What's Mine Isn't Yours – Barriers to Participation in the Sharing Economy

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Sharing Economy, Kommerzielle Sharing-Systeme, Adoptionshemmnisse, Bestimmungsfaktoren der Teilnahme, Car-Sharing, Technology Acceptance Model

The sharing economy promises great market potential for new and established firms to develop their business. Despite the strong growth potential that has been predicted, revenues and the number of active participants in the sharing economy continue to lag behind initial market expectations. Although a majority of people have a positive attitude toward sharing, the seemingly low level of acceptance in different systems of sharing can be regarded as evidence of adoption barriers. These inhibiting factors appear to hinder people from participating, e.g. leaving the car-sharing market as a niche segment for transportation. The purpose of our study is to examine the barriers to participation in the sharing economy. To this end, we conduct a survey on car-sharing in Germany. By applying structural equation modeling with PLS, we find that firm, personality and society-related barriers have significant effects on the attitude and behavioral intention that determine participation.

Die Sharing Economy verspricht neuen und etablierten Unternehmen großes Marktpotenzial zur Entwicklung ihres Geschäfts. Trotz prognostizierter Wachstumspotenziale bleiben die Gewinne und die Anzahl der aktiven Teilnehmer hinter den Prognosen zurück. Da die meisten Menschen eine positive Einstellung gegenüber der Sharing Economy haben, lässt die geringe Nutzung der verschiedenen Sharing-Systeme auf die Existenz von Adoptionshemmnissen schließen. Diese scheinen die Bevölkerung von der Teilnahme an bestimmten Sharing-Systemen abzuhalten, sodass z.B. der Car-Sharing-Markt immer noch ein Nischensegment im Mobilitätssektor darstellt. Das Ziel unserer Studie ist es, potenziell wirkende Adoptionshemmnisse im Rahmen der Sharing Economy zu untersuchen. Am Beispiel einer Erhebung im Car-Sharing-Kontext in Deutschland gelangen wir unter Anwendung einer Strukturgleichungsmodellierung mit PLS zu dem Ergebnis, dass spezifische unternehmens- und persönlichkeitsbezogene sowie gesellschaftliche Hemmnisse die Einstellung und Verhaltensabsicht zur Teilnahme signifikant beeinflussen.

1. Introduction

Sharing systems are increasingly daring sole ownership of goods or services as the dominant means of obtaining product benefits (*Belk* 2007; *Botsman/Rogers* 2011; *Lamberton/Rose* 2012). "Access-based consumption" (*Bardhi/Eckhardt* 2012), "collaborative consumption" (*Leismann et al.* 2013; *Belk* 2014), or "sharing economy" (*Lamberton/Rose* 2012; *Hamari et al.* 2015) are the terms used to describe the belief that consumers want access to goods and prefer to pay for the experience of accessing them temporarily instead of owning them (e.g. *Bardhi/Eckhardt* 2012). The idea of simply using goods is not novel and has existed for a long time in the form of local-based sharing of goods (e.g. borrowing books from the library, using public transportation). However, most of the recently established sharing-based business models have become increasingly popular as a result of the simultaneous development of the Internet and related IT applications (*Botsman/Rogers* 2011). This giant technological step forward has made a location- and time-independent economy of sharing possible (*Botsman/Rogers* 2011; *Lamberton/Rose* 2012). Accordingly, in recent years several companies have expanded their traditional business models to accomodate the sharing economy (*Botsman/Rogers* 2011). Basically, these recently launched sharing systems can be divided into non-commercial and commercial types. Non-commercial forms provide consumers with the opportunity to get free access to product benefits without ownership (e.g. food sharing, community gardening), while commercial business models demand usage and access fees (e.g. car-sharing, flat sharing) (*Bardhi/Eckhardt* 2012; *Choi et al.* 2014; *Pick/Haase* 2015). The market volume of these sharing systems is already estimated at about 15 billion US dollars worldwide and is expected to grow to around 335 billion US dollars by 2025 (*PWC* 2014).

However, despite this considerable market potential, many companies that have invested in the development of sharing systems only to realize that the market development of these offerings lags behind initially held market expectations (*Kempf et al.* 2015). For example, the German car-sharing market is clearly still a niche segment. Despite strong growth (67 percent in 2014) and some 1,3 million registrations (*Federal Association of CarSharing* 2014), car-sharing currently covers less than 0,05 percent of the total volume of about 120 million daily routes in motorized transportation (*Kempf et al.* 2015). Furthermore, a recent study determined that only 30 percent of active consumers access such sharing systems several times a month, and only 6 percent use it several times a week. Sharing experts explain these diffusion problems by pointing to direct and indirect operational, strategic and mental hurdles (*Kempf et al.* 2015).

Some studies in this context reveal that there is a significant discrepancy between personal attitude and actual behavioral intention (e.g. *Hamari et al.* 2015). While people overall have a very welcoming attitude toward sharing systems (e.g. *Botsman/Rogers* 2011*; Bardhi/Eckhardt* 2012), a majority of potential consumers do not use such systems (e.g. *Hamari et al.* 2015). Thus, although people agree on the benefits of the sharing economy, for example it makes life more convenient and more affordable and encourages a better environment; there have to be some yet unexplained adoption barriers hindering people from participating.

While, most studies deal with sharing systems' success factors (e.g. *Belk* 2007; *Bardhi/Eckhardt* 2012; *Tussyadiah* 2015), persistent barriers have attracted only limited research interest. Our study seeks to bridge this research gap by providing empirical evidence in response to the research question about which adoption barriers hinder people from partici-

pating in the sharing economy. We define adoption barriers as factors that hinder people from completing the innovation adoption process developed by *Rogers* (1983; see also *Ram/Sheth* 1989), which means employing and reusing the innovation. In this sense adoption barriers are the reasons for innovation resistance which is defined as "the resistance offered by consumers to an innovation, either because it poses potential changes from a satisfactory status quo or because it conflicts with their belief structure" (*Ram/Sheth* 1989, p. 6). To answer our research question, we propose a conceptual model to explain and identify adoption barriers to participation in commercial sharing systems, which deal with sharing the consumption of goods and services within business-to-consumer networks. Given the enabling role that IT-related services and the concomitant technological requirements play in related systems, we base our research model on the theory of the technology acceptance model (TAM) (*Davis* 1989, 1993; *Davis et al.* 1989, 1992). We adapt our conceptual model to the context of car-sharing, as it is the most common and familiar sharing system (*Bardhi/Eckhardt* 2012; *Lamberton/Rose* 2012). To test our hypotheses, we conducted a survey among 396 German car-sharing users (asking for initial barriers) and non-users (asking for present barriers) and apply a partial least squares analysis (PLS) to test our research model. The paper concludes with a discussion and implications for practice and future research.

2. Research Background

Given the rapid increase in sharing systems, academic research is lagging behind in providing both theory-grounding conceptualizations and practical implementations. Additionally, fundamental issues such as the low level of diffusion have gone unaddressed (e.g. *Lamberton/Rose* 2012). Recent research has mainly shifted toward acceptance studies concerning particularly success factors and drivers of sharing systems that affect the rate of adoption (e.g. *Hamari et al.* 2015; *Tussydiah* 2015). Scholars used to believe that sharing systems are tempting alternatives to ownership-based models only because of economic, ecological, and society-related motives (e.g. *Lamberton/Rose* 2012). Examples for economic drivers comprise economic benefits (*Hamari et al.* 2015) or savings in effort, time or space (*Bardhi/Eckhardt* 2012), while ecological motives include resource efficacy (*Gansky* 2010; *Comunispace/Ogilvy* 2011), sustainability (e.g. *Hamari et al.* 2015), and environmental awareness (*Bardhi/Eckhardt* 2012). Concerning society-related motives the desire for group and community-belonging are of significant importance (*Belk* 2010; *Botsman/Rogers* 2011; *Bardhi/Eckhardt* 2012).

In this regard, sharing system providers are mostly aware of these drivers and try to promote them in different ways. For example, in the context of car-sharing, they promote low-cost or free application processes, usage price discounts, and sustainable mobility (*Botsman/Rogers* 2011). Despite these activities, most providers merely achieve a moderate level of acceptance. The most important reasons for this can be found in the diffusion theory by *Rogers* (1995). The decision to adopt or reject an innovation is the result of a decision-making process, rather than an instantaneous event (see also *Gilly/Zeithaml* 1985). The consumer's decision whether or not to adopt an innovation is based on perceptions of the innovation that include its relative advantage, compatibility, complexity, observability, and trialability (*Rogers* 1995). If the findings of this theory (*Rogers* 1995) constitute the point of reference for the sluggishly running adoption process, we can assume that those factors impeding the possible usage behavior may cause a negative adoption in-

tention. Studies reveal that consumers frequently use outdated products and services, because switching costs are too high (e.g. *Ram* 1989; *Ram/Sheth* 1989). Similarly, the reason why sharing requires radical changes in one's past behavior, i.e. unfamiliar way of consuming (*Botsman/Rogers* 2011), may lead consumers to act cautiously when adopting new goods or services (*Rogers* 2003). Hence, for consumers the lack of prior experience causes them to feel uncertain about the costs and benefits of adopting innovative goods or services such as sharing systems (*Beldad et al.* 2010). Such impeding uncertainties associated with the adoption of innovative goods or services are designated as adoption barriers (*Ram* 1989; *Ram/Sheth* 1989; *Hoeffler* 2003; *Rogers* 2003). On the one hand, related research indicates that there are functional and utility-based barriers because of which consumers assess the consequences of adoption in terms of performance-to-price value and (physical, economic, performance) risk. On the other hand, social and psychological barriers are specified and result from conflicts with consumers' prior habits (e.g. usage patterns, traditions and norms, perceived image) (e.g. *Ram/Sheth* 1989; *Porter/Donthu* 2006).

Initial studies in the sharing context suggest that utility-based as well as social and psychological factors may have an impact on behavioral intention (e.g. *Bardhi/Eckhardt* 2012; *Lamberton/Rose* 2012). Both scholars and industry leaders agree that the long-term success of commercial sharing systems is determined by the question whether or not consumers can overcome inhibitory factors and show positive adoption behavior (*Botsman/Rogers* 2011; *Lamberton/Rose* 2012; *Hamari et al.* 2015).

3. Model Development

3.1 General Determinants of Behavioral Intention: Adoption Barriers of Sharing Systems

As indicated, recently launched sharing systems are often based on IT infrastructure. In addition, IT-related services and their development have been indicated as key success factors of the growing car-sharing industry (*Botsman/Rogers* 2011; *Bardhi/Eckhardt* 2012; *Belk* 2014). For example, the sharing service car2go has already started to change the rental process and functional check for its vehicles to "smartphone only." In fact, technology is one of the main reasons why car-sharing is distinct to common car rental services. The personal interaction between the consumer and the company is replaced by IT-enabled services. Without using technology and IT-related services, car-sharing would hardly be possible, at least in the business-to-consumer sector. Hence, the acceptance of IT-enabled systems can be seen as an antecedent of behavioral intention (e.g. *Davis et al.* 1989; *Taylor/Todd* 1995).

In recent years, a variety of theoretical approaches has been extended to provide insights into usage determinants for IT-enabled services. Theories grounded in intention- and innovation-adoption-based models, help to examine barriers to participation in sharing systems. Especially intention-based models such as the theory of reasoned action (TRA) (*Fishbein/Ajzen* 1975) or the theory of planned behavior (*Ajzen* 1985, 1989) use behavioral intention to predict real usage behavior. From this stream of research the original technology acceptance model (TAM; *Davis* 1986; *Davis et al.* 1989) has been verified widely with different samples in different situations (see for example, IT-based (*Mathieson* 1991; *Taylor/Todd* 1995) and IT-related systems (*Chau/Hu* 2002)). It has been established that TAM's ability to explain attitude and intention toward using is more robust than the one of other models (e.g. TRA, TPB) (*Mathieson* 1991). *Davis* (1986) and *Davis et al.*

(1989) suggest two constructs, *perceived usefulness* and *perceived ease of use*. They both determine the *attitude* toward *behavioral intention* and are among the set of perceived aspects of innovations (*Rogers* 2003). In the TAM attitude and direct and mediating effects of perceived ease of use and usefulness determine behavioral intention of usage, while perceived ease of use itself is an antecedent of perceived usefulness and an important influencing factor of use (*Davis* 1989, 1993; *Davis et al.* 1989, 1992). Therefore, in the context of barriers and in conformity with the TAM, the degree to which consumers believe sharing systems are difficult to use mediates the attitude toward the behavioral intention of using these systems. By adapting the constructs to the context of adoption barriers, we change perceived usefulness to "*perceived disusefulness (PDU)*", perceived ease of use to "*perceived difficulty of use (PDoU)*", attitude to "*negative attitude (NA)*" and behavioral intention to "*negative behavioral intention (NBA)*." On this basis, we derive the following hypotheses:

H_1: *Negative attitude has a positive influence on negative behavioral intention.*

H_2: *Perceived difficulty of use has a positive influence on negative attitude.*

H_3: *Perceived difficulty of use has a positive influence on perceived disusefulness.*

H_4: *Perceived disusefulness has a positive influence on negative attitude.*

H_5: *Perceived disusefulness has a positive influence on behavioral intention.*

Behavioral intention is guided not only by individuals' own attitudes (*Ajzen/Fischbein* 1980) or perceived abilities (*Bandura* 1986) but also by their perceptions of others' beliefs (*Ajzen/Fischbein* 1980) and behaviors (*Asch* 1951). Since sharing is a social procedure, the beliefs also reflect the influence of others. Scholars reveal that social pressure and conformity directly refer to the individuals' perception of participation (*Botsman/Rogers* 2011). In line with intention-based theories (e.g. TPB; *Ajzen* 1985, 1989), we adapt the TAM by adding perceived subjective norm to our model. *Belk* (2007) stated that the appeal of possessions and beliefs in certain societies, characterized by ownership-based, material thinking and non-generosity, may inhibit sharing intentions and decrease the social understanding of participating in sharing systems. Hence, the perceived social pressure (reflecting normative beliefs, e.g. poor reputation) may reduce a person's attitude as well as behavioral intention. Accordingly, we propose the following hypotheses:

H_6: *Perceived subjective norm has a positive influence on negative attitude.*

H_7: *Perceived subjective norm has a positive influence on negative behavioral intention.*

3.2 Why Not Share? Specific Barriers to the Participation in the Sharing Economy

As indicated above, literature has identified different '*interfering forces*,' which are determined by the underlying business model or provider and its financial and physical determinants (e.g. costs and functionality) (*Ram/Sheth* 1989). We refer to them as *firm-related barriers*. Additionally, some barriers are strongly linked to personal traits such as determinants of usage patterns or psychological determinants (e.g. perceived uncertainty) (e.g. *Ram* 1989; *Henning-Thurau et al.* 2007; *Lamberton/Rose* 2012; *Hamari et al.* 2015; *Pick/Haase* 2015). We consider these to be *personality-related barriers*. Studies in this context

show that these determinants directly or implicitly affect the propensity of participation (*Higgins* 2006) and, moreover, would fundamentally hinder the adoption process if they were perceived as barriers (*Marguc et al.* 2011).

Firm-related barriers. Against this background, three different kinds of costs are likely to affect consumers' perception of the overall usefulness of sharing systems (e.g. *Henning-Thurau et al.* 2007; *Lamberton/Rose* 2012). On the one hand, the "*perceived economic* (monetary) *costs*" of sharing associated with application fees and usage costs may have diminishing effects on consumers' perception of usage. Consequently, the usage behavior determines whether consumers benefit from using a car-sharing system for example instead of other means of transportation. On the other hand, technical (non-monetary) costs are of interest in sharing systems. These refer to the learning process of using unfamiliar systems. On top of that search costs (non-monetary) accrue, which are associated with the effort of using sharing systems (*Henning-Thurau et al.* 2007; *Lamberton/Rose* 2012). We refer to those technical and search costs as "*perceived transaction costs*." All in all, given the unfamiliar nature of sharing systems, associated economic and transaction costs provoke the perception of negative consequences associated with sharing (*Kindel et al.* 2015; *Pick/Haase* 2015). We propose the following hypotheses:

H_8: *Perceived economic costs have a positive influence on perceived disusefulness.*

H_9: *Perceived transaction costs have a positive influence on perceived disusefulness.*

Moreover, *Lamberton/Rose* (2012) draw attention to the fact that the usage of commercial business (business-to-consumer) models is also characterized by consumers' beliefs about the extent of rivalry with respect to access to the shared good. The eventuality that consumers are not able to get access to the desired good represents a risk, followed by a negative image about usefulness and ease of use. We designate this as the "*perceived product scarcity*." It thus follows that:

H_{10}: *Perceived product scarcity has a positive influence on perceived disusefulness.*

H_{11}: *Perceived product scarcity has a positive influence on perceived difficulty of use.*

Since sharing systems represent a new approach to access desirable goods, many people struggle to radically change their habits away from ownership-based to sharing-based systems (*Beldad et al.* 2010). Because sharing systems are characterized as highly innovative (e.g. *Botsman/Rogers* 2011), the diffusion of sharing systems can be linked to personal innovativeness traits, which strongly influence consumers' behavioral intention to try or adopt new things (e.g. technologies, products, concepts) (*Hamari et al.* 2015; *Tussydiah* 2015). Hence, in addition to rational factors, certain personal values and the handling of potential conflicts of value, might also affect the behavioral intention of using sharing systems (e.g. *Marguc et al.* 2011; *Pick/Haase* 2015; *Tussydiah* 2015). Taking all of this into account, we assume that *personality-related determinants* directly affect behavioral intention.

Personality-related barriers. First, the decoupling of consumption and possession means that consumers repeatedly have to face unfamiliar situations when using sharing systems. In the context of car-sharing, consumers are forced to hand over responsibilities and obligations to the provider, which usually accompany ownership (e.g. quality controls, functional difficulties). The perception of any difficulties encountered (e.g. empty tank, defec-

tive wipers, functional problems during usage) may enhance consumers' perceived uncertainty and risk about the ability to use sharing systems successfully (*Hung et al.* 2006; *Bardhi/Eckhardt* 2012). Using the construct of "*perceived uncertainty*" of use, we examine consumers' perception of the extent to which sharing systems will include unknown functional risks.

H_{12}: *Perceived uncertainty has a positive influence on perceived difficulty of use.*

Furthermore, trust is related to the perception of control over the process and is postulated as an antecedent to behavioral intention (*McKnight et al.*1998, 2002; *Botsman/Rogers* 2011). When consumers trust companies, they diminish any negative expectations that others' actions will harm them (e.g. *McKnight et al.* 1998; *Rousseau et al.* 1998). Similarly, these negative expectations might also occur during an interaction with an unfamiliar provider or system. Lack of trust in sharing providers may enhance the perception of uncertainty and risk about the ability to use sharing systems successfully (*Hung et al.* 2006; *Botsman/Rogers* 2011; *Bardhi/Eckhardt* 2012). In the context of car-sharing, for example, consumers are at risk when using shared vehicles, as they assume potential damages and liabilities on behalf of the consumer using the vehicle before and afterward. Damaged trust relations between consumers and sharing providers can act as a deterrent to participate in sharing (*Tussyadiah* 2015). Thus, we assume "*perceived lack of trust*" to be an important factor in determining negative attitude:

H_{13}: *Perceived lack of trust has a positive influence on negative attitude.*

The overall attractiveness of sharing depends not only on the consumer's perception of uncertainty but also on perceptions of self-identity and expressive value (*Belk* 2007). Consumer research states that possessions, especially cars, constitute a substantial expressive value for the owner (*Bardhi/Eckhardt* 2012). *Solomon* (1983) finds that expressive value embedded in goods is the primary reason for their use and the greatest source of satisfaction for consumers (see also *Belk* 1988). Owning goods is perceived as a status symbol (*Bawden* 2015). However, by using sharing goods, people give up the utility derived from owning a product which can enhance individual self-appreciation, security and freedom (*Bagschik et al.* 1999; *Bardhi/Eckhardt* 2012; *Piscicelli et al.* 2015). Therefore, sharing systems cause a smaller expressive value because they lack permanent ownership. We propose that "*perceived lack of expressive value*" may have an impact on attitude and thus be a barrier to predicting behavioral intention:

H_{14}: *Perceived lack of expressive value has a positive influence on negative attitude.*

Moreover, since sharing is seen as prosocial behavior, users may perceive peer pressure in a positive or a negative way. Research findings reveal that peer relationships are indispensable to understanding social behavior development (e.g. *Brown et al.* 1986). Against this background, peer pressure is perceived as the influence of people in one's social environment (*De Vries et al.* 1988). Given that social networks (e.g. family, colleagues, and peer group) might affect and subjective society-related norms (e.g. materialism) might mediate individuals' behavior, we formally suggest the subsequent hypothesis:

H_{15}: *Perceived negative peer influence has a positive influence on perceived subjective norm.*

4. Methodology

4.1 Data Collection

In order to test our research model, we collected data by surveying users and non-users (potential users) of car-sharing services in August 2015. We asked users of car-sharing services to think of initial adoption barriers, while we asked non-users to indicate present barriers for not using car-sharing systems. In order to examine adoption barriers instead of adoption facilitators or drivers of sharing propensity we modified the items by negating constructs and items or changing the wording accordingly. For some items it was also necessary to adapt them to the context of car-sharing. Before distributing the final questionnaires, we conducted a pretest with 23 participants to secure understandability of all items. We chose the metropolitan area of Berlin as the place to distribute the paper-based questionnaires, because the offer and awareness of car-sharing services is relatively high in the German capital. In total, we distributed over 500 paper based-questionnaires with the help of management students. We received 420 responses. Out of these, we discarded 24 questionnaires due to incomplete information on crucial items, or the participants lacked knowledge on sharing concepts. This leads to a total of 396 usable questionnaires to test the developed model.

4.2 Sample Characteristics

With regard to gender and age, we attempted to achieve a balanced sample size for each group to have a representative sample. In the sample 205 respondents (51,8%) are male, 190 (48,0%) female, and 1 (0,2 %) did not indicate a gender. The dispersion of age ranges from participants younger than 20 years old (n=12, 3,0%) to over 60 years old (n=11, 2,8%). The young adults between 20 and 29 years of age represent the largest group with 163 participants (41,2%), followed by the group aged between 30 and 39 (n=128, 32,3%); 39 participants (9,8%) are between 40 and 49 years old, and 43 respondents are between the ages of 50 and 59 (10,9%). Given the limited geographical scope of our research, most of the participants (82,6%) live in a city with more than 100.000 inhabitants.

4.3 Measure Validation

For our model we relied on existing scales and adjusted them, whenever necessary, to better fit the context of our study. All constructs were measured using a seven-point Likert scale. Perceived uncertainty (PU) was measured using a scale from *Sweeney et al.* (1999). The perceived product scarcity (PPS) and perceived transaction costs (PTC) constructs are based on *Lamberton/Rose* (2012). Perceived economic costs (PEC) are derived from economic benefits of *Hamari et al.* (2015). Negative peer influence (NPI, adjusted), perceived subjective norm (PSN) and negative attitude (NA, adjusted) are based on *Taylor/Todd* (1995). Perceived difficulty of use (PDoU) is adjusted based on the construct of perceived ease of use by *Davis* (1989); the same applies to perceived disusefulness (PDU) and perceived usefulness (*Davis* 1989). Similarly, perceived lack of trust (PLoT) is an adjusted construct on the basis of the trust construct by *McKnight et al.* (2002). Perceived lack of expressive value (PLEV) is a negation of the expressive value construct by *Sweeney/Soutar* (2001). Negative behavioral intention (NBI) is measured by using scales by *Taylor/Todd*

(1995), *Bhattacherjee* (2001) and *Lamberton/Rose* (2012) and adjusting them for the purpose of our study (*see Appendix Table 6*).

First, we assessed the indicator reliability and construct reliability of our model. Indicator reliability was tested considering factor loadings (threshold of 0,5 (*Hulland* 1999), inter-item correlation (threshold ≥ 0,3) (*Robinson et al.* 1991), corrected item-to-total correlation (threshold ≥ 0,5) (*Zaichkowsky* 1985) and Cronbach's alpha (threshold ≥ 0,7 or 0,6 for exploratory work) (*Nunnally/Bernstein* 1994). Based on these criteria, some items had to be eliminated from the original scale since they fell below the thresholds, or their elimination led to an increase in Cronbach's alpha (see Appendix, *Table 6*). Construct reliability was measured by means of an analysis of Cronbach's alpha and composite reliability. The lowest Cronbach's alpha value was indicated to be 0,64; which is above the commonly accepted threshold of 0,6 (*Hair et al.* 2006). Composite reliability was judged to be acceptable, because all items yield values above 0,6 (e.g. *Bagozzi/Yi* 1988), with the lowest score being 0,8.

To assess convergent validity of the multi-item scales, we take into account factor loadings, t-values, average variance extracted (AVE) and Cronbach's alpha (see *Table 1*).

Construct	*Indicator*	*Loading* (λ)	*t-Value*	*p*	α	*AVE*	*Construct*	*Indicator*	*Loading* (λ)	*t-Value*	*p*	α	*AVE*
PLoT	PLoT_1	0,69	18,91	***	0,88	0,63	NPI	NPI_1	0,97	175,35	***	0,94	0,94
	PLoT_2	0,77	22,91	***				NPI_2	0,97	111,82	***		
	PLoT_3	0,77	26,98	***			PDoU	PDoU_1	0,75	26,99	***	0,81	0,64
	PLoT_4	0,85	46,56	***				PDoU_2	0,79	27,19	***		
	PLoT_5	0,84	45,49	***				PDoU_3	0,80	32,74	***		
	PLoT_6	0,82	41,98	***				PDoU_4	0,84	47,70	***		
PU	PU_1	0,57	14,81	***	0,70	0,61	PDU	PDU_1	0,81	34,37	***	0,89	0,76
	PU_2	0,87	40,15	***				PDU_2	0,92	76,23	***		
	PU_3	0,88	48,93	***				PDU_3	0,89	59,71	***		
PLEV	PLEV_1	0,82	14,81	***	0,64	0,57		PDU_4	0,87	47,92	***		
	PLEV_2	0,80	16,88	***			PSN	PSN_1	0,99	228,80	***	0,97	0,97
	PLEV_3	0,63	7,62	***				PSN_2	0,99	214,76	***		
PTC	PTC_1	0,85	24,85	***	0,76	0,66	NA	NA_1	0,84	29,47	***	0,87	0,72
	PTC_2	0,78	13,96	***				NA_2	0,88	47,54	***		
	PTC_3	0,82	19,69	***				NA_3	0,84	32,12	***		
PEC	PEC_1	0,92	11,02	***	0,79	0,70		NA_4	0,84	42,42	***		
	PEC_2	0,92	10,91	***			NBI	NBI_1	0,70	25,30	***	0,82	0,51
	PEC_3	0,64	4,21	***				NBI_2	0,77	24,87	***		
PPS	PPS_1	0,92	88,29	***	0,91	0,84		NBI_3	0,64	13,60	***		
	PPS_2	0,92	79,23	***				NBI_4	0,71	18,29	***		
	PPS_3	0,91	64,79	***				NBI_5	0,74	22,80	***		
								NBI_6	0,74	26,44	***		

Note: ***p = ≤ 0,01 (two-tailed probability)

Table 1: Convergent validity

Discriminant validity was assessed using the *Fornell/Larcker*'s (1981) criterion. *Table 2* shows that discriminant validity can be confirmed, as the square root of average variance extracted (AVE) exceeds the correlations between each pair of latent variables.

	PLoT	*PU*	*PLEV*	*PTC*	*PEC*	*PPS*	*NPI*	*PDoU*	*PDU*	*PSN*	*NA*	*NBI*
PLoT	**0,79**											
PU	0,32	**0,78**										
PLEV	0,17	0,13	**0,75**									
PTC	0,29	0,43	0,22	**0,81**								
PEC	0,15	0,32	0,08	0,20	**0,84**							
PPS	0,24	0,33	0,05	0,36	0,18	**0,92**						
NPI	0,20	0,22	0,28	0,22	0,16	0,13	**0,97**					
PDoU	0,31	0,49	0,11	0,38	0,12	0,29	0,27	**0,80**				
PDU	0,16	0,23	0,10	0,28	0,15	0,22	0,20	0,40	**0,87**			
PSN	0,24	0,36	0,34	0,28	0,19	0,17	0,54	0,37	0,25	**0,98**		
NA	0,39	0,33	0,34	0,40	0,20	0,23	0,31	0,40	0,33	0,46	**0,85**	
NBI	0,32	0,39	0,09	0,49	0,21	0,31	0,33	0,46	0,45	0,35	0,54	**0,72**

Note: The bold numbers on the diagonal display the square root of the AVE. The numbers below the diagonal show the correlations between latent variables.

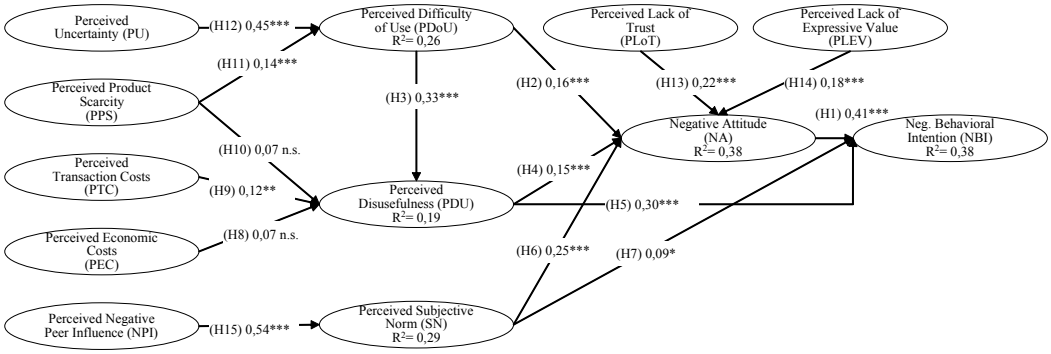
Table 2: Discriminant validity

Finally, we tested for common method bias. According to *Podsakoff et al.* (2003), *Harman's single-factor test* is one way to assess common method bias. Following this technique, we loaded all variables into an exploratory factor analysis in SPSS and looked at the unrotated factor solutions to see whether a single factor emerges from our factor analysis or a common factor would explain most of the indicators' variance. The former yields a result of 10 extracted factors. The latter results in one general factor explaining only 25,84% of all extracted variances. Additionally, when performing separate explorative factor analysis for each construct, only one factor is extracted (*Vinzi et al.* 2003). Thus, we can conclude that there is no considerable common method bias in our data set.

5. Empirical Results

We tested our hypotheses using a partial least squares (PLS) analysis. PLS is a multivariate analytic technique that can be used to perform path analytic modeling with latent variables (*Wold* 1982). We employed PLS for two reasons that hold true for our study and data set. First, PLS is considered to be a suitable instrument to assess early stage research models (*Jöreskog/Wold* 1982). Second, data is not required to fulfill multivariate normality (*Barclay et al.* 1995). We tested path significance with bootstrapping resampling-technique (*Chin* 1998) disclosing approximated t-statistics. We ran the calculations in SmartPLS 2.0 with 5.000 bootstrapping samples and 396 cases. For measuring mediation effects we used the Sobel test (*Sobel* 1982).

Figure 1 illustrates the results of our hypothesis testing in the form of path estimates and as a goodness-of-fit-index R-square for all endogenous variables.



Note: * = p ≤ 0,10, ** = p ≤ 0,05, ***p = ≤ 0,01, n.s. = not significant, (two-tailed test)

Figure 1: Results for the research model

We find support for all hypotheses concerning direct effects, except for H8 (β = 0,07; n.s.) and H10 (β = 0,07; n.s.). Hence, perceived economic costs and perceived product scarcity are not found to have a significant impact on perceived disusefulness. R-square values range from 0,19 for perceived disusefulness to 0,38 for negative attitude or negative behavioral intention. Although no substantial R-square is given, we can state at least weak to moderate explanatory power of our research model (*Chin* 1998).

With regard to mediating effects the suggested mediations Me1a, Me1b, Me3, Me4a, Me4b and Me4c, and Me5a are found to be mediations in our model. While Me1a, Me1b and Me3 are full mediations, Me4a-e and Me5a are partial mediations. For the mediation Me2a-c and Me5b-c, by contrast, we find no support in our data that indicates mediating effects. However, we find that firm-related factors have direct effects on negative attitude and/or behavioral intention. Perceived transaction costs have a significant direct effect on negative attitude (β = 0,17; t = 3,29***) and negative behavioral intention (β = 0,28; t = 6,29***). Perceived economic costs have a significant direct effect on negative behavioral

Constructs	R^2	Q^2	*Name*	*Effect?*	*Mediations*	*Sobel test (z)*	*Sig.*	*VAF*	*Type of mediation*
NA	0,38	0,06	Me1a	✓	PU → PDoU → NA	2,03	**	0,57	Full
			Me1b	✓	PPS → PDoU → NA	1,97	**	0,26	Full
			Me2a	x	PTC → PDU → NA	1,55	n.s.	0,08	
			Me2b	x	PEC → PDU → NA	1,19	n.s.	0,12	
			Me2c	x	PPS → PDU → NA	1,12	n.s.	0,14	
			Me3	✓	NPI → SN → NA	3,32	***	0,96	Full
NBI	0,38	0,12	Me4a	✓	PDoU → NA → NBI	2,75	***	0,21	Partial
			Me4b	✓	PDU → NA → NBI	3,02	***	0,17	Partial
			Me4c	✓	SN → NA → NBI	3,52	***	0,54	Partial
			Me4d	✓	PLoT → NA → NBI	4,04	***	0,42	Partial
			Me4e	✓	PLEV→ NA → NBI	3,05	***	-1,72	Partial
			Me5a	✓	PTC → PDU → NBI	1,87	*	0,09	Partial
			Me5b	x	PEC → PDU→ NBI	1,41	n.s.	0,22	
			Me5c	x	PPS → PDU → NBI	1,18	n.s.	0,10	

Note: A suppression effect is found for the mediation Me4e (*Shrout/Bolger* 2002).
** = p ≤ 0,05, ***p = ≤ 0,01, n.s. = not significant (two-tailed test)

Table 3: Results for mediation hypotheses

intention (β = 0,08; t = 1,69*), as does perceived product scarcity (β = 0,16; t = 3,70***). *Table 3* presents all results for the mediations.

By means of multi-group analysis, we controlled for gender, age, income, and frequency of car-sharing usage. Gender revealed no interaction effects. Age, income, and frequency of car-sharing usage revealed some minor interaction effects. The results for the control variables that were found to have interaction effects appear in *Table 4*.

Control variables		*H1* t-Value	*H2* t-Value	*H3* t-Value	*H6* t-Value	*H11* t-Value	*H12* t-Value	*H14* t-Value	*H15* t-Value
Age in years ≤ 29 (n=175), ≤ 49 (n=167), ≥ 50 (n=54)	≤ 29 vs. ≤ 49 ≤ 29 vs. ≥ 50 ≤ 49 vs. ≥ 50		1,96**		1,79*			2,15** 1,80*	
Income High (n = 67), medium (n = 147), low (n = 178)	High vs. low Medium vs. low	1,83*		1,76*		1,78*			
Frequency of use High (n=55), low (n=91), none (n=250)	High vs. low High vs. none		1,93*	1,77*		1,80* 1,97**	1,69* 2,18**		2,93*** 2,13**

Note: * = p ≤ 0,10, ** = p ≤ 0,05, ***p = ≤ 0,01 (two-tailed test)

Table 4: Significant results for control variables

6. Discussion

Changing consumer preferences and mindsets such as increasing awareness for the natural environment and sustainable resource consumption combined with the opportunity for companies to set foot in a new business sector and develop their business model have led to a rise in the sharing economy. Despite a generally positive attitude toward sharing, many sharing-system providers see active user numbers lagging behind the good market potential that was forecasted (*Kempf et al.* 2015). The purpose of our study was to examine barriers to participation in the sharing economy by using car-sharing as a well-known example of a commercial sharing system. In particular, we looked at the question whether firm-, personality- and society-related factors influence negative behavioral intention.

Building upon the TAM – due to the technological embedding and the interconnectedness of recently (IT)-enabled commercial sharing systems – we developed a model with 11 factors, which we assume to affect behavioral intention based on theory and prior studies from the sharing economy field. To be more precise, we find that, besides *firm-related* factors such as economic or transaction costs and product scarcity, *personality-related* barriers (e.g. perceived uncertainty, perceived lack of trust, perceived lack of expressive value) and *society-related factors* make up substantial barriers to participation. While firm-related barriers directly affect behavioral intention and attitude, most personality-related barriers are mediated via perceived difficulty of use and perceived disusefulness. We also find that perceived peer influence and society-related norms play an important role in determining one's attitude toward sharing systems. It becomes obvious that a variety of barriers hinders people from participating in the sharing economy. The interplay between person-

ality-related traits, economic considerations, and expectations from the society determine whether or not people intend to participate in the sharing economy.

If we take a closer look at individual adoption barriers, the effect of perceived lack of trust on negative attitude is in line with prior studies that suggest the importance of trust building for sharing systems (e.g. *Kindel et al.* 2015). This result also supports the idea of negative reciprocity, meaning that people act in their own self-interest and assume others to behave similarly. In the context of sharing systems this means that people treat the goods that they only use less well than the goods that they own, because they do not trust each other (*Bardhi/Eckhardt* 2012). People therefore need to trust sharing-system providers as well as other consumers who use the sharing system. If this is not the case, perceived lack of trust is a barrier to participation in sharing. Another interesting finding is that the perceived difficulty of use has a significant, positive effect on perceived disusefulness. This means that if people find a sharing system difficult to use, it becomes useless to them. Thus, it is necessary to make usage as easy as possible for consumers; otherwise, they will not ascribe any value to using sharing systems.

A result that needs further clarification is the influence of perceived lack of expressive value. For this construct, the total effect on behavioral intention has to be interpreted with caution. While it has a significant, positive effect on negative attitude, the construct also has a significant, negative effect on negative behavioral intention. This suppression effect for perceived lack of expressive value indicates that it is still too early to give a final answer about its role of adoption barriers to participation (*Shrout/Bolger* 2002).

Concluding from the results for the control variables, most users' initial barriers correspond with present barriers for non-users, since we cannot observe any crucial group differences. Nevertheless, some of the barriers seem to be of more importance to non-users, which keep them from adopting sharing systems. These are perceived difficulty of use, perceived product scarcity, and perceived uncertainty, as well as negative peer influence. In other words, non-users have the perception that there is too much uncertainty and too many difficulties attached to sharing services, and as a result they choose not to participate. It is therefore necessary, to explain the sharing system and all its functionalities to non-users. By gaining more information about how the sharing system functions and what to expect, their uncertainty can be reduced.

7. Implications, Future Research and Conclusion

Our study has several managerial implications. Given the often assumed dominance of rational factors such as firm-related aspects (e.g. perceived economic costs, perceived transaction costs or availability of their products), our study reveals that sharing-system providers also need to be highly aware of the importance of personality-related factors such as psychological and mental barriers (e.g. *Marguc et al.* 2011; *Pick/Haase* 2015; *Tussydiah* 2015). It is advisable to consider measures that reduce psychological barriers if managers want to increase participation. Based on our results, sharing providers could launch processes that help to decrease uncertainty und increase trust (e.g. online tutorials), educate the market (e.g. free training programs) and improve familiarity with the system (e.g. by offering free test periods). Additionally, uncertainty, risk, and lack of trust could be reduced if managers make usage and functionality as well as insurance policies very transparent and easy to understand for the consumer. Furthermore, consumer integration via an emotionalized system experience may play a major role in reducing the personality-

related hurdles of participation. Therefore, getting in touch with users on a more personal level, for instance via brand events or sharing communities (e.g. car2go Brand Community, see also *Belk* 2010) may further serve to reduce personal barriers. Another possible measure to reduce participation barriers would be to account for a shared good's perceived lack of expressive value, especially in the car-sharing sector, by also focusing on high-quality offers (e.g. car2go black) or by reducing branding of the goods or cars to a minimum (see also *Bardhi/Eckhardt* 2012). Perceived transaction costs as well as disusefulness could be reduced by increasing the value added for the user. Managers can achieve that by linking their sharing system to other connected business models and thus increasing value for the consumer while simultaneously creating a lock-in effect for the latter to stick to the company's business model. For instance, car2go has started to connect their car-sharing service with a platform called moovel, a smartphone application that helps you find the most convenient way of transportation including car-sharing, public transportation, walking etc. Furthermore, sharing system providers can enhance convenience for their users by identifying target groups based on their utilization preferences and offering them customized solutions. For example, 'premium users' can choose from brand new functions and more sophisticated services such as pre-established (driving) programs or predefined accommodation conditions. Perceived negative peer influence and perceived subjective norm can be tackled with the help of brand ambassadors and by convincing the relevant lead users of the advantages of participating in the sharing economy. This becomes even more crucial if we think of how important it is in the sharing economy to achieve critical mass. That means that initially a certain critical number of users is needed to make the sharing system function smoothly. This is necessary in order to increase the fluctuation of provided cars as well as balance their availability between non- and central areas (*Kindel et al.* 2015). On the contrary, if the number of users exceeds a certain critical amount, perceived product scarcity will be strengthened, e.g. car-sharing vehicles are unavailable because all are used by other participants (*Lamberton/Rose* 2012). Therefore, managers need to launch appropriate measures to provide sufficient network coverage.

Even though our study sheds more light on barriers to participation in the sharing economy and their influence on attitude and behavioral intention, it is not free of limitations. First, the study is based on a sample of German car-sharing users and non-users. For generalization purposes it is advisable to replicate the study on an international level. This lays the groundwork for future research that could examine whether culture has an impact on barriers to participation in the sharing economy. For instance, *Hofstede*'s (1980) cultural dimensions can be analyzed with regard to moderating effects for our developed model.

Second, we measure barriers to participation in the sharing economy by looking at behavioral intention and ignoring an analysis of usage. We do so, because empirical studies prove that behavioral intention in the TAM explains much of the variance of usage intention and self-reported usage (*Davis et al.* 1989; *Davis* 1989, 1993; *Mathieson* 1991). Nevertheless, it should be noted that behavioral intention does not automatically lead to actual behavior, and examining this missing link might represent an outlook for future research.

Third, we only look at sharing systems in the business-to-consumer sector. For future research it would be interesting to dive into the differences with respect to barriers to par-

ticipation in the sharing economy between business-to-consumer sharing systems and peer-to-peer sharing systems.

The sharing economy is a topic that scholars have widely discussed in the past few years. They have mostly focused on topics such as motives for participating in the sharing economy (e.g. *Henning-Thurau et al.* 2007; *Bardhi/Eckhardt* 2012) and the conceptualization of sharing types (e.g. *Lamberton/Rose* 2012). While sharing with intangible (*Henning-Thurau et al.* 2007; *Galbreth et al.* 2012) and tangible goods (*Benkler* 2004; *Gansky* 2010) remains a growing market, barriers to participation in the sharing economy are not to be neglected. Our study showed that managers have to reduce economic and psychological barriers to participation in order to increase user numbers and grow their business model within the sharing economy.

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Appendix

Classification	*Construct*	*Description*	*Source*
General Determinants	Negative attitude*	Describes the unfavorableness toward performing a certain behavior.	e.g. *Fishbein/Ajzen* 1975; *Ajzen* 1985; *Davis* 1986, 1989; *Davis et al.* 1989; *Taylor/Todd* 1995
	Negative behavioral intention*	Describes the probability toward not engaging in a given behavior.	e.g. *Fishbein/Ajzen* 1975; *Ajzen* 1985; *Davis* 1986, 1989; *Davis et al.* 1989; *Taylor/Todd* 1995
	Perceived difficulty of use*	Describes the degree to which a consumer believes that participating in sharing systems will require great effort.	e.g. *Davis* 1986, 1989; *Davis et al.* 1989; *Taylor/Todd* 1995
	Perceived disusefulness*	Describes the degree to which a consumer believes that participating in sharing systems will decrease his/her general performance.	e.g. *Davis* 1986, 1989; *Davis et al.* 1989; *Taylor/Todd* 1995
	Perceived subjective norm	Describes the perceived social pressure to engage or not to engage in a behavior.	e.g. *Fishbein/Ajzen* 1975; *Ajzen* 1985, 1989; *Lamberton/Rose* 2012
Firm-related Barriers	Perceived economic costs	Describes the degree to which a consumer believes that participating in sharing systems is connected with monetary costs (e.g. usage and registration fees)	e.g. *Henning-Thurau et al.* 2007; *Bardhi/Eckhardt* 2012; *Lamberton/Rose* 2012; *Hamari et al.* 2015
	Perceived transaction costs	Describes the degree to which a consumer believes that participating in sharing systems is connected with non-monetary costs (e.g. technical and search costs).	e.g. *Henning-Thurau et al.* 2007; *Lamberton/Rose* 2012; *Hamari et al.* 2015
	Perceived product scarcity	Describes the degree to which a consumer believes that participating in sharing systems is associated with too few idle resources.	e.g. *Bardhi/Eckhardt* 2012; *Lamberton/Rose* 2012
Personality-related Barriers	Perceived uncertainty	Describes the degree to which a consumer believes that participating in sharing systems is unfamiliar and risky.	e.g. *Hung et al.* 2006; *Bardhi/Eckhardt* 2012; *Lamberton/Rose* 2012
	Perceived lack of trust*	Describes the degree to which a consumer believes that providers of sharing systems are untrustworthy.	e.g, *McKnight et al.*1998; *Hung et al.* 2006; *Botsman/Rogers* 2011; *Bardhi/Eckhardt* 2012
	Perceived lack of expressive value*	Describes the degree to which a consumer perceives a product's lack of symbolic/status meaning.	e.g. *Bagschik* 1999; *Bardhi/Eckhardt* 2012; *Piscielli et al.* 2013
	Perceived negative peer influence	Describes the negative influence of people in one's social environment.	e.g. *Brown et al.* 1986; *De Vries et al.* 1988; *Lamberton/Rose* 2012

*Note: * adapted to the context*

Table 5: Overview of barriers to the participation in commercial sharing systems

Construct	*Items*	*Source*
Negative attitude	NA_1: Using car-sharing services is/would be a bad idea. NA_2: Using car-sharing services is/would be a foolish idea. NA_3: I dislike the idea of using car-sharing services. NA_4: Using car-sharing services would be unpleasant.	Adapted to the context from *Taylor/Todd* 1995
Negative behavioral intention	NBI_1: I intend to discontinue using car-sharing services rather than continue using them. NBI_2: My intention is to continue using my own car rather than use car-sharing services. NBI_3: If I could, I would like to use of car-sharing services more often (reverse coded). NBI_4: I would prefer owning my own car rather than using car-sharing services. NBI_5: I would be likely to buy a car myself rather than choose a car-sharing service. NBI_6: I do not intend to use car-sharing services in the near future.	Adapted to the context from *Bhattacherjee* 2001; *Lamberton/Rose* 2012; *Taylor/Todd* 1995
Perceived difficulty of use	PDoU_1: I would not find it easy to use car-sharing services optimally. PDoU_2: My interaction with car-sharing services would not be clear and understandable. PDoU_3: It would not be easy for me to gain experience using car-sharing services. PDoU_4: I would not find car-sharing services easy to use. PDoU_5*: Learning to use car-sharing services would not be easy for me. PDoU_6*: I would not find car-sharing services flexible to use.	Adapted to the context from *Davis* 1989; *Taylor/Todd* 1995;
Perceived disusefulness	PDU_1: Using car-sharing services does/would not allow me to move between places more quickly. PDU_2: Using car-sharing services does /would not improve my mobility. PDU_3: Using car-sharing services does /would not allow me to move in a more efficient way. PDU_4: Using car-sharing services does /would not allow me to move more easily. PDU_5*: I would not find car-sharing services as a means of transportation useful.	Adapted to the context from *Davis* 1989
Perceived subjective norm	PSN_1: People who influence my behavior would think that I should not use car-sharing services. PSN_2: People who are important to me would think that I should not use car-sharing services.	Adapted to the context from *Taylor/Todd* 1995
Perceived economic cocts	PEC_1: I cannot/would not be able to save money if I used car-sharing services. PEC_2: My usage of car-sharing does/would not benefit me financially. PEC_3: My usage of car-sharing cannot/would not improve my economic situation.	Adapted to the context from *Hamari et al. 2015*
Perceived transaction costs	PTC_1: It would be inconvenient to have to set the driver's seat and other car features to meet my preferences every time I use it. PTC_2: It would be annoying to have to familiarize myself with the controls of different cars. PTC_3: It would be inconvenient for me to find the car I wanted to borrow each time. PTC_4*: It would be inconvenient to search for the car pickup spot.	Adapted to the context from *Lamberton/Rose* 2012

Construct	*Items*	*Source*
Perceived product scarcity	PPS_1: There is a high likelihood that the car I want will not be available when I want it. PPS_2: There is a risk that I will not be able to get the car that I want at the time when I want to use it. PPS_3: It is possible that when I want a car, it won't be available. PPS_4*: A car will almost certainly be available for me whenever I want it.	Adapted to the context from *Lamberton/Rose* 2012
Perceived uncertainty	PU_1: There is a chance that I will stand to lose money because the car-sharing service costs more than I initially thought. PU_2: There is uncertainty about how car-sharing services function. PU_3: There is uncertainty about the long term costs of using car-sharing services. PU_4*: There is a chance that there will be something wrong with the car (or car-sharing service) or that it will not work properly.	Adapted to the context from *Sweeney et al.* 1999
Perceived lack of trust	PLoT_1: I do not feel that most car-sharing providers would act in customers' best interest. PLoT_2: If a customer required help, most car-sharing providers would not do their best to help. PLoT_3: Most car-sharing providers are less interested in customers' well-being, than their own. PLoT_4: I do/would not feel fine using car-sharing services since car-sharing providers generally do not fulfill their agreements. PLoT_5: I do/would not always feel confident that I can rely on car-sharing providers to do their part when I interact with them. PLoT_6: In general, most car-sharing providers are not competent at serving their customers. PLoT_7*: I do/would not feel good about how things go when I use car-sharing services. PLoT_8*: I am/would not be comfortable using car-sharing services.	Adapted to the context from *McKnight et al.* 2002
Perceived lack of expressive value	PLEV_1: Using car-sharing services would not help me feel accepted. PLEV_2: Using car-sharing services would not make a good impression on other people. PLEV_3: Using car-sharing services would not give the user social approval. PLEV_4*: Using car-sharing services would not improve the way I am perceived.	Adapted to the context from *Sweeney/Soutar* 2001
Perceived negative peer influence	PNPI_1: My friends would /do not think that I should use car-sharing services. PNPI_2: My colleagues/fellow students/classmates would not think that I should use car-sharing services.	Adapted to the context from *Taylor/Todd* 1995

*Note: * This item was deleted during the refinement process.*
The possible range for all measures was 1–7, with 1 = strongly disagree and 7 = strongly agree.

Table 6: Constructs and their according measuring items