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What's mine is yours (for a nominal fee): exploring the spectrum of  
utilitarian to altruistic motives for Internet-mediated sharing

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**What's mine is yours (for a nominal fee) –  
Exploring moral, hedonic and monetary motives for  
Internet-mediated sharing**

***Abstract***

In this contribution, we scrutinize the diverse motives for internet-mediated sharing as well as their role in shaping attitudes towards sharing one's possessions in commercialized as well as non-commercialized settings. On the basis of qualitative and quantitative research, we *first* develop a scale of sharing motives, showing that the reasons for participating in online sharing platforms are more nuanced than previously thought. *Second*, employing a motivational model of sharing, rooted in the theory of planned behavior, we show that sharing attitudes are driven by moral, social-hedonic and monetary motivations. Furthermore, we identify materialism, sociability and volunteering as predictors of sharing motives in different sharing contexts. Against this background, we explore the possible role of monetary incentives as a necessary but not sufficient condition for sharing one's possessions with others.

***Keywords***

Internet-mediated sharing, sharing economy, on-demand economy, online platforms, collaborative consumption, ownership, motives,

# **What's mine is yours (for a nominal fee) – Exploring moral, hedonic and monetary motives for Internet-mediated sharing**

## **1. Introduction**

Recent years have witnessed the rise of a new culture of sharing as people increasingly choose to make their possessions, such as their apartments, cars, bikes, tools and other items of everyday life, accessible to others on various online platforms (Gansky, 2010; Botsman & Rogers, 2010). Through a growing number of these digital intermediaries, the ability to find sharing partners around the globe has become not only possible but also widespread (Benkler, 2004; Gansky, 2010).

This collective advent of online sharing models stems from both a recent leap in social technologies and continuous shifts in societal attitudes. In particular, consumer preferences are evolving from a primary focus on ownership toward a focus on experience and access, which may explain the scale and growth of the current sharing phenomenon (e.g., Bardhi & Eckhard, 2012; John, 2013a, Belk, 2013). Furthermore, due to the emergence of digital intermediaries, communities and social ties in general are no longer restricted to the offline realm, and relationships as well as reputation-based trust as prerequisites for sharing can be formed and maintained online as well as offline (e.g., Wilson & Peterson, 2002). Finally, as individuals become increasingly accustomed to conducting everyday activities, such as shopping, banking or even dating, through Internet platforms, the threshold for sharing possessions through online platforms is lowered considerably.

Although the shift in social technologies and attitudes may certainly serve to explain the motives on the demand side of the sharing phenomenon (why do individuals seek access to various goods?) (e.g., Bardhi and Eckhardt, 2012; Botsman and Rogers 2010), individual motives on the distribution side (why do individuals grant access to their possessions?) remain somewhat uncharted territory.

Sharing one's possessions with others is generally considered an inherently pro-social or even altruistic act, marked by feelings of solidarity and bonding (Belk, 2010; Benkler, 2004; Wittel, 2011). In addition to altruistic motives, there are several utilitarian aspects tied to sharing one's possessions. Individuals share in their community because it is economically advantageous or because it helps them either save resources or improve resource efficiency (Gurven, 2006). Sharing may create synergies (Belk, 2007) and increase security by sowing seeds of reciprocal obligations (Belk, 2010). Furthermore, sharing enhances the status of those who share within the community (Gurven 2006). Finally, sharing resources is considered sustainable and beneficial to the environment (Botsman & Rogers, 2010; Belk, 2010).

Despite these benefits, on an individual level, sharing is also tied to several material and personal risks because it exposes one's possessions to the hazards of loss, damage and decreased utility. Because "knowingly or unknowingly, intentionally or unintentionally, we regard our possessions as parts of ourselves" (Belk, 1988, p. 139), we may equate possible damage to our possessions not only with material loss but also with a loss or lessening of the self (Belk, 1988). This phenomenon explains a generally assumed reluctance to grant others access to valued possessions, particularly if the sharing occurs outside the boundaries of trusted circles such as family and friends (Kleine, Kleine & Allen 1995; Belk, 2010).

Although various authors and media discuss the sharing phenomenon from a macro-perspective and critically assess the roles of sharing intermediaries as well as the ethical and economic implications of non-regulated commercial niches in the sharing economy (e.g., Scholz, 2014), surprisingly little is known about the individuals who are at the heart of this phenomenon. What motivates them to share their cars, apartments, gardens and bikes with strangers?

Against this background, this contribution strives for a better understanding of the motives and salient beliefs that shape individuals' attitudes toward and intention to share goods with

others through Internet-mediated platforms. Specifically, we seek to add to the ongoing discussion on non-ownership modes of access by offering a nuanced look at individual motivations for the Internet-mediated sharing of scarce or rival physical goods. In the following, we will (1) provide an overview of the sharing phenomenon and related constructs and (2) propose a motivational model of sharing, rooted in the theory of planned behavior and the social cognitive theory. Furthermore, we will (3) compare the motives for and attitudes towards sharing among individuals who participate in either commercial or non-commercial sharing settings, using multiple group analysis (MGA). Finally, (4) in our discussion of the results, we will provide implications for further research, reconciling our findings with the current debate on Internet-mediated sharing and related non-ownership modes of access.

## **2. Literature**

Although sharing and related modes of access emerge as key concepts in several disciplines (John, 2013a; Lamberton & Rose, 2012), research on the sharing phenomenon is still in its formative stages as various authors contribute to disentangling and classifying various manifestations of the term (Belk, 1985, 2010, 2014; John, 2013a, 2013b; Lamberton & Rose, 2012; Ozanne & Ballantine, 2010; Wittel, 2011). One of the most frequently cited definitions of sharing stems from Belk (2007), who proposes that sharing is the “act and process of distributing what is ours to others for their use and/or the act or process of receiving or taking something from others for our use.” Several authors differentiate between the sharing of tangible or physical goods, such as cars, bicycles and apartments, and intangible goods, such as knowledge, emotions and ideas (e.g., Belk, 2007, 2010; John, 2013a; Botsman & Rogers 2010; Gansky 2010; Giesler 2006). Sharing has been explored in various contexts, including car sharing (Belk, 2014), apartment sharing, toy sharing (Ozanne & Ballantine, 2010), and

commercial physical product sharing systems (Lamberton & Rose, 2012) (see table 1). Sharing is further defined as a non-ownership alternative to obtaining product benefits (e.g., Lamberton & Rose, 2013; Botsman & Rogers, 2010; Belk, 1985, 2010; John, 2013a). As such, sharing is often depicted as more sustainable, ecological and ultimately more profitable than ownership (Belk, 2007; Botsman & Rogers; Lamberton & Rose, 2012).

Table 1  
*Definition and Examples of the Sharing Phenomena in Previous Research*

Author	Non-Ownership Mode of Access/Consumption	Definition	Examples
Belk, 2007	Sharing	<ul style="list-style-type: none"> <li>▪ The act and process of distributing what is ours to others for their use as well as the act and process of receiving something from others for our use.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Carpooling</li> <li>▪ Bike-pooling</li> <li>▪ Public Transportation</li> <li>▪ Family car, radio, television</li> </ul>
Belk, 2010	Sharing	<ul style="list-style-type: none"> <li>▪ nonreciprocal, prosocial distribution of resources given without expectation of reciprocity distinct from commodity exchange and gift giving.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Mothering</li> <li>▪ Pooling and allocation of household resources</li> </ul>
John, 2013b	Sharing	<ul style="list-style-type: none"> <li>▪ An act of distribution (1)</li> <li>▪ To have something in common with someone (2)</li> <li>▪ An act of communication (3)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Sharing a chocolate bar (1)</li> <li>▪ Sharing a dorm room (2)</li> <li>▪ Sharing interests, fate, beliefs (2)</li> <li>▪ Sharing our feelings with others (3)</li> </ul>
Benkler, 2004	Sharing	<ul style="list-style-type: none"> <li>▪ Nonreciprocal pro-social behavior</li> <li>▪ An alternative modality of economic production</li> <li>▪ Practice of harnessing systematic excess capacities of lumpy, mid-grained goods</li> </ul>	<ul style="list-style-type: none"> <li>▪ Distributed Computing (SETI@home)</li> <li>▪ Carpooling</li> </ul>
Arnould and Rose, 2015	Mutuality/ Generalized Exchange	<ul style="list-style-type: none"> <li>▪ Action that entails the assumption that another party would act toward the first party in a similar, mutual, fashion if circumstances were reversed.</li> <li>▪ Act of generalized social recognition creating sociality and affinity through the offering of potential value, realized through active recognition, passive appreciation, and potential reciprocity.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Litter collection</li> <li>▪ Couchsurfing</li> <li>▪ Tool sharing</li> <li>▪ Craigslist</li> <li>▪ Picking up the bar tab</li> </ul>
Lamberton and Rose, 2012	Commercial Sharing Systems	<ul style="list-style-type: none"> <li>▪ Marketer-managed practices that provide customers with the opportunity to enjoy product benefits without ownership.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Bicycle-sharing programs</li> <li>▪ Automobile-sharing systems</li> <li>▪ Cell phone minute-sharing</li> </ul>

		<ul style="list-style-type: none"> <li>▪ Characterized by between-consumer rivalry for a limited supply of the shared product.</li> </ul>	<ul style="list-style-type: none"> <li>plans</li> <li>▪ Frequent-flyer-mile pools</li> </ul>
Belk, 2014	Pseudo-sharing	<ul style="list-style-type: none"> <li>▪ Commodity exchanges wrapped in a vocabulary of sharing.</li> <li>▪ Business relationship masquerading as communal sharing.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Commercial car-sharing (Zipcar)</li> <li>▪ For-profit home sharing organization (Airbnb)</li> </ul>
Ozanne and Ballantine, 2010	Anti-Consumption Alternative Consumption	<ul style="list-style-type: none"> <li>▪ Behaviors that serve to “reduce consumption related to specific brands, product categories or consumption activities.”</li> </ul>	<ul style="list-style-type: none"> <li>▪ Sharing of communally owned goods (e.g., toy libraries)</li> </ul>
Jenkins, Molesworth & Scullion, 2014	Inter-personal borrowing	<ul style="list-style-type: none"> <li>▪ “A pervasive form of non-market mediated access-based consumption and a distinct form of exchange.</li> <li>▪ [...]Borrowing involves a temporary transfer of possession in which the borrower does not become the legal “owner.”</li> </ul>	<p>Borrowing and lending items of everyday life:</p> <ul style="list-style-type: none"> <li>▪ DVDs</li> <li>▪ Watches</li> <li>▪ Video Games</li> <li>▪ Laptops</li> </ul>
John, 2013a	Collaborative Consumption	<ul style="list-style-type: none"> <li>▪ An economic model in which consumers use online tools to collaborate in owning, renting, sharing, and trading goods and services.</li> <li>▪ A practice enabled and driven by technology</li> </ul>	
Botsman and Rogers	Collaborative Consumption	<ul style="list-style-type: none"> <li>▪ Economic and cultural model based on systems of organized sharing, bartering, lending, trading, renting, gifting, and swapping.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Netflix</li> <li>▪ Zipcar</li> </ul>
Bardhi & Eckhardt, 2012	Access-based Consumption	<ul style="list-style-type: none"> <li>▪ Transactions that may be market mediated in which no transfer of ownership takes place.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Car sharing</li> </ul>
Wittel, 2011	Sharing pre- and post-digitalization	<ul style="list-style-type: none"> <li>▪ In the pre-digital age, sharing is always mutual, always social, and always based on the principle of generalized reciprocity.</li> <li>▪ sharing in the digital age is about social exchange on the one hand and about distribution and dissemination on the other hand</li> </ul>	

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Bardhi and Eckhardt (2012) note that boundaries between sharing and other forms of access are blurred. Accordingly, sharing has been discussed in the context of access-based consumption (Bardhi & Eckhardt, 2012), collaborative consumption (Botsman & Rogers, 2010) and anti-consumption (Ozanne & Ballantine, 2010). Belk (2010) differentiates sharing (e.g., non-reciprocal usage with de facto shared ownership) from gift-giving (e.g., non-reciprocal trans-

fer of ownership) on the one hand and from commodity exchange (e.g., reciprocal transfer of ownership) on the other hand. This differentiation as well as Belk's (2010) characterization of sharing as a nonreciprocal, prosocial distribution of resources given without expectation of reciprocity have recently been challenged by Arnould and Rose (2015) who put forth the concept of mutuality as an alternative to sharing. Furthermore, Belk (2014) separates prosocial sharing from pseudo-sharing by stating that "sharing includes voluntary lending, pooling and allocation of resources, and authorized use of public property (sharing), but not contractual renting, leasing, or unauthorized use of property by theft or trespass (pseudo-sharing)."

Although most authors agree on the basic nature of sharing as an act of joint usage of a good that is owned or quasi-owned by at least one of the sharing parties, several defining elements of sharing are debated in the literature. *First*, there is no unanimous view on whether the motives leading to sharing behavior should be incorporated into the definition of sharing itself. More to the point, although several authors posit that sharing, in its essence, is marked by altruistic and prosocial motives (Belk, 2014; Benkler, 2004), others, such as this contribution, favor a more objective definition of sharing practices independent of individual motives (John, 2013b; Botsman & Rogers, 2010; Aigrain, 2012). *Second*, it is not clear to what extent direct reciprocity—for example, in the form of a fee—can be reconciled with the idea of sharing (Belk, 2010; 2014). *Third*, it is not yet resolved whether joint ownership, or at least "a sense of communal ownership" (Belk, 2014), is a constituent element of sharing (Epp & Price, 2010) or whether the ownership or quasi-ownership of one sharing party is sufficient (Botsman & Rogers, 2010).

In the current contribution, we build on Belk's (2007) original definition of sharing. Specifically, we explore the distribution-side of sharing by focusing on the motives for *distributing what is ours to others for their use* (Belk, 2007). According to Belk, there is a clear distinction between the altruistically motivated distribution of possessions (sharing) and the utilitarian or

economically motivated distribution of possessions (pseudo-sharing). In this contribution, we challenge this dichotomy somewhat by noting the great variety and complexity of potential sharing motivations. The current debate on sharing motivations is largely shaped by either social considerations, such as altruism, prosocial behavior and social belonging (e.g., *I share because I want to help and connect with others*), or utilitarian considerations, such as direct or indirect reciprocity or the saving of resources (e.g., *I share because it is economically wise*).

However, other considerations pertaining, for example, to hedonic, social or moral motivations have rarely been addressed in the literature. Lambertson and Rose (2012) assume that a shared object may convey utility not only in the form of perceived economic value but also other forms of utility, such as social utility, referring to the gained approval by reference groups, as well as moral utility, referring to the perceived contribution to a good or worthy cause. Similarly, Benkler (2004, p. 295) suspects that there may be various motivations for sharing behavior – some altruistic, some reciprocity seeking, and some even agonistic (i.e., “giving intended to show that the person giving is greater than or more important than others, who gave less”).

### **3. Method**

#### **3.1. Qualitative Inquiry and Initial Scale Development**

In our research, we are interested in why people share their belongings via the Internet in both commercialized settings (such as Airbnb) and non-commercialized settings (such as Couchsurfing). To shed light on the motives behind the attitudes toward sharing, we followed the recommendations for scale development (Churchill, 1979; Gerbing & Anderson, 1988; Nunnally & Bernstein, 1994) and combined a qualitative exploration with two quantitative surveys, both explorative and confirmatory. The procedures for scale development are discussed in detail in the subsequent sections.

Our initial step was to invite users of the online crowdsourcing platform Amazon Mechanical Turk, which reasonably approximates the characteristics of the U.S. population (Paolacci et al., 2010), to elaborate on their motives for sharing physical goods with essential strangers through the Internet. We recruited 110 participants who had previously shared some of their belongings and asked them to fill out a short questionnaire containing open questions on their sharing experiences and their attitudes toward sharing. In particular, we asked what objects participants shared and which Internet platforms they used as a mediator for the sharing process. Furthermore, based on Ajzen (2006), participants were required to state what they liked and disliked about sharing their possessions with strangers on the Internet. In a final open question, they had the option to list other thoughts that came to mind in the context of their sharing experiences. The recruitment of participants on Mechanical Turk was deemed appropriate because these users are known to exhibit classic heuristics and biases and to pay attention to directions at least as much as subjects from traditional sources (Paolacci et al., 2010). Following content analysis, the participants' comments were analyzed for cues of sharing motives. The comments were read thoroughly and independently multiple times by at least two members of the research team and two research assistants not involved with the research. Each team member identified and listed recurring themes in the data. We sorted themes into categories based on similar characteristics and discussed key themes and illustrative comments. Based on commonalities, we developed conceptual definitions of the motives. Three broad sharing motives emerged from the qualitative data, in the following, each of these motives is briefly outlined and discussed in light of theoretical advancements (illustrative comments are displayed in Appendix 1).

*Monetary Motives – “I share because it is economically wise”*

The qualitative survey indicates that in Internet-mediated sharing, various aspects of monetary motives apply. Specifically, participants share to save money by sharing fixed costs with others, to make extra money by sharing fees and to maximize the utility of their investment by

sharing it with others. Particularly in open commercial goods sharing systems (Lamberton & Rose, 2012) such as Airbnb, monetary fees are common practice. These fees may serve as an incentive for individuals to share their possessions; furthermore, they are a way to cover costs that arise during sharing (e.g., increased use of water or electricity during apartment sharing), and they may be a means to ensure the trustworthiness of one's sharing partner.

*Moral Motive – “I share because it is the right thing to do”*

Moral motives are grounded in the notion that sharing is, at its core, a more meaningful, sustainable and environmentally friendly alternative to ownership-based forms of access (Belk, 2007; John, 2013a). Consequently, sharing has been framed as a sustainable practice (e.g. Botsman & Rogers, 2010) as well as a green or ecological practice (e.g. Bardhi & Eckhardt, 2012) and is deemed especially appealing to environmentally and ecologically conscious individuals (Hamari, Sjöklint & Ukkonen, 2015). Sharing has a strong altruistic component, as it stems at least in part from the will to help and care for others (Belk, 2010). In the context of collaborative consumption, sharing has been discussed as a form of mindful consumption (Buczynski, 2013, e.g. Sheth, Sethia & Srinivas, 2011). On a societal level, the sharing phenomenon coincides with a large-scale trend of sustainable living and is thus considered a manifestation of a sustainability-driven zeitgeist (Gansky, 2010). Against this background, moral motives for sharing may include ethical considerations of sustainability and ecology, altruism, community support as well as mindful consumption.

*Social-Hedonic Motive – “I share to connect with others”*

Seeking human connection is a key motive in sharing (Belk, 2014, Wittel, 2011). Sharing allows us not only to form new connections but also to maintain existing ones (John, 2013b). In most cultures, the sharing of food and beverages is a highly ritualized social activity (Belk, 2010; Turner & Rojek, 2001). Belk (2010) notes that sharing, “whether with our parents, children, siblings, life partners, friends, coworkers, or neighbors, goes hand in hand with trust and bonding.” The importance of social motives in sharing has been established by, among others,

Mannack, Ridder and Keyson (2004), who scrutinize online file sharing, and Burgess (2005), who examines professional knowledge sharing. In the context of the Internet-mediated sharing of physical goods, social motives include the wish to form new social ties, to be part of a community and to find company or companionship in a community.

Based on the findings from the qualitative survey, we designed an initial set of items, which we subsequently refined to produce a concise set of items describing sharing motives. This explorative preparation resulted in a pool of items that were then incorporated into the questionnaire used in the ensuing first quantitative survey. The survey sample for the explorative study consisted of 300 participants recruited from Amazon Mechanical Turk.

During this process of scale purification, we performed a detailed item analysis, an exploratory factor analysis, a confirmatory factor analysis and an initial assessment of scale reliability, unidimensionality, and convergent and discriminant validity, as prescribed in the literature (Churchill, 1979; Hair, Anderson, Tatham & Black, 1998). This extensive scale development resulted in a reduced scale of three sharing motives: monetary, moral and social-hedonic.

In a subsequent step, we validated (for sample details, see section 3.3) the sharing motives scale by first replicating the confirmatory factor structure on a further independent sample (Chin & Todd, 1995; MacCallum, Roznowski & Necowitz, 1992).

### **3.2. Model development**

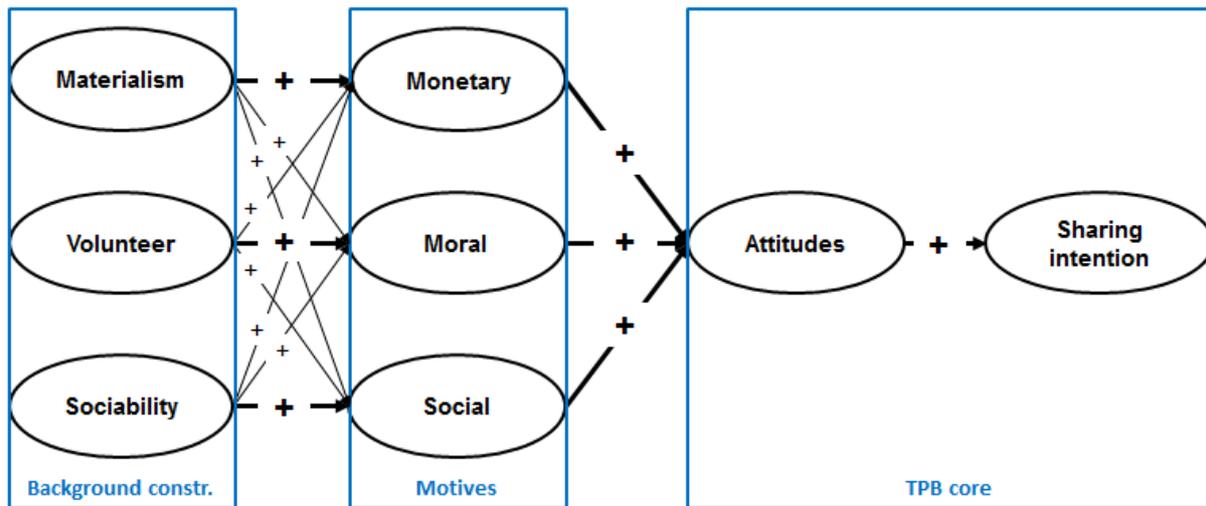
From the literature review we derive a model that encompasses a reduced TPB core, a motivational layer and an additional layer of background constructs (Figure 1). Following the theory of planned behavior (TPB) (Ajzen, 1991), we claim that sharing attitudes positively affect sharing intentions. TBP is a further development of the theory of reasoned action (TRA, Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). Both TRA and TPB explain human behavior with a causal chain from beliefs and attitudes, to intentions, to the actual behavior. They

also consider the social dimension with a construct called “subjective norm”. However, in contrast to TRA, TPB includes perceived behavioral control as an additional variable. In the vein of uses and gratifications theory<sup>1</sup> (Blumler, 1979) and social-cognitive theory<sup>2</sup> (Bandura, 1986), we posit that motivations positively affect sharing attitudes. In particular, the more pronounced users’ monetary, moral and social-hedonic motives, the more positive and strong their sharing attitudes, as the motives provide causes for developing positive attitudes. Finally, we hypothesize that the three background constructs materialism, sociability and volunteerism each positively influence one individual sharing motive. More to the point, (1) individuals with a strong material predisposition (Richins, 1987; Richins & Dawson, 1992) may be more inclined to share their possessions out of monetary considerations and less out of social and moral motivations. In turn, (2) individuals who are highly sociable (Cheek & Buss, 1981) may be sharing more out of the will to engage socially and meet new people. Also, (3) volunteerism as a quintessential manifestation of prosocial personality traits such as other-oriented empathy and helpfulness (Penner & Finkelstein, 1998; Flanagan & Levin, 2010; Flanagan et al., 2007) is expected to positively affect moral motivations, but not monetary or social-hedonic motivations. Figure 1 summarizes the hypothesized effects.

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<sup>1</sup> Very briefly put, uses and gratifications theory says that individuals base their choice of media consumption on specific motivations; media, in turn, can provide gratifications that satisfy user needs (Ruggiero, 2000). Different media facilitate specific as well as non-specific uses which are associated with distinct gratifications (Palmgreen, Wenner, & Rosengren, 1985; Rubin, 2009). McQuail (1997), for example, proposed five common media uses: information/education, entertainment, social interaction, identity promotion, and stress relief.

<sup>2</sup> Social cognitive theory (SCT) is a social psychological theory and was mainly developed by the Canadian psychologist Albert Bandura in two landmark books (Bandura, 1977 and Bandura, 1986). SCT is an agentic theory which stresses the role of self-efficacy – defined as “people’s beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives” (Bandura, 1994, p. 71) – as a key concept to explain human behavior. Moreover, it is interested in learning by observation (vicarious learning) and has claimed a model of “triadic reciprocity”, where (a) individuals’ environment influences personal dispositions, which shape their choice of environment; (b) personal dispositions influence behavior, which in turn influences these personal factors; (c) behavior affects the environment, which in turn impacts behavior (Bandura, 1977; 1986)



bold arrows = larger effect; thin arrows = smaller or no effect

Figure 1. Basic research model

In a second step, we investigate whether the basic model differs between two user groups: a group that shares for non-commercial purposes and one that shares for commercial purposes. We hypothesize that the two groups differ in the effects of the motives on attitudes but not so much in the effects of the TBP core and the effects of the background constructs on the motives. Especially, we expect the monetary motive to be more pronounced and having a stronger effect on attitudes in the commercial group, whereas the intrinsic motives of moral and social sharing motives should be more pronounced and have a stronger effect on sharing attitudes in the non-commercial group.

### 3.3. Sample and data

For our final analysis, we relied on an online survey of 498 US-based respondents recruited through Amazon Mechanical Turk in August 2015. The recruiting of participants on Mechanical Turk was deemed appropriate because these users are known to exhibit classic heuristics and biases and pay attention to directions at least as much as subjects from traditional sources (Paolacci et al., 2010). 290 participants (58.5 percent) in our sample were male and 206 (41.5 percent) female (2 missing values). The average age was 31.5 years, with a standard deviation

of 9 years, which indicates a relatively young sample composition. The median highest degree of education was 4 on a 1-6 scale, with relatively few participants in the extreme categories 1 (no formal educational degree) and 6 (post-graduate degrees). Despite not being a representative sample of individuals, the findings allow limited generalizability and go beyond mere convenience and student samples.

### **3.4. Questionnaire and measures**

We constructed a two-part questionnaire that contains 31 sharing motive items in the first part and a variety of variables related to sharing in the second part. All items are assessed on a five-point Likert scale, ranging from “totally disagree” to “totally agree”. Table A2 in the Appendix shows the item wording for each of the three motives and Table A3 includes the Cronbach’s  $\alpha$ , composite reliability (C.R.) and average variance extracted (AVE) values for each scale.

The *sharing attitudes* and *intentions* items were adapted going back to the Theory of Planned Behavior (TPB). Table A3 in the Appendix reports the wording of these items.

To explore and explain sharing attitudes, we assessed a number of *additional constructs* deemed important for the development of sharing motives and attitudes: materialism, sociability, volunteering, risk-taking, political attitudes and affluence. For this analysis, we used materialism, sociability and volunteering (Table A2). The other scales turned out to be problematic and not usable for reasons of consistence or original question design (e.g., affluence was collected with binary items and for political attitudes, we only have one item).

Finally, two items assessed whether the participants share in commercial contexts and in non-commercial contexts – or both (the two are not mutually exclusive). Mode 1 describes commercial sharing and mode 2 non-commercial sharing. Both modes were assessed with one item, asking the respondents how often they shared commercially (mode 1) and non-

commercially (mode 2) on a five-point Likert scale. We used mode 2 as the grouping variable for the multi group analysis because our focus was on non-commercial sharing. Respondents with values 1, 2 and 3 were grouped as 0 in the binary grouping variable, indicating that they do not share a lot for non-commercial purposes. Respondents with values 4 and 5 on the original mode 2 variable were grouped as 1 in the binary grouping variable. Thus, the grouping differentiates a group of frequent non-commercial sharers (1) from a group of infrequent non-commercial sharers (0).

As Tables A3 and A4 in the Appendix show, all scales fulfill the requirements for convergent and discriminant validity specified in the literature (Bollen, 1989; Fornell & Larcker, 1981; Netemeyer, Bearden, & Sharma, 2003), so that the measurement model is satisfactory and we can interpret the structural paths of the total model.

### **3.5. Data Analysis**

We use structural equation modeling (SEM) and multi-group analysis (MGA) to answer the research questions and test the hypotheses. SEM is a combination of confirmatory factor analysis and regression modeling and allows for indirect, multi-step hypothesis testing, specification of error terms, inclusion of latent constructs and overall goodness of fit values (including the comparison of nested models). It is thus superior to standard regression and factor analysis. We used MPlus (Version 7) to carry out the analyses, relying on robust Maximum Likelihood Estimation (MLR), so as to account for non-normality and other sources of distortion, such as heteroscedasticity and non-normal distribution of error terms (Byrne, 2012).

MGA is an extension of SEM, where two or more groups are compared in terms of an underlying model. For example, one could investigate with MGA whether the effects of perceived usefulness and perceived ease of use on the intention to adopt wearable computing is the same

for men and women. To compare the structural paths between groups, we need to establish configural and metric invariance in the measurement (Bollen, 1989; Cheung & Rensvold, 2002; Mullen, 1995). Configural invariance is given if the factor structure for each group is the same, i.e., the same factors are measured with the same items. To test configural invariance, the factor structure between the groups is constrained to be equal, but the loadings can differ. Metric invariance is a more demanding criterion and is given if the factor loadings of the constructs are the same in each group. To test metric invariance, the factor loadings between the groups are constrained to be equal. We carried out configural and metric invariance tests (Table 2), relying on the CFI difference as a formal assessment of measurement invariance (Cheung & Rensvold, 2002). The CFI difference test is superior to the chi-square difference test for studies with large sample sizes, where the chi-square value is frequently significant regardless of model fit (Yuan & Bentler, 2004). Cheung and Rensvold (2002) propose that a difference in  $CFI \leq 0.01$  between the models supports measurement invariance. In our case, this condition is satisfied and we can therefore assume metric invariance and proceed to compare the structural models.

Table 2.  
*Measurement invariance test*

	<b>Overall Model</b>	<b>Configural</b>	<b>Metric</b>	<b>Criterion</b>
<i>Value Chi-squared</i>	801.87	1492.32	1520.54	-
<i>Degrees of Freedom (df)</i>	508	1016	1042	-
<i>P-Value</i>	0.000	0.000	0.000	-
<i>Chi-squared/ df</i>	1.58	1.47	1.46	<b><math>\leq 5</math></b>
<i>RMSEA</i>	0.03	0.04	0.04	<b>&lt;0.08</b>
<i>CFI</i>	0.96	0.94 (0.939)	0.94 (0.939)	<b><math>\geq 0.90</math></b>
<i>TLI</i>	0.96	0.93	0.93	<b><math>\geq 0.90</math></b>
<i>SRMR</i>	0.05	0.06	0.07	<b><math>\leq 0.08</math></b>

## 4. Results and discussion

### 4.1. Full model

To assess the basic model, we carried out a SEM with the full dataset. The second column in Table 2 reveals the goodness of fit values for that model and Figure 3 shows the structural paths.

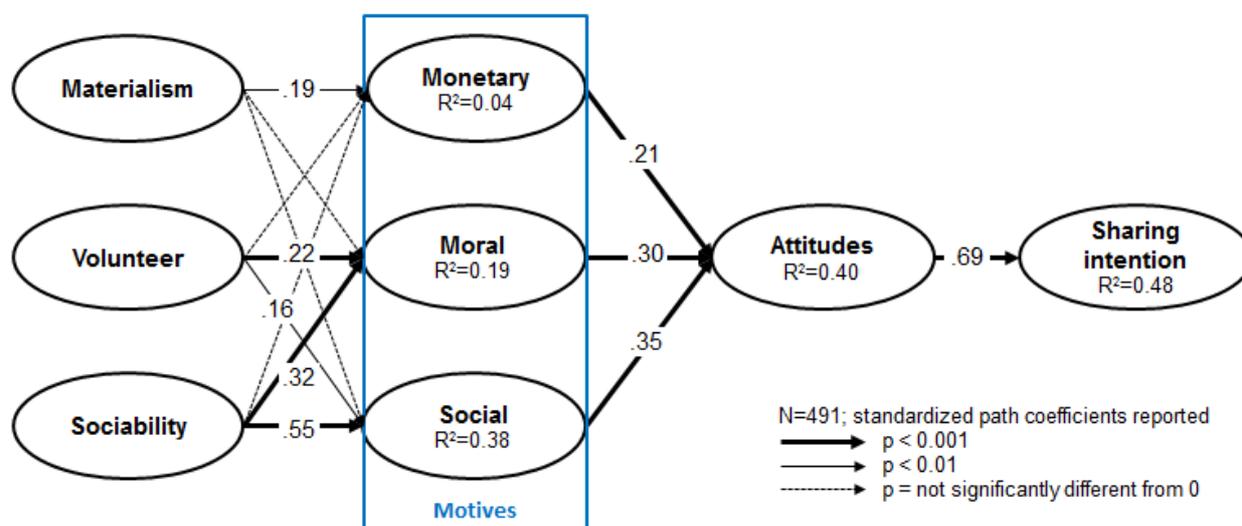


Figure 3. Full SEM model with the whole sample

Not surprisingly, we find a strong influence of sharing attitudes on sharing intentions<sup>3</sup>. This is in line with TPB and the explained variance of 48 percent indicates a strong connection between the two constructs and good explanatory power.

<sup>3</sup> We also ran a full model with perceived behavioral control and social influence as controls, as specified by TPB. This weakened the effect of attitudes somewhat because of PBC (social influence did not have a significant effect) but attitudes remained the strongest effect with a path coefficient of 0.49.

All the sharing motives exert a strongly significant effect on attitudes. Together, they explain 40 percent of the variance in sharing attitudes. This shows that the motives cover a broad range of different aspects and points out that the scale development process turned out to be useful. Of the three motives, social-hedonic motives have the largest impact, followed by moral motives and monetary ones. Although monetary motives seem to matter for sharing attitudes, non-monetary ones are more pronounced. This indicates that sharing is perceived as a voluntary, non-monetary phenomenon more than a transactional, monetary one.

Finally, the model reveals that sociability is the strongest driver for the sharing motives and materialism plays a subordinate role, although it has a significant effect on monetary sharing motives. Sociability strongly affects the social-hedonic motives and positively influences moral motives, too. Since sharing is a social activity, which often involves establishing contacts to unknown people, it does not surprise that sociability is such a strong driver. Interestingly, volunteering is the second strongest predictor of sharing motives. Respondents with high levels of volunteering also have a propensity to see the moral and social-hedonic motives more clearly. Again, the commercial driver – this time in the form of materialism – has the weakest impact. We are best able to explain social sharing motives with almost 40 percent of explained variance and we can account for a small proportion of the variance in moral motives. However, we fail to explain why users develop monetary motives for sharing. To differentiate this picture, we distinguished non-commercial from commercial and non-sharing and then performed a MGA. The next sections report the findings of the MGA.

#### **4.2. Group comparison and multi group analysis (MGA)**

We decided to split the sample into two groups: one with a strong tendency for non-commercial sharing (group 2) and one that lacks that tendency (group 1; for the operationalization, see 3.4.). 353 (71 percent) of respondents belong to group 1 and 145 (29 percent) to group 2. Hence, the non-commercial sharers are in the minority. We looked at the demograph-

ic and attitudinal profile of each group, using ANOVA or crosstables (in the case of gender), but did not detect significant gender, age, education and income differences. The only demographic characteristic that slightly distinguishes the groups is the area of living. Non-commercial sharers in group 2 are living in cities more often than commercial sharers in group 2. Despite not being substantially different in terms of demographics, the groups differ substantially in their sharing attitudes and motives (see Table 3).

Table 3.  
*Comparison of the two groups*

	<b>Group 1: Commercial Sharers</b>	<b>Group 2: Non-commercial Sharers</b>
<i>Sharing attitude</i>	rather positive (Ø: 4.23 <sup>***</sup> )	very positive (Ø: 4.49 <sup>***</sup> )
<i>Sharing intention</i>	rather high (Ø: 4.08 <sup>***</sup> )	very high (Ø: 4.35 <sup>***</sup> )
<i>Sharing motives</i>		
Monetary	rather pronounced (Ø: 4.08 <sup>***</sup> )	less pronounced (Ø: 3.82 <sup>***</sup> )
Moral	less pronounced (Ø: 3.52 <sup>***</sup> )	rather pronounced (Ø: 4.05 <sup>***</sup> )
Social-hedonic	less pronounced (Ø: 3.60 <sup>***</sup> )	rather pronounced (Ø: 4.04 <sup>***</sup> )
<i>Background constructs</i>		
Materialism	rather pronounced (Ø: 3.61)	less pronounced (Ø: 3.49)
Sociability	less pronounced (Ø: 3.52 <sup>***</sup> )	rather pronounced (Ø: 3.85 <sup>***</sup> )
Volunteerism	less pronounced (Ø: 2.67 <sup>***</sup> )	rather pronounced (Ø: 3.23 <sup>***</sup> )
<i>Demographics</i>	41.9 percent female; Ø age = 31.4; medium average income and education; 37.4 <sup>+</sup> percent living in city	40.7 percent female; Ø age = 31.5; medium average income and education; 42.8 <sup>+</sup> percent living in city

N = 498; <sup>\*\*\*</sup> p < 0.001; <sup>\*\*</sup> p < 0.01; <sup>\*</sup> p < 0.05; <sup>+</sup> < 0.1

Group 2 reveals significantly higher sharing attitude and intention values than group 1<sup>4</sup> (at 0.001 level). The same is true for the sharing motives: Group 2 has significantly lower scores for the monetary motives but significantly higher ones for the moral and social motives (all at 0.001 level). This indicates that the purpose of sharing, i.e., whether users prefer to share for non-commercial aspects, is in line with their attitudes and motivations. Finally, in two cases there are significant differences between the two groups in the values of the three background constructs. Group 2 scores higher on sociability and volunteering (both at 0.001 level) but the two groups do not significantly differ in terms of materialism (although the values for group 1 are slightly higher than those of group 2).

With these differences in mind, we can now turn to the investigation of the MGA. Because we did not find demographic differences between the two groups indicates, demographics do not confound the model comparison. Given our focus on differences between non-commercial sharers and commercial as well as non-sharers rather than on demographic profiles (and for the sake of simplicity), we decided to exclude demographics from the analysis. Table 4 shows the MGA results.

Table 4.  
*Multi group analysis results*

<i>Effects</i>	<b>Group 1: Commercial Sharers</b>	<b>Group 2: Non- commercial Sharers</b>	<b>Overall model</b>	<b>Significance of ef- fect differences between groups (one-tailed)</b>
<i>Attitudes -&gt; Intentions</i>	0.68***	0.64***	0.69***	0.24
<i>Monetary -&gt; Attitudes</i>	0.29***	0.08	0.21***	0.02
<i>Moral -&gt; Attitudes</i>	0.25***	0.44***	0.30***	0.02
<i>Social -&gt; Attitudes</i>	0.33***	0.23	0.35***	0.14

<sup>4</sup> The sharing attitudes and intentions are very positively skewed and reveal little variance. The arithmetic mean across the five attitude items is 4.3 and the median 4.2, on a scale that ranges from 1-5. The arithmetic mean for intentions is 4.2 and the median 4.0.

<i>Materialism -&gt; Monetary</i>	0.17*	0.2	0.19**	0.38
<i>Sociability -&gt; Monetary</i>	0.14*	0.07	0.08	0.24
<i>Volunteerism -&gt; Monetary</i>	-0.06	0.08	-0.04	0.08
<i>Materialism -&gt; Moral</i>	-0.01	-0.04	-0.04	0.38
<i>Sociability -&gt; Moral</i>	0.25**	0.42***	0.32***	0.03
<i>Volunteering -&gt; Moral</i>	0.23**	-0.02	0.22**	0.01
<i>Materialism -&gt; Social</i>	0.02	-0.01	0.01	0.38
<i>Sociability -&gt; Social</i>	0.56***	0.46***	0.55***	0.09
<i>Volunteering -&gt; Social</i>	0.16**	0.01	0.16**	0.07
<b>R<sup>2</sup> and N</b>				
<i>Intentions R<sup>2</sup></i>	0.46	0.41	0.48	-
<i>Attitudes R<sup>2</sup></i>	0.40	0.36	0.40	-
<i>Monetary R<sup>2</sup></i>	0.05	0.05	0.04	
<i>Moral R<sup>2</sup></i>	0.15	0.18	0.19	
<i>Social R<sup>2</sup></i>	0.39	0.21	0.38	
<i>N</i>	349	142	491	

\*\*\* p < 0.001; \*\* p < 0.01; \* p < 0.05; standardized path coefficients are reported

We do not find a large difference between the groups in terms of the attitudes effects on intentions. Both in the model for group 1 and group 2 the effect is substantial and similar to the one in the overall model. However, we detect a divergence of the effects of sharing motives on sharing attitudes between the groups for two of the three effects. In group 1, monetary motives have a significant positive influence on sharing attitudes but this is not the case in group 2. On the other hand, moral attitudes have a much stronger impact on sharing attitudes in group 2 compared with group 1. This indicates an interesting contrast. For people that tend to share a lot in non-commercial contexts, moral motives manifest themselves more strongly in positive sharing attitudes. For this group, moral considerations play an important role, while financial or monetary motives do not (note that members of group 2 can also have high scores on commercial sharing, if they are overall sharers, i.e., sharing in both non-commercial and commercial ways). Group 1, in turn, develops positive sharing attitudes because of monetary motives, social-hedonic motives and moral motives – but the moral motive is the weakest, while for group 2 this is by far the strongest and in fact the only one that exerts a significant

effect on sharing attitudes. As the  $R^2$  values for both groups show, we are slightly better at predicting sharing intentions and attitudes in group 1 than group 2.

Next to the effects of motives on sharing attitudes, we also find significant differences of the background constructs on the motives between the groups. Most strikingly, sociability has a stronger impact on moral motives in the group of non-commercial sharers (group 2), while volunteering has a stronger impact on moral motives in group 1. Thus, the two groups differ again with regards to their moral motives, which seems to be the most salient contrast. Group 2 has significantly higher values on the moral motives scale in the first place and for them the moral dimension of sharing actually depends a lot on sociability. This points to a more intrinsic understanding of sharing compared with group 2. For the latter, the active act of volunteering increases the moral motive as does sociability.

While largely failing at explaining the monetary motives for sharing (in both groups and in the overall model), we manage to explain more variance in the moral motives in the group 2 than in group 1. By contrast, the social-hedonic motive is substantially better explained in group 1. We think this is in line with the differences in the path coefficients between the groups. Group 2 seems to cater more to moral motives, while group 2 depends more on social-hedonic motives.

In sum, we find noteworthy – and statistically significant – differences in the paths between non-commercial sharers and those that do it for commercial purposes. The former seem more motivated and driven by moral motivations. Sharing is something inherently good and valuable for them. The latter, by contrast, tend to put stronger emphasis on monetary and – partly – social-hedonic motives. The moral drive is what distinguishes non-commercial from commercial sharers. Overall, however, all the three core motives – monetary, moral and social-hedonic – come together to encourage positive sharing attitudes and intentions.

## 5. Discussion

Our findings indicate that social-hedonic, moral, and monetary motives are key to understanding individuals' attitudes toward sharing their possessions with others – and especially with strangers. Overall, the strongest influencers of sharing attitudes are *social-hedonic motives*, which pertain to the positive affective reactions associated with the sharing experience. In particular, hedonic motives may relate to the fun and excitement derived from meeting new people, playfully trying out new roles or extending the utility of a possession by an unexpected social dimension. The second strongest determinant of sharing attitudes is *moral motives*. Much like sharing among friends and family, the sharing associated with moral motives is rooted in altruistic generosity and the will to help others. Also, moral motives pertain to the notion that sharing is a more sustainable and more ecological alternative to ownership-based modes of access (e.g. Buczynski, 2013; Botsman and Rogers, 2010; Gansky, 2010) as well as a form of mindful consumption (e.g. Sheth, Sethia and Srinivas, 2011). *Monetary motives* rank third in terms of their influence on sharing attitudes. This may be especially surprising because one might expect the saving of money and resources as well as the generation of extra income to be the primary motive for engaging in the sharing economy (e.g., Buczynski, 2013). However, it is possible that although monetary compensation for the sharing of goods may be perceived as a *necessary* condition for sharing in the sense that it helps to establish a basis of trust between previously anonymous sharing parties, monetary compensation alone might not be *sufficient* to motivate sharing behavior. It would be interesting to take a closer look at the threshold between necessary and sufficient conditions for Internet-mediated sharing. Would people still share if the moral and hedonic aspects of sharing were less pronounced? Would they share considerably more if monetary incentives were more pronounced?

The notion of the co-existence of utilitarian/monetary motives, on one hand, and altruistic/moral and social-hedonic sharing motivations, on the other hand, is generally in line with

Belk (2014), who posits that self-interest and altruism may co-exist in sharing. Yet, Belk (2014) also states that in cases where self-interest, egoistic motives and a lacking sense of community take over as the dominant sharing motives, sharing becomes pseudo-sharing. However, our analysis of two distinct groups of sharers, namely non-commercial sharers on the one hand and commercial sharers on the other hand, revealed that even for sharers who preferred commercialized sharing settings such as Airbnb to non-commercial sharing contexts such as Couchsurfing, profit orientation was only one of several sharing motives. Thus, in the context of Internet-mediated sharing of personal possessions, the distinction between practices of altruistic sharing and utilitarian pseudosharing may remain an academic one.

Among all background constructs, sociability is the strongest driver of overall sharing motivations. Sociability not only affects social-hedonic motivations, but also moral ones. This may be due to the fact that sociable individuals are generally open to meeting and interacting with people, which renders them not only socially literate, but with a high probability empathetic towards others as well. This assumed correlation between sociability and empathy in turn would explain why sociability not only impacts positively on social-hedonic motivations but on moral ones as well. This is in line with Hogan (1969) who found that individuals scoring high in empathy were by tendency also sociable, even if no assumption of causality or directionality within the relationship was made. In future research it may be worthwhile to shed more light on the role and contribution of empathy in forming sharing motives.

As hypothesized, commercial and non-commercial sharers differ substantially in their sharing attitudes and motives. The considerably smaller group of non-commercial sharers (29%) is more enthusiastic about sharing their possessions with others in general. They have a very positive attitude towards sharing which translates into an almost equally high sharing intention. While their monetary motives are clearly present, their moral and social-hedonic motives are predominant and they are more likely to be sociable and to volunteer than their more

commercially oriented counterparts. Even though they are in the minority, these non-commercial sharers may be the original protagonists at the heart of the digital sharing economy. They turn to sharing their possessions as a way to engage in their communities and to help others access resources they otherwise could not afford (Buczynski, 2013). In many ways, these non-commercial sharers belong to what Botsman and Rogers (2010) term the “Generation We”, a generation which holds sharing as an anti-thesis to autistic capitalism.

Even though Paolacci et al. (2010) assume that samples accessed through Mechanical Turk are representative of the general US population, it should be considered as a limitation of this paper that it is still possible that members of this “Generation We” are slightly over-represented in the present contribution. As the term “Generation We” suggests, it is likely that the will and readiness to share may not be distributed equally across the population but that there are certain communities (defined by interest and lifestyle), or, if understood literally, generations (defined by demographic cohort) which may be more prone to sharing than others. Following Botsman and Rogers (2010), the “Generation We” can be expected to be digitally literate, open for new ways to organize, collaborate and consume and they are conscious of the economic, ethical and environmental challenges of their time. Judging from our qualitative survey and especially from respondents’ rich descriptions of their sharing motives, this overall profile seems to fit at least a considerable group of Mechanical Turk users. Future studies should therefore include other and more diverse samples than Mechanical Turk for comparison. Here, a promising avenue for further research would be the investigation of a potential divide in sharing motives between the “Generation We” and – as a hypothesized opposite – the “Generation Me”.

Allowing others to partake in the utility of a possession (distribution side of sharing) is generally deemed a desirable practice, not just from an individual perspective but from an economic, ecological and social macro perspective as well (e.g. Botsman and Rogers, 2010; Buczyn-

ski, 2013; Sheth, Sethia and Srinivas, 2011; Gansky, 2010). Understanding the monetary, moral and hedonic determinants of sharing attitudes is key to designing favorable sharing experiences and incentives to share in the future. Thus, to motivate individuals to distribute what is theirs to others for their use, in addition to monetary incentives or assurances, prosocial framing as well as the hedonic features of the mediating platform may be essential in creating a favorable sharing environment.

Bearing in mind this broad set of motives for sharing and the rapid growth rate of sharing platforms worldwide, it is possible that in the future, we will increasingly let other people sleep in our apartments, drive our cars and wear our handbags. In this seemingly utopian post-materialistic society, what is mine will be yours – perhaps for a nominal fee.

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## Appendix

*Table A1. Qualitative comments on sharing motives*

<b>Motive</b>	<b>Illustrative Comments</b>
<b><i>Monetary Motive</i></b>	<p>I had extra room and could use the extra money            I wanted to make extra money with something I had and wasn't using at the moment. It seemed like a good idea to have my apartment paid for a month while I was away and not using it.            I was going on a trip to California and I wanted to find someone to share the gas so I could save money.            [Sharing is] an easy way to supplement current income and make something I already had “work for me”</p>
<b><i>Moral Motive</i></b>	<p>I've received similar help in my past and I thought [sharing] would be a good way to pass that on.            I've been without a place to sleep comfortably before, so I wanted to reach out to someone that needed a hand for a day.            Through sharing, I could help someone who may have needed it at the time.            Just helping fellow travelers on their journeys.            It seemed like a generous thing to do.</p>
<b><i>Social-Hedonic Motive</i></b>	<p>I wanted to meet like-minded people            I thought sharing with others would help me get over people anxiety.            [Sharing] allows [me] to be part of a community            I was living in a new city and wanted to meet other people and thought it would be an interesting way to do it.            Can give me a contact in a different city or country in case I travel there.            My housemates and I thought sharing our apt would be fun.            Sharing my apartment is a fun and interesting way to spend time with others.            [Sharing] is always a fun adventure.            I thought it might be exciting or, at least, interesting.            I thought it'd be fun. I didn't get stabbed. It went ok            [Through sharing] I get to meet people that I would never have met before...and you can learn a lot from those people. Learn from their experience, get some ideas...            It is interesting to me to experience different and new cultures and foods and there really wasn't a better option than doing so from my very apartment.</p>

Table A2. Questionnaire and item wording

Question wording	Item number
<b>Monetary motive (5 items)</b>	
I share because it pays well.	monet_1
Sharing helps me pay my bills.	monet_3
Earning extra money is an important factor when sharing.	monet_4
Sharing is a good way to supplement my income.	monet_5
Sharing allows me to make money from something I own.	monet_6
<b>Moral motive (4 items)</b>	
I share because I want to help others.	moral_1
I find sharing a generous thing to do.	moral_4
Sharing is a decent thing to do.	moral_5
Sharing allows me to do something meaningful.	moral_8
<b>Social-hedonic motive (6 items)</b>	
Sharing is a good way to meet new people.	social_1
Through sharing, there is a good chance that I will meet like-minded people.	social_4
Sharing makes me feel part of a community.	social_6
Sharing is a good way to find company.	social_7
Sharing is fun.	hed_1
I share because it is an adventure.	hed_3
<b>Sharing attitudes (5 items)</b>	
Sharing is good / not good.	att_1
Sharing is useful / not useful.	att_2
Sharing is valuable / not valuable.	att_3
Sharing is worthwhile / not worthwhile.	att_4
Sharing is helpful / not helpful.	att_5
<b>Sharing intentions (5 items)</b>	
If the circumstances allow it, I will also share in the future.	intent_1
I may share with others in the future.	intent_2
It is likely that I keep sharing in the future.	intent_3
I intend to share with others in the future as well.	intent_4
I will try to share in the future.	intent_5
<b>Materialism (3 items)</b>	
I would like to be rich enough to buy anything I want.	mat_2
I'd be happier if I could afford to buy more things.	mat_3
It sometimes bothers me quite a bit that I can't afford to buy the things I would like.	mat_4
<b>Sociability (3 items)</b>	
I like to be with people.	sociab_1
I prefer working with others rather than alone.	sociab_3
I find people more stimulating than anything else.	sociab_4
<b>Volunteering (3 items)</b>	
I do volunteer work to help needy people.	volunt_1
I get involved in issues like health or safety that affect my community.	volunt_2
I work with a group to solve a problem in the community where I live.	volunt_3

Table A3. Measurement Model

Construct	Item	Std. loading	t-values	R <sup>2</sup>	$\alpha$	C.R.	AVE
<b>Motives</b>							
Monetary	monet_1	.69	16.95***	.47	.89	.89	.62
	monet_3	.69	17.00***	.48			
	monet_4	.83	32.46***	.69			
	monet_5	.84	34.69***	.71			
	monet_6	.85	34.96***	.73			
	Moral	moral_1	.78	30.07***			
moral_4		.84	39.85***	.71			
moral_5		.69	19.67***	.48			
moral_8		.87	46.04***	.75			
Social-Hedonic	social_1	.70	23.60***	.49	.87	.87	.53
	social_4	.72	22.00***	.51			
	social_6	.78	31.46***	.61			
	social_7	.78	30.73***	.60			
	hed_1	.69	20.66***	.47			
	hed_3	.68	19.82***	.46			
<b>Theory of Planned Behavior</b>							
Attitudes	att_1	.84	45.55***	.70	.90	.90	.63
	att_2	.76	31.94***	.58			
	att_3	.77	31.45***	.59			
	att_4	.84	43.35***	.70			
	att_5	.77	33.02***	.59			
Sharing Intent	intent_1	.82	34.73***	.68	.94	.93	.73
	intent_2	.83	31.66***	.69			
	intent_3	.88	50.79***	.77			
	intent_4	.87	45.22***	.76			
	intent_5	.88	50.43***	.77			
<b>Background variables</b>							
Materialism	mat_2	.72	20.54***	.52	.82	.82	.61
	mat_3	.88	28.45***	.78			
	mat_4	.73	21.70***	.53			
Sociability	soc_1	.69	18.29***	.48	.79	.79	.57
	soc_3	.70	18.49***	.49			
	soc_4	.86	29.89***	.73			
Volunteering	vol_1	.74	20.29***	.54	.87	.88	.71
	vol_2	.89	41.37***	.78			
	vol_3	.89	42.17***	.79			
Criterion		$\geq 0.5$	min*	$\geq 0.4$	$\geq 0.7$	$\geq 0.6$	$\geq 0.5$

\*\*\*  $p \leq 0.001$

Table A4. Discriminant validity test

Construct	Mean	SD	1	2	3	4	5	6	7	8
1 MONET	4.01	0.85	<b>.62</b>							
2 MORAL	3.59	1.01	.01	<b>.64</b>						
3 HEDONIC	3.72	0.90	.00	.47	<b>.53</b>					
4 ATT	4.31	0.63	.04	.27	.29	<b>.63</b>				
5 INTENT	4.16	0.75	.03	.21	.29	.45	<b>.73</b>			
6 MAT	3.58	0.93	.00	.00	.00	.00	.00	<b>.61</b>		
7 SOCIAB	3.62	0.82	.01	.14	.35	.12	.17	.00	<b>.57</b>	
8 VOLUNT	2.84	0.93	.00	.09	.10	.03	.02	.01	.07	<b>.71</b>

Diagonal items represent the average variance extracted for each construct. Shared variance among constructs (squared correlations between constructs) below the diagonal line