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## Peer-to-peer interactions: Perspectives of Airbnb guests and hosts

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#### ABSTRACT

In peer-to-peer (P2P) accommodation settings such as Airbnb, social interactions between peers are distinctively different from those between guests and employees in conventional lodging establishments. This study focuses on a reciprocal aspect of social interactions in P2P accommodations and aims to: 1) explore how guests and hosts perceive online and face-to-face interactions between them and 2) investigate the association between P2P interactions and some outcome variables (encounter satisfaction, word-of-mouth intention, and continuous intention to use) based on the roles of guest and host. A total of 503 responses from an online research panel were analyzed. The results show that guests perceive overall interaction experiences more positively than do hosts. Moreover, guests and hosts place weight on different interaction factors that contribute to their satisfaction and behavioral intentions. This study sheds light on the reciprocal interactions between guests and hosts, providing important theoretical and practical implications for the P2P lodging experience.

## 1. Introduction

The peer-to-peer (P2P) business model has emerged as a disruptive force to many industries traditionally operating in the business-to-customer (B2C) environment. Airbnb, one of the P2P pioneers in the hospitality industry, has seen phenomenal growth globally since its launch in 2008. As an online platform that enables individuals to rent their personal houses or rooms to others for a certain duration of time, Airbnb reportedly recorded a higher value (\$25.5 billion) and a higher reservation rate (120%) compared to global franchise hotels in 2016 (Lane, 2016). Evidently, the P2P consumption model as an alternative form of lodging has a unique appeal to both people who rent out their personal properties and those who book these properties.

Compared to conventional hotel lodging, one distinctive aspect of P2P accommodation is its promise to offer closer interactions with local residents and to create a sense of place (Cheng, 2016; Tussyadiah and Pesonen, 2015). Paradoxically, for the same reason, interactions between guests and hosts can also be a source of concern for both parties, as people who have connected via the online platform share personal living quarters with otherwise total strangers, all without the security and backup of a business entity such as a traditional hotel establishment. Due to the perceived uncertainty of other peers and the platform (Bialski, 2013), peers' profiles, online reputations, online review

ratings, and how the information is presented by the platform play a critical role in the interactions between guests and hosts (hereinafter referred to as P2P interactions). Furthermore, while face-to-face P2P interactions are usually ephemeral, the interactions can be intimate in that peers emotionally and physically let others into their personal lives for a period of time (Molz, 2014). The unique features of P2P accommodation, such as uncertainty and transience, require a significant role of trust throughout the P2P interactions (Bialski, 2013; Molz, 2014). As such, trustworthiness and P2P rapport are vital to the very existence of P2P accommodation as a viable form of lodging.

Extant literature on P2P accommodation has predominantly focused on guests' perspectives (Guttentag and Smith, 2017; Ikkala and Lampinen, 2015; Liang, 2015; Liu and Mattila, 2017; Tussyadiah and Zach, 2016; Wang and Nicolau, 2017), whereas it has been almost completely silent on hosts' experiences. This gap is surprising given that the characteristic that sets the P2P accommodation apart from conventional lodging arrangements is that both consumers and lodging providers are individuals whose interactions are as personal as they are professional. As such, P2P accommodation is as much about the hosts as it is about the guests. To bridge the current gap in the research on P2P accommodation, this study aims to examine the social dynamics between guests and hosts and how such online and face-to-face interactions influence the P2P experience of both parties. Specifically, the

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objectives of the present research are to 1) investigate how guests and hosts perceive P2P online and face-to-face interactions differently (if at all) and 2) explore how P2P online and face-to-face interactions are associated with the outcome variables (encounter satisfaction, word-of-mouth intention, and continuous intention to use) based on the role that an individual plays in a P2P transaction (i.e., guest or host).

#### 2. Theoretical framework

In typical P2P transactions, peers begin their interactions as total strangers. Unlike traditional hotels where employees usually play the more active role in establishing relationships with customers, both Airbnb guests and hosts need to initiate contact and develop some baseline understanding of each other. In the process, guests and hosts engage in a certain degree of self-disclosure to reduce the sense of uncertainty and the perception of risk through reciprocal interactions. In this study, we use Social Penetration Theory (Altman and Taylor, 1973; Taylor, 1968) as a theoretical framework to explore the interpersonal dynamics in P2P interactions.

## 2.1. Social penetration theory: self-disclosure and reciprocal behaviors

Social Penetration Theory (Altman and Taylor, 1973; Taylor, 1968) explains the development of an interpersonal relationship as a process of self-disclosure and reciprocal behaviors between interactants, which also entails their internal cognitive processes. The interpersonal relationship between the interactants develops over time, leading them to different levels of reciprocal exchange. According to Social Penetration Theory (Altman and Taylor, 1973; Taylor, 1968), the reciprocity of interactive exchanges manifests in multiple stages. In the initial phase, the two parties share superficial information (e.g., personal demographics) with each other through communication (i.e., self-disclosure) (Rubin, 1975; Taylor, 1968). In this stage, each party considers the provided information and develops tentative attitudes toward the other (Altman and Taylor, 1973). This exposure to self-relevant information triggers mutual interactions between the individuals and develops the interpersonal relationship between them.

The relationship development process stimulated by self-disclosure continues when the other party reciprocates the exposure by sharing his/her information as well. This responsiveness can strengthen the relationship, causing the two parties to become closer to each other (Laurenceau et al., 1998). In particular, when people are introduced as strangers in a community and have little knowledge of the background of the others in the community, they accelerate the relationship development process (Newcomb, 1978). Similarly, people are more active in social exchange when they are less exposed to the other's information. Subsequently, they feel closer to each other more rapidly through the social exchange (Cozby, 1972). The dynamics of the reciprocal interactions include diverse levels of verbal, nonverbal, and environmental behaviors (Altman and Taylor, 1973). Following the reciprocation of these behaviors in both public and private areas, the interactants' perceptions of security and trust toward each other fluctuate and contribute to relationship development (Reis and Shaver, 1988). Thus, interpersonal relationship development, as an amalgam of mutual encounters between two entities, is a continuous process that consists of a series of self-disclosures and reciprocal actions (e.g., exchanging information, emotions, and activities) (Taylor, 1968).

This process of self-disclosure and reciprocity of social exchange is influenced by different types of relationships and subjects (Gudykunst et al., 1987). Rubin and Shenker (1978) highlighted the impact of the role that a person plays on mutual self-disclosure. In service settings, the level of disclosure of the self to the other can also differ according to a person's role. For example, when a restaurant server is more disclosing to a customer, the customer can also become more open to the server (Hwang et al., 2015). In a virtual environment, people disclose different information to others based on whom they encounter (Tang

and Wang, 2012). Hence, a person's situated role in a certain circumstance exerts a crucial effect on self-disclosure and reciprocal actions.

In the P2P accommodation business model, such as in the case of Airbnb, the self-disclosure and reciprocity that take place throughout online and offline P2P interactions play a pivotal part in relationship development between guests and hosts. Peers gradually become acquainted with each other by disclosing their personal information and communicating online and face-to-face. In the meantime, the relationship develops rather quickly, since the novelty of the interaction between two strangers that lasts only for a short time intensifies the reciprocity of interpersonal exchange (Morton, 1978). Hence, the development of an interpersonal relationship in the P2P context is a continuous and two-way process. This process is distinct from conventional B2C settings, in which the commercial relationship between service providers and consumers is characterized by instrumentality (e.g., service providers' capability to fulfill customers' needs) and limited to resource exchanges (e.g., making payment to a hotel for a room) (Price and Arnould, 1999). The employee-customer interpersonal relationship is typically a one-way rapport, as there is little need for employees to share their personal information with customers. In contrast, according to the tenets of Social Penetration Theory, P2P selfdisclosure and reciprocity manifest throughout the process of online and face-to-face encounters between guests and hosts. Such two-way P2P interactions may influence peers' perceptions of their overall experiences of using P2P accommodations.

# 2.2. Self-disclosure and reciprocity of social exchange in P2P accommodation

P2P transactions of accommodations are enriched with encounters between peer guests and peer hosts who are mutually exposed to the information of other peers through an online platform and are able to communicate with each other online. Through the Airbnb platform, peers can initially access other peers' online information, such as profiles, pictures of themselves and their accommodations, and reviews. Such information is superficial but still personal enough for one peer to assess whether another peer is credible (Eysenbach and Köhler, 2002; Fogg et al., 2003; Lu et al., 2016; Rieh, 2002). The publicized information that contributes to peer credibility is especially important in a virtual environment, since peers are still strangers at the initial stage of P2P transactions. The credibility of an entity is the clue to constructing its image and influencing others' intentions to accept it (Lowry et al., 2014), which also serves to mitigate uncertainty (Miyazaki and Fernandez, 2001). Hence, the credibility of peers' online profiles gained through P2P self-disclosure (e.g., checking peers' online profiles) can be one of the critical factors in initiating P2P interactions. Additionally, in this early stage of P2P encounters, peers are concerned about publicizing their private information. Peers need to keep their personal details safe due to the possibility that they could be misused by others (Anderson et al., 2013). Such mutual self-disclosure in the P2P context provides personal information that attracts the attention of other peers and enables peers to build credibility as well as to reduce private concerns regarding exposing their information online. This overall selfdisclosure process acts as a catalyst for peers to begin to engage in overt reciprocity of social exchange, such as communications and face-to-face interactions.

Once peers begin to establish their own credibility and become assured of the credibility of others through their online profiles, guests and hosts proceed to engage in reciprocal interactions both online and face-to-face. Reciprocity of communications between guests and hosts is possible through online (e.g., website), mobile (e.g., application), and offline (e.g., face-to-face) channels. When the online and offline communications are candid and positive, guests and hosts can develop favorable attitudes toward each other (Luo and Zhang, 2016; Wang et al., 2012). In particular, face-to-face interactions are vital in reinforcing a relationship between two individuals (Luo and Zhang, 2016; Nissenbaum, 2001). Through both online and offline

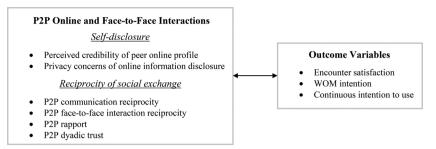


Fig. 1. Theoretical framework of P2P interactions.

Note. Different perspectives of guests and hosts among the variables are compared.

mutual communications, people form perceptions of the extent of the rapport and personal connection between two interactants (Gremler and Gwinner, 2008). Moreover, the overall reciprocity of social interactions entails dyadic trust between two interactants (Hsu et al., 2011; Hwang et al., 2015; Sheldon, 2009), meaning that one peer's reliance on the other is enhanced via reciprocity (Giffin, 1967). These reciprocal interactions serve to strengthen the closeness and trust between two individuals (Laurenceau et al., 1998; Reis and Shaver, 1988).

Such online and face-to-face interactions can influence peers' overall satisfaction with using P2P accommodations and their future behavioral intentions (e.g., intentions to spread word-of-mouth and to continue using the P2P service). Furthermore, a person can reciprocate social exchange differently based on those with whom he/she interacts (Rains and Brunner, 2015; Sheldon, 2013; Tang and Wang, 2012). In turn, reciprocity influences his/her emotions toward the other (Gang and Stukas, 2015) and satisfaction with the relationship (Rook, 1987). In P2P interactions, peers are situated either as guests or hosts. Due to the different roles they play, a guest and a host may perceive their interactions with the other party differently. In addition, depending on the role an individual plays (i.e., a guest or a host), he/she may experience the overall P2P interactions differently, as reflected in his/her level of encounter satisfaction and subsequent behavioral intentions. Accordingly, this study aimed to explore how P2P interactions are perceived by both guests and hosts. In line with this objective, the first research question is proposed as follows:

Research Question 1: Do guests and hosts perceive their P2P online and face-to-face interactions differently, and, if so, how?

## 2.3. P2P online and face-to-face interactions and outcome variables

Peers are more content with their overall experience of using P2P accommodations when they have satisfactory P2P interactions, which is one of the major reasons they choose to use P2P services (Karlsson and Dolnicar, 2016). The two-way disclosure and reciprocity influence their overall satisfaction with and positive behavioral intentions toward P2P accommodations (Pappas, 2016; Tussyadiah, 2016). The availability of abundant information in customers' service experiences contributes to their encounter satisfaction (Walker, 1995). In the P2P hospitality context, the experiential process through which peers interact with each other is full of information obtained through reciprocity of social exchange, which involves not only places to stay but also personal information. Word-of-mouth (WOM) intention and continuous intention to use are among the prevalent factors of behavioral intentions (Brunner et al., 2008; Filieri, 2015). Since a P2P business model is online-based, it is easy for peers to switch online platforms and spread WOM in the cyber space. Hence, investigating the variables of behavioral intentions in the P2P context is also critical. This study focuses on encounter satisfaction and behavioral intentions (e.g., WOM intention and continuous intention to use) as the outcome variables of experiencing P2P online and face-to-face interactions.

Encounter satisfaction and behavioral intentions may also vary according to the role of guest or host. To date, hosts' perspectives in the P2P literature have been largely neglected despite their crucial role as one of the main constituents in P2P transactions. This study explores how P2P online and face-to-face interactions and outcome variables are associated with each other based on the role an individual plays in a P2P transaction. The second research question is thus proposed as follows:

Research Question 2: How are P2P online and face-to-face interactions differently associated with the outcome variables (encounter satisfaction, WOM intention, and continuous intention to use) based on the role (i.e., guest or host) that an individual plays in a P2P transaction?

The theoretical framework is presented in Fig. 1.

### 3. Method

## 3.1. Sample and data collection procedure

The sample was randomly recruited from the pool of Airbnb users by the online research panel Qualtrics. Random sampling was used by this study as heterogeneity of sample reflects the real-world effect by considering the background factors brought by the sample and enhances generalization of research findings (Calder et al., 1981; Clarke, 1995). The respondents received a monetary incentive as compensation for participating in the online survey. To prevent duplicated participation, the survey link was made inaccessible to each participant once he/she had completed the survey. Based on the participants' role in their most recent use of Airbnb (e.g., as either a guest or a host), a slightly different version of the questionnaire was provided to the respondents. For example, measurement items for guests referred to the other interactant as "the host", whereas the same items for hosts referred to the other interactant as "the guest". This study focused on participants' latest role in P2P encounters since the most recent experiences can provide vivid responses and minimize memory biases (Stone et al., 2007). In addition, as the relationships between guests and hosts in this P2P context is ephemeral (Molz, 2014), their latest episodic experience can provide the most useful information of the interactions with the counterpart.

The survey was organized into four major sections. The first section consisted of several screening questions, such as "what was your role the last time you used Airbnb?" and "how often do you use Airbnb?" In the second part, the participants responded to measurement items related to P2P online and face-to-face interactions, encounter satisfaction, and behavioral intentions toward their experiences with using the platform. The third section consisted of measurement items reflecting personal dispositions, such as self-construal, novelty seeking, general risk propensity, and authenticity seeking, which were included as control variables. The last section was comprised of questions related to demographic information (e.g., gender, age, education, ethnicity, etc.).

**Table 1** Participant demographics (n = 503).

Participant demographics		Frequency	Percent
Gender	Male	284	56.5
	Female	219	43.5
Age	18 – 19	5	1.0
	20 - 29	175	34.8
	30 - 39	191	38.0
	40 – 49	84	16.7
	50 - 59	30	6.0
	Over 60	18	3.6
Ethnicity	Caucasian	367	73.0
	African American	39	7.8
	Native American	3	0.6
	Asian	41	8.2
	Polynesian/Pacific Islander	3	0.6
	Hispanic/Latino	40	8.0
	Multi-racial	7	1.4
	Other	3	0.6
Education	High school or lower	56	11.1
	Some college	106	21.1
	College graduate	218	43.3
	Graduate school	123	24.5
Occupation	Home maker	58	11.5
	Service-related	33	6.6
	Professional	117	23.3
	Business owner	62	12.3
	Technology-related	81	16.1
	Student	46	9.1
	Other	106	21.1
Annual income level (US)	Less than \$20,000	24	4.8
	\$20,000 - \$34,999	57	11.3
	\$35,000 - \$49,999	60	11.9
	\$50,000 - \$64,999	117	23.3
	\$65,000 - \$79,999	61	12.1
	\$80,000 - \$94,999	43	8.5
	\$95,000 - \$109,999	69	13.7
	Over \$110,000	72	14.3

## 3.2. Measurements

An online self-administered survey was developed, utilizing a 7-point Likert scale (1 = Strongly disagree; 7 = Strongly agree) to rate the majority of the measurement items representing P2P online and face-to-face interactions and outcome variables (i.e., encounter satisfaction and behavioral intentions). The wording of some questions was slightly modified to fit the context of the research. For instance, the phrase "face-to-face" was added to the measurement item, "I would say that the quality of my [face-to-face] interaction with other peers was excellent." The measurement items used for guest respondents, as an example, are provided in the Appendix.

#### 3.2.1. Self-disclosure

Perception of self-disclosure was captured by two variables: perceived credibility of peer online profile and privacy concerns regarding online information disclosure. Perceived credibility of peer online profile was measured using four items (Filieri, 2015) in order to capture to what extent respondents perceive peers' online profiles as credible. Privacy concerns regarding online information disclosure was also measured using four items (Dinev and Hart, 2006; Liao et al., 2011). These items asked the respondents whether they were concerned about posting personal information on an online platform.

## 3.2.2. Reciprocity of social exchange

Reciprocity of social exchange was represented by four variables: P2P communication reciprocity, P2P face-to-face interaction reciprocity, P2P rapport, and P2P dyadic trust. The measurement items were borrowed from previous studies. Peer communication reciprocity was measured using a 7-point semantic differential scale (e.g., not communicative/communicative, impolite/polite, and disrespectful/respectful) (Kunz and Seshadri, 2015).

P2P face-to-face interaction reciprocity captured whether a guest or a host perceived the interaction to be outstanding (Brady and Cronin, 2001; Lemke et al., 2011). P2P rapport was related to how enjoyable and intimate the rapport with the other was perceived to be (Gremler and Gwinner, 2000). P2P dyadic trust included items such as "the host was perfectly honest and trustful with me" (Couch, 1994).

## 3.2.3. Encounter satisfaction and behavioral intentions

The questions representing encounter satisfaction for guests and hosts were adopted to capture their overall satisfaction with their experience with the other peer, the accommodations and the online platform used (Brady et al., 2002; Loureiro and González, 2008). For behavioral intentions, four items were utilized for word-of-mouth (WOM) intention while three items were adopted to measure continuous intention to use the online platform (Choi and Sik Kim, 2013; Ku et al., 2013).

#### 3.2.4. Control variables

The survey included the measurement items of personal dispositions and primary communication forms as control variables due to their possible influences on perceptions of self-disclosure, reciprocity of social exchange, encounter satisfaction and behavioral intentions. Personal traits can affect a person's attitude toward disclosing private information and interactions with others (Bansal and Gefen, 2010; Berry and Hansen, 2000). Hence, this study included five personal dispositions as control variables to account for their potential effects on the results. The five personal disposition variables included independent and interdependent self-construal (Hu et al., 2016; Wang et al., 2015), novelty seeking (Adjei and Clark, 2010; Manning et al., 1995), general risk propensity (Hung and Tangpong, 2010), and authenticity seeking (Figler et al., 1992). In addition, whether hosts share their properties with guests or not can influence hosts' self-disclosure behavior manifested in their online profiles (Ma et al., 2017). In this light, this study considered primary communication forms (either communicated via online forms only or both online and face-to-face forms) as a control variable in order to take its potential effect on guests and hosts' perceptions of interaction experiences into account.

## 4. Results

## 4.1. Sample profile

After removing unqualified responses using screening and attention-check questions, 512 responses remained. Among these, 9 unusable responses were excluded due to repeated answers and missing data. Thus, 503 responses were retained for further analyses. Regarding the demographic composition of the sample, 56.5% were males and 43.5% were female. Most of the respondents were in their 20 s and 30 s (34.8% and 38%, respectively). Most of the respondents were Caucasian (73%) and had a college degree or higher (67.8%), which showed similar demographic profiles reported by several studies in P2P accommodation (e.g., Kakar et al., 2016; Schor, 2017). Among the respondents, the largest portion were professionals (23.3%) and earned \$50,000-\$64,999 annually (23.3%). The sample demographics are presented in Table 1.

In addition to the overall demographics, more detailed information of the sample profile is displayed in Table 2. Among the respondents, 54.9% were self-reported as guests and 45.1% as hosts in their most recent use of Airbnb. More than one third of the guests (35.5%) had used Airbnb within the last three months, while over half of the hosts (53.3%) had used Airbnb within the last month. The frequency of using Airbnb was reported based on the number of how many times peers use the online platform per year. More than half of the guests (55.4%) reported that they use Airbnb 1–3 times a year, as compared to 21.1% of the hosts who reported the same. In regard to the frequency of interactions with the other party, the guests reported that they had interacted with hosts fewer than 5 times on average (54.7%) while the hosts

**Table 2** Participant profile (n = 503).

Participant profile		Guests $(n = 276)$		Hosts (n = 227)	Hosts (n = 227)	
		Frequency	Percent	Frequency	Percent	
Last time of using Airbnb	Within the last month	55	19.9	121	53.3	
	Within the last 3 months	98	35.5	75	33.0	
	Within the last 6 months	80	29.0	21	9.3	
	Within the last 12 months	43	15.6	10	4.4	
Frequency of using Airbnb per year	Less than once a year	55	19.9	7	3.1	
	1-3 times a year	153	55.4	48	21.1	
	4–6 times a year	37	13.4	64	28.2	
	7–9 times a year	20	7.2	45	19.8	
	10-12 times a year	5	1.8	30	13.2	
	More than 12 times a year	6	2.2	33	14.5	
Frequency of interactions	5 times or less	151	54.7	44	19.4	
with the other party	6–10 times	96	34.8	97	42.7	
• •	11-15 times	23	8.3	42	18.5	
	16-20 times	3	1.1	21	9.3	
	More than 21 times	3	1.1	23	10.1	

reported an average of 6–10 interactions (42.7%). The sample profile is displayed in Table 2.

# 4.2. Differences between the guest group and the host group on self-disclosure, reciprocity of social exchange and outcome variables

Prior to further analyses, principal factor analysis with varimax rotation was conducted. The results of the factor analysis are shown in Table 3. All variables satisfied the factor loading threshold of .45, ranging from .468 to .949 (Stevens, 1992). To create the composite variables, the means of the measurement items were used as this technique is one of the common methods to reduce data and provide digestible information (Song et al., 2013). In addition, when multiple items are used to measure a single construct, this method can be conducive to checking its dimensionality such as reliability (Bagozzi and Edwards, 1998). The reliabilities and assumption checks on the composite variables are provided in the following section. Six variables represented self-disclosure and reciprocity of social exchange: perceived credibility of peer online profile, privacy concerns of online information disclosure, P2P communication reciprocity, P2P face-to-face interaction reciprocity, P2P rapport, and P2P dyadic trust. In addition, encounter satisfaction and behavioral intentions (i.e., WOM intention and continuous intention to use) were also verified with satisfactory factor loadings ranging from .654 to .812. The values of Cronbach's  $\boldsymbol{\alpha}$  were calculated to evaluate the reliabilities of the measurements. All variables exceeded the minimum level (.7) of reliability, ranging from .833 (P2P face-toface interaction reciprocity) to .966 (Privacy concerns of online information disclosure). After verifying the variables of self-disclosure, reciprocity of social exchange, and outcome variables, correlations among them were examined. The correlation coefficients were lower than the threshold (.8) of multicollinearity (Pallant, 2007). The correlation matrix is presented in Table 4, including means and standard deviations of each variable.

To examine whether there were differences in perceived self-disclosure, reciprocity of social exchange, encounter satisfaction, WOM intention, and continuous intention to use between the guest group and host group, a series of one-way multivariate analysis of covariance (MANCOVA) was conducted. Prior to conducting MANCOVA analysis, the assumptions were checked. First, normality and homogeneity were checked at the univariate-level, which can yield the multivariate-level normality and homogeneity (Field, 2009). For normality, the values of skewness and kurtosis were used, which were distributed within the cut-off range between  $\pm$  2 and  $\pm$  7 (Hair et al., 2010). As the equality of covariance was unsatisfied using the values of Box's M test (p < .001) and the sample sizes were unequal, Pillai's Trace was hence utilized for checking the main effect of the independent variable on the dependent variables (Field, 2009; Olsson, 1979). In addition, the multicollinearity issue appeared to be absent as the values of variance

inflation factor (VIF) were well below the threshold of 10, ranging from 1.155 to 2.606 (Hair et al., 2010).

Next, the role of guest or host (categorical variable) was entered as a fixed factor. The variables measuring self-disclosure, reciprocity of exchange, encounter satisfaction, WOM intention, and continuous intention to use were entered as a set of dependent variables. Demographic and personal disposition variables were included as covariates across the MANCOVA tests. A demographic variable included gender, while personal disposition variables included independent and interdependent self-construal, novelty seeking, general risk propensity, and authenticity seeking. The results of the MANCOVA are elaborated in the following section.

### 4.2.1. Self-disclosure

MANCOVA results showed that the main effect of the role (guest vs. host) on the self-disclosure variables was significant [Pillai's Trace = .035, F (2493) = 8.912,  $\eta^2$  = .035, p < .001]. The results of follow-up univariate tests showed that guests perceived peer online profile as significantly more credible than did hosts ( $M_{\rm guests}$  = 6.18 vs.  $M_{\rm hosts}$  = 5.99, p < .01). Meanwhile, guests reported fewer privacy concerns related to disclosing information online than did hosts ( $M_{\rm guests}$  = 4.39 vs.  $M_{\rm hosts}$  = 4.98, p < .001).

## 4.2.2. Reciprocity of social exchange

MANCOVA results showed that the main effect of the role (guest vs. host) on reciprocity of social exchange variables was statistically significant [Pillai's Trace = .127, F(4491) = 17.934,  $\eta^2 = .127$ , p < .001]. The follow-up univariate test showed that guests perceived the reciprocity of P2P communication ( $M_{\rm guests} = 6.4$  vs.  $M_{\rm hosts} = 5.78$ , p < .001) and P2P dyadic trust ( $M_{\rm guests} = 6.05$  vs.  $M_{\rm hosts} = 5.83$ , p < .01) to be significantly more positive than did hosts. In contrast, guests' perception of P2P rapport was significantly less positive than hosts' perception ( $M_{\rm guests} = 5.54$  vs.  $M_{\rm hosts} = 5.82$ , p < .001). The main effect of the role on reciprocity of P2P face-to-face interaction was statistically insignificant [F(1494) = .056, p = .813].

## 4.2.3. Outcome variables

MANCOVA results showed that the main effect of the role (guest vs. host) on the outcome variables was significant [Pillai's Trace = .015, F (3,492) = 2.563,  $\eta^2$  = .015, p < .05]. Specifically, guests reported a significantly higher level of encounter satisfaction than did hosts ( $M_{\rm guests}$  = 6.18 vs.  $M_{\rm hosts}$  = 6.03, p < .05). Similarly, guests reported significantly greater intentions to spread positive WOM ( $M_{\rm guests}$  = 6.1 vs.  $M_{\rm hosts}$  = 5.93, p < .05) and to reuse Airbnb than did hosts ( $M_{\rm guests}$  = 6.25 vs.  $M_{\rm hosts}$  = 6.1, p < .05).

Table 3
Results of factor analysis.

Variables	Measurements	Profile	Privacy	Comm	Face-to- face	Rapport	Trust	Satisfaction	BI
Profile	The host's profile photos posted on the Airbnb website were credible	.795							
	The host's personal introductions written on the Airbnb website showed	.768							
	experience								
	The host's explanation of their accommodations was trustworthy	.709							
	The host's overall profile information published on the Airbnb website was reliable	.668							
Privacy	I am concerned that the information I submit to Airbnb could be misused		.923						
	I am concerned that a person can find private information about me on the Airbnb website		.949						
	I am concerned about submitting information to Airbnb because of what others might do with it		.947						
	I am concerned about submitting information to Airbnb because it could be used in a way I did not foresee		.943						
Comm	Not communicative - Communicative			.838					
Comm	Impolite - Polite			.862					
	Disrespectful - Respectful			.821					
Face-to-face	I think that the quality of my face-to-face interaction with the host was excellent			.021	.827				
race-to-tace	I believe that we had superior interactions offline				.729				
	1								
Dommont	I think that total face-to-face contact with the host was outstanding				.696	F20			
Rapport	I enjoyed interacting with the host					.528			
	The host created a feeling of warmth in our relationship					.559			
	The host related to me well					.572			
	I had a harmonious relationship with the host					.538			
	The host had a good sense of humor					.642			
	I was comfortable interacting with the host					.468			
	I feel like there is a bond between the host and myself					.807			
	I look forward to seeing the host during my stay					.784			
	I strongly care about the host					.849			
	The host has taken a personal interest in me					.856			
	I have a close relationship with the host					.802			
Trust	The host was perfectly honest and trustful with me						.667		
	I felt that I can trust the host completely						.611		
	The host was truly sincere in his/her statements						.701		
	I felt that the host showed me enough consideration						.757		
	The host treated me fairly and justly						.769		
	I felt that the host can be counted on						.755		
Satisfaction	The stay in the accommodation was very satisfactory							.654	
	The accommodation experience satisfied my necessities							.758	
	The accommodation facilities were worthy of highlighting							.789	
	I found the host pleasant							.751	
	I was happy with my activities I had in the surrounding region							.677	
	The accommodation delivered the service that I expected to receive							.764	
	The accommodation delivered an excellent service							.812	
	In general, my accommodation experience was positive							.773	
WOM	I would mention to others that I seek travel information from Airbnb								.796
	I make sure that others know that I rely on Airbnb for travel information								.783
	I intend to speak positively about Airbnb to others								.712
	I would recommend Airbnb to close personal friends								.608
Continuous	I plan to keep using Airbnb in the future								.666
	I intend to continue using Airbnb in the future								.749
	I expect my use of Airbnb to continue in the future								.769
Reliability (α)		.867	.966	.883	.833	.946	.920	.929	.921

Note. Profile = Perceived credibility of peer online profile, Privacy = Privacy concerns of online information disclosure, Comm = P2P communication reciprocity, Face-to-face = P2P face-to-face interaction reciprocity, Rapport = P2P rapport, Trust = P2P dyadic trust, Satisfaction = Encounter satisfaction, BI = Behavioral intentions, WOM = word-of-mouth intention, Continuous = Continuous intention to use.

 Table 4

 Descriptive analysis and correlations among the variables.

Variable	M	SD	1	2	3	4	5	6	7	8
1. Perceived credibility of peer online profile	6.09	.85	_							
2. Privacy concerns of online information disclosure	4.66	1.87	02	-						
3. P2P communication reciprocity	6.11	1.21	.42*	15*	_					
4. P2P face-to-face interaction reciprocity	5.90	.96	.52*	.13*	.26*	_				
5. P2P rapport	5.67	1.04	.53*	.24*	.27*	.63*	_			
6. P2P dyadic trust	5.95	.91	.66*	.07	.49*	.53*	.68*	_		
7. Encounter satisfaction	6.11	.79	.65*	01	.46*	.56*	.62*	.70*	_	
8. Behavioral intentions	6.10	.84	.60*	01	.34*	.53*	.57*	.63*	.77*	-

Note 1. \*: p < .01 (2-tailed).

Note 2. M = Mean, SD = Standard deviation.

**Table 5**Results of canonical correlation analysis.

Variable	Guests (n = 270	5)		Hosts (n = 227) Function 1			
	Function 1						
Independent set Perceived credibility of peer online profile Privacy concerns of online information disclosure	Std. Coef .349 081	r <sub>s</sub> . <b>860</b> 211	r <sub>s</sub> <sup>2</sup> (%) 73.93 4.44	Std. Coef .241 043	r <sub>s</sub> . <b>820</b> .197	r <sub>s</sub> <sup>2</sup> (%) 67.17 3.89	
P2P communication reciprocity	.130	.682	46.49	.098	.534	28.56	
P2P face-to-face interaction reciprocity	.115	.667	44.54	.319	.816	66.54	
P2P rapport	.250	.781	61.05	.243	.886	78.44	
P2P dyadic trust	.360	.894	79.92	.316	.896	80.36	
$R_c^2$			69.9			59.8	
Dependent set							
Encounter satisfaction	.808	.984	96.87	.496	.958	91.84	
Word-of-mouth intention	.146	.758	57.45	.503	.960	92.22	
Continuous intention to use	.118	.800	63.96	.051	.829	68.73	
	Wilks' λ	App. F-value	Sig.	Wilks' λ	App. F-value	Sig.	
	.288	23.19	.000	.351	15.34	.000	

Note. Std. Coef: Standardized canonical coefficient,  $r_s$ : Structure coefficient,  $r_s^2$ : Squared structure coefficient,  $R_c^2$ : Squared canonical correlation.

# 4.3. Association between P2P self-disclosure, reciprocity of social exchange and outcome variables

Canonical correlation analysis (CCA) was conducted to explore how the set of independent variables (P2P self-disclosure and reciprocity of social exchange) was associated with the set of dependent variables (encounter satisfaction, WOM intention, and continuous intention to use). The independent set encompassed six variables: perceived credibility of peer online profile, privacy concerns of online information disclosure, perceived reciprocity of P2P communication, perceived reciprocity of P2P face-to-face interaction, perceived P2P rapport, and perceived P2P dyadic trust. The dependent set was comprised of encounter satisfaction, WOM intention, and continuous intention to use. Correlation analysis was conducted for the guest group and host group respectively to explore how the variables of P2P interactions correlated with the outcome variables. The results of the CCA are presented in Table 5, including standardized canonical coefficients, structure coefficients, squared structure coefficients, and squared canonical correlation.

### 4.3.1. CCA for the guest group

The CCA yielded three functions with squared canonical correlations ( $R_c^2$ ) of .699, .034, and .007, respectively. This indicates that the proportion of variance shared by the two sets for Function 1 is 69.9%. The full model across the functions was statistically significant utilizing Wilks'  $\lambda = .288$ , F(18,755.68) = 23.19, p < .001. Only Function 1 was used for further interpretation due to its significance (p < .001). According to the structure coefficients ( $r_s$ ) in the independent set, perceived credibility of peer online profile and P2P dyadic trust were the primary contributors to the synthetic set of variables. P2P communication reciprocity, P2P face-to-face interaction reciprocity, and P2P rapport were the secondary factors. From the dependent set of outcome variables, encounter satisfaction appeared to the primary predictor of the set. These results were supported by the squared structure coefficients ( $r_s^2$ ).

## 4.3.2. CCA for the host group

Three functions were yielded with  $R_c^2$  of .598, .103, and .025, respectively, meaning that Function 1 represented 59.8% of the shared variance between the two sets of variables. The full model was statistically significant [Wilks'  $\lambda = .351$ , F(18,617.08) = 15.34, p < .001]. Function 2–3 was also significant [Wilks'  $\lambda = .874$ , F(10,438) = 3.04, p < .01]. However, given the values of  $R_c^2$ , Function 1 was utilized and further interpreted. The structure coefficients ( $r_s$ ) in the independent set showed that *perceived* 

credibility of peer online profile, P2P face-to-face interaction reciprocity, P2P rapport, and P2P dyadic trust were the primary contributors to the set of variables. From the dependent set, all of the outcome variables (i.e., satisfaction, WOM intention, and continuous intention to use) were primarily relevant to the synthetic set of outcome variables. The squared structure coefficients  $(r_s^2)$  also showed patterns similar to those of the structure coefficients.

## 5. Discussion

This study aimed to explore the differences between the guest group and host group in perceived P2P self-disclosure, reciprocity of social exchange and the outcome variables (encounter satisfaction, WOM intention, and continuous intention to use). According to the results of the MANCOVA, guests had more positive perceptions of the P2P interactions than did hosts. Guests also showed a higher level of encounter satisfaction and more favorable behavioral intentions than did hosts. In addition, this study investigated how the P2P interaction variables and the outcome variables were correlated differently based on the role (guest or host) in the P2P interactions. According to the results of the CCA, the main contributors to the correlations appeared to be different between guests and hosts. The major determinants of the P2P interactions for guests were perceived credibility of peer online profile and P2P dyadic trust, while for hosts they were perceived credibility of peer online profile, P2P face-to-face interaction reciprocity, P2P rapport, and P2P dyadic trust. The relevant dependent variable for guests was encounter satisfaction, whereas for hosts encounter satisfaction, WOM intention, and continuous intention to use were all principal contributors. Thus, in the P2P accommodation context, it appears that hosts consider social interactions with guests more holistically, and their perceptions of these interactions (in terms of the determinants listed above) are correlated with the overall outcome variables.

## 5.1. Theoretical implications

This research contributes to the P2P-related research literature in several meaningful ways. First, this study provides a reciprocal perspective of social interactions between peer service providers and peer consumers in a P2P business model. This study adopts the notions of self-disclosure and reciprocal behaviors from Social Penetration Theory (Altman and Taylor, 1973; Taylor, 1968) to conceptualize the reciprocal aspects of social interactions in a P2P context. This study specifically focuses on online self-disclosure and online-offline reciprocal actions between peers, such as mutual communication and face-to-face interactions. Online self-disclosure between

guests and hosts serves to facilitate the subsequent reciprocal interactions that build rapport and dyadic trust. In contrast to the well-documented salient effect of face-to-face interactions on strengthening a relationship (Luo and Zhang, 2016; Nissenbaum, 2001), this study shows that the effect of online self-disclosure on rapport and trust-building appears to be more salient than that of face-to-face interactions in the P2P context. Moreover, this study considers the perspectives of both guests and hosts in order to capture the reciprocal nature of social interactions between them. In particular, the inclusion of the hosts' perspective is theoretically important in that peer service providers are as important as peer consumers in a P2P business model, because both parties are the core facilitators of P2P transactions. While these transactions are rooted in mutual P2P social interactions, it is surprising that previous research in a P2P context mainly focuses on peer consumers' perspectives (Tussyadiah, 2016; Tussyadiah and Pesonen, 2015; Tussyadiah and Zach, 2016). Taking a theoretical approach of reciprocal self-disclosure and social interactions between peer service providers and peer consumers, this study sheds light on the social dynamics of reciprocal interactions in a P2P context.

Second, this study uncovers significant differences between guests and hosts' perceptions of P2P social interactions and service experiences. The findings show that hosts are more concerned about disclosing personal information online than guests are. In addition, guests feel less pleasant towards (and personally connected with) hosts than vice versa, although they do consider hosts to be trustworthy and communicative. On the other hand, hosts are more positive about their rapport with guests, although they consider guests to be less trustworthy and communicative. Overall, compared with hosts, guests appear to be more satisfied with the P2P service and indicate greater intention to spread WOM and reuse the service. Such findings may imply that hosts regard social interactions with guests as more commercial and business-based encounters than guests perceive them to be. This study illuminates the impact of a peer's role in P2P transactions on social interactions, which has been overlooked in the previous P2P literature. In addition, this study shows that, depending on the role that a peer plays in a P2P business model, the individual's perception of the social interactions and service experience can be significantly different.

Lastly, this study reveals the differential mechanisms underlying the impact of social interactions on the P2P service experience depending on the roles peers play in a P2P business model. The results of this study uncover that the online profiles and trustworthiness of the hosts are the main factors contributing to guest satisfaction. However, for host satisfaction and behavioral intentions, in addition to the online profiles and trustworthiness of the guests, communication and face-to-face interactions are also important factors. The findings of this study show that the effect of P2P interactions on the consumption experience is partially a function of the role a peer plays in P2P transactions. Guests in need of renting an accommodation are first exposed to hosts' superficial, yet personal online information, including photos and introductions. This business environment may cause the online profiles to stand out for guests in building the credibility of hosts, thus contributing to guests' satisfaction. On the other hand, since hosts are the ones who let strangers use their private spaces, both online and face-toface interactions with guests are important to hosts' P2P experience.

In sum, this study is one of the first to systematically explore the differential effects of roles on peer experience in a P2P business model. The findings demonstrate that the impact of roles on peer experience is robust. While the peer-to-peer notion implies a more equivocal and individuated relationship, this study shows that it is important to differentiate the role a peer plays in modeling peer experience in the P2P context.

## 5.2. Practical implications

This study has some important practical implications for key P2P stakeholders such as guests, hosts, and online platform providers. First, in order to enhance credibility and trust between guests and hosts,

online profiles should be managed more effectively by guests, hosts, and the online platform. The findings of this study show that the other party's online profile is a critical factor in self-disclosure, which plays a significant role in initiating social interactions and building trust. Guests should provide detailed self-information and respond to hosts' online reviews on their online profiles, as hosts already do. Moreover, not only hosts but also guests should present themselves as communicative and responsive in P2P transactions.

In addition to guests' reactions to hosts, hosts need to display their house rules and accommodation descriptions clearly using sub-categories or subtitles. In general, hosts' online profiles contain detailed information about themselves and their listings, potentially making them difficult for guests to fully digest all of the information. Structuring accommodation features and rules in an organized way can help hosts present profile information in a more systematic manner. At an organizational level, an online platform can reframe the rating system by including categories about hosts and guests. The existing P2P online platforms offer ratings mainly related to the quality of lodging properties (e.g., cleanliness, value, location, etc.). In the Airbnb rating system, communication quality of hosts is the only information that guests can obtain. However, the communication quality of hosts may not always match the guests' level of trust in the hosts. By showing sincerity, honesty, or trustworthiness levels of both guests and hosts on their online profiles, an online platform can help peers to accumulate mutual trust through their online P2P social interactions.

Second, in order to experience more satisfactory social interactions, both guests and hosts should make collaborative efforts in the P2P transaction process. The outcomes of this study suggest that guests and hosts perceive the reciprocity of social interactions such as communication and rapport differently. To help guests and hosts better collaborate with each other, the online platform can present guests' response rates and communication quality on their online profiles, as they already do for hosts. This can encourage guests to be more proactive and can influence guests' behaviors in their actual communication with hosts. The online platform, in this case Airbnb, should also effectively utilize its Host Community website to educate hosts regarding how to treat guests. Hosts may have difficulties in applying the textual information (e.g., online discussion board and conversation section) to their practice. Offering training through more vivid media such as short videos that demonstrate actual interactions between guests and hosts from hosts' perspective may be helpful in this regard.

Lastly, in order to reinforce satisfaction and intentions to spread positive WOM and reuse the P2P service, the online platform management should consider hosts' concerns and needs to be just as important as those of guests. This study shows that hosts are more concerned about posting personal information online. At an organizational level, the online platform is obligated to protect its users' personal information. To reduce hosts' uncertainty about disclosing personal information online, the online platform can reconfigure the range of privacy information on hosts' online profiles. For instance, the online platform can shorten the profiles by removing overly detailed or personal information, such as maps that display the listings' precise location. Then, hosts can disclose their personal information through online/mobile messengers to guests who have further inquiries. In addition, face-to-face interactions appear to be one of the main contributors to hosts' satisfaction and intentions to spread WOM and reuse the P2P service. To help both guests and hosts to be better prepared for face-to-face interactions, online platform managers can provide a function in the online booking process for guests to mark their preference for a face-to-face meeting. If hosts can obtain such information, guests and hosts can communicate more details about the meeting in advance and know what to expect in their face-to-face interactions.

#### 5.3. Limitations

This study has several limitations. First, this study focused on the participants' most recent use of Airbnb, so as to capture the most recent

experiences of the guests and hosts. However, the peers' last experience of using the P2P accommodations could represent either their first usage or repeated usage. As previous experiences of using P2P accommodations can affect how peers perceive the others' trustworthiness (Lauterbach et al., 2009), the existence of those experiences might influence peers' perceptions of P2P social interactions, encounter satisfaction and behavioral intentions. Second, although this study investigated both guests and hosts' experiences of using P2P accommodations, the types of accommodation (e.g., entire apartment or shared room) were not taken into consideration given the focus of this study. As the types of accommodation that peers provide can influence their self-disclosure to other peers (Ma et al., 2017), guests and hosts' interactions with the other party might be affected by different types of properties. Third, as this study used a self-reported survey method to collect data, results may be subject to a social desirability bias (Fisher, 1993). This means that the self-evaluation of guests and hosts on themselves may potentially bias the results due to their impression management. For instance, hosts, peer service providers might assess their rapport with guests more positively based on their subjective perceptions of their own performance. Lastly, this study utilized canonical correlation analysis to probe into the overall associations between P2P online and face-to-face social interactions and outcome variables. Although this analysis enables researchers to explore the correlational relationship between two sets of variables (Hair et al., 2010), the analysis method does not test causation between the two. Due to this limitation of the analysis method, the causal relationships among the variables cannot be readily established.

## 5.4. Suggestions for future research

The present research points to several suggestions that can contribute to future research in this area. First, future research can investigate the process of interactions between peer service providers and peer consumers. Communications and interactions between peers encompass both verbal and non-verbal conversations and contextual gestures in both online and offline environments. Researchers can use qualitative research methods to capture the specific details that arise in the process of social interactions between peers. Second, social interactions between peer service providers and peer consumers can be influenced by an online platform's reputation system (e.g., online ratings and reviews). Hence, the online platform is crucial to the management of P2P social interactions. In this context, researchers can investigate peers' perceptions of the online platform depending on their roles of peer consumer and peer service provider. Lastly, peers experience faceto-face interactions in P2P transactions, yet their in-person interactions may be affected by other factors. The duration and strength of the faceto-face interactions may vary based on individual situations, such as personal styles, preferences, and unexpected situations (Horgan, 2012). Future research can take into consideration temporal factors as well as the intensity of the interaction, both of which may influence peers' perceptions of P2P social interactions and outcome variables. In addition to temporal factors and intensity of interactions, future research can also take into consideration the physical environment and whether guests and hosts share the physical space of the property or not, which may influence peers' perceptions of P2P social interactions and other outcome variables.

## 6. Conclusion

In sum, this study posits that the P2P social experience can be perceived differently depending on the role an individual plays in a P2P transaction. To obtain a satisfactory social experience in a P2P context, guests and hosts need to effectively and responsively utilize their online profiles and reviews. In addition, online platform providers should carefully design and manage their online platforms by adding and subtracting information in order to help peers build trust between them.

The inputs from the core facilitators of P2P transactions (i.e., guests, hosts, and online platform providers) will contribute to peers' satisfaction with P2P social interactions and intentions to reuse the P2P service. We hope that the reciprocal viewpoint on P2P social interactions provided in this study can contribute to the P2P-related research literature and practice, thus encouraging further research in this context.

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