies on CE were published in 2005 (Sawhney et al., 2005), from 2010, this topic has experienced escalating interest in marketing research (Van Doorn et al., 2010; Brodie et al., 2011), with several reviews of the literature on CE being published in the last few years (e.g. Hollebeek et al., 2022; Lim et al., 2022). CE can be defined as “a customer’s behavioral manifestations that have a brand or firm focus, beyond purchase, resulting from motivational drivers” (Van Doorn et al., 2010, p. 254). Scholars have attempted to identify the antecedents
and outcomes of CE. For example, France et al. (2016) combined firm-led and customer-led drivers of CE by suggesting a significant role of brand interactivity and involvement in predicting CE. Total Quality Management (TQM) literature highlights the importance of customer focus and CE to improve a firm’s performance (Pambreni et al., 2019; Din et al., 2021). In particular, previous studies suggest that CE can increase relationship quality (Behnam et al., 2021), purchase intentions and loyalty (Barari et al., 2021).

In recent years, interest in CE in the online context has also increased, with researchers examining CE in online brand communities and social media (Santos et al., 2022). However, research on CE in the tourism context remains limited (Harrigan et al., 2017), particularly in relation to peer-to-peer online platforms such as Airbnb (Liang et al., 2018a, b; Schivinski et al., 2020). Airbnb is the most prominent sharing economy platform in the tourism industry (Magno et al., 2018). The sharing economy is based on consumers granting each other temporary access to their underused assets, including space, skills and assets with financial or non-financial benefits (Böcker and Meelen, 2017). In this business model, service enablers such as Airbnb connect customers to service providers via an online platform to transact business (Hamari et al., 2016). Scholars have focussed on tourists’ motivations in using sharing economy platforms (Priorpas et al., 2017; Boateng et al., 2019; Cheng and Jin, 2019; Yi et al., 2020). Tussyadiah and Pesonen (2018) identified social appeal amongst the drivers of peer-to-peer accommodation. Social appeal, which provides customers “with the feeling of being integrated in the local community and having access to local (i.e. insider) experiences” (Tussyadiah and Pesonen, 2018, p. 716), can be linked to the concept of authenticity, which plays an important role in tourists’ decision process.

In tourism literature, the role of perceived authenticity has been traditionally analysed in relation to destinations (MacCannell, 1973; Lallic and Weismayer, 2018; Rather et al., 2019; Chen et al., 2020). However, scholars have shown increasing interest in assessing the role of authenticity in peer-to-peer accommodation, particularly focussing on Airbnb (Lalicic and Weismayer, 2017; Liang et al., 2018a, b; So et al., 2018; Akarsu et al., 2020). Allowing tourists a direct connection to locals is a milestone of Airbnb because one of its prominent characteristics is offering an authentic tourist–host encounter and providing travellers with the opportunity to enjoy a “feeling-at-home” experience (Tussyadiah, 2016). Recently, Airbnb has also introduced the opportunity to book various travel experiences such as dancing, cooking gardening and sports. Previous studies have shown that authenticity can be a forerunner of CE (Rather et al., 2019) and customer loyalty (Bryce et al., 2015; Li et al., 2016; Liang et al., 2018a); however, the causal effect of authenticity on CE and customer loyalty still requires analysis in peer-to-peer accommodation.

This study aims to fill this gap in literature by pursuing the following primary objectives: (1) assessing the effect of authenticity, interactivity and involvement on CE and customer loyalty to the Airbnb platform; (2) testing the mediating effect of CE on the authenticity–loyalty, interactivity–loyalty and involvement–loyalty links; (3) exploring the effect of interactivity on authenticity. By drawing on social exchange theory (SET), this study expands previous research on CE, which already considered interactivity and involvement as drivers of CE (France et al., 2016) and introduces authenticity as an original predictor of CE and customer loyalty in the online hospitality context. A partial least squares structural equation modelling (PLS-SEM) approach is used to analyse the data collected amongst a sample of Italian Airbnb customers. The findings contribute to hospitality management research by clarifying the effects of authenticity, interactivity, involvement and CE on customer loyalty to a peer-to-peer accommodation platform. The remainder of this paper is structured as follows. The background of the study and the research model are first outlined.
Next, the method and the findings are presented, followed by the discussion and the implications.

**Background and research model**

**Social exchange theory**

This study examines the relationships between the constructs of authenticity, interactivity, involvement CE and customer loyalty from the perspective of SET (Blau, 1964). SET is “one of the most broadly adopted theoretical frameworks for explaining firm/brand-customer relationships” (Gligor and Bozkurt, 2021, p. 98). SET proposes that individuals decide to engage in a social exchange based on their perception of the tangible and intangible costs and benefits of engaging in a relationship (Harrigan et al., 2018; Gligor and Bozkurt, 2021). Customers are expected to reciprocate positive thoughts, feelings and behaviours towards an object (e.g. brand/products), after receiving benefits from the relationship with the brand/firm (Rosado-Pinto and Loureiro, 2020). Considering this perspective, SET can be applied to understand why individuals participate in sharing economy platforms (Kim et al., 2015). Specifically, based on SET, customer loyalty could be considered as a way of reciprocating the benefits received from the brand (Rasool et al., 2021). In the case of this study, customer loyalty towards the Airbnb platform is a way of reciprocating the benefits customers receive from Airbnb (e.g. authenticity of services, interactivity, involvement and engagement opportunities). For CE and customer loyalty to endure, “customers must at least achieve a balance in these costs and benefits over time” (Harrigan et al., 2017, p. 598). Several studies on CE (e.g. Harrigan et al., 2018; Alvarez-Milán et al., 2018; Wong et al., 2022) have used SET as a theoretical framework. In this study, SET is employed to analyse the role of authenticity, interaction, involvement and engagement as relevant drivers of customer loyalty towards the Airbnb platform.

**Customer engagement**

CE responds to the customer-focus principle of TQM. Customer focus has been described as “the extent to which an organisation can fulfil the needs and expectations of customers, as well as the subsequent feedback that is sought to know whether those needs and expectations are being met” (Acquah et al., 2022, p. 5). In fact, TQM urges companies to adopt a customer-centric approach to meet (and exceed) customers’ expectations through continuous improvement. Therefore, customer focus represents a critical success factor of TQM (Aquilani et al., 2017) and can help companies increase their performance (Pambreni et al., 2019) and reach business excellence. Some of the most well-known TQM and business excellence models (Dahligaard-Park et al., 2018; Din et al., 2021) highlight the importance of customer focus and CE. In particular, the European Foundation for Quality Management (EFQM) model and the Baldrige Criteria for Performance Excellence (BCPE) model strongly emphasise the role of CE, even though with some differences. On the one hand, the BCPE explicitly identifies “customer-focused excellence” amongst its values and discusses the customer in terms of expectations and engagement. On the other, the EFQM model still has a high customer focus but considers the customer as one of the stakeholders the company needs to actively and continuously engage with in the value-creation process (Din et al., 2021).

Despite CE having become an important topic in TQM, marketing and branding literature, its application to the tourism industry remains limited (Chen et al., 2020), specifically in the hospitality context. However, peer-to-peer hospitality platforms have clearly been attempting to increase CE over the years. In a sense, hospitality platforms can be considered social media because their users are individuals that create and exchange user-generated content (Cabiddu et al., 2014; Munar and Jacobsen, 2014), thus facilitating CE (Leung et al., 2015). For example, on Airbnb, hosts can share photos, describe themselves and their accommodation, as well as
provide additional information about the destination attractions and characteristics. Airbnb also has a review mechanism through which hosts and guests can rate their reciprocal experience, thus generating additional information that can influence peers’ decision making (Roozen and Raedts, 2018).

Brodie et al. (2011, p. 260) defined CE as a “psychological state that occurs by virtue of interactive, co-creative experiences with a focal agent/object (i.e. a brand) in a focal service relationship”. Although there is no consensus on the definition of CE, some scholars describe this as a multi-dimensional construct. For example, So et al. (2014) conceptualised CE with tourism brands as a higher-order construct comprising five first-order factors: enthusiasm (or vigour); attention; absorption; interaction; and identification. Harrigan et al. (2017) validated So et al.’s (2014) scale in the social media context and proposed an alternative eleven-item scale based on three factors: identification, absorption and interaction. Identification is described as a cognitive component that motivates CE behaviour. Absorption is characterised by a high level of concentration of the user and by the user being engrossed in an activity that provides close to an optimal experience. Interaction refers to the participation of customers with a brand or with other customers in online and offline environments (Harrigan et al., 2017). Other scholars have described CE as a unidimensional construct (e.g. France et al., 2016; Van Doorn et al., 2010). This study views CE as a psychological state represented by a unidimensional construct (as in France et al., 2016) and considers authenticity, interactivity and involvement as key drivers of CE with the Airbnb platform.

**Authenticity in accommodation services**

Since MacCannell’s (1973) seminal work, authenticity has gained increasing importance in tourist experiences (Oskam and Boswijk, 2016; Paulauskaite et al., 2017). For example, Garau-Vadell et al. (2021) suggested that peer-to-peer experiences play a more important role than non-peer-to-peer experiences in consumers’ overall perception of authenticity. Authenticity has been described as a universal value and a vital driving force affecting tourists’ decision to travel (Cohen, 1988; MacCannell, 1973). The term “authenticity” may refer to an object (e.g. a historical artefact) or an experience (e.g. immersion in the local cultural setting) (Liang et al., 2018a). Wang (2000) separated authenticity into object-related authenticity (i.e. objective or constructed authenticity) and activity-related authenticity (i.e. existential authenticity). In addition, Wang (1999) classified existential authenticity into intrapersonal and interpersonal authenticity, where intrapersonal authenticity refers to bodily feelings and self-making and interpersonal authenticity refers to social authenticity and the collective sense of self. The existential component of authenticity relates to perceptions, feelings and emotions, that is, the sense of a unique or exclusive experience that is close to the local culture and lifestyle (Lalicic and Weismayer, 2017, 2018).

In the tourism context, Kolar and Zabkar (2010) defined authenticity as the level of enjoyment of tourists and the experiences they perceived as genuine. Despite the literature not providing a univocal definition of authenticity, it can be argued that, generally, individuals are increasingly searching for unique and emotional travel experiences that can involve them in authentic and unforgettable experiences (Chandler and Lusch, 2015; Castellani et al., 2020). Authenticity is essential from a managerial and marketing perspective because it leads to positive responses, given that it encapsulates a “universal value and an essential driving force that motivates tourists to travel to distant places and times” (Kolar and Zabkar, 2010, p. 65). Researchers have found positive effects of authenticity on customer satisfaction (Kroebacher and Mazanec, 2010); place attachment (Ram et al., 2016); CE and customer loyalty to the destination (Bryce et al., 2015; Yi et al., 2017).

In the hospitality context, Mody et al. (2019) proposed two different pathways to customer loyalty for hotels (based on brand authenticity) and for Airbnb (based on experience authenticity). The results of their study revealed that for Airbnb users, the brand’s provision...
of authentic travel experiences contributes to brand loyalty, while for hotel guests, a high
level of brand authenticity led directly to a high level of brand love, which subsequently
resulted in brand loyalty. Mody and Hanks (2020) also demonstrated that Airbnb leverages
brand and existential and intrapersonal authenticity in creating brand-loving and brand-
loyal customers, while hotels rely on brand authenticity. In addition, Tajeddini et al. (2022)
proposed a theoretical framework assessing the influence of self-gratification and social
values on creating the revisit intention and customer loyalty of Airbnb users. In their study,
self-gratification is conceptualised as “an Airbnb user’s mood-enhancement effect and ability
to de-stress and relax with minimal tension due to finding a quality accommodation facility at
an affordable price while being exposed to authentic, novel, and culturally rich experiences”
(Tajeddini et al., 2022, p. 3). The findings suggest that self-gratification value, which is related
to authentic experiences, positively influences revisit intention and customer loyalty. Based
on these premises, it is proposed that the authenticity of Airbnb services may lead to a higher
level of CE and customer loyalty towards the platform. Hence, the following hypotheses are
derived:

H1. The authenticity of the services offered by Airbnb positively influences CE with the
    Airbnb platform.

H2. The authenticity of the services offered by Airbnb positively influences customer
    loyalty towards the Airbnb platform.

Interactivity and involvement
France et al. (2016) suggested that CE is influenced by brand interactivity and involvement.
Interactivity has been established as an essential feature of the online environment,
particularly in the marketing literature (Song and Zinkhan, 2008; Stewart and Pavlou, 2002;
on “the user’s perception of taking part in a two-way communication with a mediated
persona”. France et al. (2016) defined brand interactivity as the customer’s perception of the
brand’s desire for integration with the customer. In this sense, interactivity is a firm-led driver
of CE (France et al., 2016). Brand interactivity can include both the brand’s technical
facilitation of the interaction (e.g. the brand’s presence on social media) and the demonstration
of a genuine desire for connectedness (e.g. the brand’s interactions with customers on the
brand’s social profile). Interactivity is particularly relevant for the purpose and the context of
this study due to the focus on CE with an online platform. In fact, research has found that
brands with a high degree of interactivity develop more personal relationships with
customers (Sawhney et al., 2005). In recent years, Airbnb has increased its presence on social
media, such as Instagram and Twitter, where the brand interacts directly with its followers.
Therefore, the following hypothesis is developed:

H3. Interactivity with Airbnb’s social media positively influences CE with the Airbnb
    platform.

In addition, some studies conducted in other contexts suggest that interactivity can have a
direct effect on loyalty. For example, Cyr et al. (2009) demonstrated that interactivity (intended
as a second-order formative construct) has a significant and positive effect on e-
loyalty. Alalwan (2018) found that interactivity influences the purchase intentions of
products presented in social media advertising. Similarly, Gligor and Bozkurt (2021)
identified a positive effect of interactivity on customer purchases. Although extant literature
suggests interactivity’s direct effect on loyalty, this relationship needs to be further
investigated in the online tourism and hospitality context. Therefore, the following hypothesis is proposed:
H4. Interactivity with Airbnb’s social media positively influences customer loyalty towards the Airbnb platform.

Furthermore, previous studies have suggested that interactivity could have a significant effect on authenticity. For example, Pallud (2017) found that interactivity with museum technologies is a significant predictor of perceived authenticity. More recently, Jun and Yi (2020) demonstrated that influencer interactivity increases influencer authenticity. In addition, in a study conducted during the COVID-19 pandemic, Moon et al. (2022) found that interactivity (“self–other online interaction”) positively influences the perceived authenticity of the “armchair travel experience” (i.e. travel experienced vicariously by “tourists” from their homes in times of travel restrictions through online media channels). However, the relationship between interactivity and authenticity needs to be further explored in the tourism context, particularly in peer-to-peer accommodation. Observing Airbnb’s social media strategy seems to reveal that the brand attempts to promote the authenticity of its experiences and services, for example, by leveraging user-generated content on Instagram or by publishing emotional videos on YouTube. Therefore, we propose that interactivity can affect the perceived authenticity of the services offered by Airbnb through the following hypothesis:

H5. Interactivity positively influences authenticity.

While interactivity is firm-led, involvement is a customer-focused driver of CE (France et al., 2016) and has been defined as the “perceived relevance of the object based on inherent needs, values, and interests” (Zaichkowsky, 1985, p. 342). This construct describes an individual’s level of interest and personal relevance in relation to an object in terms of the individual’s own values, self-concept or goals (Mittal, 1995; Zaichkowsky, 1985). Involvement plays a significant role in developing CE in tourism and hospitality, and it is considered a “tool to predict the interest of certain products to consumers and the products’ corresponding importance” (Lee and Kim, 2018, p. 35). When customers become increasingly involved with a specific brand, they engage more in external research and process information on the brand (Beatty and Smith, 1987). Specifically, it is hypothesised that customers’ involvement with the platform will determine a higher level of CE with the platform itself. Therefore, the following hypothesis is proposed:

H6. Involvement positively influences CE with the Airbnb platform.

In addition, some studies have suggested that involvement can have a direct effect on customer loyalty. For example, Leckie et al. (2016) found that consumer involvement positively influences brand loyalty and that consumer brand engagement partially mediates the relationship between consumer involvement and brand loyalty. This study focuses on the direct effect of involvement on loyalty towards the online platform, and the following hypothesis is thus proposed:

H7. Involvement positively influences customer loyalty towards the Airbnb platform.

Customer engagement and loyalty

In examining the outcomes of CE, scholars have considered the relationship between engagement and loyalty in different contexts, such as in online brand communities (Islam et al., 2018); brand-hosted social media (Helme-Guizon and Magroni, 2019); and omnichannel retailing (Gao and Huang, 2021). In the tourism context, some studies have demonstrated that engagement can have a positive effect on customer loyalty to tourism brands (e.g. So et al., 2016; Harrigan et al., 2017, 2018); resorts (e.g. Ahn and Back, 2018); and tourism destinations (Abou-Shouk and Soliman, 2021). In addition, Shin and Back (2020) found a significant effect
of cognitive engagement on cognitive brand loyalty in the hotel context, while Huang and Chen (2022) identified a significant and positive effect of CE on loyalty to chain restaurants. Conversely, Li et al. (2020) found support only for an indirect effect of engagement on loyalty to tourism social media brands via brand attachment and customer trust. Based on the conceptualisation of Zeithaml et al. (1996), in this study, customer loyalty is intended as customers’ behavioural intentions to say positive things about Airbnb platform, to recommend it to other people, to encourage friends and relatives to buy from it, and to consider the platform as the first choice for future purchases. Based on these considerations, the following hypothesis is proposed:

\[ H8. \] CE positively influences customer loyalty towards the Airbnb platform.

**Mediating effect of customer engagement**

As discussed, some studies have assessed the positive effect of authenticity, interactivity and involvement on CE. In addition, CE has been found to mediate the relationship between the dimensions of involvement and loyalty in the online retail context (Parihar et al., 2019) or between the dimensions of involvement and brand relationship quality in tourism destinations (Rather et al., 2019). Chen et al. (2020) also found that destination brand engagement completely mediates the relationship between destination brand authenticity and revisit intention and partially mediates the relationship between destination brand authenticity and recommendation intention. However, the mediating role of CE in the context of online accommodation platforms needs further examination. In their recent review of CE in hospitality and tourism research, Chen et al. (2021) identified the mediating role of CE as a research gap for future studies. Therefore, the following hypotheses are formulated:

\[ H9a. \] CE mediates the relationship between authenticity and customer loyalty towards the Airbnb platform.

\[ H9b. \] CE mediates the relationship between interactivity and customer loyalty towards the Airbnb platform.

\[ H9c. \] CE mediates the relationship between involvement and customer loyalty towards the Airbnb platform.

The conceptual framework of the current study is presented in Figure 1.
**Method**

An online questionnaire was created using Limesurvey software. The data were collected between June and October 2020. The target population was Italian users who had booked at least once through Airbnb in the previous 12 months. A link to the online questionnaire was posted on tourism pages, and unofficial Airbnb pages on Facebook and Instagram. Participants were informed about the study’s aim and ensured their responses would be anonymous and confidential. They received no incentives (money or discounts) for completing the questionnaire.

This study draws on the model proposed by France et al. (2016) and expands it to the online tourism context by incorporating authenticity as a driver of CE and customer loyalty to the Airbnb platform. In addition, the study proposes CE as a mediator of the relationships between involvement and loyalty, interactivity and loyalty, and authenticity and loyalty. The study also examines the relationship between interactivity and authenticity. The items used for each construct were taken from the existing literature with minor changes to suit the context of the study. The use of existing scales ensured the reliability and validity of the items. Ten items from Zaichkowsky (1994) were chosen to measure involvement with the Airbnb platform. Interactivity, which was conceived as customers’ perceptions of Airbnb’s desire for connectedness through social media, was measured with four items adapted from Labrecque (2014). Four items previously used by Liang et al. (2018a) were used to measure the perceived authenticity of the services offered by Airbnb. CE with the platform was measured with seven items from France et al. (2016). Four items were adapted from Zeithaml et al. (1996) to assess customer loyalty to the platform. In line with the established conceptualisations and the selected measures, all constructs were measured reflectively on a seven-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). The constructs used in the questionnaire are presented in Table 1.

Overall, 301 responses were collected, of which 75 were discarded because of incomplete responses. The remaining 226 questionnaires were used for analytic purposes. While not large, the sample size was considered adequate to analyse the data using PLS-SEM based on the inverse square root method proposed by Kock and Hadaya (2018). Given that the inverse square root method is quite conservative, Hair et al. (2022, p. 27) maintained that “it is reasonable to consider ranges of the effect sizes rather than specific values to determine the sample size”, and, specifically, the upper boundary of the effect range can be considered a reference. The minimum significant path coefficient in this study (0.131) ranges between 0.11 and 0.20; therefore, considering the upper bound of 0.20, approximately 155 observations were needed to render the corresponding effect significant at the 5% significance level (Hair et al., 2022). For the sample profile, respondents’ ages ranged from 17 to 62 years, with a majority of female participants (64.6%). Most had a university education—bachelor, master’s, or doctorate (65.9%). Most were employees (62.4%), 8.8% were self-employed and 10.6% were students.

After some preliminary descriptive analysis with IBM SPSS Statistics 27, PLS-SEM with SmartPLS 4 (Ringle et al., 2022) was performed. PLS-SEM is often associated with the exploration and development of theory (Hair et al., 2017, 2019, 2020); therefore, it was appropriate for the purpose of this study. In addition, PLS-SEM is particularly suitable for predicting a key target variable, for example, customer loyalty in this study (Hair et al., 2022). PLS-SEM is a nonparametric method. Therefore, unlike covariance-based SEM, it is free from specific data distribution assumptions.

**Findings**

*Assessment of the measurement model*

Before assessing the structural model and testing the hypotheses, the measurement model was evaluated following the procedures recommended by Hair et al. (2022) and
<table>
<thead>
<tr>
<th>Construct</th>
<th>Question code</th>
<th>Item</th>
<th>Outer loadings</th>
<th>Average variance extracted (AVE)</th>
<th>Consistent reliability coefficient (ρA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authenticity (adapted from Liang et al. (2018a))</td>
<td>AU_1</td>
<td>The service offered by Airbnb represents local ways of life</td>
<td>0.914</td>
<td>0.763</td>
<td>0.896</td>
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<tr>
<td></td>
<td>AU_2</td>
<td>The service offered by Airbnb represents the local community</td>
<td>0.907</td>
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<td></td>
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<td></td>
<td>AU_3</td>
<td>Airbnb’s service offers a feeling of a real home for my trip</td>
<td>0.778</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>AU_4</td>
<td>The service offered by Airbnb allows for interaction with the local community</td>
<td>0.887</td>
<td></td>
<td></td>
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<tr>
<td>Interactivity (adapted from Labrecque, 2014)</td>
<td>INTER_1</td>
<td>Airbnb will “talk back” to me on social media if I post a message</td>
<td>0.911</td>
<td>0.855</td>
<td>0.944</td>
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<tr>
<td></td>
<td>INTER_2</td>
<td>Airbnb would respond to me on social media quickly and efficiently</td>
<td>0.930</td>
<td></td>
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<tr>
<td></td>
<td>INTER_3</td>
<td>Airbnb would allow me to communicate directly with it through social media</td>
<td>0.923</td>
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<td></td>
<td>INTER_4</td>
<td>Airbnb “listens” to what I have to say on social media</td>
<td>0.934</td>
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<td>Involvement (adapted from Zaichkowsky, 1994)</td>
<td>INV_1</td>
<td>My experience with the Airbnb platform was important</td>
<td>0.728</td>
<td>0.640</td>
<td>0.938</td>
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<td></td>
<td>INV_2</td>
<td>My experience with the Airbnb platform was interesting</td>
<td>0.828</td>
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<td></td>
<td>INV_3</td>
<td>My experience with the Airbnb platform was relevant</td>
<td>0.800</td>
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<td></td>
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<td></td>
<td>INV_4</td>
<td>My experience with the Airbnb platform was exciting</td>
<td>0.766</td>
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<td></td>
<td>INV_5</td>
<td>My experience with the Airbnb platform means a lot to me</td>
<td>0.784</td>
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<td></td>
<td>INV_6</td>
<td>My experience with the Airbnb platform was appealing</td>
<td>0.840</td>
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<td></td>
<td>INV_7</td>
<td>My experience the Airbnb platform was fascinating</td>
<td>0.822</td>
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<td></td>
<td>INV_8</td>
<td>My experience with the Airbnb platform was valuable</td>
<td>0.835</td>
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<td></td>
<td>INV_9</td>
<td>My experience with the Airbnb platform was involving</td>
<td>0.811</td>
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<tr>
<td></td>
<td>INV_10</td>
<td>My experience with the Airbnb platform was needed</td>
<td>0.780</td>
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</tbody>
</table>

(continued)
<table>
<thead>
<tr>
<th>Construct</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Customer engagement (adapted from France et al., 2016)</td>
<td>CE_3</td>
<td>I am enthusiastic about the Airbnb platform</td>
<td>0.896</td>
<td>0.776</td>
<td>0.932</td>
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<td></td>
<td>CE_4</td>
<td>When dealing with the Airbnb platform, I am deeply engrossed</td>
<td>0.889</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>CE_5</td>
<td>When involved with the Airbnb platform, my mind is focussed on what is happening</td>
<td>0.895</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CE_6</td>
<td>When interacting with the Airbnb platform, I concentrate entirely on it</td>
<td>0.840</td>
<td></td>
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</tr>
<tr>
<td>Loyalty (adapted from Zeithaml et al., 1996)</td>
<td>LOY_1</td>
<td>I would say positive things about the Airbnb platform to other people</td>
<td>0.918</td>
<td>0.890</td>
<td>0.960</td>
</tr>
<tr>
<td></td>
<td>LOY_2</td>
<td>I would recommend the Airbnb platform to someone who seeks my advice</td>
<td>0.966</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>LOY_3</td>
<td>I would encourage friends and relatives to use the Airbnb platform when they have to purchase the service</td>
<td>0.955</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>LOY_4</td>
<td>I would use more the Airbnb platform in the future when I have to repurchase the service</td>
<td>0.935</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Sarstedt et al. (2022a, b). Based on the characteristics of a reflective construct defined by Jarvis et al. (2003), all latent constructs of the conceptual model are classified as reflective. Thus, the measurement model was evaluated based on indicator reliability, internal consistency reliability, convergent validity and discriminant validity. For indicator reliability, most outer loadings were above the recommended value of 0.708 (Hair et al., 2022). Only two items of CE were less than 0.7, so they were excluded from the model. Consequently, the construct of CE was measured by only five of the seven indicators proposed by France et al. (2016). To verify the internal consistency reliability of the constructs, the reliability coefficient’s ρA proposed by Dijkstra and Henseler (2015) values were examined. According to Hair et al. (2019), the coefficient ρA is a good compromise between Cronbach’s α and composite reliability (ρC). The results demonstrated that the ρA for all the constructs was higher than the recommended level of 0.7 (Dijkstra and Henseler, 2015), thus confirming adequate internal consistency of the scale items. The average variance extracted (AVE) for each construct was well above 0.50 (Hair et al., 1998); therefore, convergent validity was met. Indicator reliability, internal consistency reliability and convergent validity are reported in Table 1.

As recommended by Henseler et al. (2015), discriminant validity was assessed through the heterotrait–monotrait ratio (HTMT) of the correlations. The HTMT ratio of the correlations was below the threshold of 0.85 (Henseler et al., 2015). In addition, bootstrapping with 10,000 subsamples and percentile method was performed. The parameters were set on one-tailed testing and 0.05 significance level. The results of the bootstrapping analysis (reported in Table 2) demonstrated that the HTMT statistic was significantly below the threshold value of 0.85, therefore discriminant validity was confirmed (Franke and Sarstedt, 2019).

### Assessment of the structural model

The structural model assessment procedures included four steps: (1) assessment of collinearity; (2) assessment of the significance and relevance of the structural model relationships; (3) assessment of the model’s explanatory power; and (4) assessment of the model’s predictive power (Hair et al., 2022; Sarstedt et al., 2022a). In the first step, all the inner variance inflation factor (VIF) values were well below the critical threshold value of 3, indicating no severe collinearity issues (Hair et al., 2022). In the second step, the significance and relevance of the structural model relationships were assessed with SmartPLS 4 (Ringle et al., 2022). Sarstedt et al. (2016) recommended the PLS-SEM algorithm to estimate constructs with reflective measurement models. Furthermore, PLS-SEM requires analysing the mediating effect in one single model without following a causal-step approach (Nitzl et al., 2016). The structural model that emerged from running the PLS algorithm in SmartPLS 4 (Ringle et al., 2022) is presented in Figure 2. In order to test the significance of the path coefficients, the bootstrapping procedure (percentile bootstrapping, two-tailed test, 0.05 significance level) with 10,000 resamples was applied (Streukens and Leroi-Werelds, 2016). Nitzl et al. (2016) highlight that the bootstrap routine is more appropriate than the Sobel (1982) procedure.

<table>
<thead>
<tr>
<th></th>
<th>Authenticity</th>
<th>CE</th>
<th>Interactivity</th>
<th>Involvement</th>
<th>Loyalty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authenticity</td>
<td>0.615 [0.532; 0.692]</td>
<td>0.589 [0.491; 0.676]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CE</td>
<td>0.509 [0.408; 0.602]</td>
<td>0.677 [0.621; 0.730]</td>
<td>0.777 [0.718; 0.832]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interactivity</td>
<td>0.603 [0.521; 0.679]</td>
<td>0.669 [0.604; 0.732]</td>
<td>0.712 [0.653; 0.765]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Involvement</td>
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<td>0.712 [0.653; 0.765]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loyalty</td>
<td>0.589 [0.491; 0.676]</td>
<td>0.648 [0.556; 0.730]</td>
<td>0.771 [0.709; 0.823]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note(s):** HTMT confidence intervals by using a one-tailed test. Significance level 0.05
Figure 2.
The structural model
test for testing indirect effects. In fact, the Sobel test assumes a normal distribution that is not consistent with PLS-SEM, which is nonparametric (Hair et al., 2022). The bootstrap results demonstrated that authenticity is a significant positive predictor of CE and customer loyalty ($\beta = 0.184, p < 0.001$ and $\beta = 0.131, p < 0.05$, respectively), therefore $H_1$ and $H_2$ are supported. Interactivity was also found to be a significant positive predictor of CE and customer loyalty ($\beta = 0.256, p < 0.001$ and $\beta = 0.176, p < 0.05$, respectively), thus supporting $H_3$ and $H_4$. In addition, as suggested by $H_5$, interactivity was found to have a strong significant effect on authenticity ($\beta = 0.476, p < 0.001$). The findings also revealed that involvement has a strong significant and positive effect on CE and customer loyalty ($\beta = 0.465, p < 0.001$ and $\beta = 0.408, p < 0.001$, respectively). Therefore, $H_6$ and $H_7$ are supported. As predicted by $H_8$, the findings show that CE has a direct positive effect on customer loyalty ($\beta = 0.192, p < 0.01$). The mediating effect of CE was also assessed. First, the significance of the indirect effect of authenticity, interactivity and involvement on customer loyalty via CE was assessed. All the indirect effects were significant ($p < 0.05$); however, given that the direct effects of authenticity, interactivity and involvement on customer loyalty are also supported, it was concluded that CE partially mediates the relationship between authenticity, interactivity and involvement and customer loyalty (Hair et al., 2022), therefore, hypotheses $H_{9a}$, $H_{9b}$ and $H_{9c}$ are partially supported. The sign of multiplication of the direct and indirect effects point in the same (positive) direction. Since recent literature has criticised Baron and Kenny’s (1986) mediation analysis approach (e.g. Shrout and Bolger, 2002; Hayes, 2018), this study uses the decision tree proposed by Nitzl et al. (2016) to define the type of mediation. The findings show a complementary partial mediation. Following Nitzl et al.’s (2016) guidelines (inspired by Zhao et al., 2010), this means that a portion of the effect of authenticity, interactivity and involvement on customer loyalty is mediated through CE, even though authenticity, interactivity and involvement still explain a portion of customer loyalty that is independent of CE. Table 3 presents the results of the structural model analysis.

In the third step, the coefficient of determination $R^2$, which measures the variance in each endogenous construct, was used to assess the model’s explanatory power (Shmueli and Koppius, 2011) or in-sample predictive power (Rigdon, 2012; Sarstedt et al., 2014). As a general guideline, $R^2$ values of 0.75, 0.50 and 0.25 can be considered substantial, moderate and weak (Henseler et al., 2009; Hair et al., 2011). A value of 0.20 is usually considered high for customer behaviour studies (Vock et al., 2013). The $R^2$ was 0.607 for CE, 0.510 for customer loyalty and 0.227 for authenticity, thus indicating an acceptable explanatory power or in-sample predictive power. In addition, $R^2$ was used to quantify the strength of the structural model

<table>
<thead>
<tr>
<th>Relationship</th>
<th>Path coefficients</th>
<th>Confidence interval</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>$H_1$ Authenticity $\rightarrow$ CE</td>
<td>0.184</td>
<td>[0.085; 0.287]</td>
<td>Supported***</td>
</tr>
<tr>
<td>$H_2$ Authenticity $\rightarrow$ Loyalty</td>
<td>0.131</td>
<td>[0.008; 0.254]</td>
<td>Supported*</td>
</tr>
<tr>
<td>$H_3$ Interactivity $\rightarrow$ CE</td>
<td>0.256</td>
<td>[0.165; 0.340]</td>
<td>Supported***</td>
</tr>
<tr>
<td>$H_4$ Interactivity $\rightarrow$ Loyalty</td>
<td>0.176</td>
<td>[0.031; 0.307]</td>
<td>Supported*</td>
</tr>
<tr>
<td>$H_5$ Interactivity $\rightarrow$ Authenticity</td>
<td>0.476</td>
<td>[0.368; 0.577]</td>
<td>Supported***</td>
</tr>
<tr>
<td>$H_6$ Involvement $\rightarrow$ CE</td>
<td>0.465</td>
<td>[0.355; 0.578]</td>
<td>Supported***</td>
</tr>
<tr>
<td>$H_7$ Involvement $\rightarrow$ Loyalty</td>
<td>0.408</td>
<td>[0.266; 0.539]</td>
<td>Supported***</td>
</tr>
<tr>
<td>$H_8$ CE $\rightarrow$ Loyalty</td>
<td>0.192</td>
<td>[0.053; 0.325]</td>
<td>Supported**</td>
</tr>
<tr>
<td>$H_{9a}$ Authenticity $\rightarrow$ CE $\rightarrow$ Loyalty</td>
<td>0.035</td>
<td>[0.010; 0.066]</td>
<td>Supported*</td>
</tr>
<tr>
<td>$H_{9b}$ Interactivity $\rightarrow$ CE $\rightarrow$ Loyalty</td>
<td>0.049</td>
<td>[0.012; 0.092]</td>
<td>Supported*</td>
</tr>
<tr>
<td>$H_{9c}$ Involvement $\rightarrow$ CE $\rightarrow$ Loyalty</td>
<td>0.089</td>
<td>[0.024; 0.164]</td>
<td>Supported*</td>
</tr>
</tbody>
</table>

**Note(s):** 95% percentile bootstrap confidence intervals (two-tailed)
Significant level *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$
relationships by means of the $R^2$ effect size (Hair et al., 2022), “which provides evidence of an exogenous construct’s relative impact on an endogenous construct in terms of $R^2$ changes” (Sarstedt et al., 2022a, p. 1051). Values above 0.02 and up to 0.15 are considered to indicate a small effect; values of 0.15 and up to 0.35 are considered to indicate a medium effect; and values 0.35 and higher are considered to indicate a large effect (Cohen, 1988). The analysis reveals that authenticity and interactivity had a small effect size on CE (0.097 and 0.057, respectively) and on customer loyalty (0.042 and 0.027, respectively), while involvement had a medium effect size on CE (0.283) and customer loyalty (0.171). CE had a small effect size on customer loyalty (0.037) and, finally, interactivity had a medium effect size on authenticity (0.294).

In the fourth step, out-of-sample prediction was performed to assess the model’s ability to predict new or future observations (Hair et al., 2022). Shmueli et al. (2016) proposed $\text{PLS}_{\text{predict}}$, a procedure for out-of-sample prediction that “involves estimating the model on an analysis (i.e. training) sample and evaluating its predictive performance on data other than the analysis sample, referred to as a holdout sample” (Hair et al., 2019, p. 12). In SmartPLS 4 (Ringle et al., 2022), $\text{PLS}_{\text{predict}}$ executes k-fold cross-validation where the subgroup of the total sample is called “fold” and $k$ describes the number of subgroups. The data set is randomly split into $k$ subsets of data of equal size. Shmueli et al. (2019) recommend setting $k = 10$ and $r = 10$ to provide a good trade-off between increased precision and runtime. In this study, all $Q^2_{\text{predict}}$ values of the model’s key target construct (i.e. customer loyalty) were higher than zero, with the lowest value being 0.448 and the highest being 0.532. Next, the root-mean-square error (RMSE) values from the PLS-SEM analysis were compared with the linear regression model (LM) values for each indicator of the key target construct (Hair et al., 2022). The results revealed that all the indicators of the PLS-SEM analysis have lower RMSE values than the naïve LM benchmark, therefore the model has high predictive power. Table 4 summarises the values of $Q^2_{\text{predict}}$ and RMSE for the PLS-SEM and LM models and the difference between the two models in terms of RMSE.

### Discussion and implications

The main objective of this study was to develop a model to predict loyalty to an online peer-to-peer accommodation platform. Specifically, the model explains the relationships between authenticity, interactivity, involvement, CE and customer loyalty. The findings have relevant theoretical and practical implications. First, with regard to theoretical implications, the study empirically supports the importance of CE in improving the platform’s performance in terms of customer loyalty, thus contributing to TQM literature. Second, the findings support the role of perceived authenticity in influencing CE. Authenticity is an essential resource for the tourism industry (Chen et al., 2020) and the hospitality industry is investing in the creation and co-creation of authentic experiences (Canestrino et al., 2018). However, previous studies have generally focused on brand authenticity (e.g. Hernandez-Fernandez and Lewis, 2019; Manthiou et al., 2018; Mody and Hanks, 2020) and destination brand authenticity (Chen et al., 2020; Jimenez-Barreto et al., 2020). The present study contributes to the literature by clarifying the role of authenticity in increasing CE with peer-to-peer hospitality platforms.

| LOY_1       | 0.509 | 0.770 | 0.799 | −0.029 |
| LOY_2       | 0.530 | 0.789 | 0.802 | −0.013 |
| LOY_3       | 0.507 | 0.816 | 0.825 | −0.009 |
| LOY_4       | 0.442 | 0.840 | 0.845 | −0.005 |

**Table 4.** Out-of-sample prediction

$$Q^2_{\text{predict}}$$  \hspace{1cm}  PLS-SEM RMSE  \hspace{1cm}  LM RMSE  \hspace{1cm}  PLS - LM
Specifically, this study expands the results of Vivek et al. (2014), who found that authenticity is a driver of CE, to the context of peer-to-peer hospitality and provides an original contribution by demonstrating the direct effect of authenticity on customer loyalty. From the perspective of SET, authenticity can be considered an intangible benefit that customers are willing to exchange with their loyalty to the platform. Third, an original contribution of this study is the finding that authenticity is positively influenced by interactivity in the context of online peer-to-peer accommodation. To the best of the authors’ knowledge, in the tourism and hospitality context, this relationship has been assessed only in limited contexts such as museums (Pallud, 2017) or vicarious travel experiences during the COVID-19 pandemic (Moon et al., 2022). This result suggests the importance of social media communication and online interaction with customers in increasing perceived authenticity. Thus, this result differs from the recent study conducted by Alhouti and Johnson (2021), who did not find empirical support for the influence of interactivity on social media authenticity. Fourth, the findings reveal that both involvement and interactivity positively influence not only CE, but also customer loyalty. Previous studies have generally focussed on the role of interactivity and involvement as drivers of CE. This study enriches the literature on the drivers of customer loyalty in online peer-to-peer accommodation by showing a direct effect of interactivity and involvement on loyalty. In addition, this study contributes to filling a gap in the tourism and hospitality literature by examining the mediating role of CE (Chen et al., 2021). Specifically, CE was found to have a complementary and partial mediating effect on the relationship between authenticity, interactivity and involvement on the one side, and customer loyalty on the other side.

Managerial implications for managers in the hospitality and tourism sectors can also be derived from this research. First, by showing that CE predicts customer loyalty, this study reinforces the need to adopt TQM practices within the firm but, most importantly, with customers. In an increasingly competitive and rapidly changing environment, for hospitality services it is crucial to focus on customers (and customers’ voice) to reach business excellence. For example, managers of online hospitality platforms could improve their performance by adopting the BCPE or the EFQM model. Second, authenticity can directly increase not only CE, but also customer loyalty. Therefore, from a managerial perspective, it is crucial to identify the authentic attributes sought by customers when choosing their accommodation and to meet their expectations by designing appropriate marketing strategies and practices. In fact, tourists seek an authentic accommodation experience and want to connect with the local hosts and the local community, therefore authenticity is key element to consider in designing accommodation customer experiences. Third, the findings suggest the use of social media is particularly effective in increasing authenticity. Hence, managers of online hospitality platforms should leverage their presence and interactivity on social media to promote the authentic features of their services or use online brand communities to engage with actual and potential customers. Fourth, involvement is the primary driver of CE and customer loyalty. This result implies that involving customers on the platform and with the platform through other channels (online and offline) is of utmost importance. Fifth, the mediating role of CE suggests that to drive loyalty, online hospitality platforms should not only provide authentic experiences, but also use authenticity, involvement and interaction to engage customers and co-create experiences with them. Thus, despite this study having focussed on online engagement, it can be argued that it is also essential to build engagement outside the online context. In fact, CE could be developed through multiple touchpoints (physical, digital and phygital) and throughout different phases of the customer journey (before purchase, during the actual hospitality experience and after the experience) to boost loyalty. Finally, reward programs linked to different levels of CE and customer loyalty could also be developed by online hospitality platforms. These practical implications could help managers of hospitality platforms to develop strong and long-term relationships with their customers.
Some future research directions can be proposed based on the limitations of this study. First, this study is cross-sectional and investigates a single context (i.e. Italian tourists). Thus, the results may not be applicable to other contexts. Future research could explore the effect of cross-cultural variables in the proposed model. Second, different levels of customer experience and loyalty with Airbnb could be identified. Future studies could conduct multi-group analyses to assess potential differences between highly loyal versus first-time or repeat customers. In addition, it would be interesting to compare loyalty to an online peer-to-peer hospitality platform such as Airbnb and loyalty to hotel accommodation. Third, in relation to the method, future studies could employ a mixed-methods approach. For example, through qualitative content analysis techniques such as netnography (Brodie et al., 2011), it would be possible to analyse customers’ online activity such as comments and posts on the brand’s social media profiles in greater depth. Fourth, the current study analysed the mediating effect of CE, but no moderating variables (e.g. first-time versus repeat customers) were considered. In the future, scholars could extend the analysis by estimating and assessing conditional mediation (CoMe) models in PLS-SEM, as suggested by Cheah et al. (2021). CoMe analysis combines the mediation and moderation analyses, with the aim to “examine and test hypotheses about how mediated relationships vary as a function of context, boundaries, or individual difference” (Cheah et al., 2021, p. 43). Finally, future studies should include in the model other constructs that could play an important role in predicting CE and customer loyalty, such as perceived quality and customer experience.

References


Predicting customer loyalty to Airbnb
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