# Digital Trust and Peer-to-Peer Collaborative Consumption Platforms: A Mediation Analysis

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This paper investigates the nature of digital trust in the context of P2P collaborative consumption platforms. We have analyzed data from the website Trustpilot.com (N=5,606), survey data from users of the online sharing platform Airbnb (N=232), and data retrieved from an online experiment conducted among current non-users of a fictitious online sharing platform (N=462). The findings reveal that trust in P2P collaborative consumption platforms (Airbnb, Lyft, and Uber) is lower than trust in P2P exchange first generation platforms (Ebay), as well as large online retail services and non-P2P platforms (Walmart, Zappos, Amazon). Furthermore, we find that the three trust-building management measures: 'reliable insurance cover', 'simultaneous reviews', and a 'large network: many offers worldwide' had a positive effect on 'trust in the platform provider'. The findings confirm the hierarchical nature of the two-fold trust construct, meaning that 'trust in the platform provider' has a positive effect on the 'trust in peers' sharing on this platform. A mediation analysis reveals that 'trust in the platform' fully mediates all statistically significant effects of trust-building measures on the 'trust in peers' variable.

**KEYWORDS:** Collaborative consumption, sharing economy, peer-to-peer, trust, mediation.

Over the last couple of years, collaborative consumption[i] which is often associated with the sharing economy has become an emerging trend, radically changing consumer behavior and the service landscape on a large scale (Avital et al. 2015, Botsman and Rogers 2010, Möhlmann 2015). Many collaborative consumption services are facilitated via peer-to-peer (P2P) online platforms (Botsman and Rogers 2010, Fraiberger and Sundararajan 2015, Horton and Zeckhauser 2016, Sundararajan 2016). Examples include short-distance transportation such as Uber and Lyft, city-to-city ridesharing services such as BlaBlaCar, P2P car renting such as Getaround or RelayRides, or platforms for household tasks such as TaskRabbit. One successful example that has been discussed in popular media more recently is Airbnb, an online sharing platform where private people can connect with each other to temporarily rent accommodations. The international portfolio of Airbnb counts for more than two million offers that range from rooms or apartments in large cities such as New York, houseboats in Amsterdam, to cottages in England on more than 190 countries worldwide (Airbnb 2016).

However, more recently, several incidents discussed in popular media in the context of collaborative consumption have included theft, rape, and even willful damage. This adds to the low trust and confusion about the legal institutional arrangements associated with P2P collaborative consumption platforms. For instance, the short-distance transportation company Uber faced heavy protests when trying to establish itself in Europe. Uber drivers do not always have transportation licenses, like the ones issued to official taxi drivers. As such, using Uber cars is still considered a rather 'grey' legal area in many countries. Other horror stories reported include those about Airbnb guests damaging apartments because of toilet overflows, burning kitchens, and escalating parties. On the P2P level researchers have made reference to the 'moral hazard problem'. This is the concern about potential damages of the unit of transaction based on unobservable actions of the peers one is sharing with (Weber 2014). The underlying assumption is that P2P sharing is conducted by rational and self-interested individuals (Johar et al. 2011).

There is increasing interest of the research community on topics related to P2P collaborative consumption platforms. In 2016, the International Conference on Information Systems (ICIS 2016)

introduced a track called "Crowdsourcing, Crowdfunding, Blockchain and the Sharing Economy". However, academic research on the antecedents to digital trust and the nature of the trust construct in the particular context of P2P collaborative consumption platforms is still extremely rare. Thereby, existing research on trust in information systems management can be challenged (see below for detailed discussion). We aim to answer three research questions:

***RQ1: Is digital trust in P2P collaborative consumption platforms different from trust in services provided by conventional platforms?***

***RQ2: Which management measures have a positive effect on digital trust in P2P collaborative consumption platforms?***

***RQ3: Is digital trust a hierarchical construct, meaning, does trust in the platform act as a mediator for all the effects of trust-building management measures on trust in peers of P2P collaborative consumption platforms?***

Insights from our results might assist managers of P2P collaborative consumption platform providers to develop targeted marketing strategies (Lamberton and Rose 2012), practice effective acquisition of new customers, and to strategically manage trust. A better understanding of this new form of consumption might also hold value for competitors to sharing economy services, such as hotel chains, car services or retail associated with conventional service offers (Belk 2014). As they are in danger of being replaced by such new forms of consumption, traditional industries need to grasp major transformations in consumer behavior.

## THEORETICAL PART

Following the logic of our three research questions, the theoretical part contains three parts. First, we discuss how digital trust in the context of P2P collaborative consumption platforms is different from other platforms. Second, we discuss relevant trust-building management measures in the context of P2P

collaborative consumption platforms. Third, we discuss the hierarchical and mediating nature of digital trust in this context.

## 1. DIGITAL TRUST IN THE CONTEXT OF P2P COLLABORATIVE CONSUMPTION PLATFORMS IS DIFFERENT

Platforms evolve over time and create diverse logics, resulting in inter- and intra-platform differences (Henfridsson and Bygstad 2013, Tiwana 2015, Yoo et al. 2010). Based on this assumption, we argue that building and managing digital trust in the context of P2P collaborative consumption platforms is different (and much more difficult) compared to other contexts. With these other contexts, we refer to the (first generation) of P2P exchange platforms (e.g., Ebay), as well as online retail services and non-P2P platforms (e.g., Walmart, Zappos, Amazon). We identify four contextual characteristics of differentiation. We discuss how each of these characteristics challenges prior research on trust. By doing so we introduce the research contributions this paper has to offer:

***First, the dyad of relationships known from many conventional service exchanges in e-commerce is extended to a triad of relationships.*** In difference to traditional retail services, at least three parties are involved in each transaction. These are the users of a service, the provider of the online sharing platform (intermediary), as well as the peers one is sharing with on a respective platform (the latter often labelled as the 'crowd') (Hagiu and Spulber 2013, Parker and Van Alstyne 2005, Pavlou and Gefen 2004, Sundararajan 2016, Weber 2014). In this regard, many acts of collaborative consumption via online sharing platforms can be classified as 'firm-market hybrids'. Providers of online sharing platforms solely facilitate frame conditions, for instance through the supply of branded service offers. Thereby, the principle element of the service is delivered by a network of private people in the form of peers conducting sharing activities on these platforms. The boundaries between the provision of private and professional services are blurring (Sundararajan 2016). ***This characteristic challenges prior research on trust,*** because it requires the necessity to differentiate between trust in the provider of the collaborative consumption online platform, and trust in peers conducting sharing activities on this platform. Such a distinction has not always been

made in current research when addressing trust (see next chapter for more details). In addition we argue that repeated interaction with a platform does not necessarily mean that there is repeated interaction with a peer acting on this platform. Thus, we cannot simply transfer knowledge we have about initial or repeated interaction from other e-commerce settings (e.g., Fang et al. 2014, McKnight et al. 2002a) to the context assessed in this paper.

***Second, the intensity of social interaction among peers is stronger in many collaborative consumption contexts compared to the more or less anonymous transactions carried out via conventional platforms such as Ebay*.** In the latter case, most often packages are sent and transaction partners have never meet each other in person. However, in many collaborative consumption settings, even face-to-face interaction takes place among peers, for instance when handing over the keys to an apartment booked via Airbnb or when renting a car from a peer via Getaround and Turo (previously RelayRides). As a result, users are literally entering the personal space of others (e. g. their apartment or car) and thus interact on a more advanced social level. ***This characteristic challenges prior research on trust.*** Given the fact that the social dimension becomes more relevant in collaborative consumption contexts, one could argue that "old-fashioned" forms of trust identified from offline contexts might experience a rebound. In the particular case of collaborative consumption, it might be valuable to use sociology (Zucker 1986), or a "human-based" (Lankton et al. 2015) approaches to trust. In difference to economists, sociologist are more interested in underlying framework conditions, as well as how personal character traits (e.g., a person's propensity to trust) shape trust relationships (Zucker 1986).

***Third, in comparison to most conventional services, the underlying principle of collaborative consumption is a recurring short-term rental rather than a resale of goods*** (Fraiberger and Sundararajan 2015, Horton and Zeckhauser 2016), indicating a preference for access over possession (Bardhi and Eckhardt 2012). ***This characteristic challenges prior research on trust.*** In this specific context, trust refers to the pickup of the object of temporary exchange, but also the treatment by the user during the rental process, as well as to the expected return in a good condition. One can argue that rental processes bear a

higher risk, since the duration of interaction is longer and the quality of previously used services is harder to predict.

***Fourth, in comparison to most conventional services, the unit of exchange is most often a service, rather than a good.*** Certainly, a shift from a goods-based to service-based exchange relationship is evident in information systems (Lusch and Nambisan 2015). ***This characteristic challenges prior research on trust.*** In comparison to an exchange of goods taking place on online platforms such as eBay, we know from the basics of service theory that during a service transaction, additional factors such as punctuality, cleanliness, and reliability become central. Given that there are many more factors of relevance associated with a collaborative consumption services, one could argue that (again) there is a higher risk associated with using them because there is 'more that can go wrong'. It might be harder to assess aspects of the quality of a service, such as the coziness of an apartment based on information provided via an online platform compared to the quality of a physical object (good), such as a chair bought via Ebay.

Based on the argument that the management of trust on P2P collaborative consumption platforms is much more difficult than the management of trust in services provided by conventional P2P platforms or service enabled by digital technology, we provide empirical results to get a better understanding on these trust differences in the following.

## 2. TRUST-BUILDING MANAGEMENT MEASURES IN THE CONTEXT OF P2P COLLABORATIVE CONSUMPTION PLATFORMS

In the last couple of years, many new options to introduce innovative management measures to customers became available for managers. Many of them have previously been discussed by researchers in the context of online marketplaces or e-commerce or technology enabled applications (e. g., Benbasat et al. 2010, Bolton et al. 2012, Son et al. 2006 etc.). These include, for instance, manifold possibilities for mutual peer ratings (e. g., points, running text, categories), sufficient possibility to describe the listing (e. g., descriptions and images) or a strong statement concerning privacy policy.

Unlike these well accepted digital trust-building management measures, we aim to understand the potential effects of more innovative measures that are not extensively researched yet: *reliable insurance cover*, *simultaneous reviews*, and a *large network: many offers available worldwide* (Figure 1). For each one, we discuss why we believe that they are particularly relevant in the context of P2P collaborative consumption platforms. By referring to the explicit examples, we aim at taking a practice-based view:

**Reliable insurance cover:** As a consequence of negative media coverage following a case of Airbnb guests vandalizing an apartment in San Francisco in 2011, Airbnb announced that they had implemented a $50 thousand guarantee for their guests. Since then, the sum covered by the insurance has grown incrementally. By now, the Airbnb insurance covers up to $1 million in case of damage in countries based in North America, Europe, and some Asian countries (Airbnb 2016). In implementing such practices, Airbnb became the role model for many other collaborative consumption services. Indeed, other services such as Turo, one of the largest peer-to-peer car lending companies worldwide, offers similar insurance cover to their customers.

By building on previous research, we argue that insurance cover can be traded as an innovative management measure to build digital trust in the particular context of P2R collaborative consumption platforms. Indeed, Tang et al. (2003) found that many people affirm insurance to positively affect trust in internet settings, since it is a tool to minimize uncertainty in contexts where users rarely know each other (Son et al. 2006, Tang et al. 2003). Insurance cover can be considered as some sort of 'structural assurance': structures that are in place to create an environment that feels safe and secure (McKnight et al. 2002a and 2002b). This idea also builds on the thoughts of Zucker (1986) who considers trust to be an institutional construction.

***The management measure 'insurance cover' seems to be particularly important in the context of collaborative consumption platforms*.** The financial risk associated with accommodation sharing such as Airbnb seems to be particularly high, because there is considerable cost involved in potential negative

incidents such as bursting pipes and burning kitchens (compared to probably lower financial risks of buying an average good via Ebay). In general, we argue that insurance cover seems specifically relevant in many cases of P2P collaborative consumption platforms due to the fact that services rather than goods are provided by private people rather than professionals (Sundararajan 2016). This leads to situations in which no trained staff is available to handle exceptional and potentially dangerous situations.

**Simultaneous reviews:** Airbnb implemented simultaneous reviews (also so-called double blind reviews) in July 2014 (Zervas et al. 2015). This means that users have the opportunity to mutually rate each other, while both sets of feedback are revealed simultaneously after being submitted from both parties. This approach is supposed to prevent reciprocal feedback, the potential retaliation of negative ratings, and social desirability bias (Bolton et al. 2012). Indeed, P2P review system in the context of collaborative consumption have been shown to be not very reliable due to biased review behavior of peers: they might feel bad when leaving a negative review, even though the service experience was not satisfying to them (Slee 2016).

Simultaneous reviews can be considered as a progression of conventional peer based reviews – a tool that has been previously addressed as one major measure affecting trust in online platforms (Bolton et al. 2012, Slee 2013). Indeed, review systems provide information on the previous performance of a user, facilitate the easy documentation of deviant behavior, and build reputation capital (Bolton et al. 2012, Keymolen 2013). Researchers have been using social capital theory to understand how reviews can build trust. The basic assumption is that individuals are better off building a digital trust profile in the long term, rather than seeking short-term benefits that might results in bad digital trust scores that might have negative long-term effects.

***The management measure 'simultaneous reviews' seems to be particularly important in the context of collaborative consumption platforms.*** Indeed, simultaneous reviews are in particular relevant in a P2P context. Collaborative consumption platforms are characterized by the fact that peers are sharing with each other, while the platform is facilitating this transaction. As argued previously, this leads to the

fact that services are characterized by a high degree of social interaction (see more detailed discussion above). Thus, biased review behavior is even more likely than in other contexts (Slee 2016, Zervas et al. 2015), where social interaction might be less evident. No wonder Airbnb has implemented this measure.

**Large network: many offers available worldwide:** The Airbnb is the largest accommodations online sharing platform worldwide. Currently the Airbnb network is offering space in more than 34,000 cities in almost all countries worldwide. Since its formation in 2008, it has attracted more than 25 million user bookings (Airbnb 2016).

Network effects on two-sided platforms are generally known to lead to higher utility levels. Indeed, there is higher value for users such as buyers the more sellers there are and vice versa (Hagiu and Spulber 2013, Parker and Van Alstyne 2005, Sundararajan 2016). In line with this, disclosing an e-marketplaces size (Son et al. 2006) or the perceived size of an internet store (Jarvenpaa et al. 2000) have been associated with higher trust levels.

***The management measure 'large network: many offers worldwide' seems to be particularly important in the context of collaborative consumption platforms***. As mentioned previously, it is characterized by the fact that the dyad of relationships known from many conventional service exchanges is extended to a triad of relationships. Next to the platform provider itself, these are the peers sharing on these collaborative consumption websites (Pavlou and Gefen 2004). Picture a scenario where several peers offer one room via Airbnb for a duration of three weeks each year. You would need about 17 peers each year (52 weeks per annum divided by 3 weeks) to host as many people via Airbnb as one single hotel room could accommodate, assuming the hotel room is available all year. That would be equivalent to 1700 peers each year compared to one hotel with a capacity of 100 rooms. Since private people usually offer services on a small scale compared to commercial providers, a large network is necessary to assure that demand and supply are matched successfully in the context of collaborative consumption.

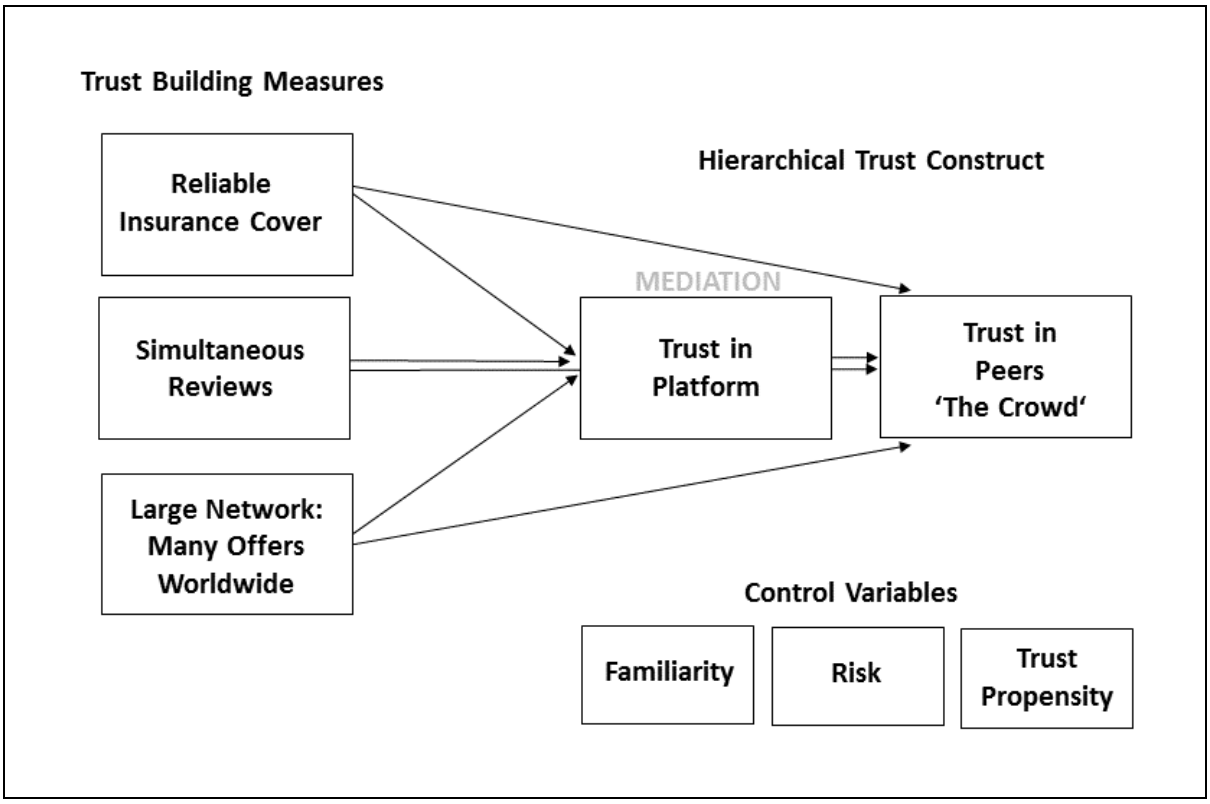



*Figure 1:* Model on trust-building measures and the hierarchical construct of trust in a P2P collaborative consumption online sharing platform

**Control variables***:* In addition, it is controlled for three variables, which have intensively been discussed in theory and in prior literature addressing trust. First, building on the sociologist Luhmann, who states that trust can only be constructed in a familiar environment (Luhmann 1979), familiarity (Bhattacherjee 2002) is conceptualized to be one control variable. Thereby, familiarity has been described as a 'cumulative process' (Burt 2000:4), meaning that trust is increasing with every positive experience made, and stable if that positive experience is made over and over again. Second, many authors have been emphasizing the concept of trust and of risk to be closely linked (Mayer et al. 1995, Pavlou and Gefen 2004, Schlosser et al. 2006). Third, many authors theorize trust propensity to be an important factor in trust relationships (Lee and Turban 2001, Mayer et al. 1995). With this variable, it is referred to the propensity of people to trust a person or thing. The level of trust propensity is anticipated to differ in different cultural settings (Lee and Turban 2001). Again, in the previous chapter, reasons are presented as to why an analysis of these control variables seems extremely valuable in the context of collaborative consumption.

## 3. THE HIERARCHICAL AND MEDIATING NATURE OF DIGITAL TRUST IN THE CONTEXT OF P2P COLLABORATIVE CONSUMPTION PLATFORMS

Researchers constitute trust to be of high importance in interpersonal and exchange relationships, and therefore to be a key variable in customer relationship management. Consequently, Mayer et al. (1995:712) define trust as a behavioral intention or the 'willingness of a party to be vulnerable to the actions of another party based on the expectations that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party. Trust has, in particular, been discussed to be of key relevance for transactions embedded in online settings (Bhattacherjee 2002, Dimoka 2010, McKnight et al. 2002b, Pavlou and Gefen 2004, Steward 2003).

Mayer, Davis, and Schoorman (1995) argue that parties involved in a trust relationship, respectively the trustor (trusting party) and the trustee (to be trusted), should be specified in detail, rather than turning towards the measurement of generalized trust expectations. Such specification is necessary to appropriately assess the explicit relationship which is the unit of analysis.

While trust has been conceptualized as a one-dimensional construct in many research contributions addressing e-commerce (Bhattacherjee 2002), more lately, some researchers have considered the two-fold nature of the trust construct. They differentiate between trust in the platform and trust in peers (Chai et al. 2011-2012, Chai and Kim 2010, Pavlou and Gefen 2004). This logic builds on literature focusing on two-sided platforms (Hagiu and Spulber 2013, Parker and Van Alstyne 2005). It is argued that such logic might also be evident in the context of collaborative consumption services facilitated via online based sharing platforms (Hawlitschek, et al. 2016).

Given the fact that a network of private people or 'peers' deliver the principle part of the service, while the platform facilitates the frame conditions of the transaction (Sundararajan 2016), a distinct consideration of these two stakeholder groups seems only logical. Thus, on the one hand, users might trust that the platform provider does facilitate all sharing transactions well. On the other hand, users might trust the other users of the platform, namely the peers that one is sharing with, to deliver well the service.

Indeed, there is a strong theoretical background addressing the hierarchy of trust dimensions. Steward (2003) uses the label 'trust transfer' to theorize the phenomenon that trust might be transferred from one source to another in a hierarchical order (Steward 2003). Luhmann (1979) captures this relationship from a sociological systems-theoretic perspective. In his work, an interdependent link between *system trust* and *personal trust* is theorized. The system refers to underlying norms, rules, and principles. System trust is trust in the every function of the system environment. Thereby, personal trust relationships are embedded in such systems. Personal trust refers to trust between individuals and in the transactions between individuals (Gilbert and Behnam 2013, Jalava 2006). Zucker takes an institutional theory point of view and argues that trust is an institutional production (1986:57-58). She defines two major components of trust. The first one is *background expectations*, common understandings and general attitudes of daily life, expected to be shared by all members of a community. The second component is *constitutive expectations*, referring to rules valid in situational contexts. These are influenced by inter-subjective meaning and mutual expectations. Among others based on Zucker's work, several authors have applied an institution-based trust logic in e-commerce or online auction platform settings (Fang et al. 2014, Pavlou and Gefen 2004). Pavlou and Gefen (2004) emphasize that trust-based transactions between peers on online platforms is based on the very existence of stable institutional frameworks. Institution-based trust is the user's perception on the implementation of conditions by a third-party to facilitate transactions. This third party, respectively the platform provider, determines the setting in which peers conduct sharing activities with each other.

In this regard, we differentiate between two constructs: *trust in the platform* and *trust in peers*. By placing digital trust within a context of antecedents, the hierarchy of trust dimensions becomes evident in the form of mediation effects (Figure 1). This is a novel approach. Previous research that first differentiated between those two trust dimensions (e. g., Pavlou and Gefen 2004) did not conceptualize or test potential mediating effect so of the *trust in the platform* (or intermediary) variable, but focused on other aspects.

## EMPIRICAL PART

In study one, we aim to address research question one by drawing on data available via Trustpilot.com (N=5,606). Research question two and three are addressed in study two and three. In study two, we conduct a survey among users of the online sharing platform Airbnb (N=232) and in study three, an online experiment among current non-users/or potential users of a fictitious online sharing platform (N=462).

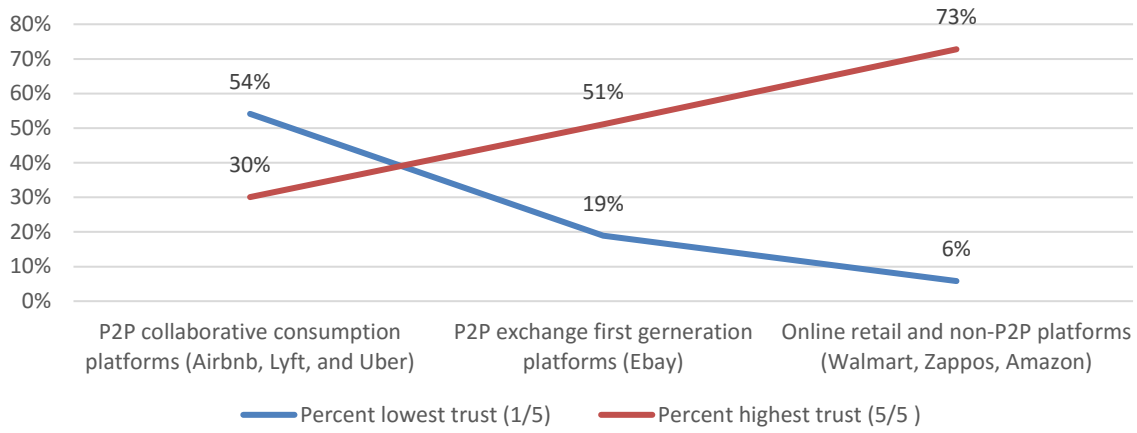
## 1. STUDY ONE: DESCRIPTIVE TRUST-DATA FROM DIFFERENT ONLINE PLATFORMS

**Data Collection and Sample:** We retrieved publically available data from the online platform Trustpilot.com and used the data to get a better understanding of the different trust levels between P2P collaborative consumption platforms (Airbnb, Lyft, and Uber) and services provided by conventional platforms. Trustpilot.com describes itself as a community that uses peer reviews to build trust between business and users. Indeed, while users often have the opportunity to rate other users, this service seeks to display ratings on the trustworthiness of business in form of platform providers. We directly harvested the data from the web interface of the website.

**Measurement and Data Analysis:** We retrieved all numeric trustworthiness ratings available from well-known P2P collaborative consumption platforms (Airbnb, Lyft, and Uber), P2P exchange first generation platforms (Ebay), as well as large online retail services and non-P2P platforms (Walmart, Zappos, Amazon) (all .com domains) available on Trustpilot.com in July 2016. This resulted in N=5,606 data points in total. Users could rate trust in those platforms on a 5-point Likert scale. The data was pooled in three categories to be able to compare different sorts of platforms with each other. Descriptive results were calculated.

**Results:** Figure 2 displays the percentage of users rating different platforms with the lowest level of trust (1/5 on a 5 point Likert scale), as well as the highest level of trust (5/5 on a 5 point-Likert scale). The findings show that half (54%) of the users rated their trust in P2P collaborative consumption platforms (Airbnb, Lyft, and Uber) to be on the lowest level, while 19% of users of P2P exchange platforms of the first generation (Ebay) did so, and only 6% of large online retail services and non-P2P platforms (Walmart,

Zappos, Amazon). While 73% of users rated their trust in large online retail services and non-P2P platforms to be on the highest level, 51% of users of P2P exchange platforms of the first generation did so, and 30% of users of P2P collaborative consumption platforms.




| Airbnb | Lyft | Uber | Ebay | Walmart | Zappos | Amazon |
|---|---|---|---|---|---|---|
| (N=1,152) | (N=393) | (N=181) | (N=1,041) | (N=124) | (N=132) | (N=2,583) |

*Figure 2:* Trust levels in P2P collaborative consumption platforms and platforms of conventional service provision (N=5,606)

**Discussion:** The results indicate that P2P collaborative consumption platforms (Airbnb, Lyft, and Uber) are facing severe trust challenges. Trust levels in these platforms were found to be much lower than in P2P exchange first generation platforms (Ebay), as well as large online retail services and non-P2P platforms (Walmart, Zappos, Amazon). The results indicate that trust in the context of P2P collaborative consumption might be different from trust in more conventional forms of consumption (Belk 2014), as argued in the theoretical part of this paper.

Since we use data available via Trustpilot.com, we can only display data capturing trust in a platform provider not in the products or services provided on these platforms. This might have been confusing because ratings on Airbnb focus on peers offering their apartment, while ratings on Amazon focus on certain products and dealers alike, and several dealers might offer the same product (we conducted

such more detailed analysis in study2 and study 3 where we distinguish between trust in the platform and trust in peers in the specific context of P2P collaborative consumption platforms).

## 2. STUDY TWO: MEDIATION ANALYSIS (THREE MULTIPLE LINEAR REGRESSIONS)

**Data Collection and Sample:** To assess the potential effects of the management measures *reliable insurance cover*, *simultaneous reviews*, and a *large network: many offers worldwide* on trust, as well as to analyze potential mediating effects of trust in the platform, a survey was launched in late December 2014 (a pretest was conducted previously to the main study). It addressed users of the online sharing platform Airbnb, where private people connect to each other to temporarily rent accommodations (Airbnb 2016). The links to the web interface of the study were distributed via a mailing list to undergraduate and graduate students by a commissioned research laboratory of a large German University. Participants were offered the opportunity to enter a prize draw of vouchers valued at 50 Euros. Whilst the distribution of vouchers was random, the research laboratory made sure that the overall value of vouchers distributed to the participants equaled 10 Euros per hour of summed up response effort by students. Finally, a sample of N=232 Airbnb users was collected. The sample characteristics are illustrated in Appendix 1. Due to the fact that users of collaborative consumption services tend to be located in a rather young age group, mainly ranging from teenagers to the age group of mid-thirties (Owyang et al. 2014), one can argue that the sample is adequate to be used in this study.

**Measurement and Data Analysis:** First, a filter question was used to identify users of the Airbnb platform. Non-users were excluded from the study, because they would not be able to make a statement on whether a trust-building management measure is implemented or not (potential users/current non-users were subject to study two). To capture the perceived implementation of the three conceptualized trust-building measures from a user's point of view, respondents were asked to which extent they agree that respective measures are well implemented by Airbnb (or not). Each management measure represents a manifest/observed single-item variable because it captures the implementation of one specific management measure from the respondent's point of view, rather than a latent variable. On the contrary all other variables have been

measured as latent variables (*trust in the platform*, *trust in peers*, etc.). All variables used in this study were collected on a 7 point Likert scale anchoring 1=´strongly disagree´ to 7=´strongly agree´. They are displayed in Appendix two.

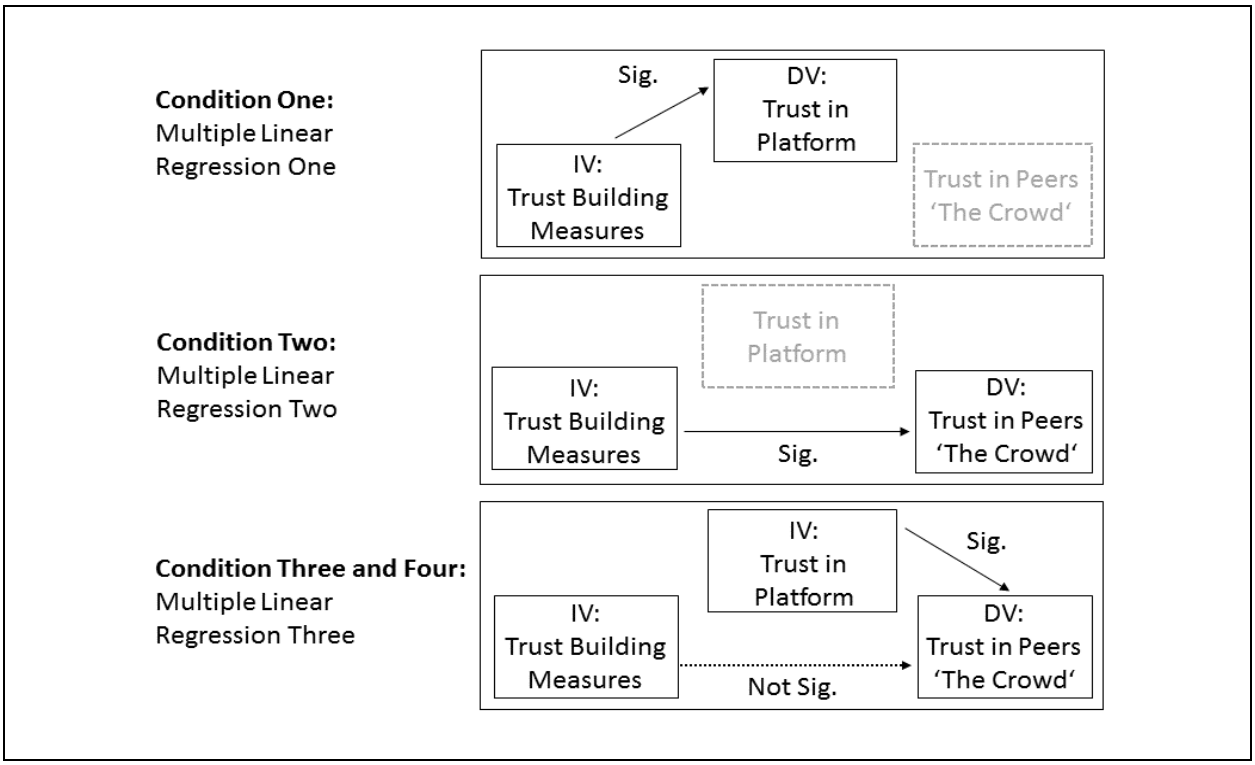



*Figure 3:* Mediation Analysis based on Baron and Kenny (1986)

Multiple regression analyses were conducted to focus on the potential effects of the trust-building measures on the two-fold trust construct, while controlling for the *familiarity*, *risk*, and *trust propensity* variables. In addition, a mediation analysis based on the well-cited guidelines by Baron and Kenny (1986) was conducted. Thus, in order to test if *trust in the platform* is mediating all statistically significant effects of trust-building measures on the *trust in peers* variable, four conditions of mediating effects as proposed by Baron and Kenny in their well-cited work from 1986 were tested (Figure 3). To do so, it is necessary to conduct three hierarchical multiple linear regression analyses. To satisfy the first condition (see hierarchical multiple linear regression one), the theorized independent variables (trust-building measures and control variables) must statistically and significantly influence the theorized mediator (trust in the platform). To satisfy the second condition (see hierarchical multiple linear regression two), the theorized independent

variables (trust-building measures and control variables) must statistically and significantly influence the theorized dependent variable (trust in peers). To test the third and fourth condition, an analysis (see hierarchical multiple regression three) with the theorized independent variables (trust-building measures and control variables) and the theorized mediator (trust in the platform) on the theorized dependent variable (trust in peers) needs to be conducted. To verify a full mediation, the effect of the theorized mediator (trust in the platform) in the dependent variable (trust in peers) must be significant while the effect of the independent variables (trust-building measures and control variables) on the dependent variable (trust in peers) must be insignificant.

Prior to the analyses, the means of *trust in the platform*, *trust in peers, familiarity, risk* and *trust propensity* were calculated to include these multi-scale variables accumulated into the hierarchical multiple regression (Chudoba et al. 2005). With regard to the parametric nature of the data, it can be reported that a test of the z-values for skewness and kurtosis revealed data to be of parametric nature to a satisfying level. Only a few of the items showed values slightly under the recommended thresholds (±1.96) while the impact of normality effectively diminishes when sample sizes reach 200 cases or more like in this study (Hair et al. 2010). A check of Pearson's correlations of all single- and multiple-item constructs revealed that the highest coefficient was measured between the variables *trust in the platform* and *trust in peers* (0.67/p≤0.000). This is a value well below the threshold. While only values starting from 0.7 might have an impact on the estimation of regression analysis results, values starting from 0.9 are considered to illustrate high correlations (Hair et al. 2010). Collinearity is not an issue, since all VIF factors are well below the common accepted threshold of ≤ 3-10 (in this data set all values are below 1.5).

**Results:** The results of the hierarchical multiple regression analyses one, two, and three are displayed in Table 1. *Condition one (multiple linear regression analysis one):* The findings show that all three trust-building measures were identified to statistically significant influence the dependent variable *trust in the platform*. This applies to *reliable insurance cover* (0.13, p≤0.016*), *simultaneous reviews* (0.17, p≤0.003**), as well as *large network: many offers worldwide* (0.31, p≤0.000***). We also find that the

control variables *familiarity* (0.26, p≤0.000***) and *risk* (-0.15, p≤0.009**) had effects on *trust in the platform*. Thereby, those values capturing the effects of *trust propensity* were not significant (0.03, p≤0.527n.s). Almost half of the variance of *trust in the platform* is explained by its predictor variables ($R^2$=0.45), which shows that the model is well conceptualized. The F-value shows a satisfying level (29.05, p≤0.000) (Cohen et al. 2003, Hair et al. 2010).

*Condition two (hierarchical multiple linear regression analysis two):* In this regression, the dependent variable was *trust in peers*. *Simultaneous reviews* (0.16, p≤0.008**), as well as a *large network: many offers worldwide* (0.24, p≤0.000***) were found to have a statistically significant effect on *trust in peers*. Surprisingly, the values capturing *reliable insurance cover* (0.06, p≤0.350) were not significant. In contrast to regression one, all three control variables are shown to influence *trust in peers*: *familiarity* (0.23, p≤0.000***), *risk* (-0.19, p≤0.002**), as well as *trust propensity* (0.14, p≤0.017*). The R squared of model two shows a value of $R^2$=0.37, thus 37 percent of the variance of *trust in the peers* is accounted for by the trust-building measures and control variables. The F-value of 20.97 (p≤0.000) indicates the model to be statistically significant (Cohen et al. 2003, Hair et al. 2010).

*Condition three and four (hierarchical multiple linear regression analysis three):* In this regression, *trust in peers* serves as the dependent variable and all other theorized variables as illustrated in the model (Figure 1), including *trust in the platform*, as independent variables. In line with the assumption made by Baron and Kenny (1986), none of the three conceptualized trust-building management measures had a statistically significant effect on *trust in peers*. The same applies to the variable *familiarity*. Thereby, *risk* (-0.11, p≤0.034*), as well as *trust propensity* (0.12, p≤0.018*) showed statistically significant effects. A strong coefficient (0.49, p≤0.00) was estimated, revealing a highly positive, statistically significant relationship between the two theorized elements of the trust construct *trust in the platform* and *trust in peers*. The R square is $R^2$=0.51. The F-value (30.89, p≤0.000) demonstrates that the model shows statistical significance (Cohen et al. 2003; Hair et al. 2010).

| | **Condition One: Multiple Linear Regression Analysis One** | | **Condition Two: Multiple Linear Regression Analysis Two** | | **Condition Three and Four: Multiple Linear Regression Analysis Three** | |
|---|---|---|---|---|---|---|
| **Variables** | **Unstand. Beta (St. Error)** | **Stand. Beta (P-Value)** | **Unstand. Beta (St. Error)** | **Stand. Beta (P-Value)** | **Unstand. Beta (St. Error)** | **Stand. Beta (P-Value)** |
| (Constant) | 1.81 (0.41) | **(0.000)*** ** | 2.06 (0.47) | **(0.000)*** ** | 1.10 (0.44) | **(0.013)*** |
| Reliable insurance cover | 0.11 (0.05) | **0.13 (0.016)*** | 0.05 (0.05) | **0.06 (0.350)n.s.** | -0.009 (0.05) | **-0.01 (0.839)n.s.** |
| Simultaneous reviews | 0.12 (0.04) | **0.17 (0.003) **** | 0.12 (0.05) | **0.16 (0.008)**** | 0.06 (0.04) | **0.07 (0.167)n.s.** |
| Many offers available worldwide | 0.21 (0.04) | **0.31 (0.000) *** ** | 0.18 (0.04) | **0.24 (0.000)*** ** | 0.07 (0.04) | **0.09 (0.112)n.s.** |
| Familiarity | 0.22 (0.05) | **0.26 (0.000) *** ** | 0.21 (0.06) | **0.23 (0.000)*** ** | 0.09 (0.05) | **0.10 (0.091)n.s.** |
| Risk | -0.12 (0.05) | **-0.15 (0.009)**** | -0.17 (0.05) | **-0.19 (0.002)**** | -0.102 (0.05) | **-0.11 (0.034)*** |
| Trust propensity | 0.03 (0.04) | **0.03 (0.527)n.s.** | 0.12 (0.05) | **0.14 (0.017)*** | 0.11 (0.05) | **0.12 (0.018)*** |
| Trust in the platform | **DV** | **DV** | - | - | 0.529 (0.07) | **0.49 (0.000)*** ** |
| Trust in Peers | - | - | **DV** | **DV** | **DV** | **DV** |
| **F-Value (Sig)** | **29.05 (0.000)** | | **20.97 (0.000)** | | **30.89 (0.000)** | |
| **R Square** | **0.45** | | **0.37** | | **0.51** | |

**Please find the long form wording of items in Appendix 2. *p≤.05, **p≤.01, ***p≤.001, n.s. not significant. Confirmed mediation effects marked in grey.**

*Table 1:* Results of Multiple Regression Analyses One, Two, and Three (Mediation Analysis)

**Discussion:** All three trust-building management measures *reliable insurance cover*, *simultaneous reviews*, as well as *large network: many offers worldwide* had a positive effect on *trust in the platform*. The latter measure, *large network: many offers worldwide*, showed the highest standardized beta coefficient, and thus the strongest positive effect on *trust in the platform* compared to all other management measures. While *simultaneous reviews*, as well as *large network: many offers worldwide* had a positive effect on *trust in peers*, no such effects were found for the trust-building management measures *reliable insurance cover.* The results revealed a highly positive, statistically significant relationship between the two theorized elements of the trust construct *trust in the platform* and *trust in peers*.

The results concerning the control variables indicate the following: While *familiarity* and *risk* had considerable effects on both dependent variables tested (*trust in the platform* and *trust in peers*), *trust propensity* only influenced the *trust in peers variable.*

Concerning the analysis of mediation effects, the results show that all four conditions as proposed by Baron and Kenny (1986) are fulfilled in several cases: The relationship between *simultaneous reviews*, as well as a *large network: many offers worldwide* on *trust in peers* is fully mediated by the *trust in the platform* variable. The third management measure *reliable insurance cover* was not identified to be a mediator, because there were no statistically significant effects measured on *trust in peers*. Thus, we can conclude that *trust in the platform* is mediating all statistically significant effects of trust-building measures on the *trust in peers'* variable.

Results concerning the control variables reveal that a mediation effect is evident for the variable *familiarity*, but not for the other variables. This makes perfect sense, because this variable captures familiarity with the Airbnb platform itself. Thus, it only seems logical that trust in Airbnb acts as a mediator in this context.

## 3. STUDY THREE: ONLINE EXPERIMENT AND ONE-WAY ANALYSIS OF VARIANCE

**Data Collection and Sample:** To verify the directions of effects found in study two in a different setting, a second study was conducted to reveal the relationship between the level of *trust in the platform* and *trust in peers* (independent from the first study). An online experiment was carried out among potential users/current non-users (because a fictitious online sharing platform was presented) at the beginning of December 2014 (a pretest was conducted previously to the main study). Similar to study one, the link to the online experiment, which was accessible via an online interface, was distributed via a mailing list to undergraduate and graduate students by a commissioned research laboratory of a large German University, resulting in N=462. Because demand of students to participate in the study was very high, access to the questionnaire had to be closed shortly after the announcement. Following the same procedure as in study one, participants were offered the opportunity to enter a prize draw of vouchers valued at 50 Euros. Again, the distribution of vouchers was random, while the research laboratory made sure that the overall value of vouchers distributed to the participants equaled 10 Euros per hour of summed up response efforts. The

collected data was only used in this study and in no other research. Please find information on the sample characteristics in Appendix 1.

**Measurement and Data Analysis:** A *single-factor between-subject-design* with three conditions was supposed to manipulate *trust in the platform* (control, positive, and negative) of an online sharing platform and to compare the effects of this manipulation on the level of *trust in peers* conducting sharing activities on this platform (see all experimental conditions displayed in Appendix 3).

In the online experiment, participants were first exposed to a brief introduction of the study. Then, they were randomly assigned to one of the three conditions. The conditions were presented to the respondents in the form of pictures and a short text, describing the fictitious online sharing platform ShareNow.com from the point of view of a third party (the online website "review"). To assure consistency with the logic of study two, it was decided to introduce a fictitious accommodation-sharing platform. The platform was said to connect private people who wish to lend and rent accommodations for a short period of time. It was mentioned that ShareNow.com would often be used as an alternative to a hotel booking. All three texts clearly distinguished between ShareNow.com being the provider of the platform, and peers, acting on the platform. Three different conditions were developed (Appendix 3). Each condition showed the same pictures of accommodation. The first condition introduced ShareNow.com and its basic features but did not make any judgmental statements. It served as the control group condition. The second condition contained a description that was intended to manipulate *trust in the platform* ShareNow.com positively while information on peers acting on ShareNow.com remained neutral. On the contrary, the third condition was supposed to influence *trust in the platform* ShareNow.com negatively, while information on peers acting on ShareNow.com remained neutral. To do so, the descriptions in the positive manipulation were inverted. After being exposed to one of these conditions, each of the participants was asked to answer items measuring *trust in the platform* ShareNow.com (Pavlou and Gefen 2004), *trust in peers* conducting sharing activities on ShareNow.com (Pavlou and Gefen 2004), as well as socio-demographics.

Two one-way analyses of variance (ANOVA) were conducted, one to verify manipulation checks and one to test the research question. Because Levene's test ($p<.000$) did not verify homogeneity of variance in both cases, the authors chose to conduct Tamhane's T2 tests for post-hoc comparisons. This is a conservative pairwise comparison procedure, which is particularly feasible in case the population of variance is of heterogonous nature (Field and Hole 2003).

Prior to the analyses, the means of all four items to measure *trust in the platform* (Pavlou and Gefen 2004) and of all four items to measure *trust in peers* (Pavlou and Gefen 2004) were calculated for all three experimental conditions. A check of the z-values for skewness and kurtosis revealed data to be of a parametric nature to a satisfying level, as only a few items showed values slightly underneath the recommended thresholds (±1.96) and ANOVA is considered to be quite robust against normality assumption, in particular if violations are modest (Hair et al. 2010). A check of Pearson's correlation between the multi-item variables *trust in the platform* and *trust in peers* reveals a coefficient of 0.74 ($p\leq.01$). This is still acceptable because only values starting from 0.9 are considered to indicate high correlations (Hair et al. 2010).

| | **Positive Condition (N=143)** | **Control Condition (N=164)** | **Negative Condition (N=155)** |
|---|---|---|---|
| **Mean Trust in the Platform (Cronbach's α=0.92)** Pavlou and Gefen (2004) | **4.61** | **4.16** | **2.45** |
| **Mean Trust in Peers (Cronbach's α=0.96)** Pavlou and Gefen (2004) | **4.45** | **4.14** | **3.04** |

*Table 2:* Means of Trust in the Platform and Trust in Peers Items for each Condition

**Results:** Manipulation Checks (see Table 2): The results reveal a significant difference among conditions. The group exposed to the positive *trust in the platform* manipulation showed the highest mean value of M=4.61 (SD=1.16) followed by a value of M=4.16 (SD=0.77) for the control condition, and M=2.45 (SD=1.06) for the condition with the negative trust manipulation ($F_{2,459} = 195.87$, $p\leq.00$, $\eta^2=0.46$). Results indicate that 46 percent of the total variance is accounted for by the effect of the treatment. Tamhane's T2

test confirms a statistically significant difference between the mean of all groups (each test p≤.00). Thus, all conditions were manipulated as intended.

**Main findings:** The second ANOVA analysis revealed a statistically significant difference of the *trust in peers* values among all three conditions ($F_{2,459}$ = 71.07, p≤.00, $\eta^2$=0.24). Results indicate that 24 percent of the total variance is accounted for by the treatment effect. The *trust in peers* level showed a mean of M=4.14 (SD=0.94) measured in the control group, a mean of M=3.04 (SD=1.18) in the group previously exposed to the negative manipulation, and a mean of M=4.45 (SD=1.11) in the group exposed to the positive manipulation. Tamhane's T2 test shows that the means of all groups are statistically and significantly different from each other. The group with a low level of *trust in the platform* was found to perceive the level of *trust in peers* as significantly lower compared to those exposed to the control condition (p≤.00) and the group with a high level of *trust in the platform* (p≤.00). Furthermore, the group with a high level of *trust in the platform* showed significantly higher levels *of trust in peers* compared to those exposed to the control condition (p=.03) and the group with a low level of *trust in the platform* (p≤.00).

**Discussion:** Study three replicates the effect as shown in study two for users in the setting of an online experiment and among potential users/current non-users of a fictitious accommodation-sharing platform. In fact, this experimental study reveals a statistically significant relationship between the two variables *trust in the* platform and *trust in peers*. Thus, these findings support the fact that trust in the context of collaborative consumption is a hierarchical, two-fold construct, as theorized.

It is interesting to notice that the levels of trust in the platform measured in the control group differed considerably stronger to the group previously exposed to the negative manipulation than to the positive manipulation. Thus, it can be concluded that it is much easier to manipulate trust in the platform negatively than to manipulate it positively. In other words, users' perceptions are strongly influenced by negative rather than by positive information on the trustworthiness of a provider. Thus, negative information on the platform weights more heavily.

## OVERALL DISCUSSION OF RESULTS AND IMPLICATIONS FOR RESEARCH AND MANAGEMENT

**Summary of results in a nutshell:** Research question one addresses the difference of digital trust in P2P collaborative consumption platforms compared conventional platforms and services. Drawing on relevant theory, we identify four factors of differentiation between these different services. We then use data available via Trustpilot.com (N=5,606). The findings indicate that trust in P2P collaborative consumption platforms (Airbnb, Lyft, and Uber) is much lower than in P2P exchange first generation platforms (Ebay), as well as large online retail services and non-P2P platforms (Walmart, Zappos, Amazon). We conclude that the management of trust in the context of in P2P collaborative consumption platforms is a real challenge.

In research question two, we were curious about the effects of the management measures *reliable insurance cover*, *simultaneous reviews*, and *a large network: many offers worldwide* on digital trust in the context of P2P collaborative consumption platforms. We introduce theoretical thoughts on the potential trust-building power of these management measures and argue that they seem particularly important in the context of P2P collaborative consumption platforms. To address research question two, we conducted a survey among users of the online sharing platform Airbnb (N=232). We found that all three trust-building management measures had a positive effect on *trust in the platform*, which in this context refers to trust in Airbnb. Thereby, the management measure *large network: many offers worldwide* showed by far the strongest effects on *trust in the platform*. In addition, we found that two management measures positively influenced *trust in peers.* This refers to *simultaneous reviews*, as well as a *large network: many offers worldwide*. The control variables had surprisingly high effects on the dependent variables.

With research question three, we refer to the potential hierarchical nature of the digital trust construct, and potential mediating effects of trust in the provider in the context of P2P collaborative consumption platforms. We introduce a theoretical background arguing that trust is a twofold and hierarchical construct. Research question three can be answered based on the empirical results from study

two and from study three. In study two, a survey among users of the online sharing platform Airbnb (N=232) was conducted, and in study three, an online experiment among current non-users/or potential users of a fictitious online sharing platform (N=462). Findings revealed a highly positive, statistically significant relationship between the two theorized elements of the trust construct *trust in the platform* and *trust in peers*. The online experiment confirms this relationships to be causal. A mediation analysis based on Baron and Kenny (1986) reveals that the relationship between *simultaneous reviews*, as well as a *large network: many offers worldwide* on *trust in peers* is fully mediated by the *trust in the platform* variable. This means that *trust in the platform* is mediating all statistically significant effects of trust-building measures on the *trust in peers'* variable. These findings support the fact that trust in the context of collaborative consumption is a hierarchical, two-fold construct.

**Research and Theory Implications:** Platforms evolve and create different logics over time. This leads to intra- and inter-platform differences (Henfridsson and Bygstad 2013, Tiwana 2015, Yoo et al. 2010). Theoretical and empirical findings let us assume that P2P collaborative consumption platforms have different characteristics compared to the (first generation) of P2P exchange platforms (e.g., Ebay), as well as online retail services and non-P2P platforms (e.g., Walmart, Zappos, Amazon). Thus, existing knowledge about digital trust might not simply be transferred to novel contexts such as P2P collaborative consumption platforms, but needs to be adjusted.

In this regard, we tested three potential trust-building management measures, which seem particularly important in the context of P2P collaborative consumption platforms. They were all found to positively influence trust in the platform provider. The strongest effect had the measure *large network: many offers worldwide.* Indeed, the connection between a large size of a marketplace and trust been made previously (Jarvenpaa et al. 2000, Son et al. 2006) (even though not frequently). It seems like in this particular context, network effect become even more crucial (Sundararajan 2016). The dyad of relationships known from many conventional service provision is extended to a triad of relationships (this is in line with literature on two-sided platforms). Next to the platform provider itself, these are the peers sharing on

respective collaborative consumption platforms (Pavlou and Gefen 2004), sometimes labeled as 'the crowd' (Sundararajan 2016). Due to the fact that private people usually offer services on a much smaller scale compared to commercial providers (such as one private person, one room on Airbnb, for three weeks a year), a larger network is crucial to assure that demand and supply are matched successfully. This is one major difference between P2P collaborative consumption and other platforms.

Furthermore, we argue that social aspects and individual characteristics become more relevant in this particular context. This is, among others, supported by the fact that *trust propensity*, which refers to the general propensity of people to trust a person or thing (Lee and Turban 2001, Mayer et al. 1995), as well as the other control variables empirically tested in this paper had strong effects. Furthermore, the need to implement *simultaneous reviews* on collaborative consumption platforms might be more relevant since biased peer review behavior seems more likely in a context, in which people build social relationships. Indeed, users of P2P collaborative consumption services often meet in person and the intensity of social interaction among peers is stronger in many collaborative consumption contexts compared to the more or less anonymous transactions carried out via conventional services such as Ebay.

Furthermore, one can derive interesting theory and research implications from the findings concerning the two-fold and hierarchical nature of the trust construct, as well as the fact that *trust in the platform* acts as a mediator: While much of previous research has been addressing the co-production or the co-creation of value (Lang et al. 2015, Vargo and Lusch 2004), most researchers have been assessing the links between these concepts to the organizational benefits of the firm (Mende and Van Doorn 2014). There is very little research addressing forms of consumption that do take place among a network of peers (or 'the crowd'), while the provider (or firm) has the role to facilitate the frame conditions (Bardhi and Eckhardt 2012). While one might have assumed that *trust in other peers* might be the most relevant construct in the model, the findings presented here surprisingly indicate that *trust in the platform* is the focal and central construct. One might conclude that a valuable trust infrastructure does not solely build on a community of peers. Why so? The fact that there is confusion about legal institutional arrangements associated with

collaborative consumption services provided by the government or legal environment probably might be a key explanation. Based on our knowledge that individuals are seeking some form of institutional security (Fang et al. 2014, Zucker 1986), we can argue that this might be the reason that there is a shift towards a consumer's need for institutional arrangements in P2P collaborative consumption. In this study it becomes evident as *trust in the platform* provider.

While some economists tend to use the concepts 'trust' and 'P2P ratings' interchangeably, this research indicates that the platform provider plays a crucial role in the trust-building process (Slee 2016). We argue that trust is more than 'P2P ratings'. Reducing digital trust solely to the P2P level is too simple. This is in line with previous research of Zervas et al. (2015). The authors find that almost 95% of Airbnb listing show an average 'P2P rating' of either 4.5/5 or 5/5 stars. In case 'P2P ratings' would be the only indicator for trust, this would mean that there is total trust in almost all peers acting on Airbnb. The authors argue that social bias might play a role in review behavior of Airbnb guests and hosts (Zervas et al. 2015) (this is another argument for the fact that simultaneous reviews should be implemented). In line with this, we argue it might be important to use alternative forms of trust measurement (see Appendix 2 for all trust measures) and to consider all parties involved in a transaction (including the platform provider) when aiming at understanding digital trust in the context of collaborative consumption (Slee 2016).

**Management Implications:** One can derive interesting implications for managers of P2P collaborative consumption platforms from our findings on the trust-building management measures. They provide hands-on knowledge and support managers in implementing effective marketing activities (Lamberton and Rose 2012) to address different stakeholder groups, including current users, and potential users/current non-users. Indeed, all three trust-building management measures should be implemented to foster the trust of users and potential users in them as a platform provider. As study two captures the perceived implementation of measures from a user's point of view, managers should recognize that in some cases it might not be sufficient to implement a respective measure, but to communicate it in an easily and visible manner on the online sharing platform. For instance, statements about the implementation of reliable insurance cover, or

simultaneous reviews should be actively marketed on the website. By now, users only gain awareness about how these measures are implemented during the booking process. Most importantly, we found that network effects have extremely strong effects on the trust construct. Building a large network, by acquiring and maintaining users that would like to book accommodation, as well as those who would like to offer accommodation to peers (or other sorts of services) is crucial. Since we found mediation effects, managers of collaborative consumption services might think about actively marketing the platform to increase the user base.

Furthermore, one can derive interesting management implications from the findings concerning the two-fold and hierarchical nature of the trust construct: managers might profit from the strategic management of spill-over effects from trust in them as a provider to trust in peers. In fact, results indicate that users might perceive a feeling of high trust when conducting sharing activities, even though not all peers on the sharing platform seem trustworthy to them (Gilbert and Behnam 2013). Furthermore, these results suggest that users might trust using a certain online sharing platform first, for instance, compared to another online sharing platform, or to a conventional non-sharing service. Once they do so, they might visit the online sharing platform and review different offers by different peers in a second step. Thus, one can assume that brand effects of the platform provider play an important role in the trust-building context (Sundararajan 2016). Managers must focus on building a strong brand, as the trust in the brand of their success is the key to success.

In addition, findings reveal that consumers are strongly influenced by negative information, rather than positive information on the trustworthiness of a sharing platform provider. Thus, managers should prioritize management solutions aimed at the prevention of any negative trust experience, as these might lead to severe impacts and the long-term refusal of respective collaborative consumption services.

Recently, one can identify many start-ups that serve the interface of online sharing platforms and trust. Indeed, current offers on the market do differentiate between the platform and the peer level.

TrustCloud.com and Trusttribe.com aim at the pooling of reputational capital of peers using online sharing platforms. In contrast, Trustpilot.com (we used their data in study one) offers the possibility to strategically manage customer relationships based on trust by focusing on a rating system on the level of whole organizations or P2P platform providers, rather than solely on individual users or peers. These developments reflect the demand for more information to be able to build trust in platform providers and not solely in peers. It is crucial consider all parties involved in the digital trust-building process.

One should also pay attention to the important implications that findings hold for managers of conventional services, being threatened by arising competitors or service offers of collaborative consumption. In the context of online accommodation-sharing platforms, this might apply to large hotel chains. In the context of ride-sharing services such as Lyft or Uber, this applies to official cab companies. Managers in these industries can take advantage of their knowledge about the power of trust in platform providers and effectively market the trust advantage that might be evident to them as conventional service providers.

**Limitations and Future Research:** Even though this study holds important contributions and implications for researchers and managers alike, some limitations need to be discussed. First, in study two and study three, collaborative consumption services in the form of online sharing accommodation platforms have been evaluated. Future research should assess trust-building measures and the trust concept and in different industries. This research solely investigated measures that can be implemented on a manager's responsibility. In regard to simultaneous reviews, future research might investigate the impact of the actual content and nature of these ratings on trust, which is the responsibility of the peers of a sharing platform. Based on the essential role of trust in the context of collaborative consumption, further research conducted to enlighten this relationship will be of high value.

## APPENDIX 1: Sample Characteristics Study Two and Study Three

| Variable | Specification | Study Two<br>Airbnb (N = 232) | Study Three<br>Fictitious Accommodation Sharing Platform (N = 462) |
|---|---|---|---|
| **Gender** | Male | 51.6 | 45.0 |
| | Female | 48.4 | 55.0 |
| **Age** | 18-20 | 6.4 | 7.4 |
| | 21-25 | 53.2 | 49.1 |
| | 26-30 | 32.6 | 35.0 |
| | 31+ | 7.8 | 8.5 |
| **Education (Highest Degree)** | None or High School | 44.5 | 43.7 |
| | Apprenticeship | 4.8 | 9.3 |
| | University Degree | 50.7 | 47.0 |

## APPENDIX 2: Scale Items Study Two

| Antecedents dimension | Trust-building measures | Measurement | Mean (Ø) | SD (Ø) | Cron. α |
|---|---|---|---|---|---|
| **Trust-Building Measures** | Based on Son, Tu, and Benbasat (2006), Jarvenpaa et al. (2000) | Many offers available worldwide | 5.43 | 1.56 | - |
| | Based on Tang et al. (2003), Son, Tu, and Benbasat (2006) | Reliable insurance cover | 4.45 | 1.31 | - |
| | Based on Bolton, Greiner, and Ockenfels (2012), Slee (2013) | Simultaneous reviews, meaning when two users mutually rate each other, both ratings are displayed at the same time | 4.60 | 1.47 | - |
| **Trust** | **Trust in the Platform** Pavlou and Gefen (2004) | As a platform provider, Airbnb can be trusted at all times.<br>As a platform provider, Airbnb can be counted on to do what is right.<br>As a platform provider, Airbnb has high integrity.<br>Airbnb is a competent platform provider. | 4.65<br>4.62<br>4.78<br>5.32<br>(4.84) | 1.29<br>1.25<br>1.19<br>1.29<br>(1.06) | 0.87 |
| | **Trust in Peers** Pavlou and Gefen (2004) | The peers on Airbnb are in general dependable.<br>The peers on Airbnb are in general reliable.<br>The peers on Airbnb are in general honest.<br>The peers on Airbnb are in general trustworthy. | 4.90<br>4.90<br>4.74<br>4.84<br>(4.84) | 1.34<br>1.24<br>1.24<br>1.19<br>(1.14) | 0.93 |
| **Controls** | **Familiarity** Bhattacherjee (2002) | I am familiar with the processes on Airbnb.<br>I am familiar with making a booking on Airbnb.<br>I am familiar with the process of reviewing ratings on Airbnb.<br>Overall, I am familiar with Airbnb. | 4.95<br>5.18<br>4.88<br>5.15<br>(5.04) | 1.43<br>1.40<br>1.53<br>1.31<br>(1.26) | 0.91 |
| | **Risk** Pavlou and Gefen (2004) | There is a considerable risk involved in participating in Airbnb bookings.<br>There is a high potential for loss involved in participating in Airbnb bookings.<br>My decision to participate in Airbnb bookings is risky. | 3.34<br>2.70<br>3.11<br>(3.05) | 1.48<br>1.39<br>1.45<br>(1.27) | 0.86 |
| | **Trust Propensity** Lee and Turban (2001) | It is easy for me to trust a person or thing.<br>My tendency to trust a person or thing is high.<br>I tend to trust a person or thing, even though I have little knowledge of it.<br>Trusting someone or something is not difficult. | 4.26<br>4.37<br>3.86<br>4.22<br>(4.18) | 1.36<br>1.38<br>1.50<br>1.49<br>(1.26) | 0.90 |

## APPENDIX 3: Experimental Conditions of Study Three

<table>
<tr><td>Control Condition</td><td></td></tr>
<tr><td> 
</td><td>ShareNow.com<br><br>The online sharing platform provider ShareNow.com can be used to rent apartments, rooms, and other private accommodation. Since stays are usually short-term, ShareNow.com is considered to offer an alternative to booking a hotel room<br><br>More and more online sharing platform providers are competing on the market. Tenants and landlords have a variety of choices.<br><br>ShareNow.com was founded by Christina Meibach and Peter Silow in Stuttgart a couple of years ago.</td></tr>
<tr><td>Negative Trust in the Platform Manipultation</td><td></td></tr>
<tr><td> 
</td><td>ShareNow.com ranks last place in a trust-study achieving 1.5 out of 7 points only<br><br>The online sharing platform provider ShareNow.com can be used to rent apartments, rooms, and other private accommodation. Since stays are usually short-term, ShareNow.com is considered to offer an alternative to booking a hotel room.<br><br>More and more online sharing platform providers are competing on the market. Tenants and landlords have a variety of choices. Can they trust ShareNow.com or should they turn to a competitor?<br><br>A representative study of Stiftung Warentest and the Ministry for Justice and Consumer Protection tested different online sharing platform providers and the framework conditions they provide to users acting on these platforms.<br><br>The study evaluates the trustworthiness, benevolence, integrity, and competence of online sharing platform providers.<br><br>ShareNow.com achieved very poor results in this study, scoring 1.5 out of 7 possible points only.<br><br>With this result ShareNow.com ranks last place. The study tested the nine largest online sharing platform providers in Germany, including Airbnb, Wimdu, and 9flats.<br><br>ShareNow.com was founded by Christina Meibach and Peter Silow in Stuttgart a couple of years ago.</td></tr>
<tr><td>Positive Trust in the Platform Manipultation</td><td></td></tr>
<tr><td> 
</td><td>ShareNow.com ranks first place in a trust-study achieving 6.5 out of 7 points<br><br>The online sharing platform provider ShareNow.com can be used to rent apartments, rooms, and other private accommodation. Since stays are usually short-term, ShareNow.com is considered to offer an alternative to booking a hotel room.<br><br>More and more online sharing platform providers are competing on the market. Tenants and landlords have a variety of choices. Can they trust ShareNow.com or should they turn to a competitor?<br><br>A representative study of Stiftung Warentest and the Ministry for Justice and Consumer Protection tested different online sharing platform providers and the framework conditions they provide to users acting on these platforms.<br><br>The study evaluates the trustworthiness, benevolence, integrity, and competence of online sharing platform providers.<br><br>ShareNow.com achieved very high results in this study, scoring 6.5 out of 7 possible points.<br><br>With this result ShareNow.com ranks first place. The study tested the nine largest online sharing platform providers in Germany, including Airbnb, Wimdu, and 9flats.<br><br>ShareNow.com was founded by Christina Meibach and Peter Silow in Stuttgart a couple of years ago.</td></tr>
</table>

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[i] The definition of collaborative consumption used throughout this paper has previously been introduced by Möhlmann (2015: 194): Collaborative consumption is defined as 'coordinating the acquisition and distribution of a resource for a fee or other compensation' (Belk 2014, p. 1597). "It takes place in organized systems or networks, in which participants conduct sharing activities in the form of renting, lending, trading, bartering, and swapping of goods, services, transportation solutions, space, or money" (Möhlmann 2015 based on Bardhi and Eckhardt 2012; Belk 2014; Botsman and Rogers 2010; Chen 2009; Owyang, Samuel, and Grenville 2014). Thereby, it is important to distinguish collaborative consumption from three other forms of consumption. This applies to sharing activities where no compensation is involved (e. g., couch surfing), gift giving which constitutes a permanent transfer of ownership (e. g., inherited property), and usual market activities without collaborative elements (e. g., hotel booking) (Belk 2014).