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Broeder, Peter; Remers, Elena

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# Eye contact and trust online

## The effect of profile pictures on Airbnb booking

Peter Broeder

Dept. of Communication and Cognition  
Tilburg University  
Tilburg, the Netherlands  
peter@broeder.com

Elena Remers

Dept. of Communication and Cognition  
Tilburg University  
Tilburg, the Netherlands  
elena.remers@outlook.com

This study investigates uncertainty and trust in peer-to-peer (P2P) e-commerce in the shared economy of Airbnb. On P2P marketplaces individuals do business with each other based on the concept of sharing. This type of business may cause a feeling of risk and uncertainty. Hence, trust fulfils a key element in the transactions. On the Airbnb platform profile pictures of the renter are included to diminish consumers' feelings of uncertainty. An experiment was performed with two accommodation offers that differed in eye contact (eye contact vs. no eye contact) on the profile picture. In total 319 participants took part in the experiment, 157 Dutch and 162 French. The results revealed that a profile picture with eye contact brought along more trust than without eye contact. Further, a higher level of trust led to a higher booking intention. Although the French were more uncertainty avoidant than the Dutch, no moderation effect was found for uncertainty avoidance on booking intention.

**Consumer behavior, persuasion marketing, trust, shared economy, cross-cultural, Airbnb.**

### I. INTRODUCTION

While e-commerce was first principally about business-to-consumers (B2C), a new type of business has arisen: peer-to-peer (P2P) e-commerce. On P2P marketplaces individuals do business with each other based on the concept of sharing. The idea of these online marketplaces is that consumers transact directly with other consumers, while the marketplace platform is managed by a third party [1]. Although these marketplaces (e.g. Ebay) have become quite normal in our daily life, a new type of P2P commerce has arisen, called 'the sharing economy' [2].

In a short time, many new platforms have emerged that include transport (Blablacar), parking space (Parknow), and foodservice (Eatwith) [3]. Airbnb (AirBed & Breakfast) is an interesting option for people who try to avoid the high hotel prices in the city. P2P activities in the shared economy may cause a feeling of risk and uncertainty. Hence, trust fulfils a key element in the transactions. The present study focusses on the Airbnb platform, where pictures of the renter are included to diminish consumers' feelings of uncertainty. The research question of this study is as follows: What is the influence of

profile pictures (i.e. differences in eye contact) on trust and booking intention for an Airbnb accommodation and what will be the effect of a cultural background, differentiated by uncertainty avoidance?

### II. HYPOTHESIS FORMING

#### A. Eye contact and booking intention

One of the big differences of the sharing economy in comparison to the early P2P markets is that they contain more personal information [1]. Different mechanisms to get information about a person have been introduced, such as identity verifications, rating systems, text reviews, and connections to social media accounts. A profile picture in a P2P platform can influence consumer behavior the same way as a brand name can in business-to-consumer (B2C) markets. When looking at personal information on Airbnb, photos of the seller/renter are an important information source in deciding to book the accommodation.

In a profile picture, the eyes form an important social cue in impression formation. The eyes are an essential facial feature that serve as a cue to stimulate interactions. Whereas the presence of eye contact is a signal of the willingness to interact, eye contact avoidance is often a silent treatment and associated with deception [4]. Hence the following hypothesis is proposed:

*Hypothesis 1:* A profile picture with eye contact yields a more positive effect on the booking intention than a profile picture without eye contact.

#### B. Eye contact and trust

As stated by Airbnb they offer "a trusted community marketplace for people to list, discover, and book unique accommodations around the world" [5]. Despite the benefits of Airbnb (such as, saving money, memorable experience) doing business with an unknown person seems risky. One of the most critical steps to establish is building the feeling of trust [6]. Trust is an important determinant in affecting consumers' behavior [7]. Several studies have demonstrated that purchase intention is positively influenced by trust [8] [9]. In addition, individuals who make direct eye contact with the target person are more trustworthy than individuals who do not make direct eye contact [10] [11]. The following hypotheses are built:

*Hypothesis 2:* A profile picture with eye contact yields a higher level of trust than a profile picture without eye contact.

*Hypothesis 3:* The higher the level of trust the more this positively affects the intention to book an accommodation.

### C. Uncertainty avoidance

In (global) e-commerce cultural background of consumers should be considered. Hofstede [12] defines the dimension of uncertainty avoidance as “the extent to which the members of a culture feel threatened by uncertain or unknown situations”. Cultures with a high degree of uncertainty avoidance try to avoid uncertain situations and “look for structure in their organizations, institutions and relationships, which makes events clearly interpretable and predictable” [13] [14].

Indeed, several empirical studies demonstrated that cultures with a high degree of uncertainty avoidance are more careful with activities on the online web [15]. Recently, Yıldırım, Arslan, and Barutçu [16] examined the role of uncertainty avoidance in online shopping expenditure. They investigated the data of 54 countries that differed in their level of uncertainty avoidance. Europe e-commerce reports were used to measure the online shopping expenditure. The findings were in line with previous research as they revealed a negative effect of uncertainty avoidance on shopping expenditure [17]. The higher the level of uncertainty avoidance of a culture the less is spend on online shopping. Hence, the following hypothesis is formulated:

*Hypothesis 4:* The effect of the presence of eye contact in a profile picture on booking intention will be stronger for a higher uncertainty avoidance culture than for a low uncertainty avoidance culture.

## III. METHODOLOGY

The study had a 2 (profile picture: eyecontact, no eye contact) x 2 (culture: Dutch, French) between-subjects design. The dependent variable was booking intention. In the research model, trust was the mediator and uncertainty was the moderator. Participants were randomly assigned to two Airbnb accommodations offers that only differed in profile picture of the host.

### A. Sample

In 2017, a total of 319 respondents completed an online survey: 196 females and 123 males, mean age was 23.40 yrs. (age range 18-40 yrs.). There were 157 Dutch, and 162 French respondents, mostly living in the pertinent countries (the Netherlands and France). Their cultural background was checked through self-identification (*To what ethnic group do you belong?*). According to Hofstede [12], France is a high uncertainty avoidance culture (score 86 on a 0-100 scale). The Netherlands show a smaller preference for avoiding uncertainty (score 53).

### B. Accommodation offer

The Airbnb accommodation offer was presented with a profile picture of the host in two different contexts/conditions. Figure 1 shows the accommodation offer with the profile picture of the host with eye contact.

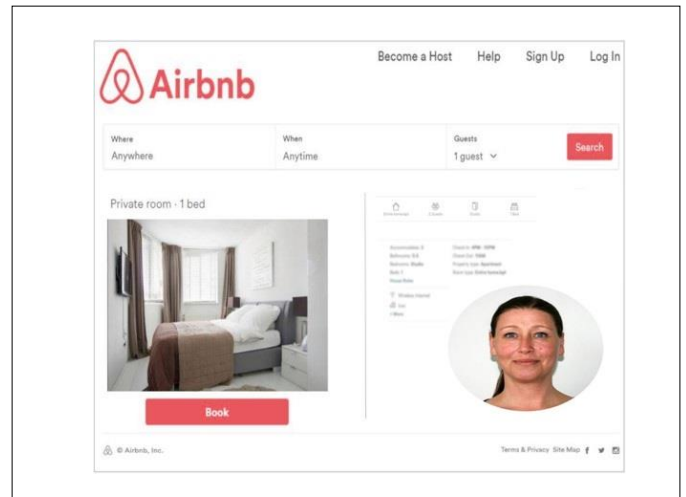


Fig. 1. Airbnb accommodation offered by a host with eye contact.

The Airbnb accommodation offered by the host without eye contact is given in Fig. 2.

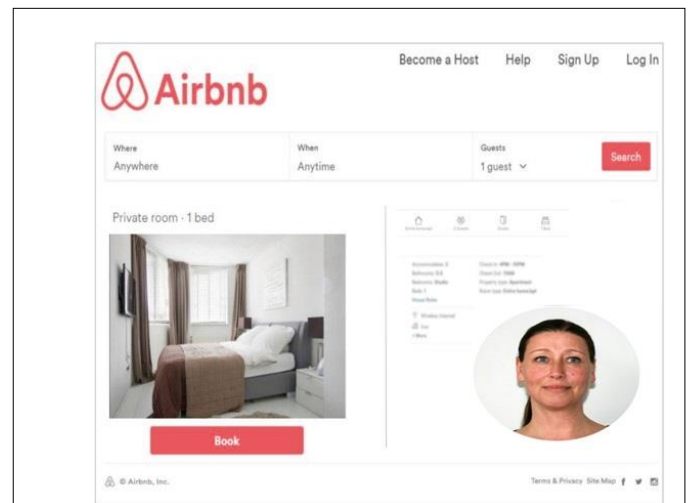


Fig. 2. Airbnb accommodation offered by a host without eye contact.

### C. Questionnaire

The respondents of the online questionnaire were asked to imagine the following scenario: *Imagine you are going to travel alone and you are looking for a private room with one bed in the center of a big city for a reasonable price. You found the following accommodation on Airbnb that matches all criteria you are looking for.* Then they were shown the Airbnb accommodation offer and were asked some questions.

*Booking intention* was measured with one statement (*I would like to book this accommodation*). Answers were given on a 5-point-scale (*strongly (dis)agree*):  $M = 3.95$ ,  $SD = .92$ ). The trust scale was adapted from [3]. There were five statements (e.g., *Overall, this host appears very trustworthy*). Answers were given on a 5-point-scale (*strongly (dis)agree*):

$M = 3.60, SD = .57$ ). The trust scale had an acceptable reliability in this sample with Cronbach's  $\alpha = .78$ . Uncertainty avoidance was measured with seven items adapted from [18], based on Hofstede's [12] definition of uncertainty avoidance (e.g., *I prefer structured situations to unstructured situations*). Answers were given on a 5-point-scale (*strongly (dis)agree*):  $M = 4.56, SD = 1.10$ . This scale had a good reliability with Cronbach's  $\alpha = .85$ .

#### IV. RESULTS

An independent t-test showed that, on average, participants did not differ in booking intention when exposed to a profile picture with eye contact ( $M = 3.94, SD = .98$ ) or to a profile picture without eye contact ( $M = 3.96, SD = .98$ ) ( $t(317) = -.13, p = .90$ ). This does not support hypothesis 1.

On the other hand, on average, participants differed in trust when exposed to a profile picture with eye contact ( $M = 3.96, SD = .57$ ) or to a profile picture without eye contact ( $M = 3.52, SD = .56$ ). This difference, 0.44, was significant, ( $t(317) = 2.71, p = .007$ ). This supports hypothesis 2.

To investigate whether booking intention can be explained by differences in profile picture and trust, a mediation analysis was performed using the PROCESS procedures developed by Hayes and Preacher [19]. In this analysis, profile picture was entered as a predictor for booking intention, and trust was entered as mediator. A more detailed picture emerged in which the relationship between profile picture and booking intention was mediated by trust. The model displayed in Fig. 3 shows that the standardized regression coefficient between profile picture and trust was statistically significant, as was the standardized regression coefficient between trust and booking intention. The total standardized indirect effect was significant ( $b = -.05, SE = .03, 95\% \text{ BCa CI } [-.12, -.01]$ ). The significance of this indirect effect of this indirect effect was tested using bootstrapping procedures (5000 samples).

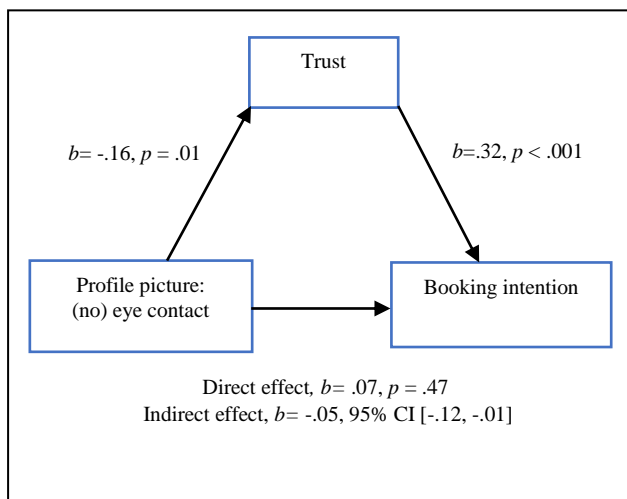


Fig. 3. Model of profile picture as a predictor of booking intention, mediated by trust. The confidence interval for the indirect effect is a BCa bootstrapped CI based on 5000 samples.

Hypothesis 4 assumed that difference in the degree of uncertainty avoidance between the Dutch and French cultures, could influence the strength of the relationship between the profile picture and the intention to book the accommodation offer. An independent t-test, indeed confirmed that on average, the Dutch participants ( $M = 4.28, SD = 1.04$ ) were less uncertainty avoidant than the French ( $M = 4.83, SD = 1.10$ ) This difference, 0.45, was significant, ( $t(317) = 2.71, p = .007$ ). Then a PROCESS model [19] was conducted, with booking intention as independent variable, profile picture as dependent variable, and culture as moderator. The overall model was not significant,  $R^2 = .01, F(4, 314) = .58, p = .67$ . Cultural background did not have a significant main effect on booking intention ( $b = .02, 95\% \text{ CI } [-.19, .22], t = .16, p = .87$ ). Moreover, no interaction effect was found between cultural background and profile picture.

#### V. CONCLUSION AND DISCUSSION

In this study, no direct effect of the presence of eye contact in a profile picture could be found. An explanation might be that people form an impression of a person based on other facial features as well, such as the mouth shape. Maybe, the eyes are not the most important factor in people's decision making. However, in this study we found that the use of a profile picture with eye contact yields a higher level of trust. This is in line with several studies about trust mechanism in both B2C and P2P e-commerce [1] [20] [21]. Profile pictures bring along cues that help to build trust in comparison to the exclusion of a profile picture. In addition, the eyes are an essential feature in trust forming. A person that makes eye contact is perceived as someone that can be trusted [22], [23]. On the other hand, a person that does not make eye contact generates the feeling of hiding something and will be evaluated as less trustworthy [24]. Hence, a higher level of trust in the host will lead to a higher booking intention. Already in B2C e-commerce it was found that trust is one of the most important factors that may affect people's purchase intentions [25], [26]. In P2P e-commerce trust seems to be even more important as people must build trust towards the product, the platform and the person they are doing business with [27].

This study investigated the effect of cultural background. High uncertainty avoidance cultures are less willing to make online transactions and need extra cues to diminish their feeling of uncertainty. The results revealed that the Dutch were less uncertainty avoidant than the French. This finding is in a sense in line with Hofstede's [13] framework that states that the French are more uncertainty avoidant than the Dutch. However, this cultural difference did not lead to a difference in the effect of eye contact on the profile picture in their intention to book the accommodation.

#### VI. LIMITATIONS AND FURTHER RESEARCH

This study gave some new insights in what people find important when booking an accommodation that may be interesting for future research. First of all, the participants were exposed to an accommodation offer with a profile picture and a picture of the accommodation. In addition,

previous research has demonstrated that reputation of the host [20], and review scores [1], are important factors in building trust and peoples booking intention. In addition, the participants indicated that the price and information about the accommodation are important in their decision-making process. Future research could investigate which combination of aspects may affect the development of trust and the willingness of booking an accommodation. Besides an accommodation service such as Airbnb there are many other P2P platforms concerning different services (i.e. transport, parking space, and foodservice) [3]. Further research could investigate whether the eyes are just as important on other kinds of P2P platforms as they are on Airbnb. Lastly, two cultural backgrounds were investigated, both European. Whereas in Western countries direct eye contact is associated with respect, trust, and politeness, in many other cultures (e.g. Asia, South-America, Middle East) direct eye contact is often considered as rude and inappropriate [28]. Further research could examine whether the effect of eye contact on booking intention will be different for people from other cultural backgrounds outside Europe.

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