

Collaborative consumption: determinants of satisfaction and the likelihood of using a sharing economy option again

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ABSTRACT

Collaborative consumption, often associated with the sharing economy, takes place in organized systems or networks, in which participants conduct sharing activities in the form of renting, lending, trading, bartering, and swapping of goods, services, transportation solutions, space, or money. In this paper, a framework on the determinants of choosing a sharing option is developed and tested with two quantitative studies by applying partial least squares path modeling analysis. In study 1, users of the B2C car sharing service *car2go* ($N=236$), and in study 2, users of the C2C online community accommodation marketplace *Airbnb* ($N=187$) are surveyed. The results reveal the satisfaction and the likelihood of choosing a sharing option again to be predominantly explained by determinants serving users' self-benefit. Utility, trust, cost savings, and familiarity were found to be essential in both studies, while service quality and community belonging were identified solely in study 1. Four proposed determinants had no influence on any of the endogenous variables. This applies to environmental impact, internet capability, smartphone capability, and trend affinity. Finally, research and managerial implications are discussed. Copyright © 2015 John Wiley & Sons, Ltd.

INTRODUCTION

In March 2013, *the Economist* (2013) published an editorial addressing the sharing economy and paid tribute to an emerging trend that is transforming consumer behavior today (Ozanne and Ballantine, 2010; Piacentini *et al.*, 2012). In recent years, more and more people embrace car sharing services such as *car2go* or *Zipcar*, ride bicycle sharing systems such as *CitiBike* in New York, swap books or DVDs on *Craigslist*, or book accommodation via online community marketplaces such as *Airbnb*.

Collaborative consumption is not a niche trend anymore. Instead, it is of large scale, involves millions of users and makes up a profitable trend many businesses invest in (Botsman and Rogers, 2010). Furthermore, it is a competitive business model and presents a challenge to conventional service providers that need to be analyzed. In 2010, sharing systems had an estimated market volume of as much as USD 100bn (Lamberton and Rose, 2012). Bicycle sharing represents the fastest growing trend in transportation with about 400,000 public city bikes available worldwide in 2012 (Fishman *et al.*, 2013). In 2014, *Airbnb* is offering temporary space such as apartments, castles, or houseboats in more than 34,000 cities in 192 countries (*Airbnb*, 2014). By 2016, the car sharing market in North America alone is estimated to be worth USD 3.3bn (Frost and Sullivan, 2010).

However, there is neither much knowledge about the fact why users engage in collaborative activities nor why many people are still reluctant to participate in this emerging trend. In fact, research contributions addressing determinants of the usage of collaborative consumption services remain rare and have a number of shortcomings (Jenkins *et al.*, 2014). First,

research primarily focuses on isolated determinants, instead of assessing them and their relative strengths holistically. Second, many research contributions do not explicitly differentiate between various forms of collaborative consumption services and industries. However, determinants of the satisfaction with a sharing option or the likelihood of using a sharing option again might differ between business-to-consumer (B2C) and consumer-to-consumer (C2C) settings and industries. Third, trust is conceptualized to be a principle determinant of the active participation in collaborative consumption by many authors (Botsman and Rogers, 2010; Owyang *et al.*, 2014). Surprisingly, recent empirical research contributions did not consider the role of trust when empirically assessing the determinants of collaborative consumption services, particularly not in quantitative studies. Fourth, the rising role of smartphones, requisite for the use of mobile apps, has been discussed to facilitate the use of sharing options (Botsman and Rogers, 2010) but has not been empirically assessed so far. To respond to these research gaps, this paper aims to answer the following research questions:

RQ1: What are the most important determinants to explain the satisfaction with a sharing option?

RQ2: What are the most important determinants to explain the likelihood of choosing a sharing option again?

The findings from this research will enable managers engaged in the management of collaborative consumption services in different industries to gain insights into the reasons of usage. With this knowledge, they will be able to strategically manage user relationships and develop targeted marketing strategies when planning to increase the number of users and engage age groups beyond the young generation (Frost and Sullivan, 2010). The reason for managers in the private sector to foster collaborative consumption might be to jump on the band wagon of this profitable business concept.

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Managers in the public and nonprofit sector might be driven by the objective to spread sustainable consumption behavior among citizens or beneficiaries (Mont, 2004). For competitors, based in conventional noncollaborative industries, findings might facilitate effective competition analysis and help to gain insights into emerging forms of consumers' needs.

In the following, an overview of the theoretical background and the state of research on collaborative consumption is provided. The framework on the determinants of choosing a sharing option and hypotheses are developed. Two quantitative surveys, one in a B2C and one in a C2C context are conducted to test these hypotheses. The data is analyzed, and results, implications, and limitations are discussed.

THEORETICAL BACKGROUND

There are considerable theoretic foundations discussing potential determinants of collaborative consumption. In many well-established theoretical models, such as the "tragedy of the commons" (Hardin, 1968), the game theory's "prisoner's dilemma" (Rapoport and Chammah, 1970), and "The Logic of Collective Action" (Olson, 1965), the prevailing understanding of human behavior is that of self-interested individuals. Their actions are based on rational reasoning, seeking the maximization of utility and cost savings or the minimization of transaction costs. All three theoretical approaches argue that in many settings, individuals would clearly be better off from collaborating with each other, and it would only be logical for them to do so. However, many individuals still act against this logic, if certain institutional arrangements determining collaborative action are not fulfilled. One reason is the fear that some group members' free ride on the efforts generated by others (Olson, 1965; Hardin, 1968; Rapoport and Chammah, 1970; Ostrom, 1990). In fact, there exist many successful examples of collaborative consumption behavior. Building her thoughts on the three mentioned theoretical approaches in her well-known work 'Governing the Commons', Ostrom (1990) deals with the effective management of shared resources. Ostrom (1990) provides empirical evidence on success stories of groups managing resources themselves in common pool resource institutions, which act toward a sustainable future. She delineates design principles for common pool resource institutions: arrangements that would determine collaborative activity. These design principles refer to congruent rules, the existence of clear boundaries and community memberships, among others. Closely linked are the capacities among collaboration partners to communicate or build mutual trust. Those further overcome barriers and foster collaborative consumption (Ostrom, 1990; Cox *et al.*, 2009).

COLLABORATIVE CONSUMPTION

While sharing behavior among collectives, corporations and communities has been evident for centuries (Belk, 2010), new forms of collaborative consumption now increasingly

find applications in the private, public and nonprofit sector alike (Bauwens *et al.*, 2012; Griffith and Gilly, 2012). In fact, collaborative consumption spills over to areas that have previously been of noncollaborative nature (Belk, 2014) as a result of societal, economic and technological drivers (Owyang *et al.*, 2014). The rise of the internet plays a key role in this process, as it facilitates an easy constitution of online-based communities and networks for little transaction costs. Mobile apps enable an even more instant exchange of information (Bardhi and Eckhardt, 2012; Hamari *et al.*, 2013; Belk, 2014). In times of financial crisis and growing skepticism toward capitalistic structures, many consumers increasingly turn toward alternative forms of sustainable consumption (Rifkin, 2000; Kozinets and Handelman, 2004; Albinsson *et al.*, 2010; Neilson, 2010; Ozanne and Ballantine, 2010; Albinsson and Perera, 2012).

The definition of collaborative consumption utilized in this paper is based on Belk (2014: 1597), who specifies it as "people coordinating the acquisition and distribution of a resource for a fee or other compensation." Collaborative consumption takes place in organized systems or networks, in which participants conduct sharing activities in the form of renting, lending, trading, bartering, and swapping of goods, services, transportation solutions, space, or money (based on Chen, 2009; Botsman and Rogers, 2010; Bardhi and Eckhardt, 2012; Belk, 2014; Owyang *et al.*, 2014).

Thereby, collaborative consumption excludes sharing activities where no compensation is involved, as well as gift giving that constitutes a permanent transfer of ownership. Thus, collaborative consumption is located between traditional forms of sharing within a family context and usual market exchange activities (Belk, 2014).

On one hand, collaborative consumption might refer to B2C services, such as commercial car sharing. On the other hand, it might refer to C2C sharing in the form of redistribution markets or collaborative lifestyles (Mont, 2004; Botsman and Rogers, 2010; Bardhi and Eckhardt, 2012), such as accommodation sharing marketplaces, with the latter often being facilitated by an external provider like an online platform.

By now, 80 million people in the USA are estimated to be involved in collaborative consumption activities, and high prospective growth is forecasted (Owyang *et al.*, 2014). One reason is that users of sharing services are characterized by diverse socioeconomic profiles. Thus, there is a large market to be tackled. While nowadays, they can predominantly be found among young age groups, the future generation will be growing up with this trend. At last, sharing is viral. Many people cite personal recommendation to be a major reason why to engage in sharing activities (Owyang *et al.*, 2014).

DEVELOPMENT OF FRAMEWORK AND HYPOTHESES

Figure 1 displays the developed framework on the determinants of choosing a sharing option, illustrating ten factors with an effect on the variable *satisfaction with a sharing option*, which itself has an effect on the *likelihood of choosing a sharing option again*. These ten determinants are *community*

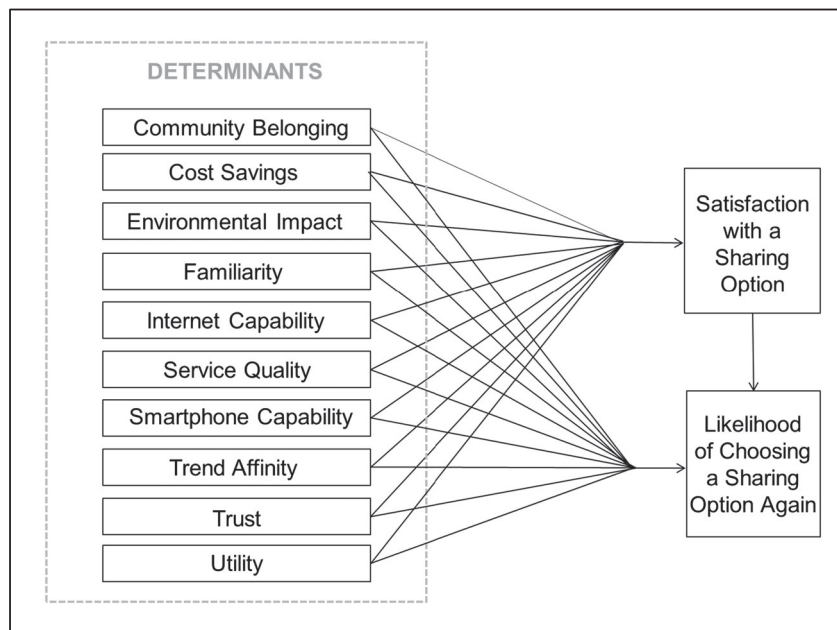


Figure 1. Framework on the determinants of choosing a sharing option.

belonging, cost savings, environmental impact, familiarity, internet capability, service quality, smartphone capability, trend affinity, trust, and utility. According to the research scope, namely to measure the relative strength of the most commonly cited determinants as mentioned in literature on the two introduced endogenous variables, the framework is conceptualized without additional interdependencies between the determinant variables.

The first component in the framework is the variable community belonging. Research has been emphasizing the emerging role of collective co-production (Peters *et al.*, 2012) and community belonging (Närvänen *et al.* 2013) on consumption behavior. Community memberships or the aspiration to be part of a group or community is argued to be one determinant of practicing sharing or collaborative consumption activities (Ostrom, 1990; Nelson and Rademacher, 2009; Galbreth *et al.*, 2012). In one of their book chapters, “From Generation Me to Generation We,” Botsman and Rogers (2010:41) discuss a shift in society, which has become evident in recent years. They argue that today’s facebook generation seeks to connect with like-minded people in online and offline communities, which enable them to practice collaborative consumption. Albinsson and Perera (2012) stress a sense of community to be a principle driver of (regular) participation in sharing activities. They argue that people make use of community gatherings to share knowledge and goods for ideological and practical reasons. This leads to hypothesize the following:

H1a: Community belonging has a positive impact on the satisfaction with a sharing option.

H1b: Community belonging has a positive impact on the likelihood of using a sharing option again.

The second determinant illustrated in the framework is cost savings. One can argue that cost savings account for

an individual’s self-benefit and might thus be an important determinant of collaborative consumption (based on Olson, 1965; Hardin, 1968; Rapoport and Chammah, 1970). In fact, many recent research contributions have been addressing this topic. Mont (2004) argues that the satisfaction of car sharing customers would be influenced by cost savings, including the initial cost of investing in a transportation option. Lamberton and Rose (2012) find cost benefits of sharing to be a key determinant of usage. Bardhi and Eckhardt (2012) stress economic concerns to be a major reason (and even to exceed other concerns such as ethical ones) in many cases when practicing collaborative consumption. Moeller and Wittkowski (2010) emphasize sharing options usually to be cheaper than nonsharing options and consider price consciousness to be a principle determinant of using sharing options. Thus, it is hypothesized that

H2a: Cost savings have a positive effect on the satisfaction with a sharing option.

H2b: Cost savings have a positive effect on the likelihood of using a sharing option again.

Third, environmental impact is illustrated as one determinant in the framework. In times of growing skepticism toward capitalistic structures and anti-consumption movements, alternative forms of green, ethical or sustainable consumption become increasingly important (Kozinets and Handelman, 2004; Newholm and Shaw, 2007; Albinsson *et al.*, 2010; Neilson, 2010; Ozanne and Ballantine, 2010; Albinsson and Perera, 2012; Schuitema and De Groot, 2014). In particular, Hamari *et al.* (2013) conceptualize ecological sustainable consumption as a key determinant of the intention to share. Indeed, sharing solutions are generally considered to have a positive environmental impact compared with nonsharing solutions because the pooling of material goods leads to the increased intensity in the usage of one

single product entity. The material required for each episode is reduced, waste is avoided, and overproduction is countered (Mont, 2004). In fact, studies have shown that users of car sharing reduced their emissions by up to 50 per cent per head (Botsman and Rogers, 2010). This leads to the following hypotheses:

H3a: Environmental impact has a positive effect on the satisfaction with a sharing option.

H3b: Environmental impact has a positive effect on the likelihood of using a sharing option again.

The fourth determinant in the framework refers to the familiarity with a sharing option. When consuming a certain product or service, consumers incur transaction costs. Some consumers might be reluctant to use a service for the first time, because they do not have any experience with it (Moeller and Wittkowski, 2010). In other words, they do not have sharing knowledge (Henning-Thurau *et al.*, 2007:5). For instance, users might have a couple of brand handbags or Xbox games to swap but are rather unfamiliar with the process of how transactions on sharing platforms work. Accordingly, a high familiarity with sharing services might help users to minimize these transaction costs. Therefore, familiarity might be a relevant determinant of the satisfaction and further usage of sharing options. It is hypothesized:

H4a: Familiarity has a positive effect on the satisfaction with a sharing option.

H4b: Familiarity has a positive effect on the likelihood of using a sharing option again.

The fifth component in the framework is the variable internet capability. Internet technology has reduced transaction costs and cut distances dramatically in the last couple of years (Slee, 2013). Thus, as of today, many sharing services are facilitated by internet platforms (Botsman and Rogers, 2010; Frost and Sullivan, 2010; Belk, 2014). This applies in particular to C2C sharing platforms. Researchers such as Ostrom (1990) as well as Morgan and Hunt (1994) theorize that capacities among parties to communicate are a key determinant of collaborative action. Accordingly, the capability of users to communicate via the internet might be a key driver not only for satisfaction with sharing services but also the further usage of such services. Hence, the fifth hypotheses reads

H5a: Internet capability has a positive effect on the satisfaction with a sharing option.

H5b: Internet capability has a positive effect on the likelihood of using a sharing option again.

Service quality is the sixth determinant in the framework. The perception about service quality depends on the experience a customer makes when consuming a service (Parasuraman *et al.*, 1985, 1988; Seiders *et al.*, 2007). It is an established opinion in consumer and service research that perceived quality is a major antecedent to satisfaction and also the intention to use this service again (Cronin and Taylor, 1992; Fornell *et al.*, 1996). This relationship has been

confirmed by various empirical studies. In the context of the sharing economy, a user of a car sharing service or accommodation marketplace might be more likely to use the service again after having positive experience with the customer service. This leads to the following hypotheses:

H6a: Service quality has a positive effect on the satisfaction with a sharing option.

H6b: Service quality has a positive effect on the likelihood of using a sharing option again.

The seventh determinant in the framework is smartphone capability. Recently, the distribution of mobile phones, in particular smartphones, with their capability to display various devices via apps, assures an even more immediate access to data and services. In the case of car sharing, smartphones become an important factor in facilitating usage (Botsman and Rogers, 2010; Frost and Sullivan, 2010). They enable users to locate immediate availability and location of cars belonging to a sharing service in their direct surrounding, to book a car, as well as to display the walking route to these cars (car2go, 2014). Because of the higher level of mobility enabled by mobile technology compared with standard online services that might be only accessed with a personal computer, internet and smartphone capability are differentiated in this paper. Thus, it is hypothesized that

H7a: Smartphone capability has a positive effect on the satisfaction with a sharing option.

H7b: Smartphone capability has a positive effect on the likelihood of using a sharing option again.

Trend affinity is the eighth determinant illustrated in the framework. Collaborative consumption is an emerging trend, influencing consumer behavior on large scale (Botsman and Rogers, 2010). As applicable for many trends, participating users can primarily be found among generation Y, a relatively young age group (Frost and Sullivan, 2010). Consumers who wish to follow a trend seek to use innovative and fashionable products and services. The act of consumption is connected to a user's social identity and elicits a positive feeling (Moeller and Wittkowski, 2010). In fact, Moeller and Wittkowski (2010) found that consumers who seek to use trendy products were more likely to prefer sharing over ownership. This leads to the following hypotheses:

H8a: Trend affinity has a positive effect on the satisfaction with a sharing option.

H8b: Trend affinity has a positive effect on the likelihood of using a sharing option again.

Trust is illustrated as the ninth component in the framework. We know that trust largely determines the behavior of consumers (Papadopoulou *et al.*, 2001). The general objective of trust aims at a good feeling, ensuring users' faith in a provider's reliability, and the impression of security during use or transaction (Wirtz and Lwin, 2009). In a collaborative consumption context, trust simultaneously refers to trust in the provider of a collaborative consumption service and to the other consumers one is sharing with (based on Bhattacharjee, 2002; Melnik and

Alm, 2002; Chai *et al.*, 2012). Thereby, trust is considered to be a principle determinant of choosing collaborative consumption options (Botsman and Rogers, 2010; Bauwens *et al.*, 2012; Keymolen, 2013; Slee, 2013). Ostrom (1990) delineates several design principles for common pool resource institutions, which can be interpreted as institutional structures that build trust (Slee, 2013). In her later work, Ostrom emphasized trust and reciprocity to be a core variable explaining why individuals tend to cooperate with each other (Cox *et al.*, 2009). Likewise, in the “commitment–trust theory of relationship marketing,” Morgan and Hunt (1994) theorize that trust is one major predictor of cooperative activity (Morgan and Hunt, 1994:26). Based on this background, it is hypothesized that

H9a: Trust has a positive effect on the satisfaction with a sharing option.

H9b: Trust has a positive effect on the likelihood of using a sharing option again.

Utility is the tenth determinant in the framework. As mentioned in the previous chapters, many researchers have described the human being to be a self-interested individual seeking to maximize utility (Olson, 1965; Hardin, 1968; Rapoport and Chammah, 1970). In fact, much research has found that utility influences an individual’s consumption decisions and habits. In detail, research focused on the perceived utility of sharing options in contrast to nonsharing options (Henning-Thurau *et al.*, 2007). Henning-Thurau *et al.* (2007) find utility to be a significant factor to conduct illegal file sharing. Concurrently, Lambertson and Rose (2012) find the degree of substitutability in a car sharing context to have an impact on the likelihood of using a sharing option. Thus, the author hypothesizes

H10a: Utility has a positive effect on the satisfaction with a sharing option again.

H10b: Utility has a positive effect on the likelihood of using a sharing option again.

Within the framework, all ten determinants are conceptualized to have an effect on the endogenous variable satisfaction with a sharing option. It is one of the core elements within the framework and modeled to have a positive effect on the likelihood of using a sharing option compared with using a nonsharing option. This modeled relationship follows the established opinion in marketing and consumer research that service satisfaction leads to a use of that particular service (Fornell *et al.*, 1996; Boenigk and Helmig, 2013) or similar services in future. It is hypothesized:

H11: Satisfaction with a sharing option has a positive impact on the likelihood to use a sharing option again.

DATA COLLECTION, SAMPLE AND MEASUREMENT

Two different collaborative consumption services were surveyed and analyzed to test the hypotheses. The B2C car sharing service *car2go* is operating internationally, offering

11,000 small cars in 26 cities worldwide. The European locations are managed by *car2go* Europe GmbH, a joint venture corporation between the automotive manufacturer Daimler (moovel GmbH) and the car rental service Europcar (*car2go*, 2014). The C2C accommodation sharing service *Airbnb* is the largest operating online community marketplace for accommodations worldwide. In 2014, it is offering temporary space in more than 34,000 cities in 192 countries (*Airbnb*, 2014). Analyzing the determinants of two different collaborative consumption services is of advantage because this procedure increases the external validity of results.

After conducting two series of pretests in spring 2014, two independent quantitative online studies were rolled out in July 2014. Both questionnaires used the same measurement items. The links to the web interface of the studies were sequentially distributed via a mailing list to students of the University of Hamburg (Germany) by a research laboratory (WISO Forschungslabor). Participants of both studies were offered the incentive to enter a prize draw of vouchers with a value of EUR 40. The research laboratory makes sure that the overall value of vouchers distributed to the participants equals 10 Euros per hour of summed up response effort by students. Finally, samples of $N=236$ of *car2go* users (study 1) and $N=187$ *Airbnb* users (study 2) were collected.

Owyang *et al.* (2014) found that collaborative consumption services are mainly utilized by a young age group (mainly from teenagers to the age group of mid-thirties) (refer also to Frost and Sullivan, 2010) and by users covering different socioeconomic status. The characteristics of both samples as displayed in Appendix A (gender, age, and education) are largely consistent with this finding. Thus, one can argue that both samples are adequate to be used to answer the research questions of this study.

An overview of the measurement of items used to operationalize the latent variables in the framework is provided in Appendix B. Reflective multi-scale items, which were derived from relevant literature, were used. High values on internal consistency criteria (refer to next chapter for details) confirm the choice to use reflective measurement items. Scale answer options anchored 1 = “strongly disagree” and 7 = “strongly agree” and included the additional option = “I cannot tell”.

DATA ANALYSIS

The variance-based partial least squares (PLS) path modeling technique was applied to test the hypotheses by utilizing the software application SmartPLS 2.0 (Ringle *et al.*, 2005). The iterative algorithm in PLS consists of a series of ordinary least squares analyses (Chin, 1998). The PLS technique was chosen, because it is particularly useful to be applied to estimate relatively complex models by using relatively small sample sizes, to data that cannot be assured to be of parametric nature, as well as to management-related research with a predictive research scope (Chin, 1998; Henseler *et al.*, 2009; Reinartz *et al.*, 2009; Ringle *et al.*, 2012). To obtain the t -values to test for significance, nonparametric bootstrapping procedure as incorporated in the SmartPLS 2.0 software was conducted (Henseler *et al.*, 2009).

Measurement models of study 1 and study 2

In a first step, the measurement models of both studies were estimated to analyze the relationship between the latent variables and its indicators. All results are illustrated in Appendix B in detail.

Indicator reliability is known to be evident in case all factor loadings exceed a recommended threshold of .70 (Henseler *et al.*, 2009). This quality criterion is fulfilled in most cases in both studies. One item of the variable service quality in study 1 (“The design of the [CCS] offer/website is appealing to me.” = .60) and one item of the same variable in study 2 (“The customer service of [CCS] is responsive to its customer’s needs.” = .61) show values slightly underneath the recommended threshold. Furthermore, this applies to one item of the trust variable in both studies (“The other users of [CCS] will not take advantage of me.” = .52 [study 1] = 0.53 [study 2]). However, one can consider indicator reliability to be largely fulfilled, because all factor loadings still show a value well above the minimum requirement of .40 (Hulland, 1999; Hair *et al.*, 2013) and given the fact that only four out of 72 items show values slightly underneath the threshold.

Cronbach’s alpha and composite reliability, which should have a value greater than .70, reflect the level of internal consistency (Henseler *et al.*, 2009; Hair *et al.*, 2013). This threshold is achieved in both studies. Only Cronbach’s alpha of the variable utility shows values slightly underneath the threshold in study 1 (.57) and study 2 (.60).

The average variance extracted (AVE) was introduced by Fornell and Larcker (1981) and provides information about the convergent validity. It is recommended to exceed a value of .50 (Chin, 1998; Henseler *et al.*, 2009). In both studies, this criterion is satisfied for all variables.

Finally, to assure discriminant validity (refer to values illustrated in Appendix C), all of the square roots of the AVE measures should be larger than the correlations of the latent variables in the model (Henseler *et al.*, 2009; Hair *et al.*, 2013). The findings indicate that this recommendation is fulfilled in all cases.

In sum, the analysis of the measurement models of both studies reveals different quality criteria to be well fulfilled in both studies, a fact that legitimizes the choice of the used scales for measurement.

Structural model of study 1 (B2C car sharing car2go)

In a second step, the structural models provide information about the relationship between the latent variables in the model. To adequately report the different results for the surveyed services, the results of both studies are reported separately.

First, the results of study 1 on the B2C car sharing service car2go are introduced (Figure 2, Table 1). The analysis reveals that four determinants had no significant effect on any of the two endogenous variables in the framework—neither on the satisfaction with a sharing option nor on the likelihood of choosing a sharing option again variable. This is evident for environmental impact, internet capability, smartphone capability and the trend affinity construct. Consequently, hypotheses 3a and 3b, hypotheses 5a and 5b, hypotheses 7a

and 7b, as well as hypotheses 8a and 8b are rejected for study 1. Furthermore, no significant effect was estimated from the satisfaction with a sharing option on the likelihood of choosing a sharing option again variable. Thus, hypothesis 11 did not receive statistical support.

For the other determinants, significant effects were found on one or both endogenous variables in the framework. In support of hypotheses 1b, the data reveals community belonging to have a positive and significant effect on the likelihood of choosing a sharing option again (.17*). Hypothesis 1a is rejected because a low and insignificant effect was estimated from the community belonging variable on the satisfaction with a sharing option. Hypothesis 2a is confirmed because cost savings has a positive and significant effect (.15*) on the satisfaction with a sharing option. Hypothesis 2b is rejected because it did not receive statistical support from the data. In support of hypothesis 4a and rejection of hypothesis 4b, the data reveals familiarity to have a positive and significant effect on the satisfaction with a sharing option (.13*) but no significant effect on the likelihood of choosing a sharing option again variable. Hypothesis 6a is supported by the data because a significant path coefficient was estimated from service quality on the satisfaction with a sharing option (.17*) variable. Hypothesis 6b did not receive statistical support. The important role of trust as hypothesized in 9a can be confirmed because a highly significant and positive effect was estimated on the satisfaction with a sharing option (.35***) variable. Hypothesis 9b was not confirmed by the data. Concerning the last determinant variable displayed in the framework, a highly significant path coefficient was estimated from utility on the satisfaction with a sharing option (.23***) and on the likelihood of choosing a sharing option again (.39***), in line with hypothesis 10a and 10b.

The coefficient of determination $R^2 = .63$ of the endogenous variable satisfaction with a sharing option indicates that almost two thirds of the variable’s variance (63%) can be explained by its predictors. All predictors of the likelihood of choosing a sharing option again construct explain about one third of the variable ($R^2 = .37$). These R^2 values indicate that a high percentage of the endogenous variable variances are explained. Hence, one can argue that the model is well conceptualized.

Structural model of study 2 (C2C accommodation marketplace Airbnb)

Second, the results of study 2 (refer to Table 1 and Figure 3), namely the C2C accommodation marketplace Airbnb sample, are presented. Indeed, results between the two samples show many similarities.

Like in study 1, determinants that neither had a significant effect on the satisfaction with a sharing option nor on the likelihood of choosing a sharing option again variable were identified. This applies to the variables community belonging, environmental impact, internet capability, service quality, smartphone capability and trend affinity. Thus, for study 2, hypotheses 1a and 1b, hypotheses 3a and 3b, hypotheses 5a and 5b, hypotheses 6a and 6b, hypotheses 7a and 7b, as well as hypotheses 8a and 8b are rejected.

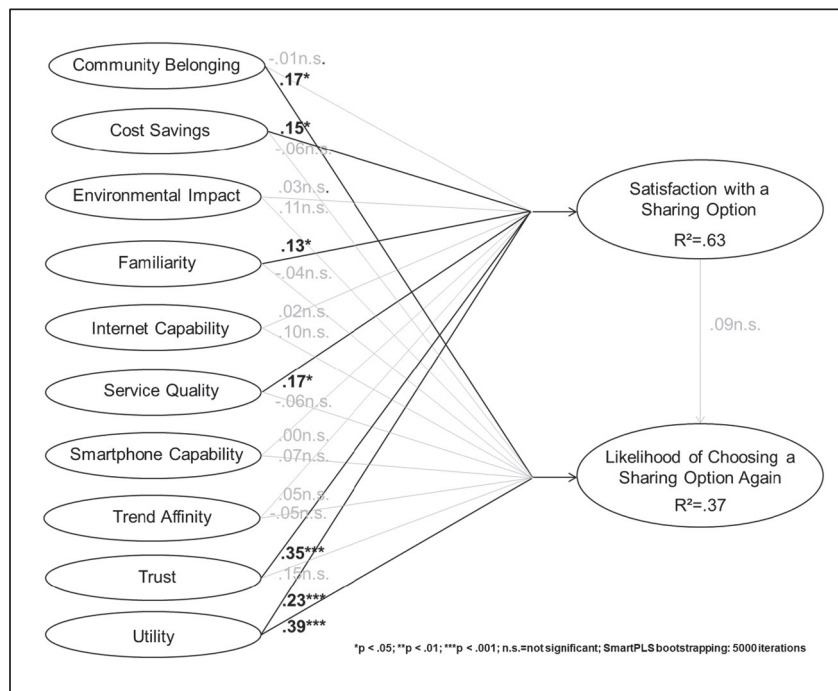


Figure 2. Results of the PLS analysis of study 1 (B2C car sharing *car2go*).

Table 1. Results of the structural models of study 1 and study 2

Hypothesis	Study 1 <i>N</i> =236 (B2C car sharing)		Study 2 <i>N</i> =187 (C2C accommodation marketplace)	
	Path coefficients	Support	Path coefficients	Support
H1a: Community belonging → Satisfaction	-.01 n.s.	No	.09 n.s.	No
H1b: Community belonging → Likelihood of Choosing	.17*	Yes	.09 n.s.	No
H2a: Cost savings → Satisfaction	.15*	Yes	.23**	Yes
H2b: Cost savings → Likelihood of Choosing	-.06 n.s.	No	.01 n.s.	No
H3a: Environmental impact → Satisfaction	.03 n.s.	No	.03 n.s.	No
H3b: Environmental impact → Likelihood of Choosing	.11 n.s.	No	.03 n.s.	No
H4a: Familiarity → Satisfaction	.13*	Yes	.18**	Yes
H4b: Familiarity → Likelihood of Choosing	-.04 n.s.	No	.20**	Yes
H5a: Internet capability → Satisfaction	.02 n.s.	No	.15 n.s.	No
H5b: Internet capability → Likelihood of Choosing	.10 n.s.	No	-.12 n.s.	No
H6a: Service quality → Satisfaction	.17*	Yes	.09 n.s.	No
H6b: Service quality → Likelihood of Choosing	-.06 n.s.	No	.05 n.s.	No
H7a: Smartphone capability → Satisfaction	.00 n.s.	No	.07 n.s.	No
H7b: Smartphone capability → Likelihood of Choosing	.07 n.s.	No	.07 n.s.	No
H8a: Trend affinity → Satisfaction	.05 n.s.	No	.04 n.s.	No
H8b: Trend affinity → Likelihood of Choosing	-.05 n.s.	No	-.02 n.s.	No
H9a: Trust → Satisfaction	.35***	Yes	.22**	Yes
H9b: Trust → Likelihood of Choosing	.15 n.s.	No	-.09 n.s.	No
H10a: Utility → Satisfaction	.23***	Yes	.17**	Yes
H10b: Utility → Likelihood of Choosing	.39***	Yes	.24**	Yes
H11: Satisfaction → Likelihood of Choosing	.09 n.s.	No	.48***	Yes

Satisfaction: satisfaction with a sharing option; Likelihood of Choosing: likelihood of choosing a sharing option again.

**p* < .05.

***p* < .01.

****p* < .001; n.s., not significant; SmartPLS bootstrapping: 5000 iterations.

In line with hypothesis 2a, cost savings (.23**) was found to have a significant and positive effect on the satisfaction with a sharing option variable. However, no significant relationship was found between cost savings and the other endogenous variable as modeled; therefore, hypothesis 2b is rejected. Hypotheses 4a and 4b can both be confirmed,

approving the positive causal relationship between familiarity and the satisfaction with a sharing option (.18**) as well as the likelihood of choosing a sharing option again (.20**). Whereas hypothesis 9b is rejected, a significant effect was estimated from the trust variable on the satisfaction with a sharing option (.22**), in support of hypothesis 9a. In line

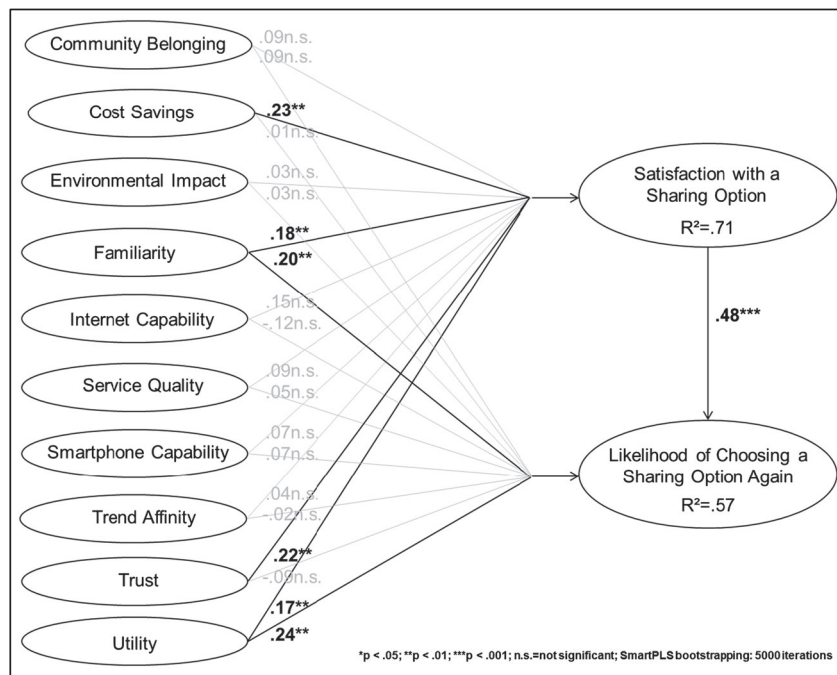


Figure 3. Results of the PLS analysis of study 2 (C2C accommodation marketplace *Airbnb*).

with hypothesis 10a and 10b, a significant path coefficient was estimated between the utility variable and the satisfaction with a sharing option (.17**), as well as the likelihood of choosing a sharing option again (.24**). At last, the analysis reveals a significant path coefficient (.48***) between the satisfaction with a sharing option and the likelihood of choosing a sharing option again variable.

The high value of the coefficient of determination ($R^2 = .71$) of the satisfaction with a sharing option variable indicates that as much as 71% of the variance of this variable is explained by all the predictors. In addition, the $R^2 = .57$ value demonstrates that about half of the variance of the likelihood of choosing a sharing option again construct is explained. Also in this study, these relatively high coefficients of determination values confirm the conceptualization of the model.

SUMMARY AND DISCUSSION

The findings clarify the role of different determinants of the satisfaction with a sharing option and the likelihood of using a sharing option again based on two independent studies. Therefore, the two research questions as introduced at the beginning of this paper can be answered.

In study 1, users of the car sharing service *car2go* were surveyed, offering insights into a B2C context of a collaborative consumption setting. Seven significant path coefficients were estimated for this model. The variables cost savings, familiarity, service quality, trust, and utility were found to have a positive effect on the satisfaction with a sharing option. Furthermore, the variables community belonging and utility were found to have a positive effect on the likelihood of choosing a sharing option again construct.

The results of study 2, in which users of the C2C accommodation marketplace *Airbnb* were surveyed, reveal the four

variables costs savings, familiarity, trust, and utility to positively influence the satisfaction with a sharing option. In addition, familiarity and utility were estimated to have a significant and positive effect on the likelihood of choosing a sharing option again. In this study, the satisfaction with a sharing option variable was found to have a positive effect on the other endogenous variable in the model, namely the likelihood of choosing a sharing option again.

Consequently, several similarities can be identified among the identified determinants in both studies, indicating a high external validity of results. Respondents seem to predominantly be driven by rational reasons, serving their self-benefit, when using collaborative consumption services. Users pay attention to the fact that collaborative consumption helps them to save money and that respective service is characterized by a high utility, in a way that it well substitutes a nonsharing option. In addition, familiarity with a service was found to be an important determinant, probably because it lowers transaction costs of getting to know the specifics of the sharing process (Henning-Thurau *et al.*, 2007).

Furthermore, both studies reveal the important role of trust as an essential determinant of the satisfaction with a sharing option. This is an interesting result because trust has not been analyzed in relation to other determinants in the context of collaborative consumption in quantitative studies so far. In study 1 (B2C car sharing context), trust (.35***) was found to be the strongest determinant of the satisfaction with a sharing option. In study 2 (C2C accommodation marketplace context), this relationship (.22**) was only slightly exceeded by the cost savings (.23**) variable.

Important insights can also be drawn from the difference in results revealed in both studies. In contrast to study 2 (C2C accommodation sharing context *Airbnb*), in study 1 (B2C car sharing context *car2go*), two additional determinants with significant effects were identified. Respective

respondents indicate that community belonging would positively influence the likelihood of choosing a sharing option again. Furthermore, service quality was found to influence the satisfaction with a sharing option. Thereby, in study 2 (C2C accommodation sharing context Airbnb), a relationship between the satisfaction with a sharing option and the variable likelihood of choosing a sharing option again was estimated. This relationship was not revealed in study 1 (B2C car sharing context car2go).

It is interesting to notice that four determinants previously identified in the literature had no significant effects on any of the two endogenous variables in both studies. This applies to the environmental impact, internet capability, smartphone capability, and trend affinity variables.

RESEARCH AND MANAGEMENT IMPLICATIONS

The results of this study contribute to close a research gap and hold valuable implications for researchers. Findings indicate that indeed there are many similarities among the determinants of the use of different collaborative consumption services. However, a detailed analysis might also reveal context or industry specifics, as shown in this paper. Most current research contributions did not adequately consider such specifics so far. Thus, taking a closer look on variances in the collaborative consumption service landscape in future research projects might be valuable. Concerning the theoretical implications of this research, one can draw the conclusion that many determinants identified here can be traced back to long-established theories as introduced at the beginning of this paper. The tragedy of the commons (Hardin, 1968), the game theory's prisoner's dilemma (Rapoport and Chammah, 1970), and "The Logic of Collective Action" (Olson, 1965) have the prevailing understanding that human behavior is determined by rational thinking and self-interest of individuals. In *Governing the Commons*, Ostrom (1990) stresses the essential role of trust for successful collaborative action. Determinants empirically confirmed here are congruent to these theorized realities. Surprisingly, no statistical support is found for determinants primarily discussed in more recent research contributions, stressing the emerging role of factors such as environmental consciousness or trend affinity in modern society. Future research might further unveil the role of nonegoistic factors as a potential motivation for collaborative consumption behavior once an individual's self-centered needs are satisfied (Schuitema and De Groot, 2014).

For managers of B2C and C2C collaborative consumption services, the results of this paper offer important insights with high relevance for the acquisition but also retention of customers. Different stakeholder groups can be addressed more adequately when marketing the determinants identified in this study in a targeted way. Managers of B2C and C2C services should adapt their market activities to respond to the fact that rational and self-centered determinants were found to be essential, including utility, cost savings, and familiarity. Furthermore, managers need to make sure that trust building measures are implemented and communicated to respective stakeholders. In particular, the results indicate that managers

of B2C services should market service quality aspects and seek to build a sense of community belonging, as such might increase the likelihood of users to choose a sharing option again.

Managers of conventional nonsharing services can use these findings to gain insights into the emerging trend of collaborative consumption, which is radically changing consumer behavior (Botsman and Rogers, 2010; Ozanne and Ballantine, 2010; Belk, 2014). Only with this knowledge, they might be able to understand their competitors' strengths and weaknesses. In particular, findings on the important role of trust might be used strategically. In fact, potential difficulties of collaborative consumption service providers to build trust might be of competitive advantage for conventional nonsharing service providers. For instance, a large hotel chain might market the fact that booking accommodation with them has several advantages, such as the assurance to always receive the same standardized quality for the same set price or that any problems with a hotel room might be resolved easily by transferring to another or to a partner hotel, etc. On the other hand, conventional nonsharing service provider might think about incorporating sharing services in their product range, to diversify and respond to this new trend. For instance, the American fashion chain Urban Outfitters is specialized on clothes for a relatively young target group and successfully offers used yard sale or flea market clothes in its retail shops. The Avis Group expanded its offers when acquiring the car sharing company Zipcar. The Hornbach group is one of the largest operators of large building supply stores in Europe. It extended its conventional services offers by lending tools like pressure washers or garden waste shredders on a daily basis.

Finally, findings from this study might also hold implications for public and nonprofit managers seeking to further spread the use of collaborative consumption services for the sake of fostering sustainable consumption behavior (Brennan and Binney, 2008; Carrington *et al.*, 2012). Examples might include public bicycle sharing services or nonprofit marketplaces for vintage goods. They might use the results of this study to develop targeted social marketing strategies for instance to be used in school education contexts. In addition, the kickoff of collaborative consumption projects or enterprise might be supported by public or nonprofit sector counseling or funding.

LIMITATIONS AND FURTHER RESEARCH

Finally, there are limitations of this study that need to be discussed. First, two studies, one focusing on a car sharing service in a B2C context and one focusing on an accommodation marketplace in a C2C context, were analyzed. Further research should investigate additional cases and industries of collaborative consumption to globally verify the results presented in this paper and strengthen cross-sector validity. Second, this research solely assessed the strength of different determinants on two endogenous variables but not the interrelations between these determinants. Future research might address more comprehensive research questions on such interdependencies. Third, this research provides interesting insights in the important role of trust for the usage of sharing services.

Future research should further investigate the trust concept and its multifaceted character in the context of collaborative consumption. Fourth, in this paper, only the likelihood of using a sharing option again was investigated but not actual behavior. Further research might test this in longitudinal studies or with experimental designs. Fifth, it is important to keep in mind that

both studies were conducted among users of sharing services. Determinants of usage or nonusage might differ to nonusers of sharing services. Such might be investigated in different settings in the future. In sum, further research on collaborative consumption should be conducted to shed light on this emerging trend that is radically changing consumer behavior.

Appendix A: Sample characteristics of study 1 and study 2

Variable	Specification	Study 1 (B2C car sharing car2go)	Study 2 (C2C accommodation marketplace Airbnb)
Gender	Male	54.3%	44.5%
	Female	45.7%	55.5%
Age	Until 19	3.2%	0.6%
	20–24	44.3%	43.9%
	25–29	39.8%	43.3%
	30–34	10.4%	8.7%
	35 and older	2.3%	3.5%
Education (highest degree)	None or high school	45.8%	45.2%
	Apprenticeship	9.3%	6.6%
	University degree	44.9%	48.2%

Appendix B: Scales and criteria of study 1 and study 2

	Study 1 <i>N</i> = 236 (B2C car sharing)					Study 2 <i>N</i> = 187 (C2C accommodation marketplace)				
	M (SD)	F-load. (TVal)	AVE	Com. rel.	Cron. alpha	M (SD)	F-load. (TVal)	AVE	Com. rel.	Cron. alpha
Community belonging (Henning-Thurau <i>et al.</i> , 2007; Lamberton and Rose, 2012).			.91	.95	.90			.89	.94	.88
The use of [CCS] allows me to be part of a group of like- minded people.	2.49 (1.51)	.96 (34.92)				4.39 (1.54)	.96 (127.62)			
The use of [CCS] allows me to belong to a group of people with similar interests.	2.42 (1.57)	.95 (23.74)				4.04 (1.59)	.93 (45.47)			
Cost savings (Fornell <i>et al.</i> , 1996; Lamberton and Rose, 2012).			.94	.97	.93			.94	.97	.94
For the given price, I rate the [CCS] offer as good.	4.46 (1.40)	.97 (218.01)				5.13 (1.36)	.97 (123.04)			
For the given quality of the [CCS] offer, I rate the price as good.	4.48 (1.39)	.96 (124.07)				5.16 (1.35)	.97 (119.15)			
Environmental impact (Moeller and Wittkowski, 2010; Lamberton and Rose, 2012).			.90	.95	.88			.90	.94	.89
By using [CCS], I reduce my use of natural resources.	4.57 (1.77)	.94 (60.74)				4.31 (1.69)	.96 (15.06)			
With the use of [CCS], I demonstrate environmental friendly consumption behavior.	4.26 (1.78)	.95 (79.54)				4.17 (1.73)	.93 (13.03)			
Familiarity (Bhattachierjee, 2002; Lamberton and Rose, 2012).			.89	.96	.94			.87	.95	.92
I am familiar with the lending process of the [CCS] offer.	5.88 (1.35)	.94 (67.32)				5.41 (1.51)	.94 (72.25)			
I have experience with [CCS].	5.64 (1.55)	.94 (57.96)				5.21 (1.59)	.91 (40.29)			
Overall, I am familiar with [CCS].	5.71 (1.37)	.96 (123.18)				5.37 (1.52)	.95 (84.31)			

(Continues)

Appendix B: (Continued)

	Study 1 N=236 (B2C car sharing)					Study 2 N=187 (C2C accommodation marketplace)				
	M (SD)	F-load. (TVal)	AVE	Com. rel.	Cron. alpha	M (SD)	F-load. (TVal)	AVE	Com. rel.	Cron. alpha
Internet capability (Park and Yang, 2006).			.92	.97	.96			.92	.97	.96
The internet is useful for consuming [CCS].	5.95 (1.24)	.95 (73.83)				6.19 (1.21)	.96 (81.17)			
The internet enables me a convenient use of [CCS].	5.97 (1.26)	.97 (149.23)				6.24 (1.12)	.97 (103.27)			
Using the internet increases the productive use of [CCS].	5.89 (1.30)	.96 (112.43)				6.11 (1.26)	.95 (38.00)			
Service quality (Parasuraman <i>et al.</i> , 1985, 1988; Seiders <i>et al.</i> , 2007).			.53	.85	.78			.64	.90	.85
The design of the [CCS] offer/website is appealing to me.	4.77 (1.46)	.60 (9.12)				5.33 (1.35)	.84 (28.79)			
I have quick and easy access to [CCS] offers.	5.28 (1.21)	.72 (13.98)				5.55 (1.23)	.86 (37.07)			
[CCS] makes it easy for me to conclude my transaction.	5.71 (1.18)	.71 (12.63)				5.47 (1.20)	.86 (37.96)			
The customer service of [CCS] is responsive to its customer's needs.	4.72 (1.59)	.75 (20.14)				4.68 (1.67)	.61 (8.75)			
I believe that [CCS] knows about he needs of their customers.	4.83 (1.31)	.84 (36.23)				5.23 (1.20)	.79 (23.40)			
Smartphone capability (Park and Yang, 2006).			.91	.97	.95			.91	.97	.95
My smartphone is useful for consuming [CCS].	6.19 (1.20)	.96 (79.42)				5.00 (1.71)	.97 (137.86)			
My smartphone enables me a convenient use of [CCS].	6.17 (1.18)	.97 (106.59)				5.05 (1.64)	.94 (36.38)			
Using my smartphone increases the productive use of [CCS].	6.08 (1.22)	.94 (63.67)				4.95 (1.74)	.96 (88.28)			
Trend affinity (Moeller and Wittkowski, 2010).			.85	.92	.83			.90	.95	.89
The collaborative consumption of the [CCS] offer allows me to keep up with the latest trends.	2.78 (1.71)	.91 (20.83)				3.39 (1.75)	.95 (36.39)			
Using [CCS] shows that it is important to me to use the newest consumer goods.	3.16 (1.89)	.94 (24.20)				3.69 (1.82)	.94 (26.03)			
Trust (Chai <i>et al.</i> , 2012; Bhattacharjee, 2002).			.56	.88	.84			.62	.90	.87
I trust that the offered [CCS] will be displayed as expected.	5.67 (1.20)	.77 (24.58)				5.63 (1.28)	.81 (20.75)			
The other users of [CCS] are truthful in dealing with one another.	4.79 (1.33)	.72 (19.48)				5.25 (1.16)	.85 (34.93)			
The other users of [CCS] will not take advantage of me.	4.80 (1.52)	.52 (6.97)				4.28 (1.63)	.53 (7.03)			
I trust that the [CCS] provider provides enough safeguards to protect me from liability for damage I am not responsible for.	5.23 (1.49)	.74 (20.33)				5.14 (1.37)	.74 (13.02)			
[CCS] provides a robust and safe environment in which I can use the service.	5.15 (1.21)	.81 (23.88)				5.18 (1.27)	.85 (26.97)			
Overall, [CCS] is trustworthy.	5.38 (1.09)	.87 (61.93)				5.35 (1.19)	.88 (44.26)			

(Continues)

Appendix B: (Continued)

	Study 1 <i>N</i> = 236 (B2C car sharing)					Study 2 <i>N</i> = 187 (C2C accommodation marketplace)				
	M (SD)	F-load. (TVal)	AVE	Com. rel.	Cron. alpha	M (SD)	F-load. (TVal)	AVE	Com. rel.	Cron. alpha
Utility (Lamberton and Rose, 2012).			.69	.82	.57			.70	.82	.60
I believe a [CCS offer] substitutes quiet well for an own car/hotel.	5.26 (1.54)	.90 (49.84)				5.58 (1.53)	.93 (53.56)			
[CCS offer] is just as good as an own car/hotel.	4.62 (1.57)	.76 (14.55)				3.72 (1.40)	.73 (11.43)			
Satisfaction with sharing option (Fornell <i>et al.</i> , 1996).			.74	.90	.83			.77	.91	.85
Overall, I am satisfied with [CCS].	5.32 (1.11)	.91 (79.80)				5.53 (1.20)	.92 (51.87)			
The last use of [CCS] fulfilled my expectations.	5.46 (1.35)	.84 (22.08)				5.65 (1.39)	.87 (24.70)			
[CCS] represents the ideal version of a car/accommodation sharing option.	4.60 (1.41)	.83 (34.38)				5.22 (1.38)	.85 (31.56)			
Likelihood of choosing sharing option again (Lamberton and Rose, 2012).			.86	.95	.92			.88	.96	.93
I am likely to choose [CCS] or a similar sharing option the next time.	5.21 (1.58)	.87 (47.98)				5.31 (1.53)	.91 (51.57)			
I need a car/accommodation. In the future, I would prefer a sharing option like [CCS] to an own car/hotel.	4.48 (1.87)	.95 (124.94)				4.88 (1.71)	.95 (108.49)			
In the future, I am likely to choose a sharing program like [CCS] instead of an own car/hotel.	4.53 (1.87)	.95 (129.69)				4.94 (1.68)	.96 (130.09)			

CCS: Collaborative consumption service (car2go, Airbnb).

Appendix C: Discriminant validity of study 1 (and study 2)

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1 Community belonging	.95 (.94)											
2 Cost savings	.10 (.11)	.97 (.97)										
3 Environmental impact	.29 (.37)	.28 (.11)	.95 (.95)									
4 Familiarity	-.01 (.18)	.17 (.46)	.06 (-.01)	.94 (.93)								
5 Internet capability	-.04 (.15)	.27 (.46)	.16 (.06)	.34 (.39)	.96 (.96)							
6 Likelihood of choosing sharing option again	.22 (.33)	.27 (.48)	.31 (.15)	.21 (.52)	.30 (.32)	.93 (.94)						
7 satisfaction with sharing option	.11 (.33)	.54 (.66)	.29 (.16)	.42 (.58)	.39 (.60)	.44 (.68)	.86 (.88)					
8 Service quality	-.01 (.15)	.57 (.62)	.26 (.07)	.32 (.40)	.43 (.56)	.30 (.45)	.62 (.62)	.73 (.80)				
9 Smartphone capability	-.09 (.23)	.28 (.18)	.15 (.02)	.36 (.25)	.58 (.34)	.26 (.32)	.37 (.35)	.41 (.32)	.95 (.95)			
10 Trend affinity	.56 (.49)	.09 (.06)	.21 (.19)	.05 (.05)	.08 (.07)	.17 (.17)	.19 (.20)	.08 (.07)	.07 (.14)	.92 (.95)		
11 Trust	.15 (.24)	.44 (.54)	.28 (.14)	.34 (.51)	.41 (.62)	.41 (.44)	.68 (.69)	.60 (.59)	.39 (.23)	.20 (.16)	.75 (.79)	
12 Utility	.08 (.24)	.43 (.47)	.25 (.13)	.34 (.32)	.29 (.27)	.52 (.56)	.57 (.54)	.41 (.41)	.25 (.23)	.12 (.14)	.40 (.39)	.83 (.84)

Boldface values on the diagonal are square roots of AVEs; values below the diagonal represent correlation values.

BIOGRAPHICAL NOTES

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