HOW AIRBNB CONVEYS SOCIAL AND ECONOMIC VALUE THROUGH USER REPRESENTATION

Research paper

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Abstract

New platforms for renting and sharing among private individuals are emerging in today’s e-commerce landscape. Airbnb can be regarded as a representative of many such platforms. Such accommodation rental commonly implies shared usage where both host and guest occupy a space at the same time, involving social interactions that can provide additional value. Drawing on social reward theory, this paper proposes a research model that links the guest’s intention to book to the host’s user representation via the pathways of social and economic value. We propose a design to evaluate our research model by means of a scenario-based online experiment, including the common elements of user representation (1) text reviews, (2) profile information (e.g., occupation, hobbies and interests), (3) star rating, and (4) the listing price. With this, we expect to contribute to a better understanding of the driving factors behind guests’ booking decisions in accommodation sharing.

Keywords: Airbnb, booking intention, social value, user representation.

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1 Introduction

New marketplaces are emerging in today’s e-commerce landscape (Karlsson et al. 2017). While traditional C2C platforms facilitate the exchange of products among peers, a continuously growing number of platforms now renders renting and sharing schemes among private individuals possible (Sundararajan 2016). Airbnb – the posterchild example for peer-to-peer accommodation sharing – can be regarded as a representative of many such platforms. Despite Airbnb’s similarity to traditional e-commerce platforms, it also differs distinctively in several fundamental ways. First, most listings are run by private individuals and hence guests face higher levels of economic exposure if the worst comes to the worst (e.g., being stranded in a foreign country), compared to more accountable corporate hospitality providers. Consequently, correctly assessing one’s potential host is essential. Second, the offered accommodation commonly implies shared usage where both host and guest occupy a space at the same time (Teubner et al. 2017). Such shared-usage scenarios commonly involve social interactions that can provide additional value (or intricacies) for guests by enhancing overall trip experience (Hawlitschek et al. 2016; Ikkala and Lampinen 2015; Möhlmann 2015). As co-usage is not offered by traditional hotel brokers at all, accommodation sharing platforms promote personal aspects explicitly (Airbnb 2014, 2016a; Homestay 2017).

The duality of social and economic aspects in the creation of value to the guest renders transactions on Airbnb highly dependent on the host’s user representation. In particular, the question emerges whether and if so, how, a potential guest’s decision to book an apartment with a specific host depends on the host’s overall online appearance (Ert et al. 2016; Fagerström et al. 2017; Ma et al. 2017). Against this backdrop, we link the guest’s intention to book to the host’s user representation via the pathways of social and economic value. First, economic value refers to potential savings by booking via Airbnb as compared to traditional modes of consumption (i.e., hotels, hostels). Likewise, expectations of organizational overhead may reduce economic value. Second, the relevance of social value suggests that a guest’s intention to book is also driven by prospective (positive or negative) social interactions (Fareri and Delgado 2014; Sanfey 2007). In contrast to B2C e-commerce and traditional C2C platforms such as eBay, real-world social interactions represent an integral part of co-usage sharing. Also, we suggest that accommodation sharing represents a particular interesting example in view of social facets, since the expected personal interactions are quite strong (as compared to, for instance, ride sharing).

In this paper, we hence consider a research model of a guest’s view on a prospective accommodation sharing transaction. Based on social reward theory (Fareri and Delgado 2014; Krach et al. 2010), we consider how common artefacts of host representation affect potential guests’ perceptions and booking intentions. We sketch out a design to evaluate our research model by means of a scenario-based online experiment. Participants take the role of a guest and consider an apartment offer by a (non-professional) host. Our experiment design comprises four common elements of user representation which are varied based on a full-factorial treatment design, including the dimensions (1) text reviews, (2) profile information (e.g., occupation, hobbies), (3) star rating, and (4) the listing’s price.

The contribution of the outlined research is twofold. First, we enable a better understanding of the driving factors of guest decisions in accommodation sharing. In addition to expected economic value, we illustrate that such decision processes are also governed by expectations of social value. Second, drawing upon the literature on text sentiment analysis, we illustrate how different gradations of tonality contribute to forming booking intentions – and how this prevalent aspect of P2P platforms interacts with other factors such as textual profile information, prices, and star ratings.

The remainder of this paper is structured as follows. In the next section, we locate our study within the sharing economy literature, develop the theoretical foundation for our research model, and, based on this, derive our research hypotheses. We then present the blueprint for a scenario-based online experiment including treatment design, stimulus materials, and measurement instruments. Last, we discuss expected findings, practical and theoretical implications, as well as limitations of our study’s approach.
2 Theoretical Background and Research Model

The sharing economy experiences vigorous growth and consequently attracts increasing scientific attention. Previous research has focused mainly on two prime domains, namely mobility (Cohen and Kietzmann 2014; Teubner and Flath 2015) and accommodation sharing (Ikkala and Lampinen 2015; Karlsson et al. 2017; Tussyadiah and Pesonen 2016a). While there have been identified numerous motives for consumers to engage on sharing platforms (e.g., economic, social, sustainability-related, or anti-capitalistic considerations), economic and social motives are commonly considered as prevailing (Edbring et al. 2016; Hawlitschek et al. 2016; Ikkala and Lampinen 2015). Hence, beyond economic aspects, providers can leverage expectations of social value to market their products, services, and — ultimately — themselves. Given the high intensity and intimacy of social interaction in accommodation sharing, the interplay of economic and social factors is particularly interesting within this rapidly developing domain. In order to capture the important role of social (beyond economic) motives, social reward theory lends itself as an overarching framework to guide hypotheses development.

2.1 Social reward theory and text sentiment

Social reward theory posits that the general principle of maximizing expected outcomes — beyond economic factors — comprises social factors too (Fareri and Delgado 2014; Sanfey 2007). Engaging in rewarding interpersonal interactions has always been an important factor in the continuation of the human species (Tamir and Ward 2015). Consequently, the human brain has developed a variety of processes that reward us when engaging in social activities (Kelley and Berridge 2002; Tamir and Ward 2015). Krach et al. (2010), for instance, found that some of the most potent rewarding stimuli to humans can be obtained by experiencing positive social interactions and, in this vein, Fogg (2009, p. 4) argued that “[t]he power of social motivation is likely hardwired in us.” In line with that, Jiang et al. (2013, p. 582) referred to social reward as “the pleasure, satisfaction, and gratification individuals derive from participating in interpersonal interactions.” It can be obtained by a variety of activities, including meeting interesting people of diverse cultural backgrounds (Ikkala and Lampinen 2015), positive emotional expressions (Rademacher et al. 2010), mutual cooperation and fairness (Lieberman and Eisenberger 2008; Sanfey 2007), peer approval and friendly gestures (Bhanji and Delgado 2014), communication (Krach et al. 2010), or by others’ mere attention or social approaches (Buss 1983).

In this view, text-based communication has historically been an important means to establish and maintain interpersonal interaction. Assessing a text from a social and emotional perspective is hence a human key capability. In this regard, text sentiment refers to the quantification of a text’s positive or negative tonality which is derived from the connotation and constellation of the contained words. Social value and text sentiment both apply to transaction processes within co-usage sharing. As we outline in this paper, the interplay of prospective social value and text is associated with many steps of peer-based accommodation sharing and accompanies the entire process life cycle from search (textual elements on host profiles), initial booking requests (text messages), to post-transactional reviews (text-based). Moreover, platform providers deliberately place social cues to stimulate expectations about social value.

2.2 Research model

As stated above, previous research has identified different motives for participating in sharing in general. Among other things such as ecological sustainability and altruism (Hellwig et al. 2015; Leisemann et al. 2013; Tussyadiah 2015), intention to purchase from a specific provider is likely to be guided by the consumer’s perception of the provider — expressed through the respective user representation. We argue that a consumer’s purchase intention is driven by the inferences he or she makes on the respective transaction’s social and economic value. This yields the research model as depicted in Figure 1 for the case of accommodation sharing as a specific instance of co-usage sharing where the social interactions are expected to be stronger than other co-usage scenarios (e.g., ride sharing). Our underlying hypotheses link the platform’s interface design variables of the host’s user representation to the guest’s
intention to book via two main paths of expected social value and expected economic value (Fareri and Delgado 2014; Krach et al. 2010). We develop our hypotheses in the following.

![Schematic Research Model](image)

**Figure 1. Schematic Research Model.**

### 2.3 The influence of expected social and economic value on the guest’s intention to book (H₁, H₂)

Based on the notion of social value, a guest’s purchase intention may – beyond economic motives – be founded on expectations of positive social interactions (Hamari et al. 2016; Hawlitschek et al. 2016; Ikkala and Lampinen 2015). In a prospective transaction, the anticipation of co-usage particularly promotes such social aspects by providing opportunities for meeting interesting people or engaging rewarding interpersonal communication (Ikkala and Lampinen 2015; Krach et al. 2010). Consequently, platform operators actively emphasize and advertise such social aspects, for instance, by holding out the prospect of traveling and experiencing the foreign places ”like a local” (Airbnb 2016a), or by providing a sense of belonging around the world (Homestay 2017). The literature has established that social motives represent a strong driving force of consumer behaviour and decisions in the domains of electronic commerce (Chen et al. 2017; Jiang et al. 2013) as well as hospitality and tourism (Guttentag et al. 2017; Hawlitschek et al. 2016; Tussyadiah and Pesonen 2016b). We thus suggest that guests may be more inclined to book an accommodation with a certain host, because they believe that it would be worth it socially. Our first hypothesis states:

**H₁:** *A higher level of expected social value increases a potential guest’s intention to book.*

Besides this novel aspect of peer-based accommodation services, economic considerations still represent the single most important factor for the formation of booking intentions (Guttentag et al. 2017; Hawlitschek et al. 2016; Ikkala and Lampinen 2015; Tussyadiah and Pesonen 2016b; Wang and Nicolau 2017). Taking a guest’s perspective, economic value refers to the guest’s overall perception that a transaction is worth it *economically*, which entails (at least) two aspects. First, depending on a listing’s price, a peer-based accommodation may simply be – and often is – less expensive than an alternative comparable mode of consumption (e.g., a hotel; Guttentag 2015; Zervas et al. 2013). It is undisputed that such potential net benefits guide choices towards the less expensive alternative. Second, expectations of economic impairments, for instance due to financial losses (e.g., non-refunded deposits, hidden extra costs), additional organizational efforts and uncertainties (e.g., need for circumstantial personal messaging, waiting for host responses), and possible hassles along the process (e.g., late or no shows, lower-than-expected apartment quality), are likely to result in decreased booking intentions, where prospective losses typically outweigh prospective saving (Kahneman and Tversky 1979). In summary, expected economic value emerges as a potent driver of booking intentions in peer-to-peer accommodation sharing.

**H₂:** *A higher level of expected economic value increases a potential guest’s intention to book.*
2.4 The influence of profile information, text reviews, and star rating on expected social value (H3–H5)

Platform operators provide several features to promote prospective social value through social cues. One of them is the profile information section. Hosts are encouraged to disclose information regarding, for instance, their occupation, hobbies and interests, or a life motto (see Figure 2). By selecting the amount and type of information they want to share, hosts determine their way of self-presentation individually (Hong et al. 2012). Disclosing such information draws a more vivid picture of the particular person and hence provides additional value for guests as they may help to perceive that the prospective transaction partner is a real, multifaceted human being. Thereby, hosts can induce feelings of connectedness and intimacy by increasing liking and understanding (Altman and Taylor 1973; Janssen et al. 2014).

H3: The availability of profile information (regarding the host) increases a potential guest’s expected social value.

The presence of user-generated reviews represents a common design feature in today’s e-commerce applications. Cui et al. (2012, p. 45) outlined that “positive reviews by other consumers are indicative of a product’s quality and reputation.” In the context of platforms with informational asymmetry, such text-based evaluations of users’ experience remain the most prevalent and influential form of assessment (Chatterjee 2001; McKnight et al. 2002a, 2002b). This particularly applies for hospitality where users prefer feedback from other guests over information posted by travel agencies (Chen and Xie 2008; Gretzel and Yoo 2008). The effect of user reviews depends on their tonality, which can be quantified by a sentiment score. Bae et al. (2017) showed that travellers on Airbnb tend to share their experiences more often if the trip experience deviates from a neutral baseline. Therefore, the presence of a positive review can be seen as a signal of prospective above-average trip experience. Because the overall trip experience comprises social interactions with the host, our next hypotheses states:

H4: The availability of a positive text review (regarding the host) increases a potential guest’s expected social value.

Beside text reviews, star ratings represent a popular means of assessment. Typically, hosts and guests mutually rate each other once a transaction is completed (without knowing the other party’s assessment; Fradkin et al. 2017). In the context of Airbnb, for instance, those star ratings act as a reputation system, which represents an important source of information for guests to choose listings (Luca 2016). Ratings vary between 1 and 5 stars (with a displayed precision of 0.5 stars) and Airbnb encourages guests to evaluate their experience (Airbnb 2016b). The platform even encourages hosts to actively ask for reviews and feedback after each transaction (Airbnb 2017). A host’s average star rating score represents a quantification of overall (past) experience quality, and hence serves as a quality signal for prospective guests. Because the overall experience comprises social interactions, we consider a positive star rating as a signal for prospective social value. H5 thus states:

H5: The availability of an excellent star rating (regarding the host) increases a potential guest’s expected social value.

2.5 The influence of text review, star rating, and price on expected economic value (H6–H8)

In the context of Airbnb, expected economic value is characterized by the potential economic value of a stay in terms of utility, quality, and benefits balanced with monetary and non-monetary costs (Liang et al. 2016). Non-monetary costs include the time and effort for organizing a stay, risks association with booking online (Ponte et al. 2015), and potential complications along the process. Perceived risk increases with uncertainty and the magnitude of imaginable negative consequences (Kim et al. 2008). Due to the service character of Airbnb stays, guests can only estimate the risk of transactions upfront by judging available information and pre-trip communication. Positive electronic word-of-mouth in the form of advice provided through the online community was found to create trust in the hosts and to significantly reduce guests’ perceived risk by reassurance of not being deceived (Liang et al. 2016).
Hence, expected economic value is influenced by assessments of other guests, prior to engagement with a particular host (Bae et al. 2017). Such assessments can be seen on Airbnb in the form of text reviews. Abramova et al. (2017) reveal that guests are willing to pay more for positively reviewed listings. Thus, text reviews can be expected to play an important role for assessing economic value. Moreover, authentic positive reviews can emphasize additional benefits provided by the host and increase the perceived value of the stay. Overall, we propose that:

**H₆:** The availability of a positive text review (regarding the host) increases a potential guest’s expected economic value.

In addition to text reviews, average star ratings displayed on a host’s profile page commonly refer to host-guest interaction. Due to inflated star ratings on P2P platforms (Slee 2013; Zervas et al. 2015), most hosts exhibit either excellent (4.5 or 5.0 stars) or no star ratings at all, which is the case as long as the host has accommodated less than three guests (Gutt and Herrmann 2015). Based on this, the absence of a star rating can be mostly attributed to a host’s inexperience and should hence lead to greater perceived risk due to uncertain organizational proficiency. The economic impact of a host’s track record was demonstrated by Gutt and Herrmann (2015), showing that hosts increased their listing prices once ratings became visible. This is consistent with results by Ikkala and Lampinen (2014, 2015) and Edelman and Luca (2014), who find that Airbnb hosts leverage their reputational capital based on rating scores to set higher prices. In light of the notion of uncertainty reduction, we suggest that (excellent) star rating availability induces trust in a host’s capability and hence promotes potential guests’ expectations of economic value. Formally:

**H₇:** The availability of an excellent star rating (regarding the host) increases a potential guest’s expected economic value.

Last, a listing’s price directly determines a guest’s (monetary) costs when deciding to book. It needs to be balanced with the listing’s value to estimate expected economic value. Möhlmann (2015) showed how cost savings not only have a positive effect on perceived value but also on overall guest satisfaction and intention to choose a sharing option again. In contrast, higher prices decrease perceived value – especially if they differ greatly from what is perceived as adequate (Gutt and Kundisch 2016). In fact, a higher price can often be seen as a signal for premium quality. Considering a standard accommodation with no cues for special amenities whatsoever, the posted price primarily represents cost and can hardly be employed as a signal of quality. Thus, when differentiating price levels, everything else equal, lower prices are likely to increase economic value.

**H₈:** A lower listing price increases a potential guest’s economic value as compared to a higher listing price.

### 3 Experiment Design

To evaluate our research model, we seek to employ a scenario-based online experiment. The scenario is placed in an accommodation sharing setting similar to Airbnb. In the following, we outline the details of the scenario, treatment design, stimulus material, procedure, and the employed measures. In the experiment, each participant takes on the role of a potential guest, considering to book a given accommodation listing. Once participants have read the scenario description, they are forwarded to a page on which they see the (prospective) host’s profile page. Importantly, the apartment’s specific properties are described with a minimum of detail and identically across all treatments.

#### 3.1 Treatment design and stimulus material

The experiment constitutes a 2 (profile information displayed: yes, no) × 2 (star rating displayed: yes, no) × 2 (text review displayed: yes, no) × 2 (price: high, low) between-subjects full-factorial design. Hence, each participant only takes part in one of a total of 2⁴ = 16 treatment conditions. Moreover, we employ a balanced design with regard to the hypothetical host’s gender, where female and male hosts are equally likely. An example sketch of the host representation is provided in Figure 2. The four design variables are highlighted in orange.
Profile information (1): Participants either see no profile information at all (50% of all cases) or a brief description of the potential host, comprising typical information for accommodation sharing such as occupation, list of hobbies and interests (Ma et al. 2017). Consequently, the profile information is compiled randomly from predefined sets of common occupations (e.g., education, marketing, medicine) and common interests and hobbies (e.g., photography, volleyball, textile design).

Text review (2): Participants either see no text review (50% of all cases) or a positive text review. Alike profile information, the text review is randomly drawn from a set of typical, text-based assessments of hosts and overall trip experience. These reviews are obtained from actual Airbnb hosts, then anonymized and edited in terms of grammatical and orthographic correctness and language.

Star rating (3): Participants either see no star rating at all (50% of all cases) or one out of the two (positive) rating conditions of 4.5 or 5.0 stars. Star ratings on Airbnb are subject to a skewed distribution. 54.6% of listings have not yet received their star rating yet and 40.6% have either 4.5 or 5 stars (Ke 2017; Zervas et al. 2015). Our treatment design is aligned towards this distribution.

Price (4): Participants either see a high (50% of all cases) or a low price. We use $108 as low and $187 as high value, representing the 25- and 75-percentile of the price distribution for a typical booking (private room, two nights, including cleaning fee; Teubner et al. 2017).

With regard to all other elements of host and apartment representation, we seek to display as few pieces of information as possible in order not to direct attention to such – within the scope of this research – secondary aspects. In particular, this includes the host’s profile image, for which we use blurred pictures. Host names are picked randomly from a set of common first names. Beyond price, accommodation properties such as the availability of amenities, exact location, booking- and cancellation policies, and so forth are not displayed.

3.2 Measures

Whenever possible, and to ensure content validity, previously validated scales are used and adapted to the context of this study. Items for the (guest’s) intention to book are adapted from Gefen and Straub (2003), expected economic value from Kim et al. (2007), expected social value from Jiang et al. (2013). All items are measured on 7-point Likert scales. In addition to the constructs directly related to the research model, we collect demographic and trait information as control variables, including age, gender, experience with Airbnb, individual risk propensity (Dohmen et al. 2011), and disposition to
trust (Gefen 2000). Moreover, additional factors such as trust in host (Gefen and Straub 2003), perceived social presence (Gefen and Straub 2004), and perceived host-guest similarity (Reichelt et al. 2014) are collected and may serve as mediating variables in additional analysis.

4 Discussion and Conclusion

With the outlined research, we intend to contribute to a better understanding of the guest’s view on accommodation sharing in general and specific listings and hosts in particular. By validating our research model through the proposed scenario-based online experiment, we pursue the following contributions to the information systems literature. First, we explain a potential guest’s booking intention by linking it to the host’s user representation via the paths of social and economic value. By quantifying the influences of these two determinants and contrasting them against each other, we expect to reveal their relative weights in the booking process. Ultimately, this should result in a better understanding of consumer decisions in peer-based accommodation sharing and hence guide the (self-) marketing strategies of resource providers in peer-to-peer sharing. Second, we determine the effects of common user interface artefacts such as profile information, text reviews, and star ratings on booking intentions, specifying the importance of such elements as facilitators of prospective host-guest interactions. This may inform platform operators as well as users for designing, operating, and using peer-to-peer platforms.

Given Airbnb’s current attempt to broaden its business model beyond pure accommodation sharing (e.g., offering guided tours provided by locals, Airbnb 2016a, 2016c), we expect the interplay of social and economic value to increase in importance. Compared to, for instance, sharing a ride for a few hours, accommodation sharing exhibits much greater social intensity. Obviously, staying with a host for a weekend or longer involves high levels of intimacy abandonment. Such experiences certainly vary depending on whether the host is actually present during the stay (on-site host) or only for key exchange (off-site host). Examining whether and under which conditions our findings can be generalized to explain consumer behaviour in other domains of co-usage sharing hence represents a natural next step. Our study approach has several further limitations. First, a consumer’s actual decisions in accommodation sharing may vary from the stated perceptions and intentions within online experiments. To mitigate such effects, our experiment design portrays an actual booking situation as realistically as possible. Hence, both structure and the visual impression of the booking process are guided by the “look and feel” of popular accommodation sharing platforms. Further, for the sake of brevity, the layers of trust (i.e., the guest’s confidence that her vulnerability will not be exploited by the host; Cyr et al. 2009) and perceived social presence (i.e., the degree to which a medium allows a user to experience others as being psychologically present, Fulk et al. 1987) are not explicitly included in our research model. We anticipate these constructs to serve as important mediators for explaining the effects of host representation on social and economic value as well as booking intentions.
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Social and Economic Value on Airbnb


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