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Service-dominant logic and customer engagement based value proposition framework in peer-to-peer accommodation: A two-study approach

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Abstract

In the competitive travel accommodation market, peer-to-peer accommodation (P2PA) providers are in desperate need of a value proposition framework that will assist them in guiding the development of an 'engaged' customer base. However, currently, the P2PA literature does not provide such a framework that includes a comprehensive list of tangible and intangible values driving customer engagement (CE). Underpinned by the service-dominant (S-D) logic theory, we adopted a big data-based, two study approach to identify these values (and their composites) that drive CE in P2PA. Study 1 was conducted to identify important tangible and intangible values driving customers to engage with P2PA. This qualitative study adopted a text-mining and sentiment analysis approach which was performed on 499,160 customer reviews. The subsequent quantitative study (Study 2) used a multi-factor ANOVA analysis (i.e., Automatic Linear Modelling) to examine 19,060 listed houses using their star ratings and other available quantitative data (e.g., accommodation cost, response rate and number of rooms). Our findings present an S-D logic-based value proposition framework for enhancing CE in P2PA. This framework shows that customers consider seven tangible-intangible values (i.e., accommodation, perceived enjoyment, perceived friendliness, perceived convenience, surrounding, perceived response and trustworthiness) in creating three values (i.e., re-adopt, recommend, and refer P2PA) for P2PA-platform providers and listed-houses. Overall, by developing an S-D logic-based framework and identifying salient values in P2PA value co-creation, this research extends both the P2PA literature and S-D logic theory. We also provide insightful recommendations for P2PA providers.

1 | INTRODUCTION

Peer-to-peer accommodation (P2PA), or shared accommodation, is the temporary sharing of vacant houses, buildings or private rooms with visitors and travellers (Dogerlioglu-Demir et al., 2022; Neunhoeffer & Teubner, 2018; Sun et al., 2022). Similar to hotels, resorts and other short rental providers, P2PA is a popular choice among tourists and travellers seeking short-term travel

accommodation. Indeed, the demand for travel accommodation is continuously increasing across the globe and Thorat et al. (2019) forecasted that the size of the global travel accommodation market will grow from $632.8 billion in 2018 to $893 billion by 2026. In this expanding travel accommodation market, P2PA providers are competing with other short-term rentals to attract tourists and travellers.

Considering the significant growth of the travel accommodation market, P2PA providers directly compete with other short rentals to attract tourists and travellers, thereby emerging as substitutes for lower-end hotels (e.g., budget hotels and motels). Furthermore, recent evidence indicates that P2PA is viewed as a substitute for all types of hotels including luxury hotels (Zervas et al., 2017). For example, P2PA offers a new tier of ultra-luxurious amenities, such as private villas, personal chefs, butler services, heli-skiing, day trips on yachts, and other travel jaunts to compete with luxury hotels (Shallcross, 2018). However, given the competitive nature of the accommodation market, P2PA companies need to find viable methods of gaining a competitive advantage over hotels and other short rentals (Kumar et al., 2019). Engaging customers with a brand/company represents an efficient way to enhance the brand/company's performance (Rivera & Goasduff, 2014). For instance, Gallup (2022) reports that compared to other customers, engaged customers contribute more to companies' revenues and profits. For example, in the retail banking context, customers who are fully engaged with a bank provide 37% more revenue to the bank than its' other customers (Gallup, 2022). Engaged customers provide several benefits to companies. That is, they repeatedly purchase, provide referrals, influence others and offer valuable insights to improve the service. Since engaged customers provide several benefits to companies, CE represents an important strategy for P2PA companies to develop an engaged customer base. CE refers to customers' direct and indirect involvement and connection with a company/brand (Roy et al., 2023). Through adopting an effective CE strategy, P2PA providers can create an engaged customer base that will remain loyal to P2PA and are likely to act as knowledge sharers and assist in referring services to new users.

The extant literature on CE indicates that customers' participation in CE with a company depends on perceived benefits/values provided by the company (Kumar et al., 2019; Roy et al., 2023). Customers derive values from the physical and non-physical attributes of products or services; however, these attributes vary across industries (Haws et al., 2014; Long & Schiffman, 2000). Accordingly, the tangible and intangible values customers seek when deciding to participate in CE vary across business contexts. For example, in the case of an airline service, tangible and intangible values include seating quality, interior features of airbuses, perceived safety and reliability that travellers consider important to form an intention to re-use the airline service (Hwang & Lyu, 2018; Monoarfa et al., 2020).

Similarly, in a medical imaging center, tangible and intangible values related to imaging technology, comfortable waiting areas, insurance coverage and on-time service delivery are important for customers to re-use the center. As such and similar to other business contexts, gaining insights into tangible and intangible values customers expect when engaging with P2PA platform providers and their listed houses is essential. When tourists and travellers are satisfied with the tangible values (e.g., space, location, and amenities) and intangible values (e.g., friendliness, trustworthiness, and perceived pleasing) provided by listed houses of a P2PA platform provider, they will tend to show greater CE with the P2PA platform providers and their listed houses. Although some piecemeal works have investigated the effects of hedonic and utilitarian values on customers' satisfaction/loyalty with P2PA (Jung et al., 2024; Lin et al., 2024), comprehensive research on the tangible and intangible values customers seek while deciding to engage with P2PA remains scarce. This is concerning as limited understanding of tangible and intangible values in the P2PA context could impede P2PA companies in triggering tourists' and travellers' engagement with P2PA. That is, understanding tangible and intangible values that drive CE with P2PA will help P2PA providers suitably design their competitive marketing strategies (Anderson et al., 2023; Ashaduzzaman et al., 2023). Therefore, the objective of this research is to identify these values and the composites of these values that are important to customers in deciding to engage with P2PA. More specifically, this research aims to achieve the following objectives:

i. Proposing an service-dominant (S-D) logic-based value proposition framework for enhancing CE with service.
ii. Identifying tangible and intangible values driving CE in peer-to-peer accommodation.
iii. Identifying values P2PA-platform providers and their listed houses can realise from engaged customers.

Since this research identifies the values important to both customers and P2PA providers, a S-D Logic theory is adopted to provide a theoretical framework to underpin this research (Lin et al., 2024; Vargo & Lusch, 2016). The S-D logic theory, developed by Vargo and Lusch (2016), explains how and why different parties engage in exchange for mutual benefits/values. Since this research investigates and explains why tourists and travellers and P2PA providers transact for mutual benefits, that is, tangible and intangible values for customers and customers' favorable activities for P2PA providers, the S-D logic theory provides a suitable theoretical grounding for this research. Therefore, underpinned by the S-D logic theory, this research proposes a value proposition framework consisting of tangible and intangible values which are deemed important to tourists and travellers when they decide to engage with P2PA online platform providers and their listed houses.

Using a big data based mixed-method approach, we conducted two studies to identify tangible and intangible values customers prefer when deciding to engage with P2PA providers. Study 1 was designed to identify the important tangible and intangible values customers consider when deciding to engage with P2PA. Using a machine learning technique, text-mining and sentiment analysis were performed on a big dataset of 499,160 customer reviews related to P2PA usage experiences. Study 2 was designed to support the findings of Study 1, and utilizes a multi-factor ANOVA analysis (i.e., Automatic Linear modeling) which was conducted on 19,060 listed houses using their

star ratings and other quantitative data relating to various aspects of these listed houses, such as number of rooms, accommodation cost and response rate. Overall, Study 1 and Study 2 were designed to achieve our overarching research purpose in, "identifying tangible and intangible values customer's priorities when deciding to engage with P2PA providers."

This research contributes to both the P2PA and S-D logic literature. More specifically, this research provides a comprehensive understanding of important tangible and intangible values customers seek when they intend to engage with P2PA. Therefore, our research contributes to the P2PA literature by identifying seven tangible and intangible values and their composition that customers priorities when deciding to engage with P2PA. Further, we extend the S-D logic theory by applying it from a micro-perspective in the P2PA context that is, applied this theory to show the mutual benefits sought by parties involved (customers, P2PA platform providers and their listed houses) in value co-creation in P2PA context. We also contribute to this theory by extending the S-D logic-informed CE framework developed by Hollebeek et al. (2019), that is, suggesting an S-D logic-based value proposition framework for enhancing CE with a service. Practically, this research is useful to the P2PA industry. That is, the findings of this research provide insightful recommendations to enhance CE through the design of effective and appealing accommodation packages that match customers' expectations.

The rest of the paper is organized as follows. The next section provides the literature review and the theoretical foundations of our research. Next, methods, results, analyses and findings are presented for both Study 1 and Study 2. Then, the paper presents a general discussion and provides both academic and practical implications. The paper concludes with limitations, future research directions and salient conclusions.

2 | LITERATURE REVIEW

2.1 | Peer to peer accommodation (P2PA)

Various scholars have proposed definitions of peer-to-peer accommodation (P2PA). Acquier et al. (2017) define peer-to-peer accommodation as sharing underutilized assets and properties through digital platforms among peers through non-contractual, non-hierarchical or non-monetized forms of interaction. Ertz et al. (2019) define P2PA as the set of resource circulation schemes that enable individuals to both receive and provide, temporarily or permanently, valuable resources or services through direct interaction with other consumers or through an intermediary. In light of these definitions, it can be stated that peer-to-peer accommodation is individuals' practice of sharing their un(der)utilized assets, such as rooms, houses, or flats with others temporarily or permanently through direct or indirect interaction for a fee/other compensation (Pera & Viglia, 2016; Teubner, 2018; Zhang et al., 2024). Due to the wide acceptance and the high popularity of P2PA, several companies (e.g., Airbnb, Homestay, and Flat) facilitate P2PA services (Ashaduzzaman et al., 2023). Though companies like Airbnb also provide a platform for companies or private investors to list their houses for collaborative consumption, the focus of the current research is purely on peer-to-peer consumption.

Makaran and Monica (2018) reported that P2PA companies have an opportunity for significant growth over and above what is offered by more traditional hotels and other short rental arrangements. Such growth is dependent upon P2PA companies' innovative marketing strategies used to build an engaged customer base to support an ongoing competitive advantage over their competitors (Ashaduzzaman et al., 2023; Roy et al., 2023). The concept of CE developed by Kumar et al. (2019) could be an important marketing strategy for P2PA companies to gain a competitive advantage in the travel accommodation market.

2.2 | CE and its importance in the P2PA context

CE refers to the psychological state of customers that drives them to have frequent interactions with a brand or a company (Kumar et al., 2019; Lin et al., 2024). Consumers' interactions include transactional activities (e.g., adopting P2PA) and non-transactional activities (e.g., recommending P2PA to others, spreading a positive word of mouth, and participating in further improvement of shared accommodation facilities by providing their insightful suggestions or opinions) (Kumar et al., 2019).

CE has been recognized as an important way to enhance a brand's performance (Meyer-Waarden et al., 2023). Kumar and Pansari (2016) indicated that CE is a key success factor for brands/companies. Today, companies are focusing on practicing CE due to its several potential benefits obtained from their engaged customers, such as advocating, re-consuming, co-developing and positive word-of-mouth (WOM) (Guttentag et al., 2018). More specifically, the first benefit that companies can gain from their engaged customers is customers' advocacy which indicates that customers communicate or present a particular brand/product on behalf of its producers/sellers (Kotler, 2016; Roy et al., 2023). Since engaged customers are likely to refer or advocate their favourite brands to their loved ones, we expect that engaged customers of P2PA will advocate their favorite P2PA platform providers and listed houses to their close acquaintances, such as family members, friends and colleagues.

Another potential benefit of CE is re-consuming which means re-purchasing or re-adopting goods and/or services (Ashaduzzaman et al., 2022; Kumar & Pansari, 2016). Since engaged customers tend to repeat the purchase of an item, we expect that P2PA-engaged customers will re-adopt their favorite P2PA platforms and their listed houses. The next potential benefit of CE is co-developing which refers to customers' participation in developing and innovating goods and services (Kumar et al., 2019; Salonen et al., 2024). If customers are highly satisfied or delighted with a company's products and/or services, they are likely to participate in upgrading or renovating existing products and/or services by sharing their knowledge and consumption experience (Kumar et al., 2019; Lin et al., 2024). The final potential benefit of CE is positive word of mouth which means spreading and communicating positive consumption experiences with other

customers through social media and other channels (e.g., posting reviews on company websites) (Brodie et al., 2013; Lin et al., 2024). Overall, CE is a contributing factor to the success of P2PA platform providers and their listed houses.

Marketing scholars and practitioners highly recommend adopting CE as a marketing strategy to develop a loyal customer base (Bazi et al., 2023; Pansari & Kumar, 2017). When P2PA users are likely to readopt P2PA, refer P2PA to others, spread positive word of mouth or participate in product/service development, they are assumed to be the engaged customers of platform providers and their listed houses (Huang et al., 2024; Pansari & Kumar, 2017). Since engaged customers are satisfied customers, it indicates that their engagement with a brand/company could be driven by the brand/company's provided values/benefits. That is, customers' perception of what values they receive from a brand/company could trigger their continuous participation with the brand/company. Thus, this study aims to identify the values (i.e., tangible and intangible values) that could drive customers' engagement with P2PA. Accordingly, the next subsection explains the importance of tangible and intangible values in driving CE in the P2PA context.

2.3 | Tangible and intangible values and their relationship with CE

Tangible and intangible values of P2PA refer to the tangible and intangible benefits/facilities that customers gain from using P2PA (Jung et al., 2024; Sun et al., 2022). While tangible values mean the perceived utilities/effectiveness derived from the physical attributes (i.e., space, location and amenities) of P2PA, intangible values refer to the perceived benefits/utilities that customers gain from the non-physical attributes of P2PA, such as friendliness, trustworthiness and perceived pleasing.

Literature indicates that physical and non-physical attributes of a product/service affect customer decision to readopt the product/service (Chaney et al., 2018; Dogerlioglu-Demir et al., 2022). For example, in the case of airline service, if customers are happy/satisfied with the physical features of the airline service, such as seat quality, interior features of airbuses, luggage allowance and food, they are likely to readopt that airline for future travel. Similarly, if customers are satisfied with the non-physical attributes of the airline, such as perceived safety, reliability, and convenience, they are likely to readopt the airline for future travel. Overall, customers' perceived effectiveness/utilities of physical and non-physical attributes of a product/service can determine the likelihood of their future consumption. Accordingly, we argue that if tourists and travellers are happy with the tangible attributes (e.g., space, location and amenities) and intangible attributes (e.g., friendliness, trustworthiness and perceived pleasing) provided by listed houses of a P2PA platform provider, they will show greater CE with the P2PA platform provider and its listed houses.

In general, although some studies were conducted on: factors affecting customers' decision-making to adopt P2PA (Ashaduzzaman et al., 2023), accommodation experiences in P2PA (Mody et al., 2017), green marketing in P2PA (Huang et al., 2024), cultural activities in P2PA (Makkar et al., 2024), studies are rare that identified the tangible and intangible values driving CE in P2PA. Accordingly, this study aims to identify tangible and intangible values driving CE in P2PA. Since CE indicates that both companies and customers get value from their transactions (Roy et al., 2023; Salonen et al., 2024), we adopted the service-dominant logic theory to underpin this research.

2.4 | S-D logic theory

This research identifies the tangible and intangible values that customers prefer when deciding to engage with P2PA. Further, this research explores the important values a company can get from engaged customers. Since the research explains the engagement of tourists and travellers and P2PA providers which provides them several benefits, the S-D logic theory seems to be a suitable theoretical base in this regard.

The S-D logic theory developed by Vargo and Lusch (2016) explains how and why different parties engage in an exchange for mutual benefits/values. As such, this theory has been applied in this research to explore benefits/values for both parties involved in P2PA. The relevance of this theory has been substantially explained by showing the link of the four axioms of the S-D logic theory in this research. The first axiom of this theory states that service is a fundamental basis of exchange between parties involved in a transaction. Consistent with this axiom, in the P2PA context, service is the underlying form of exchange between customers and P2PA providers. More specifically, when P2PA providers provide better accommodation experiences to tourists and travellers, they (tourists and travellers) reuse and recommend it to others. That is, if customers gain better values related to using P2PA, such as better space, location, amenities and other tangible and intangible values, they will engage with P2PA platform providers and listed house owners by spreading positive word of mouth, recommending others to adopt P2PA and helping P2PA providers to develop new services and features.

The second axiom indicates that value is co-created between parties involved in an exchange through their active participation (Vargo & Lusch, 2016). Consistent with this axiom, in the P2PA context, customers and P2PA providers are the parties who are actively involved in co-creating values for each other through their active co-creation and co-engagement behavior. For instance, as P2PA providers are ensuring better travel accommodation in suitable locations, their customers are creating value for them by consuming and reconsuming and referring it to others.

The third axiom indicates that parties are resource integrators of their operand and operant resources (Acquier et al., 2017; Jaakkola et al., 2024). In the P2PA context, customers and P2PA providers are resource integrators and they co-create values for each other using operand resources (i.e., tangible resources) and operant resources (i.e., intangible resources) (Huang et al., 2024; Zhang et al., 2024). The final axiom indicates that rules and regulations are used to control

value co-creation (Ertz et al., 2019; Vargo & Lusch, 2016). According to this axiom, the rules and regulations of P2PA are used to guide and control the value co-creation between customers and P2PA providers (i.e., platform providers and their listed houses).

Overall, all four axioms of S-D logic theory fit with the objective of this research to explain the phenomenon of the values and the associated composites of values P2PA customers seek when deciding to engage with a P2PA. That is, the first axiom provides support for examining customers' engagement with P2PA by explaining the foundations for the exchange between P2PA providers and their customers. The second axiom provides the basis for the mutual engagement of P2PA providers and their customers. The third axiom underpins the resource integration in P2PA. The fourth axiom highlights the importance of the policies related to P2PA which help P2PA providers regulate the appropriate and responsible use of P2PA by customers.

Since engaged customers provide multiple tangible and intangible values to a business, such as contributing to viral marketing activities by providing referrals and/or recommendations, creating experience and value, CE can be used as a strategic imperative to enhance the performance of a P2PA by increasing sales and helping obtain competitive advantage (Brodie et al., 2013; Huang et al., 2024; Jaakkola et al., 2024). Thus, with the underpinning of this theory, two studies are carried out to identify tangible and intangible values customers seek when deciding to participate in CE activities in the P2PA context. These studies are explained in the subsequent sections.

3 | METHOD, ANALYSIS, AND FINDINGS

To the best of our knowledge, tangible and intangible values that customers consider important when they decide to engage with P2PA have not yet been investigated. Thus, the current understanding of tangible and intangible values remains limited in the P2PA context. Several researchers have suggested adopting a mixed methods approach to advance the literature by discovering new insights (Aaker et al., 2001; Creswell & Clark, 2017).

Mixed methods are helpful to analyse data collected from different sources to better understand a research problem (Creswell & Clark, 2017). That is, using mixed methods facilitates a better understanding of qualitative (informational) and quantitative (normative) aspects of the data, providing insights beyond what can be explained by a single method (Pavlou et al., 2007). Moreover, using a single method can raise concerns about the authenticity and reliability of a study's findings (Hall & Rist, 1999). Hence, adopting a combination of qualitative and quantitative methods could help improve the authenticity and reliability of a study's findings.

Accordingly, two studies were designed based on qualitative and quantitative datasets collected from the USA to provide a better understanding of tangible and intangible values that are important to drive CE in P2PA. More specifically, the first study was designed based on the big datasets of customer reviews where text-mining and sentiment analyses were conducted to identify tangible and intangible values customers consider when deciding to engage with P2PA. The second study was designed to confirm the findings of Study 1 by conducting an automatic linear modeling (ALM) using quantitative data, that is, star rating scores and information on various quantifiable aspects of listed houses (e.g., number of rooms, accommodation cost, and response rate). Overall, these studies (i.e., Study 1 and Study 2) were designed to support the overall research objective, that is, to identify tangible and intangible values that are considered important by customers when they decide to engage with P2PA. Further details of each study that is, research methodology, data collection, data analysis and findings, are described next.

3.1 | Study 1: Tangible and intangible values driving CE: A big database approach

Study 1 was designed to conduct text mining analysis and sentiment analysis on a big dataset of customer reviews to identify tangible and intangible values customers consider when intending to engage with P2PA. Typically, tourists and travellers post their reviews related to their consumption experience and any other issues associated with a P2PA provider (i.e., a listed house) on its websites. These reviews are useful in understanding customers' experiences and expectations of a P2PA (Brochado et al., 2017; Sparks et al., 2013). When customers write a review on their experience of using a listed house, they specifically share their satisfaction or dissatisfaction with the perceived tangible and intangible values of their service provider, that is, P2PA provider (Sparks et al., 2013; Wiles & Crawford, 2017). In reviews, customers also share their expectations of tangible and intangible values for re-adopting P2PA or recommending P2PA to others (Wiles & Crawford, 2017; Zhu et al., 2019). For example, the following review indicates a customer's experience and expectation of tangible and intangible values relating to using a P2PA.

> Fantastic large house with wonderful views! Lovely artwork throughout the house. The beds and pillows were very comfortable. There was also a great fireplace and a big secure backyard. The kitchen was highly decorated and had all the required amenities for cooking. The bathrooms were also neat and clean. We enjoyed it a lot. We would recommend this house to anyone and hope to stay again one day.

This review shows the customer's perceived tangible values (e.g., bedrooms, amenities and kitchens) and intangible values (e.g., nice views, house decoration and enjoyment). The review also shows that the customer will refer this listed house to others or re-use it. Thus, since customer reviews include information about the tangible and intangible values relating to using P2PA and the effect of these values on customer buying behavior, these reviews are useful and appropriate to explore tangible and intangible values that are important to customers for deciding their engagement with P2PA (Wiles &

Crawford, 2017; Zhu et al., 2019). Further, since reviews are user-generated information, they are trustworthy and reliable to identify these values (Zhu et al., 2019). As such, we used tourists' and travellers' reviews related to their P2PA usage experiences posted on websites of P2PA-listed houses. The process used for collecting reviews is explained in the next section.

3.1.1 | Collection of big datasets of customer reviews

According to Xiang et al. (2015), a big dataset is useful in generalizing individuals' active and complex behavior to any object thereby helping overcome the inference issue often associated with small datasets. As such, a big dataset of customer reviews is deemed suitable to generalize tangible and intangible values which are important to customers in deciding their engagement with P2PA. Thus, we collected a big dataset of customer reviews related to tourists and travellers' consumption experiences relating to the physical and non-physical attributes of P2PA. We collected customer reviews about the Airbnb platform for two reasons. Firstly, operating in more than 220 countries, Airbnb provides both long-term and short-term homestay experiences to tourists and travellers (Ashaduzzaman et al., 2023). Because of its worldwide operation, Airbnb is a widely accepted peer-to-peer accommodation provider among tourists and travellers. Secondly, Airbnb generates millions of reviews due to its million users across the World (Guttentag et al., 2018). Thus, we collected big datasets of customer reviews about Airbnb from the 'Inside Airbnb' website (Inside-Airbnb, 2022). This site is built based on the 'Inside-Airbnb' project founded by Murray Cox, a data scientist, to determine Airbnb's impact on society (Cox & Slee, 2022). Inside Airbnb is a widely accepted data source among researchers in the area of hospitality, tourism and the sharing economy (Luo & Tang, 2019). Since Airbnb is a P2PA platform provider and facilitates travelling accommodation among tourists and travellers, customer reviews of Airbnb-listed houses will be suitable and appropriate for this research.

According to Inside-Airbnb (2022), New York City in the USA is the largest P2PA hub because of the largest number of listed houses providing P2PA to tourists and travellers. For instance, in the first quarter of 2022, 37,631 new houses were listed on the Airbnb platform in New York City to facilitate P2PA (Inside-Airbnb, 2022). Thus, since New York City is the largest hub of P2PA-listed houses, we selected this city to collect customer reviews about P2PA-listed houses. Figure 1 shows the geo-location of listed houses in New York City. Listed houses include entire homes/apartments, private rooms, shared rooms and hotel rooms.

We collected all customer reviews, that is, 891,965 reviews which were written in English and other languages. Since the collected reviews were found in different forms (i.e., written in English and non-English forms), OpenRefine software (a powerful tool to work with messy data) was used to clean the non-English reviews to obtain only the English reviews.

3.1.2 | Identification and measurement of key variables

Since we aim to identify key tangible and intangible values customers expect when deciding to engage with P2PA, those values are considered independent variables whereas CE is considered a dependent variable in our S-D logic-based theoretical framework. Consistent with other studies that used customer reviews to identify independent variables (Tsao et al., 2019; Tseng et al., 2015), we used customer reviews to find key independent variables for this study. That is, tangible and intangible values are identified from reviews relating to customers' consumption experience on physical and non-physical attributes of P2PA. However, tangible and intangible values are reported after conducting text mining and sentiment analysis of customer reviews (Tseng et al., 2015).

Keeping consistent with other qualitative studies (e.g., Smith & Humphreys, 2006; Vickers & Renand, 2003), key tangible and intangible values were identified using the thematic abstraction, that is, abstracting themes and concepts by converting lexical co-occurrence information from the text format to the semantic pattern. The whole abstraction process was conducted using both an unsupervised approach (i.e., using automatically defined concepts) and a supervised approach (i.e., using user-defined concepts) (Biroscak et al., 2017). In semantic abstraction, hits are calculated to determine the number of text blocks (i.e., words) associated with a particular concept (Angus et al., 2013; Smith & Humphreys, 2006). A particular concept having the maximum number of hits becomes a theme that was used to identify an independent variable in this study (Leximancer, 2011). Thus, generated themes were considered as the tangible and intangible values important to customers for their decision to engage with P2PA.

3.1.3 | Use of Leximancer for analysis

We used Leximancer, an automated computer-driven data analysis software, to analyse our big data sets of customer reviews (Biroscak et al., 2017; Tseng et al., 2015). As a machine learning technique, this software allows an objective exploration of prominent concepts and themes using text blocks of the data (Khan et al., 2017). Researchers prolifically used Leximancer to work with qualitative and big data sets, such as online customer reviews, online community forum discussions, interviews, and journal articles (Cretchley et al., 2010; Wilk et al., 2019). As highlighted by Wilk et al. (2019), it minimizes researchers' bias in analyzing qualitative data due to its algorithm function which is based on an iterative seeding process. Using co-occurrences of words (i.e., concepts) and their frequencies within text blocks, Leximancer groups the key concepts into themes. This grouping is based on contextual similarity (i.e., concepts appearing close to each other) which is visible on a Concept Map (Cretchley et al., 2010; Lemon, 2020).

A theme is a prominent concept with a large dot, which is visible on the Concept Map. The size of themes represents the co-

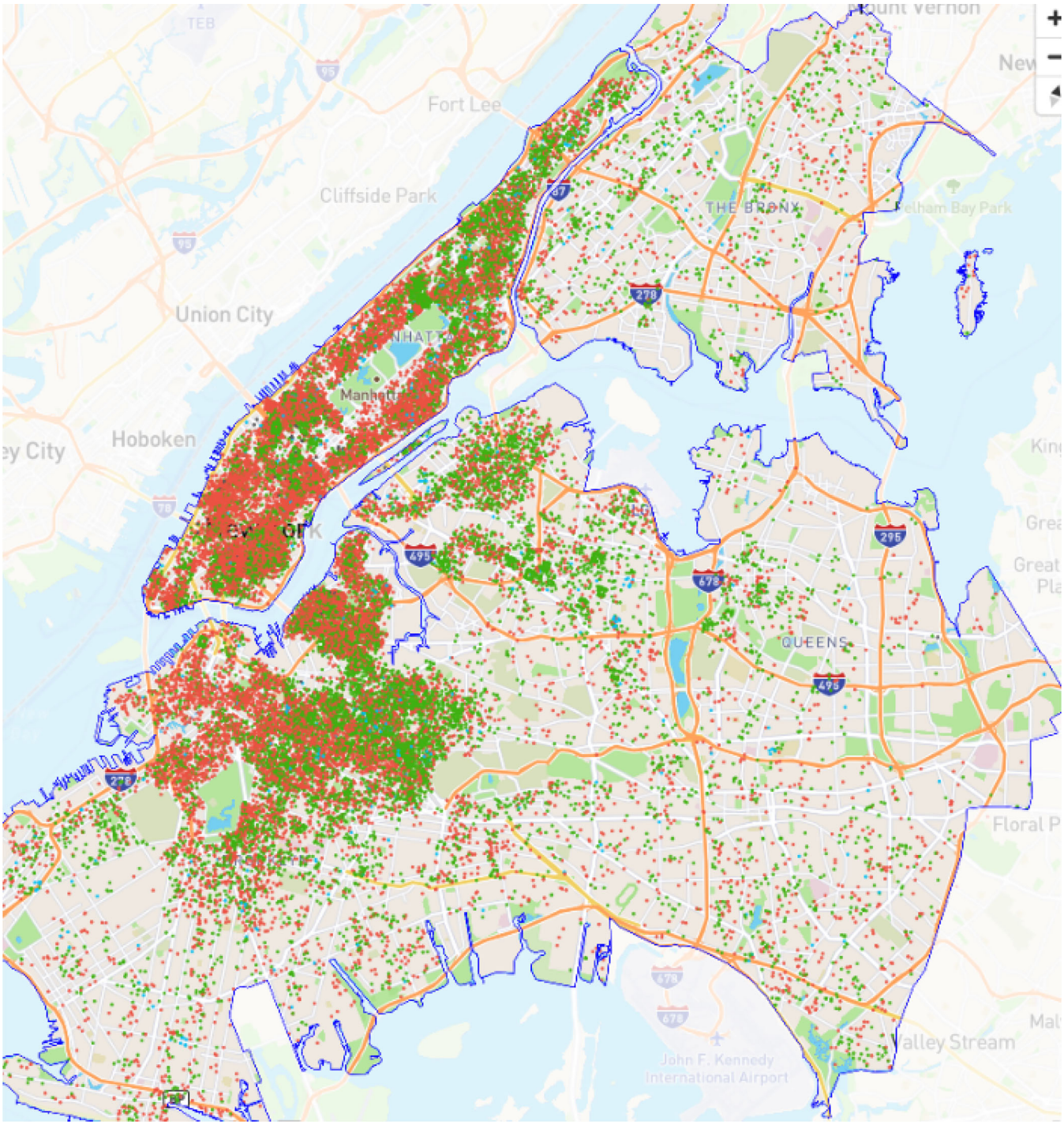

FIGURE 1 Geo-locations of listed houses in New York City. In the figure, listed houses marked with red, green, blue and white are entire house/apartment, private room, shared room and hotel room, respectively.

occurrence of concepts with other concepts, and the importance of themes is marked by the heat map ranging from hottest (i.e., red) to coolest (i.e., purple). That is, a red colour theme is the 'hottest' or the most prominent theme whereas, a purple colour theme is the 'coolest' or the least connected theme (Wilk et al., 2019; Lemon, 2020).

3.1.4 | Data analysis process

Following the data analysis process of Leximancer (Lemon, 2020), the collected reviews were analyzed in four stages. In the first stage, we performed a text mining analysis to identify the semantic and relational insights into customer reviews. According to He et al. (2013),

text mining is highly useful in extracting meaningful information from a large volume of unstructured textual data (i.e., big dataset of customer reviews). Thus, we conducted text mining analysis using unsupervised learning to automatically identify important and meaningful information (i.e., themes and concepts) about customers' P2PA consumption experiences.

In the second stage, we compared previously identified themes and concepts with existing attributes reported in the P2PA literature. This comparison helped us derive additional insights into tangible and intangible values customers consider when intending to engage with P2PA. In the third stage, if P2PA attributes were found to be insufficient to conclude tangible and intangible values, text mining was again performed but this time using supervised learning. For example, in the first round of analysis with unsupervised learning, rent did not appear to be a theme or a concept. As such, following the standard iteration range (i.e., 3–8), we conducted text mining to extract the concept of rent (Lemon, 2020). However, supervised learning searches for concepts as keywords rather than identifying concepts using the process of weighted evidence accumulation. The supervised learning reported that the connectivity score of rent is less than 3%. This indicates that in unsupervised learning, rent was not treated as equally important as other attributes when identifying the values that are important to deciding CE with P2PA (He et al., 2013).

In the fourth stage, we conducted sentiment analysis, a type of text mining, to identify customers' positive and negative sentiments towards the physical and non-physical attributes of P2PA. In this analysis, customers' sentiment is identified by extracting and analyzing their subjective information (Khan et al., 2017; Ma et al., 2018). This analysis is quite popular among researchers to understand customers' experiences of a particular product/service (He et al., 2013). Using the lexicon (i.e., a list of positive and negative sentiments and negation items) and the machine learning hybrid method of the Leximancer software, we conducted a sentiment analysis to identify important themes and concepts by measuring customers' positive and negative sentiments towards using P2PA (Khan et al., 2017; Ma et al., 2018). To provide micro-level insights into these themes, we reported several customer quotes (i.e., positive and negative quotes) in our findings and discussion. A detailed hit score of each concept/attribute is also provided in Table A1.

3.1.5 | Reliability and validity of data analysis

Following the guidelines of Lee et al. (2020), we measured the reliability and validity of our data analysis process to determine the trustworthiness of our study's findings. Reliability indicates the degree of consistency amongst coders who code based on their subjective judgment and interpretation. Identification of inter-coder consistency is important for assessing the reliability of a study that is based on textual data (Kassarjian, 1977; Riffe et al., 2019). Though the inter-coder consistency is low for studies based on manual coding, this is high for studies based on computer-aided coding because computer-aided software uses natural language settings to identify keywords and phrases from texts (Lee et al., 2020). Since this study uses Leximancer software (i.e., a computer-aided data analysis tool) to perform coding and identify relevant themes and concepts, the inter-coder consistency is higher in this study, thereby showing the reliability of our study's findings (Lacy et al., 2015).

Validity refers to the degree of accuracy in coding (i.e., developing themes and concepts). In other words, it indicates the extent to which these themes and concepts echo the actual meaning of textual data (Creswell & Clark, 2017; Kassarjian, 1977). Following the guidelines outlined by Potter and Levine-Donnerstein (1999), we assessed both face validity and construct validity. Face validity refers to the logical process of categorizing themes and concepts with a clear definition (Tsao et al., 2019), while construct validity refers to the degree to which a category (i.e., a research construct) is related to another category in a way that is consistent with a theory (Carmines & Zeller, 1979). Since this study uses a theory: S-D logic theory to support the categorization of themes and concepts and show how they are interrelated, this study has both face validity and construct validity, ultimately supporting the validity of our analysis and findings (Carmines & Zeller, 1979). Overall, this study has reliability and validity, that is, trustworthiness of analysis and findings.

3.1.6 | Findings of study 1

Characteristics of big dataset of customer reviews

We collected our big datasets of customer reviews from the Inside-Airbnb (Inside-Airbnb, 2022). Initially, we collected a total of 891,965 reviews written in English and other languages. After removing non-English reviews, we got 579,765 reviews. We further dropped 80,605 duplicate reviews and retained 499,160 reviews for analysis. The number of words in these reviews varies from 1 to 1154, and the average number of words in these reviews is 105. Moreover, in most of the reviews, the number of words ranges from 19 to 247. The collected reviews were about 37,631 listed houses that comprise 20,362 entire homes/apartments, 16,500 private rooms, 571 shared rooms and 198 hotel rooms.

Text mining analysis

Typically, in text mining analysis, connectivity scores and likelihood scores are calculated to gain a deeper understanding of customers' views and opinions. These scores are calculated by generating themes and concepts from the textual data (Cheng & Jin, 2019; Li & Wu, 2010). According to Smith and Humphreys (2006), a concept with a maximum number of hits (i.e., the number of text blocks or words) becomes a theme and all concepts collectively support the theme. For example, the theme "accommodation" had a maximum number of hits of 79,145, whereas concepts 'kitchen', 'amenities and 'bathroom' had comparatively smaller numbers of hits-38,322, 31,988 and 16,911, respectively (please see Table A1 for these number of hits). Accordingly, we considered the "accommodation" concept as a theme.

To identify important themes related to tangible and intangible values driving CE (Tsao et al., 2019), we calculated and reported connectivity scores in Table 1 which shows that in the descending order of importance, these themes are accommodation (93%), perceived enjoyment (91%), perceived friendliness (90%), perceived convenience (86%), surrounding (83%), perceived response (80%), trustworthiness (74%) and CE (56%). According to connectivity scores, 'accommodation' is the most important theme indicating that tourists and travellers give high importance to the accommodation aspect (i.e., physical attributes of listed houses, such as bedroom, bathroom, kitchen and amenities) when deciding to engage with P2PA, for example, to re-adopt, refer or recommend a P2PA. Importantly, while 'CE' has appeared as a theme, it was not considered either a tangible attribute or a non-tangible attribute. However, in line with the suggestions of Cheng and Jin (2019), 'CE' was considered as an outcome theme of the other seven themes. A concept map is developed to provide an overall scenario of all themes and their concepts in the P2PA context (see Figure 2).

To further identify the relationship between CE and other themes, we calculated likelihood scores which are reported in Table 2. Likelihood scores represent the conditional probability that a text segment in a concept also exists in another concept (Lemon, 2020). For example, Table 2 shows that in the P2PA context, satisfaction with accommodation facilities (accommodation, kitchen, amenities and bathroom) could lead to CE (recommend, re-adopt and refer). More specifically, the concept of accommodation has a likelihood score of 45% for recommend, indicating that 45% of the text segments with the term 'accommodation' contain the word 'recommend' (Ma et al., 2018; Yi, Nasukawa, Bunescu, & Niblack, 2003). In other words, there is a 45% probability that tourists and travellers give high importance to 'accommodation' when engaging in P2PA. The following quote further supports this claim:

> Fantastic large house! Lovely artwork throughout the house. The beds and pillows were very comfortable. There was also a great fireplace and a big secure backyard. We enjoyed it a lot. We would recommend this house to anyone.

Sentiment analysis

Different from the text mining analysis which helps structure a large body of unstructured texts into different concepts and themes, sentiment analysis assists in evaluating and classifying customers' views and opinions from these texts (Rambocas & Pacheco, 2018). More specifically, sentiment analysis focuses on extracting and categorizing emotions and feelings (e.g., positive and negative emotions) (Homburg & Artz., 2015; Khan et al., 2017). As such, we conducted a sentiment analysis to extract objective, measurable, and consistent information about customers' emotions in the P2PA context (Rambocas & Pacheco, 2018).

Following the suggestions of Smith and Humphreys (2006), we calculated positive and negative likelihood scores to measure customers' sentiments toward several aspects of P2PA. Our sentiment analysis showed that tourists and travellers were overwhelmingly positive about several aspects of P2PA (see Table 3). For example, the positive likelihood scores of 'accommodation', 'kitchen', 'amenities', and 'bathroom' are more than 89%, indicating that at least 89% of text segments with these aspects contain positive sentiments (concept: favorable). However, the negative likelihood scores of these aspects are less than 13%, which indicates that less than 13% of text segments with these aspects contain negative sentiments (concept: unfavorable). Therefore, we can conclude that tourists and travellers give high importance to these aspects when deciding to engage in P2PA. A sample of positive and negative quotations presented for tangible and intangible values provides an in-depth understanding of the importance given to these values while deciding to engage with P2PA.

Accommodation. In our concept map (see Figure 2), the theme 'accommodation' is represented by the red and the largest bubble which means it is the most important theme derived from our analyses. This theme is based on four concepts: accommodation, kitchen, amenities and bathroom. This theme indicates that tourists and travellers consider tangible values, such as accommodation, bathroom, kitchen and cooking amenities when deciding to engage (i.e., recommend, re-adopt and refer) with P2PA. Even though some guests provided negative comments on accommodation, it does not mean that they do not expect or engage with the accommodation factor. Such comments indicate that they were not satisfied with the accommodation facilities provided by the particular listed house(s). To conclude, both positive and negative comments indicate that customers give high importance to values relating to accommodation aspects when deciding to engage with P2PA. The following quotations support our findings.

> An amazing property!!-it was a very pleasant experience! The apartment was big, neat and clean, and all necessities were available. Look forward to staying again sometime!—Positive sentiment.

> A sudden visit to NY to attend a family celebration. I rent a tiny apartment. Although my bedroom was neat and clean, the kitchen was dirty with few amenities required for cooking. No more again!!—Negative sentiment.

TABLE 1 Themes' connectivity scores.

SL	Theme	Connectivity score
1	Accommodation	93%
2	Perceived enjoyment	91%
3	Perceived friendliness	90%
4	Perceived convenience	86%
5	Surrounding	83%
6	Perceived response	80%
7	Trustworthiness	74%
8	Customer engagement	56%

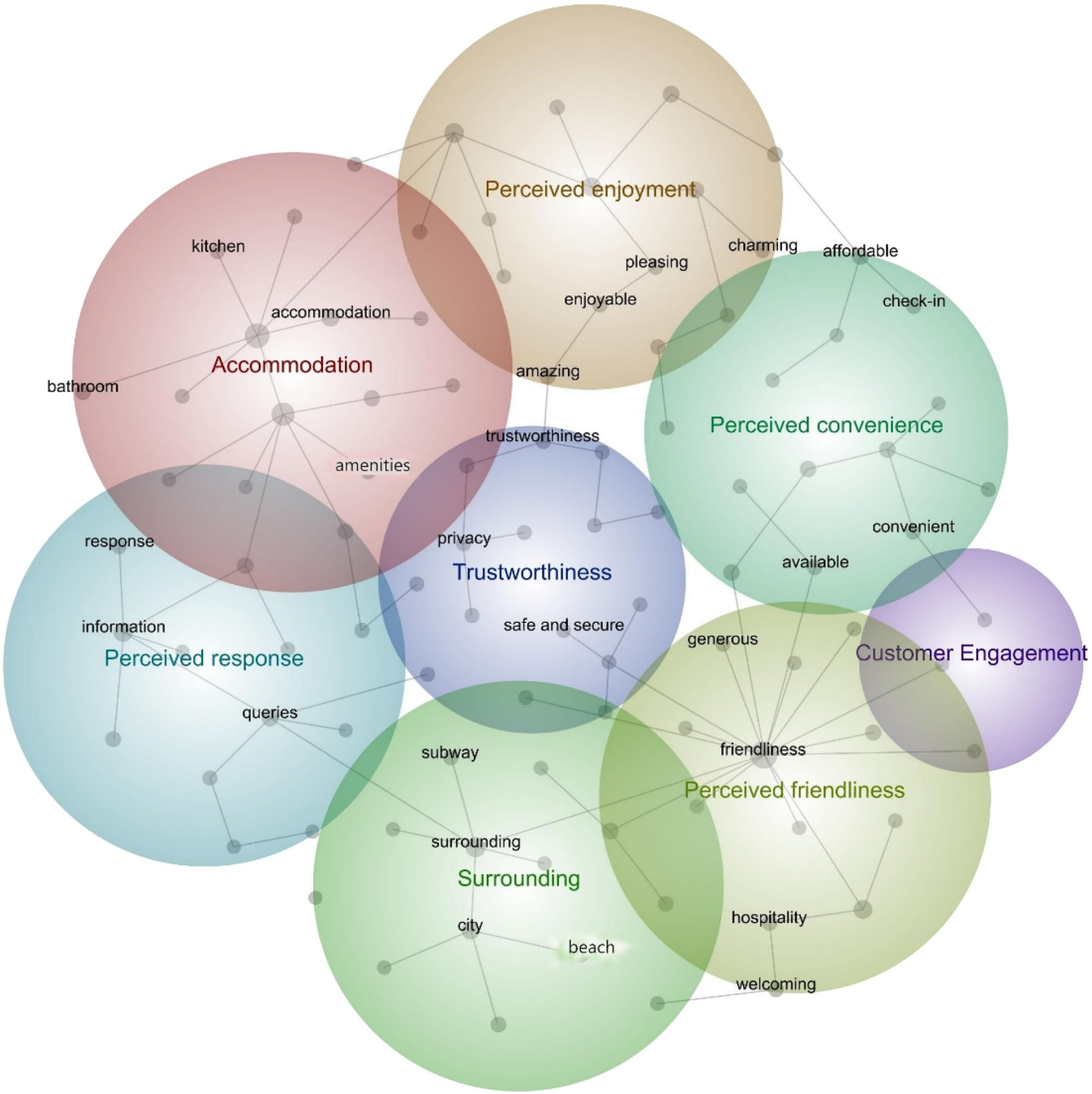

FIGURE 2 Concept map of themes and concepts relating to tangible and intangible values.

Perceived enjoyment. Our analysis shows that perceived enjoyment is the second most important theme including four concepts: amazing, enjoyable, pleasing and charming. This theme indicates that customers priorities perceived enjoyment, an intangible value when deciding to re-adopt, recommend and refer P2PA. According to this theme, perceived enjoyment is an important value that customers expect when they decide to engage with P2PA. In particular, customer reviews show that amazing, enjoyable, charming and pleasing P2PA facilities drive customers to engage with P2PA. The following quotation supports our findings.

> Heaven!!! Our stay at Sea-Lit was fantastic. The house was beautiful with an absolutely pleasant view. The house had a big garden. Our family had enough space to relax and hang out together. Overall, this house was a wonderful place for fun, enjoyment and relaxation. Recommend David's house to others.

Perceived friendliness. Our findings show that perceived friendliness is another important theme that includes four concepts, that is, welcoming, generous, friendliness and hospitality. Perceived friendliness is an

TABLE 2 Individual concept' likelihood score (%) to customer engagement (recommend, re-adopt, and refer).

	Customer engagement		
Concepts	**Recommend**	**Re-adopt**	**Refer**
Accommodation	45%	15%	20%
Kitchen	36%	14%	15%
Amenities	33%	14%	15%
Bathroom	32%	12%	14%
Pleasing	31%	12%	13%
Amazing	31%	12%	11%
Enjoyable	31%	12%	10%
Charming	31%	12%	9%
Friendliness	30%	11%	9%
Hospitality	30%	11%	8%
Welcoming	30%	11%	8%
Generous	29%	11%	7%
Convenient	28%	11%	7%
Available	28%	11%	7%
Check-In	27%	11%	7%
Affordable	26%	11%	7%
Surrounding	25%	11%	7%
City	25%	11%	7%
Beach	24%	10%	6%
Subway	23%	10%	6%
Response	22%	10%	6%
Information	22%	10%	6%
Queries	22%	10%	6%
Trustworthiness	22%	10%	6%
Safe and secure	21%	10%	6%
Privacy	21%	10%	6%

TABLE 3 Likelihood scores of sentiment analysis.

Positive		Negative	
Concept	**Likelihood**	**Concept**	**Likelihood**
Accommodation	93%	Accommodation	12%
Kitchen	92%	Kitchen	12%
Amenities	90%	Amenities	12%
Bathroom	90%	Bathroom	12%
Pleasing	90%	Pleasing	12%
Amazing	89%	Amazing	12%
Enjoyable	88%	Enjoyable	12%
Charming	87%	Charming	12%
Friendliness	86%	Friendliness	12%
Hospitality	85%	Hospitality	12%
Welcoming	83%	Welcoming	12%
Generous	83%	Generous	12%
Convenient	80%	Convenient	12%
Available	80%	Available	12%
Check-In	78%	Check-In	12%
Affordable	76%	Affordable	10%
Surrounding	74%	Surrounding	10%
City	74%	City	10%
Beach	73%	Beach	10%
Subway	73%	Subway	10%
Response	72%	Response	10%
Information	71%	Information	10%
Queries	71%	Queries	10%
Trustworthiness	71%	Trustworthiness	10%
Safe and secure	71%	Safe and secure	10%
Privacy	71%	Privacy	10%

intangible value that customers consider when deciding to engage with P2PA. That is, customers consider host behaviors, such as welcoming, hospitality, generosity and friendliness when deciding to engage with P2PA. Both positive and negative comments support the importance of this value, which is evident in the following quotations.

> Garón is a very welcoming, friendly and helpful host!! We got a good hospitality. There were chocolate and fresh flowers for welcoming us in the house!—Positive sentiment.

> I was really upset! For me, this is the first bad one. I felt so bad for unhelpful and unfriendly behavior!!—Negative sentiment.

Perceived convenience. Our analysis shows that perceived convenience is another important theme which is based on four concepts: available, convenient, check-in and affordable. This theme means customers give high importance to the intangible value of perceived convenience when they decide to engage with P2PA. More specifically, in terms of convenience, guests expect availability, convenience, flexible check-in and affordable rent when they intend to engage with P2PA. The following quotation supports our findings.

> So convenient!! We booked our room just 2 days before our stay. It is very close to shops and subways. Rent was relatively low and affordable compared to hotel accommodation providers. I would come back again and refer it to my friends!!

Surrounding. Another important theme derived from our analysis is 'surrounding' and this theme is based on four concepts: city, surrounding, beach and subway. These findings indicate that values related to the surrounding environment are important and influential in tourists' and travellers' decisions to engage with P2PA. A few negative comments were observed about this tangible value, but they indicate that customers are not happy with the surrounding environment

of that particular P2PA facility though they expected and valued such a surrounding environment. For example, some customers commented that the nearby beach is dirty and crowded which indicates their dissatisfaction with the surrounding (i.e., beach) of that P2PA facility. Overall, positive and negative comments indicate that tourists and travellers give high importance to values relating to the surrounding environment when they consider engaging with P2PA providers, such as re-using a particular listed house, referring it or recommending it to others. The following quotation supports our findings.

> Good Surrounding! We enjoyed our stay in Shun's place. We visited Central Park, Broadway and Times Square. We also visited the nearby beach. Overall, we enjoyed our stay. Surely recommend.

Perceived response. We also found 'perceived response' as an important theme that includes three concepts: response, information and queries. According to this theme, customers give high importance to the intangible value of perceived response when they decide to engage with P2PA. More specifically, if customers are satisfied with the information given about P2PA and the host's responses to their queries, they may decide to engage with P2PA. Thus, our findings indicate that perceived response is an important value to tourists and travellers when they decide to re-use, refer or recommend a listed house. The following quotation supports our findings.

> Alina was responsive to any query, a great communicator in all senses. We found everything correct according to the pictures and information uploaded to the website. Come back and recommend.

Trustworthiness. The last theme we found is 'trustworthiness' which is based on three concepts: trustworthiness, safe and secure, and privacy. This theme indicates that customers give importance to perceived trustworthiness, that is, if customers can ensure their safety, security and privacy in a P2PA facility, they believe that they have gained better values from using that P2PA facility, and consequently decide to re-adopt, recommend and refer P2PA. Thus, trustworthiness is an important value to customers in their decision to engage with P2PA. The following quotation supports our findings.

> Edward is a trustworthy host. He provided me with the key password for the safety compartment. I am also happy for the safety and the privacy I got in his house. I highly recommend this house for those who need more safety and privacy when staying. Come back soon.

Thus, based on the findings of Study 1, we developed an S-D logic-based value proposition framework for CE to show values sought by different parties involved in value co-creation in P2PA (see Figure 3).

3.2 | Study 2: Automatic linear modeling to support the findings of study 1

Study 2 was conducted using a different data analysis tool and a different dataset to obtain insights into the tangible and intangible values driving CE in P2PA and support the findings of Study 1. That is, we conducted automatic linear modeling (ALM) on a big dataset of star ratings and other quantitative data (e.g., number of rooms, accommodation cost, and response rate) to know more about customers' P2PA usage experiences. ALM is a useful data analysis tool for identifying potential predictors of a dependent variable (s) in a large database (Oshima & Dell-Ross, 2016; Yang, 2013). For its automatic mechanism, ALM can be used to analyse both categorical and continuous data (Yang, 2013). As such, we used ALM to analyse star ratings and other quantitative data to obtain further insights into tangible and intangible values that can support the findings of Study 1.

3.2.1 | Data collection and data preparation

We collected a big dataset from a P2PA website 'Inside Airbnb' (Inside-Airbnb, 2022). The dataset comprised of star ratings and other quantitative data related to customers' P2PA usage experiences and their opinions on P2PA service features provided by listed house owners (Inside-Airbnb, 2022). Initially, we selected 22,135 listed houses for data collection. However, after removing inaccurate and

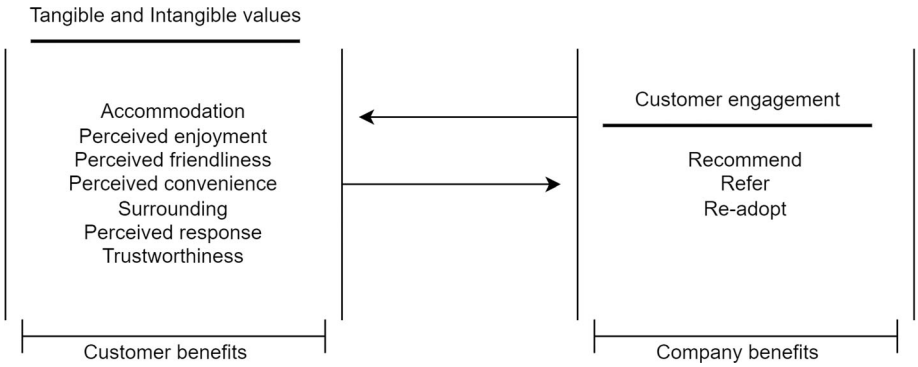

FIGURE 3 S-D logic-based customer engagement framework.

corrupted data, the usable data were taken from 19,060 listed houses. Before moving to data analysis, we determined the data quality in two steps. In the first step, we identified the presence of outliers (George, 2011; Miller, 2002). The values of variables lying beyond a cut-off value (i.e., three standard deviations from the mean) are considered outliers. Outliers individually or collectively can influence the model fit or the model's predictability (Yang, 2013). Thus, using Cook's (1986) Distance value, we identified and omitted four outliers (i.e., four listed houses having values beyond the cut-off value—case7085, case14231, case16613, and case18995) (see Figure 4). Finally, after removing all the outliers, we selected 19,056 listed houses and performed ALM based on their information.

In the second step, we found a few missing values in some variables. We handled these missing values using the automatic data preparation platform of ALM (Kutner et al., 2004). This platform replaces a missing value of a categorical variable by calculating a mode value using the nearby values of the missing value. However, for a continuous variable, it replaces a missing value by calculating a mean value using the nearby values of the missing value (George, 2011).

3.2.2 | Selecting tangible and intangible values using ALM

Before carrying out ALM, we entered the big dataset (i.e., star ratings and other quantitative data) in the SPSS software. We used the stepwise method in ALM using a linear regression model (i.e., Equation 1) to identify the potential tangible and intangible values that are important for customers to decide their engagement with P2PA (Kutner et al., 2004).

$$Y_i = \beta 0 + \beta 1X1i + \beta 2X2i + \text{-----} + \beta nXni + ei \quad (1)$$

where, $\mathcal{Y}_i$ = Customer engagement; $\mathcal{X}_{ii}$ = Tangible and intangible values; β_r = Intercept; β_i = Coefficient; $_i$ = Error terms which are not directly observed in data.

In the stepwise approach, only a single variable is entered or removed when controlling other variables that are already in the model. Three optimality statistics were considered for the model fit and the model predictability: AICC (Akaike's information criterion corrected), adjusted R-square, and F-statistics (Yang, 2013).

To confirm that the study's findings are reliable and valid, we derived a P–P (probability to probability) plot of residuals (see Figure 5) (Kutner et al., 2004; Yang, 2013). A residual shows the difference between the observed value and the predicted value (i.e., e = y−ŷ) (George, 2011). A residual plot is derived to identify whether or not a linear regression model fits a particular dataset to explain the relationship between independent variables and a dependent variable (George, 2011; Yang, 2013). If a plot shows a normal distribution of the residuals, then a regression model is considered a better fit for data to explain the relationship between the variables (Yang, 2013). Thus, residuals are expected to be normally distributed if residuals lie across the diagonal line of the residual distribution (George, 2011; Yang, 2013).

Our findings show that the observed cumulative probabilities of residuals are almost close to the diagonal line, indicating that residuals are normally distributed. Accordingly, the estimated model is considered a better fit for the selected data to explain the relationship between tangible and intangible values and CE in the P2PA context.

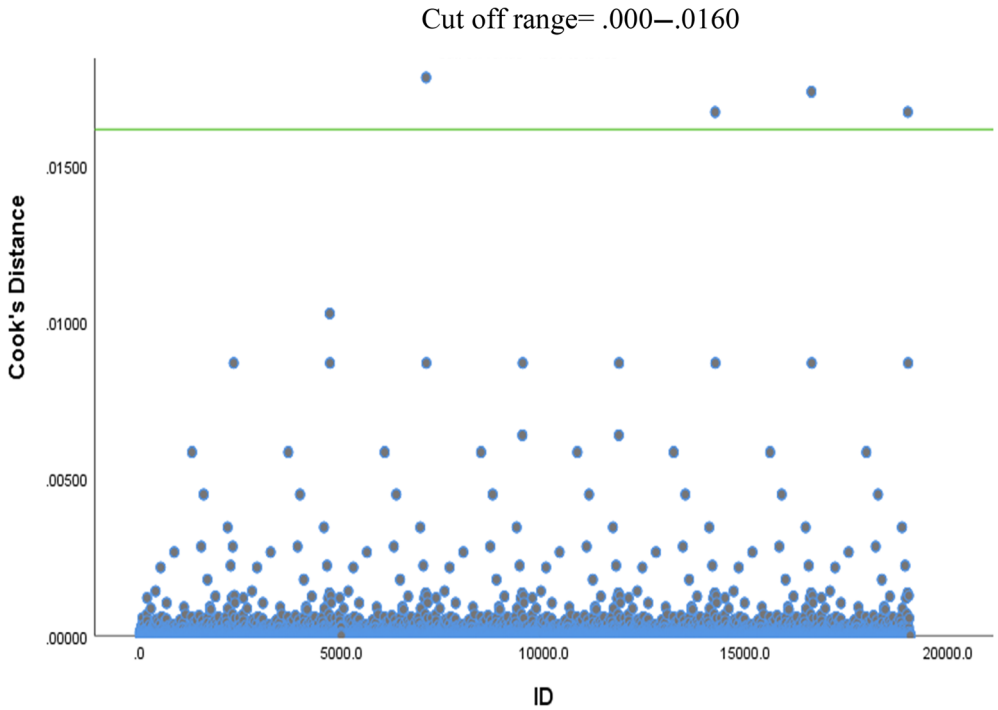

FIGURE 4 Identification of outliers.

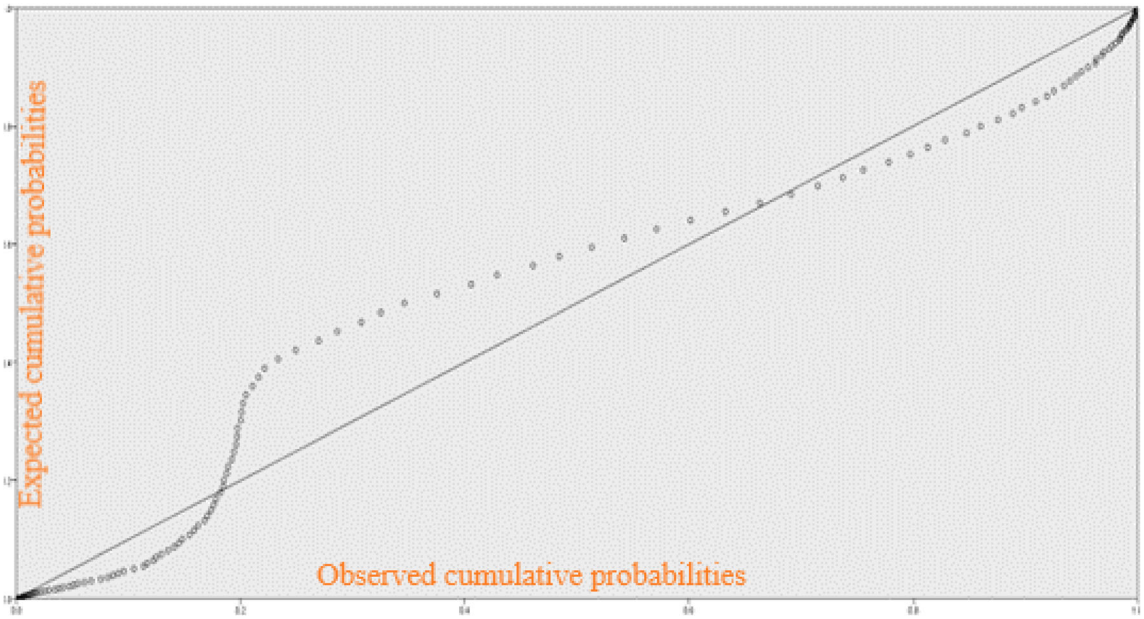

FIGURE 5 P–P (probability to probability) residual plot. This plot compares the distribution of the residuals to a normal distribution. The diagonal line represents the normal distribution. The closer the observed cumulative probabilities of the residuals are to the diagonal line, the closer the distribution of the residuals is to the normal distribution.

3.2.3 | Data analysis and findings

Based on the star ratings and other quantitative data related to customers' P2PA usage experiences, initially, we found a total of 21 tangible and intangible values driving CE in P2PA. However, to identify the important and significant values, following the guidelines of Yang (2013), we decided on a suitable model using the forward model selection method of ALM. The model indicates that customers give more importance to 10 tangible and intangible values. The model is as follows.

$$\begin{aligned}\text{CE}\hat{} = {} & \hat{\beta}_0 + \hat{\beta}_1 \text{ overall rating} + \hat{\beta}_2 \text{ price} + \hat{\beta}_3 \text{ response} + \hat{\beta}_4 \text{ surrounding} \\ & + \hat{\beta}_5 \text{ apartment} + \hat{\beta}_6 \text{ pleasant} + \hat{\beta}_7 \text{ convenience} + \hat{\beta}_8 \text{ trustworthy} \\ & + \hat{\beta}_9 \text{ welcoming} + \hat{\beta}_{10} \text{ accuracy}.\end{aligned}$$

We calculated fit indices and the predictability of the model and found that the AICC value is −36,793.14 which is below the cut-off value of 2. According to Lukacs (2010), AICC values less than 2 indicates a good model fit. The F-value of the model is highly significant: 580.578***, which further indicates a good acceptability of the model. Finally, the adjusted R^2 value of the model is 52.70% indicating that the model has good predictability in explaining the relationship between the tangible and intangible values and CE.

The model indicates that tourists and travellers consider 10 tangible and intangible values when they decide to engage with P2PA: overall rating, price, response, surroundings, apartment, pleasant, convenient, trustworthy, welcoming and accuracy. However, to identify the significant effect of these values on CE in P2PA, we conducted a multi-factor ANOVA analysis and reported the findings in Table 4. Table 4 shows that intangible and tangible values, such as overall rating ($\beta_1 = .545^{***}$), price ($\beta_2 = -.379^{***}$), response ($\beta_3 = .254^{***}$), surrounding ($\beta_4 = .223^{***}$), apartment ($\beta_5 = .211^{***}$), pleasant ($\beta_6 = .187^{***}$), convenient ($\beta_7 = .158^{***}$), trustworthy ($\beta_8 = .121^{***}$), welcoming ($\beta_9 = .231^{***}$), and accuracy ($\beta_{10} = .112^{***}$) are significantly related to CE in P2PA. Our results show that overall rating is the most important aspect of customers' engagement behavior in P2PA. Our findings also show that only price is negatively associated with CE, while all other values are positively associated with CE.

TABLE 4 Results of multi-factor ANOVA.

SL	Composites	β	F	Sig.	Importance
1	Overall rating	.545	1505.028	.000	0.369
2	Price	−.379	766.128	.000	0.188
3	Response	.254	745.24	.000	0.183
4	Surrounding	.223	349.062	.000	0.086
5	Apartment	.211	332.688	.000	0.082
6	Pleasant	.187	164.138	.000	0.04
7	Convenient	.158	80.35	.000	0.02
8	Trustworthy	.121	37.862	.000	0.006
9	Welcoming	.231	26.192	.000	0.006
10	Accuracy	.112	23.701	.000	0.006

The findings of this study are consistent with those derived from Study 1 thereby validating tangible and intangible aspects that customers consider when they intend to engage with P2PA. The findings of Study 2 are similar to those of Study 1 except for some minor differences in the wording, such as response, surrounding, apartment, pleasant, convenient, trustworthy, and welcoming. Thus, the findings

of Study 2 support those of Study 1 showing that customers consider seven tangible and intangible values, that is, accommodation (apartment in Study 2), perceived enjoyment (pleasant in Study 2), perceived friendliness (welcoming in Study 2), perceived convenience (convenient in Study 2), surrounding (surrounding in Study 2), perceived response (response in Study 2) and trustworthiness (trustworthy in Study 2).

However, Study 2 showed that customers consider three more aspects-overall rating, price and accuracy when deciding to engage with P2PA. However, these additional aspects are more or less covered by the concepts and themes identified by Study 1. For example, price is an aspect identified by Study 2 which is similar to the concept 'affordable' under the theme 'perceived convenience' identified by Study 1. Similarly, 'accuracy' is an aspect emerging in Study 2, and it is similar to the concept 'information' in the theme 'perceived response' identified by Study 1. Finally, although we identified 'overall rating' as an aspect in Study 2, it is related to all the seven themes identified by Study 1 because the overall rating of a P2PA depends on the individual scores against each of these themes, such as accommodation, perceived enjoyment, perceived friendliness and perceived convenience. Overall, based on both studies, it can be suggested that seven tangible and intangible values are considered important when customers decide to engage with a P2PA.

4 | GENERAL DISCUSSION AND IMPLICATIONS

4.1 | General discussion

The research identified that tourists and travellers give more importance to seven tangible and intangible values when they decide to engage with P2PA. Although in general, some studies identified customer behavior, such as booking intention, booking, and customer loyalty (Lalicic & Weismayer, 2017; Małecka et al., 2023). However, our research significantly enriched the P2PA literature by identifying tangible and intangible values driving customer post-purchase behavior: readopting, recommending and referring P2PA to others. Identified tangible and intangible values are accommodation, perceived enjoyment, perceived friendliness, perceived convenience, surroundings, perceived response and trustworthiness.

Regarding the accommodation value, although a few survey studies showed that the accommodation factor is important in customers' satisfaction and loyalty to P2PA (Guttentag et al., 2018; Lalicic & Weismayer, 2017), our big data-based research identified several elements of the accommodation factor and also their impact on CE. That is, this study provides an in-depth understanding of the 'accommodation' factor in tourists' and travellers' decision-making to use P2PA; that is, what they really expect under accommodation. Interestingly, this research shows customers' importance on some specific aspects of P2PA accommodation, such as accommodation conditions, kitchen, amenities and bathrooms of listed houses when deciding to engage with P2PA. Customers' importance could be as they are the fundamental facilities expected when using P2PA. Thus, according to our S-D logic framework, if P2PA users get values relating to the accommodation aspect (i.e., accommodation condition, kitchen, amenities and bathrooms of listed houses), they will generate values (i.e., re-use, recommend and refer P2PA) for accommodation providers.

Our findings also indicate that customers give importance to the values relating to several aspects of perceived enjoyment, such as pleasing, amazing, enjoyable and charming. Although a few studies recommended that P2PA companies provide hedonic benefits/emotional values to P2PA users (Jung et al., 2024; Tussyadiah & Pesonen, 2018), our research provided a detailed understanding of customer expectations about the hedonic aspects. More specifically, our research shows that listed house owners should provide pleasing, amazing, enjoyable and charming P2PA to their guests. This is because customers expect that not only does an accommodation provide the required facilities and amenities, but it is also pleasing and enjoyable and surrounded by amazing and charming views.

Regarding perceived friendliness, we found that host behavior, such as friendliness, hospitality, welcoming and generosity affected customers' intention to engage with P2PA. While a few studies mentioned that hosts should be friendly or welcoming to P2PA users (Etemad-Sajadi & Ghachem, 2015), extending the literature, this research identified several characteristics, such as friendliness, hospitality, welcoming and generous which hosts should show to their guests to drive them to engage with P2PA. This research also identified the importance of perceived convenience value in customers' decision-making to engage with P2PA. More specifically, customers prefer that P2PA should be conveniently located, available to book, flexible in the check-in process and affordable if they want to engage with P2PA.

Another important tangible value customers consider when deciding to engage with P2PA is the surroundings of P2PA. Compared to literature that vaguely mentioned that there should be good surroundings around a listed house (Han et al., 2018), we specifically indicated several elements of the surroundings including the city, beach and subway that are important to customers when they intend to engage with P2PA. Furthermore, our study indicates that when customers a city or beach, they consider the eco-friendly aspects of this city/beach. For example, customers indicated that they seek a park, footpath along the road, and kids' playground when they book a list house in a city.

We also found that perceived response is an important value that customers consider when deciding to engage with P2PA. A possible reason is that satisfactory responses to their queries and sufficient information about any issues associated with P2PA help customers make an informed decision about their engagement with P2PA. More specifically, they will have queries about the nearby city, available transport, extra facilities (e.g., bed, kitchen and recreation), booking process, cancellation policy and check-in process, and will expect detailed information for these queries to decide to adopt P2PA and engage with P2PA. The final value that we identified is trustworthiness. In the extant literature, some researchers suggest that P2PA

should provide safety, while some other studies have highlighted the importance of ensuring privacy in customers' decision-making to adopt P2PA (Etemad-Sajadi & Ghachem, 2015). We have identified that all those facilities, such as safety, privacy and trustworthiness should be ensured to P2PA users to engage them with P2PA.

4.2 | Theoretical implications

Our research has several theoretical implications. First, this research contributes to the P2PA literature by showing seven tangible and intangible values customers seek when deciding to engage in P2PA. Values customers derive from physical and non-physical attributes vary across products, services, and/or industries (Haws et al., 2014; Long & Schiffman, 2000). For example, these values are different across airline services, banking services, or shopping centres (Long & Schiffman, 2000). Gaining insights into these values is essential and important for academics and practitioners to better understand customer behavior in various business contexts (Kim & Yoon, 2024). As such, identifying these values is important in the P2PA context. Although some piecemeal works are available in the P2PA literature, that is, the effect of hedonic and utilitarian values on customers' satisfaction and loyalty in P2PA (Stollery & Jun, 2017), comprehensive research on tangible and intangible values customers seek when deciding to engage in P2PA is scarce. We fill this gap by identifying these values. In addition to identifying these values, we have demonstrated the composites of these values. That is, we have shown what customers expect in terms of each of these values (Bagherzadeh et al., 2020). Thus, this research contributes to the P2PA literature by identifying seven tangible and intangible values driving CE in P2PA: accommodation, perceived enjoyment, perceived friendliness, perceived convenience, surrounding, perceived response and trustworthiness, and by demonstrating their composition.

Secondly, extending a theory to a particular context is considered an application of the theory from the micro-perspective, which is usually considered a contribution to the theory (Jebarajakirthy et al., 2024). Accordingly, we claim that we have contributed to the S-D logic theory by extending its application to the P2PA context. The P2PA business model is different from the traditional business model because, in P2PA, three parties are involved in value co-creation where the first party provides a platform (e.g., Airbnb company), the second party is listed houses under a platform (e.g., Airbnb's listed houses) and the third party is P2PA users, whereas, in the traditional model only two parties are involved: buyer and seller. Accordingly, the value co-creation process varies between the P2PA context and other business contexts (Ashaduzzaman et al., 2023; Sheth et al., 1991). Thus, using the S-D logic theory, we have identified values co-created by the parties involved in P2PA. We showed that customers create three values (i.e., re-adopt, recommend and refer) for P2PA platform providers and their listed houses, while platform providers and their listed houses create seven values (i.e., accommodation, perceived enjoyment, perceived friendliness, perceived convenience, surrounding, perceived response and trustworthiness) for customers. Thus, applying the S-D logic theory to the P2PA context to identify values co-created by the involved parties is an application of the theory from the micro-perspective and hence, our application of this theory to the P2PA context is a contribution to the theory.

Finally, our research suggested an S-D logic-based value proposition framework for enhancing CE with a service. This is another contribution to the S-D logic theory. Hollebeek et al. (2019) proposed an S-D logic-based framework to explain CE, however, they did not consider value propositions as part of their framework. We expanded their S-D logic-based CE process by demonstrating important values customers consider when engaging with a service. Value proposition means designing a list of values/benefits for the target customers of a brand/company (Rather et al., 2022). Values customers seek vary depending on the type of products/services and desired customer responses, such as actual purchase and post-purchase engagement. For example, the values customers seek from a service to decide their consumption or use of the service might be different from those they expect from the service to decide their post-use engagement with the service (Ashaduzzaman et al., 2021; Shankar et al., 2020; Thaichon, 2017). Hollebeek et al. (2019) proposed an S-D logic-informed framework to explain the CE process and its benefits. However, our research extended the S-D logic-informed CE framework and developed a value proposition framework of S-D logic-informed CE (Figure 3) where we showed tangible and intangible values that are deemed important by customers when deciding to engage with a service. As such, we have contributed to the S-D logic theory by modifying the S-D logic-informed CE framework of Hollebeek et al. (2019) to develop the S-D logic-based value proposition framework for CE.

4.3 | Managerial implications

Study 1 and Study 2 showed which values customers expect when they decide to engage with a P2PA and what they expect under each of these value propositions. Our recommendations guide them on what they need to do to increase tourists and travellers' engagement with P2PA. We found that customers give the most importance to accommodation in their decision-making in the P2PA context (Ashaduzzaman et al., 2023). Hence, we recommend that P2PA companies ensure the neatness and cleanliness of the listed houses and provide well-decorated apartments to customers. We further recommend that P2PA providers update the kitchen, amenities and bathrooms and if required, they can consult with companies specialized in designing and developing modern houses (Lalicic & Weismayer, 2017).

Enjoyment and friendliness are also found to be the important values in the P2PA context, thus, P2PA companies can gain greater CE by ensuring those values (Abid et al., 2022; Stollery & Jun, 2017). To provide more pleasant experiences, indoor games, billiards, home theatres and barbie-que facilities can be added to the P2PA package. P2PA companies can also design policies to recruit listed houses that are close to amazing and charming views, such as parks, gardens and

bird sanctuaries thereby enabling customers to enjoy the beauty of nature. To enhance the friendly behavior of house owners facilitating shared accommodation, P2PA companies can train them to be more friendly, hospitable, welcoming and generous with guests (Etemad-Sajadi & Ghachem, 2015).

We found perceived convenience as another important value; thus, we recommend that P2PA platform providers and listed houses consider the convenience aspect when designing and promoting their shared accommodation. Whenever possible, listed houses should be conveniently located to ensure easy access for customers. Further, since customers' uses of P2PA are continuously increasing, P2PA companies can hire and list more houses to ensure a wider availability of P2PA. Moreover, we recommend that P2PA companies and house owners provide some flexibility to customers in check-in and check-out times in exceptional circumstances. We also found that guests value affordability under convenience and thus a holistic approach can be used to set a suitable price for the right customers (i.e., setting the price of an accommodation based on the combination of accommodation facilities, its location and other facilities required by guests) thereby enhancing the affordability of P2PA (Brochado et al., 2017).

Our S-D logic framework also indicates the importance of the surrounding environment of P2PA. Accordingly, it is recommended that P2PA providers hire listed houses with surrounding environments where tourists and travellers can hang out for refreshment and relaxation. Such surroundings might include a beach, lake, dam or mountain valley. It is also recommended that listed houses be located in places/areas where subways, railways or tram stations are easily available so that customers can visit nearby cities, surroundings or other adjacent places. In addition to making P2PA available in such surrounding environments, we suggest P2PA providers communicate via their websites that customers can visit surrounding places and gain refreshment and relaxation if they stay in their listed houses.

The findings also suggest that customers give importance to perceived response when deciding to engage with P2PA. Thus, P2PA users must receive a quick response to their queries. To ensure customers get a faster response, P2PA providers might set up a live chat on their website that can facilitate faster and direct communication between customers and P2PA providers. P2PA providers can also use other channels for rapid communication, such as emails or mobile phones. Moreover, we see that 'information' is an important element under the value 'perceived response'. Accordingly, we recommend that P2PA providers provide all required and relevant information relating to accommodation costs, check-in and check-out and benefits and facilities provided on their websites and other mediums, such as their Facebook page and Instagram. If possible, information about accommodation location, nearby attractive views and essential amenities can be provided to help customers make an informed decision.

Finally, we recommend that P2PA providers build trustworthiness among their guests so that they become highly motivated to engage with a P2PA. If P2PA users feel that they have adequate privacy, security and safety when staying at a P2PA, they will re-use, recommend or refer P2PA to others. Accordingly, it is suggested that P2PA providers ensure the safety and privacy of their customers. If there is any concern to guests about their safety and security, listed house owners should react to it seriously and solve it promptly (Jiang et al., 2013). Wherever possible, they should install safety gates or safety doors in their houses, especially in houses located in areas that are vulnerable to crime. They should also have a required number of fire extinguishers and fire alarms in their houses. We also suggest that P2PA providers ensure the privacy and confidentiality of the information provided by customers when they book a P2PA: name, email address, mobile number, credit card details and support queries.

5 | CONCLUSIONS, LIMITATIONS, AND FUTURE RESEARCH DIRECTIONS

Using different research methods and different datasets, we identified tangible and intangible values that are important to customers when they intend to engage with P2PA. However, our research has some limitations that future researchers may attempt to resolve. First, Study 1 considered reviews written only in the English language. However, considering reviews written in other languages may provide more insights into tangible and intangible values and their composites that are important to drive CE behavior. Further, our findings are based on big data (i.e., customer reviews, star rating scores, and information on various aspects of listed houses) collected from a single country (i.e., USA) which may limit the generalizability of the findings across the globe. Using a big data from multiple countries might enable a better generalization of the findings across countries.

Our research suggests multiple directions for future research beyond those prompted by the limitations. First, several survey-based studies can be carried out based on tangible and intangible values identified by our study. For example, future research can investigate how these values are associated with each other to drive CE in P2PA, how these values drive other customer responses, such as customer loyalty, and what factors moderate or mediate the effects of these values on CE or other customer responses. Conceptual models can be developed and tested to derive answers to these questions. The findings of our research provide a stepping stone to identifying the constructs, proposing hypotheses and developing a measurement instrument (i.e., to develop survey items) for such survey-based studies.

Second, we suggest future studies can replicate our big data-based two-study approach to identify tangible and intangible values that customers consider important when deciding to engage with other products or services where big data (e.g., customer reviews) are available on those products or services. Finally, future researchers can replicate the same research using the big datasets in the post-COVID era which will enable them to identify whether COVID has changed customers' value propositions sought for CE with P2PA.

To conclude, in a competitive travel accommodation market, tangible and intangible values that are important to customers for their decision-making to engage with P2PA need to be comprehensively examined. However, there is still very little understanding of these values and their composites. Underpinned by the S-D logic theory,

using a big data based two-study approach, this research identified tangible and intangible values that are important to customers when they decide to engage with P2PA. Thus, by suggesting an S-D logic-based value proposition framework to enhance CE with P2PA, this research contributes to the P2PA and S-D logic literature. Considering the limitations of this research, we suggest that survey-based research or experimental research can be conducted to know the CE process in P2PA. Further research can also be undertaken to shed more light on tangible and intangible values equally important in P2PA and other rental accommodations.

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DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

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APPENDIX A

TABLE A1 Details of hit scores of each concept.

Theme	Concept	Hits
Accommodation	Accommodation	79,145
	Kitchen	38,322
	Amenities	31,988
	Bathroom	16,911
Perceived enjoyment	Pleasing	72,345
	Amazing	56,124
	Enjoyable	43,112
	Charming	29,811
Perceived friendliness	Friendliness	65,344
	Hospitality	54,321
	Welcoming	43,512
	Generous	34,213
Perceived convenience	Convenient	64,320
	Available	51,009
	Check-In	32,178
	Affordable	30,241
Surrounding	Surrounding	83,886
	City	51,233
	Beach	25,386
	Subway	21,000
Perceived response	Response	52,877
	Information	41,098
	Queries	34,122
Trustworthiness	Trustworthiness	34,789
	Safe and secure	26,133
	Privacy	21,100
Customer engagement	Recommend	24,213
	Refer	15,324
	Re-adopt	10,141

Note: Hits indicates the number of text blocks (i.e., words) associated with a particular theme. A particular concept having the maximum number of hits becomes a theme but all concepts collectively determine the theme. Although 'customer engagement' theme could be named as 'recommend', to keep it consistent with the dependent variable of this study, it has been worded 'customer engagement'.