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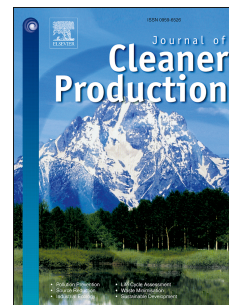
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## Consumer Motives for Peer-to-Peer Sharing

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### Abstract

*Contemporary e-commerce platforms enable the exchange of idle resources among private individuals directly from peer to peer. The success of peer-to-peer sharing platforms largely depends on the capability of platform providers to understand the users' motives for engagement. To investigate the relative importance of consumer motives for and against peer-to-peer sharing, we develop a theoretical model based on a comprehensive set of potential consumer motives. We validate our model by means of a survey among 745 participants. Our findings suggest financial benefits, trust in other users, modern lifestyle, effort expectancy, and ecological sustainability as the five most important drivers and prerequisites of platform usage intentions. Based on our findings, we suggest directions for future research on peer-based sharing and discuss implications for both theory and practice.*

**Keywords:** sharing economy; peer-to-peer sharing; online marketplaces; online consumer behavior; survey research; structural equation modeling

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## 1 INTRODUCTION

Today's e-commerce landscape has undergone the development of novel and innovative forms of online marketplaces. An ever-growing variety of platforms now enables resource coordination and exchange among private individuals (PwC, 2015; Sundararajan, 2016). While the rapid growth of ventures such as Airbnb is virtually unparalleled (Avital et al., 2015, 2014), many other platforms fail to grow and eventually vanish (Choudary, 2013; Van Alstyne et al., 2016). Against this background, it is vital for platform operators to understand the clientele they are serving and what attracts and alienates their current (and prospective) users. Thus, research providing deeper insights into consumers' motives for or against partaking in this "sharing economy" is essential.

Importantly, the popular notion of the sharing economy represents an umbrella term and often subsumes a broad variety of concepts and ideas. Common examples include "collaborative consumption" (Botsman and Rogers, 2010; Meelen and Frenken, 2015), "access-based consumption" (Bardhi and Eckhardt, 2012), and "commercial sharing systems" (Lamberton and Rose, 2012). Within the scope of this work, we focus on a specific subset within the broader sharing economy landscape, which we denote as *peer-to-peer sharing* (PPS). PPS comprises peer-based transactions that can be characterized as *non-corporate*, *commercial*, *temporal*, and *tangible*. We present a more detailed definition for the context of this work in Section 2. To understand consumer motives (i.e., drivers, prerequisites, and impediments) for peer-to-peer sharing, we employ and empirically evaluate a comprehensive theoretical model grounded in the Theory of Planned Behavior (Ajzen, 1991, 1985). In this context, a motive for or against a certain activity can be defined as a factor that arouses, directs, and integrates a person's behavior in relation to this activity (Iso-Ahola, 1982). Based on prior literature, we explore 17 prospective

motives and their effects on consumer attitude, subjective norms, perceived behavioral control, behavioral intention, and actual PPS platform usage. Overall, we find empirical support for twelve distinct factors playing a significant role as antecedents of PPS usage. Among these, our findings suggest that financial benefits and the desire to display a modern lifestyle are the strongest drivers and that trust in other users represents a crucial precondition. On the other side of the coin, effort expectancy, process risk concerns, and the independence gained through ownership (instead of relying on sharing alternatives) are key impediments to PPS usage. In linking consumer motives to intentions and actual platform usage, this paper makes two core contributions. First, based on our extensive overview of prospective motives, we present a validated, survey-based measurement model with satisfactory psychometric properties. Second, we establish a comprehensive model of consumer motives for either taking part in or evading PPS services, thereby shedding light on the usage of platform-mediated PPS as a socio-technical system.

The remainder of this paper is organized as follows. In Section 2, we describe the basic principles of the sharing economy and introduce a tangible delineation of PPS. We then review the literature on sharing economy adoption and consumer motives, on the basis of which we derive a theoretical model. Section 3 then presents the procedures and results of our survey. We discuss our findings in Section 4. Section 5 concludes.

## **2 RELATED WORK AND HYPOTHESES DEVELOPMENT**

Almost 30 years ago, Malone et al. (1987) foresaw that information technology (IT) would reduce transaction costs and thus make market-based coordination increasingly attractive in comparison to hierarchical coordination. The emergence of the sharing economy may be regarded as one manifestation of this progressive shift from hierarchical to decentralized and peer-based

market schemes. Today, platforms such as Airbnb enable users to share access to their private resources with a large community of “strangers” (Frenken and Schor, 2017). The growth of these platforms is governed by several parallel developments, including the availability of IT that has cut transaction costs dramatically (Puschmann and Alt, 2016). In order to clearly position our work within the literature, we focus on what we refer to as “peer-to-peer sharing,” that is, a specific subset of business models, platform types, and activities which we outline in the following.

## 2.1 Peer-to-peer Sharing

As Botsman (2013) puts it: “The Sharing Economy lacks a shared definition.” While numerous recent articles address the sharing economy and related topics, the fundamental question of what exactly characterizes the sharing economy is usually left open, or else is answered in decidedly inchoate fashion. Recent research tends to regard the term as an umbrella for a variety of phenomena and hence remains vague as to its precise implications (Acquier et al., 2017; Hamari et al., 2016). A concise overview of existing definitions is provided by Frenken and Schor (2017). They describe the sharing economy as “consumers granting each other temporary access to under-utilized physical assets (‘idle capacity’), possibly for money” (pp. 2-3) and consider the presence of *consumer-to-consumer interaction*, *temporary access*, and *physical goods* as characteristic traits.

Taking this as a starting point, we focus and limit our study to a specific subset. This focus facilitates the description of a clearly demarcated subject. This, in turn, not only provides the basis for a purposeful and focused scientific debate, but also ensures a common understanding among participants. Specifically, we focus on peer-to-peer sharing (PPS; Figure 1). Consider the two dimensions *type of resource* (on a scale from product to service) and *degree of commerciality*

(on a scale from private to corporate). The private end of this commerciality dimension can be further differentiated as free-of-charge and reimbursed alternatives. With regard to the resource dimension, resources on PPS platforms may be physical products such as cars, tools, equipment, or clothing. Such goods, however, may also entail a distinct service character, as, for instance, a spare car seat on the way from Amsterdam to Berlin, or the use of one's guest room for an overnight stay. Here, the physical object involved in performing the service is central and essential but, nevertheless, the object alone would not be sufficient. We refer to this type of sharing as product-services. On the other end of the scale, (pure) services encompass both volunteering and regular (i.e., paid) work. Admittedly, the product-service transition is smooth. The product category can be further divided with regard to transfer of ownership, by which we loosely differentiate between selling, exclusive usage, and co-usage.

[ **Figure 1** ]

This taxonomy allows us to classify sharing platforms and activities with respect to their degree of commerciality and the type of the underlying resources. Note that a bijective classification of platforms is not always reasonable, since platforms are typically used in various ways by different users (EU, 2017).<sup>1</sup> As indicated in Figure 1, we focus on a sub-domain comprising renting and co-usage. This includes, for instance, accommodation sharing (e.g., Airbnb, Homestay), ride sharing (e.g., BlaBlaCar, Zimride), and product sharing (e.g., Turo, Zilok). More formally, PPS can be located within our taxonomy based on the following characterizations and boundary conditions, which are reflected by red confining lines in Figure 1.

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<sup>1</sup> On Airbnb, for instance, some users rent out spare guest rooms occasionally, while others offer multiple listings (Edelman et al., 2017). According to *airbnbvsberlin.com*, the top 10 Airbnb users in Berlin offer a total of 281 flats.

- (i) *Non-corporate*: transactions are carried out between private individuals (excluding corporate programs such as car sharing fleets, as maintained by Car2Go, for instance),
- (ii) *Commercial*: transactions are commercial; that is, they involve an exchange of money between peers (excluding neighborly help or mainly idealistic communities such as Couchsurfing),
- (iii) *Temporal*: resource transfer is temporal and usually rather short-term (excluding buying/selling platforms such as eBay, as well as long-term transactions such as on Realtor),
- (iv) *Tangible*: transactions are centered on physical products or product-services (excluding the provision of pure service, such as on TaskRabbit).

## 2.2 Related Work

Motives for partaking in or avoiding PPS can be manifold. Scholars from different fields have set out to investigate the character and relative importance of these motives. An overview of academic research on consumer motives in the context of the sharing economy is provided in Table 1. It contains information on perspective (consumer, provider, platform), methodology (interviews, survey, concept), sample size, and which motives were considered. While most studies follow qualitative approaches, several involve validated constructs and path estimation based on quantitative survey data. Table 1 lists studies with validated measurement scales in descending order of publication date (upper segment). We indicate positive (+) and negative (–) path coefficients and correlations, as by conventional statistical assessment ( $p < .05$ ), as well as insignificant findings (o) with respect to usage intentions. In sum, we identified 17 prospective motives for peer-to-peer sharing: Financial benefits, uniqueness, variety, ubiquitous availability, social experience, process risk concerns, privacy concerns, resource scarcity concerns, prestige of ownership, independence through ownership, ecological sustainability, anti-capitalism, sense of belonging, modern lifestyle, effort expectancy, familiarity, and trust in other users.

Overall, empirical evidence concerning the various motives for PPS and their relative importance is as yet inconclusive and diffuse. As can be seen from Table 1, there do, however, emerge several consistent patterns. Financial benefits, for instance, have repeatedly been confirmed as a strong driver of consumer behavior – which is not all that surprising given that the sharing economy, after all, offers a mode of consumption (Barnes and Mattsson, 2017; Bucher et al., 2016; Hamari et al., 2016; Tussyadiah, 2016). While outside the scope of our definition of PPS, Lamberton and Rose (2012)’s early study on commercial sharing systems (i.e., “marketer-managed systems that provide customers with the opportunity to enjoy product benefits without ownership,” p. 109) makes an instructive case for understanding consumers’ motives when considering different modes of consumption. Focusing on Zipcar, they find cost advantages, substitutability, knowledge about the service, and utility to be relevant drivers of usage. As this study demonstrates, there is evidence that additional value propositions, beyond monetary motives, may play a role in the decision-making of consumers opting for a sharing alternative. Most notably, the pursuit of social experiences and a sense of community have been identified as significant drivers (Möhlmann, 2015; Schaffner et al., 2017; Tussyadiah, 2016). With regard to other factors, findings have been mixed. Ecological sustainability – that is, the allegedly green property-sharing concept – has been found to be a driver in some contexts (Barnes and Mattsson, 2017; Hamari et al., 2016), whereas it plays no role or even emerges as an impediment in others (Moeller and Wittkowski, 2010; Möhlmann, 2015; Tussyadiah, 2016). Möhlmann (2015), for instance, considers ten potential motives and their role with respect to satisfaction and continued platform usage. Results from a survey among Airbnb users suggest that only cost savings, familiarity, trust, and utility had significant effects on at least one of the dependent variables, while positive environmental impact did not emerge as a significant motive. In keeping with



these results, the literature also suggests that there exist some crucial *prerequisites* for peer-to-peer platform usage. Most prominently, trust in other users and familiarity with the sharing economy's foundational ideas and paradigms represent important pillars in this sense (Hamari et al., 2016; Hawlitschek et al., 2016c; Möhlmann, 2015). Against the backdrop of these findings, further research is needed to develop a better understanding of the facilitators, drivers, and impediments of peer-to-peer sharing.

### [ Table 1 ]

While the number of quantitative studies exploring user motives has increased over the past several years, few researchers have based their work on established theoretical foundations for explaining human behavior (e.g., Barnes and Mattsson, 2017; Bucher et al., 2016). We hence decided to further enrich theory-grounded research on the sharing economy by investigating PPS as a larger socio-technical system. To explore consumer motives, we revisit the core theory of technology acceptance models (Benbasat and Barki, 2007). Our approach is conceptually based on the *Theory of Planned Behavior* (TPB, Ajzen, 1991, 1985) and its decomposed extension (Shih and Fang, 2004; Taylor and Todd, 1995a). In direct comparison to technology acceptance models, the TPB “provides more information about the factors users consider when making their choices” (Mathieson, 1991; p. 188). Within this framework, we amalgamate a broad set of potential motives and investigate their relative importance based on the TPB's conceptualization through the consumer's *attitude*, *subjective norm*, and *perceived behavioral control*. The set of motives is derived from existing literature and a pre-study (Hawlitschek et al., 2016b). The positioning of all prospective motives and constructs within the model is illustrated in Figure 2.

### [ Figure 2 ]

### 2.3 Theory of Planned Behavior

The Theory of Planned Behavior (TPB) (Ajzen, 1991, 1985) originates in psychology. It posits that a subject's behavior results from an explicit *behavioral intention*, which in turn is based on the subject's *attitude*, *subjective norm*, and *perceived behavioral control* in view of the activity or behavior. These categories can be further differentiated to where, specifically, attitude comprises *relative advantages and disadvantages*, *compatibility*, and *complexity* (Taylor and Todd, 1995b). *Relative advantages and disadvantages* refer to the degree to which an innovation provides benefits that supersede those of its precursors. *Compatibility* refers to the degree to which the innovation accords with the potential adopter's existing values, previous experience, and current needs (Shih and Fang, 2004). *Complexity* is the degree to which an innovation is perceived to be difficult to understand, learn, or operate (Taylor and Todd, 1995b).

The second category, *subjective norm*, refers to the perceived social pressure to perform or not to perform a certain behavior (Ajzen, 1991), that is, the extent to which people perceive that significant others, such as family and friends, believe they should use a particular technology (Taylor and Todd, 1995b; Venkatesh et al., 2012; Venkatesh and Davis, 2000; Venkatesh and Morris, 2000). In the decomposed TPB model, this factor is usually not broken down into further subcategories but operationalized as a single construct (Shih and Fang, 2004; Taylor and Todd, 1995b).

Last, *perceived behavioral control* refers to "the perceived ease or difficulty of performing [a certain] behavior and it is assumed to reflect past experience as well as anticipated impediments and obstacles" (Ajzen, 1991; p. 188). This construct is further divided into the sub-categories *facilitating conditions* and *efficacy*. Facilitating conditions (also controllability; Pavlou and Fygenson, 2006) reflect the availability of resources needed to perform a particular behavior.

This may include access to time, money, or a certain technology (Shih and Fang, 2004). Efficacy (or self-efficacy; Ajzen, 1991) refers to the confidence of acting successfully in a given situation (Bandura, 1977). Thus, *perceived behavior control* comprises factors that can be considered as prerequisites of usage intention and behavior – not so much because they motivate people to engage, but rather because a lack of these factors would deter them from doing so

The TPB model represents a widely used model for adoption behavior in the context of electronic commerce and it has demonstrated predictive power in a large variety of studies (Pavlou and Fyngenson, 2006). It is, however, not undisputed and some critics recently demanded its retirement (Sniehotta et al., 2014). We deliberately choose not to elaborate on these critiques but refer to Weigel et al. (2014) and Ajzen (2014; p. 6), the latter of whom states that “contrary to [such] claims, the TPB is alive and well and gainfully employed in the pursuit of a better understanding of human behaviour.” To provide an overall structure, all prospective motives are organized along the dimensions provided by the TPB framework. In the following, we develop our hypotheses. Note that many of the referred studies do not consider PPS but neighboring fields and applications which do, however, share elementary properties. Consumers, for instance, may be inclined to browse and buy on eBay as they may find unique pieces (e.g., furniture, accessories). This motive may well apply to consumers seeking a unique apartment on Airbnb. Similarly, car sharing users may be motivated by not having to own and maintain their own car. This, again, may also apply as a motive to people for (regularly) using ride sharing or peer-to-peer car rental platforms.

## 2.4 Hypotheses Development

From the consumer perspective, privately shared goods are considered less expensive by 81 percent of US adults familiar with the sharing economy (PwC, 2015), which points to the fact

that financial benefits may drive user participation. Hellwig et al. (2015) found that “saving money” constitutes an effective motive, particularly for sharing pragmatists. We capture this notion in the motive of *Financial Benefits* (FIN), that is, the idea that PPS may save consumers money. Several studies have considered how economic factors impact the use of PPS (or related activities) and found positive influences on behavioral intention (Hamari et al., 2016) and satisfaction (Mahadevan, 2018; Möhlmann, 2015; Tussyadiah and Pesonen, 2016). We hence hypothesize its effect on attitudinal beliefs to be positive:

**H<sub>1</sub>:** *Financial benefits have a positive impact on attitude towards PPS.*

Besides financial benefits, PPS platforms offer some products, services, and experiences that are hardly found through traditional channels of consumption, that is, that are unique to PPS. Airbnb, for instance, advertises that its hosts offer experiences in the most extraordinary lodgings, including tree houses, castles, or houseboats (Forbes, 2016). Such offers are unique to PPS platforms compared to hotel chains and sites such as Expedia or Booking.com. In this sense, PwC (2015; p. 23) notes that the “hospitality sharing economy is appealing because it offers [...] more unique experiences and more choice.” Users may hence seek this exclusivity of experience when using PPS (Amaro et al., 2018; Mao and Lyu, 2017). Edbring et al. (2016) find that one out of four users has a “desire to be unique,” which may be met by second-hand consumption. Similarly, Akbar et al. (2016) find that users’ *desire for unique products* mitigates the detrimental effect of materialism on sharing intentions. Furthermore, Guttentag et al. (2018) highlight the importance of the unique value proposition Airbnb has introduced by providing exceptional, non-standard experiences. We hence propose that *Uniqueness* (UNI) – that is, the idea that PPS allows users to access products and services that are not available elsewhere – positively affects attitude towards PPS:

**H<sub>2</sub>:** *Uniqueness has a positive impact on attitude towards PPS.*

In a similar vein, the open concept of PPS allows for a large variety of products and services. Turo.com (P2P car rental), for instance, emphasizes its “unbeatable rental car selection.” Users may appreciate this diversity, for instance, renting a convertible today for a trip to the sea, and a truck for some home improvement next week (Balck et al., 2015; Sung et al., 2018). Kim et al. (2015) propose variety-seeking (along with exploratory and novelty-seeking) as a form of epistemic value pursuit, particularly for curious users. Guttentag et al. (2018) suggest that the variety of benefits associated with an Airbnb stay represent a central characteristic of the disruptive character of the platform. We capture this in the motive of *Variety* (VAR), that is, the idea that PPS offers a wide range of different products and services.

**H<sub>3</sub>:** *Variety has a positive impact on attitude towards PPS.*

Moreover, PPS platforms typically operate nation- or even worldwide. Once registered, users tap into shared resources virtually wherever they go. This *Ubiquitous Availability* (UBI) refers to the idea that PPS allows users to access products and services in many places and is a determinant of peer-based platform adoption (Lamberton and Rose, 2012). We hence suggest that this motive positively affects attitude towards PPS:

**H<sub>4</sub>:** *Ubiquitous availability has a positive impact on attitude towards PPS.*

Beyond economic and product-related considerations, peer-based consumption patterns can also entail enjoyable social aspects. Based on the notion that social context is important for all beings that live in a state of companionship or community with others, rather than in isolation (Loewenstein et al., 1989; Maslow, 1943), it is suggested that consumers seek social interaction and friendship (Albinsson and Perera, 2012; Ozanne and Ballantine, 2010). This may include meeting new people, communication, collaboration, and other forms of interaction. Consistent

with the narrative of Botsman and Rogers (2010), Tussyadiah (2015) finds collaborative consumption to be driven by social motives (e.g., the desire to get to know, interact, and connect with others). Furthermore, several studies consistently find positive effects of social experience on the intention to use different P2P offers (Barnes and Mattsson, 2017; Bucher et al., 2016; Oyedele and Simpson, 2018; Schaffner et al., 2017). Tussyadiah (2016) also finds that users of P2P accommodation particularly value social benefits when staying in private rooms as compared to renting an entire house or apartment. Based on quotes from P2P platform users, Bellotti et al. (2015) report social motives as consistently claimed relevant. We hence propose that *Social Experience* (SCX) – that is, the idea that PPS enables positive social interactions – positively affects attitude towards PPS:

**H<sub>5</sub>:** *Social experience has a positive impact on attitude towards PPS.*

In addition to such upsides, PPS also has its intricacies and drawbacks. Compared to traditional modes of consumption, it is usually associated with a higher degree of uncertainty and hence a variety of risks (Hooshmand, 2015). A product may simply not fulfill one's expectations. Also, communication and operation may fail as these processes involve an error-prone human being. As PPS operates on a private-to-private connection of supply and demand, neither market side is typically accustomed to professional business processes. Potential concerns could refer to legality, “what-if, in case of” problems, or “stranger-danger” concerns (Belk, 2014; Gebbia, 2016). In this regard, Shaheen et al. (2012) consider user (non-)adoption of vehicle sharing platforms and identify insurance-related issues and fear of sharing as major hurdles for adoption. Furthermore, Hawlitschek et al. (2016b) find a positive correlation of individual risk propensity and willingness to use Airbnb. As a potential barrier to PPS usage, we thus propose the motive of

*Process Risk Concerns* (RSK), that is, the idea that in PPS something may simply go wrong. In line with Quintal et al. (2010) and Liao et al. (2009), we propose that:

**H<sub>6</sub>:** *Process risk concerns have a negative impact on attitude towards PPS.*

Privacy is regarded as being of the utmost importance in the information age (Acquisti et al., 2015). It may be defined as the desire to determine “when, how, and to what extent information [...] is communicated to others” (Westin, 1968; p. 7). On most current sharing platforms, many of the (intended) trust-building mechanisms demand the disclosure of personal information (Teubner, 2014; Teubner and Flath, 2019), for example by prompting one to provide photographs, textual self-descriptions, and links to one’s profiles in online social networks. In comparison to traditional B2C transactions, consumers here need to “market themselves” in order to be granted permission to book (Karlsson et al., 2017), which may require consumers to disclose more (or more sensitive) personal information than desired. The perception of *Privacy Concerns* (PRV) – that is, the idea that PPS entails a loss of privacy – may thus inhibit its use (Lee et al., 2016; Xu et al., 2015). Extant research suggests that privacy concerns inhibit online activity, for instance, in terms of instant messaging (Jiang et al., 2013), online social networks (Chen et al., 2009), electronic commerce (Dinev and Hart, 2006), and the adoption of novel technologies (Kordzadeh and Warren, 2017). With regard to sharing platforms, only a few contributions have specifically considered privacy at all. Frick et al. (2013), for instance, identify privacy concerns as the most important motive for sharing retention and Lutz et al. (2017) detect indirect negative effects of privacy concerns on sharing frequency. Similarly, Teubner and Flath (2019) find that accommodation providers’ sharing intentions are substantially inhibited by privacy concerns. Our next hypothesis thus states:

**H<sub>7</sub>:** *Privacy concerns have a negative impact on attitude towards PPS.*

As an additional concern, Lamberton and Rose (2012) identify the perceived risk of product non-availability, or scarcity, as a main deterrent to sharing service adoption. Also Edbring et al. (2016) find fear of product unavailability to be a common concern. Compared to, for instance, maintaining one's own car, relying on a peer-provided car or ride is associated with the risk of not being able to find or book it when needed. We hence propose that *Resource Scarcity Concerns* (SCR) – that is, the idea that products or services may not be available when attempting to access them through PPS – may affect attitude negatively:

**H<sub>8</sub>:** *Resource scarcity concerns have a negative impact on attitude towards PPS.*

For several product categories, ownership is usually associated with higher social prestige, as, for example, in the case of cars (Bardhi and Eckhardt, 2012) or furniture (Edbring et al., 2016). Traditionally, renters – in contrast to owners – “were perceived to have lower financial power and status or to be at a more transitory life stage, as access has been considered to be purely financially motivated” (Ronald, 2008; p. 83). Thus, access was historically stigmatized as an inferior mode of consumption (Ronald, 2008), whereas ownership signaled high social status. Edbring et al. (2016) identify the “desire to own” as an important barrier to access-based and collaborative consumption, and Moeller and Wittkowski (2010) find individual perception of the importance of possession to negatively affect a user's preference for sharing schemes. Stressing the relevance of ownership-related constructs, Akbar et al. (2016) also consider product ownership an important variable for determining the degree to which consumers are willing to participate in commercial sharing systems. We capture this in the motive of *Prestige of Ownership* (PRS) – that is, the idea that ownership is associated with social prestige – and hypothesize that:

**H<sub>9</sub>:** *Prestige of Ownership has a negative impact on attitude towards PPS.*



A further ownership-related aspect is the idea of gaining *Independence through Ownership (IND)*, that is, the idea that ownership increases independence from others. Ownership offers higher levels of freedom than PPS in many cases and, hence, independence (Frick et al., 2013). Renting may, for example, be associated with organizational overhead, waiting times, dependence on goodwill, and paperwork. Especially in view of the fact that on most PPS platforms, consumers usually need to issue a booking *request* (i.e., ask for permission), we suggest that:

**H<sub>10</sub>:** *Independence through Ownership has a negative impact on attitude towards PPS.*

Beyond the outlined motives, consumers are increasingly aware of the potential negative environmental impact of consumption in general and over-consumption in particular (Tussyadiah, 2015; Wang et al., 2018). In this regard, *Ecological Sustainability (ECO)* refers to the idea that PPS is environmentally friendly. In fact, product sharing is assumed to “have the potential to conserve resources” (Leismann et al., 2013; p. 184). Consequently, a preference for “green” consumption should have a positive effect on attitude towards shared consumption (Hamari et al., 2016). In fact, 76 percent of PwC’s survey respondents agreed that “the sharing economy is better for the environment” (2015; p. 29). For ecologically aware consumers, “collaborative consumption can be considered a manifestation of sustainable behaviour” (Tussyadiah, 2015; p. 4). We thus propose:

**H<sub>11</sub>:** *Ecological sustainability has a positive impact on attitude towards PPS.*

In one of the first empirical approaches to understanding motives for sharing, Ozanne and Ballantine (2010) explored “anti-consumption” as a motive of toy library members, which turns out to be a consistent determinant of participation. Furthermore, Lamberton and Rose (2012) find that sharing can serve as an expression of anti-materialistic or anti-capitalistic views. We hence

propose *Anti-Capitalism* (CAP) – that is, the idea that PPS represents a statement against capitalism – as a potential motive for PPS usage.

**H<sub>12</sub>:** *Anti-capitalism has a positive impact on attitude towards PPS.*

Moreover, PPS may offer a more abstract sense of belonging to a community with a common ideology (Möhlmann, 2015). Four out of five US adults identify “stronger community building” as one of the sharing economy’s benefits (PwC, 2015). *Sense of Belonging* (BLG) – that is, the idea that one feels like part of a sharing community (Guttentag, 2015) – is actively addressed by platforms such as Airbnb, featuring the slogans “belong anywhere,” and “see how Airbnb hosts create a sense of belonging around the world” (Richardson, 2015). Möhlmann (2015) finds that a sense of communal belonging increases consumer intention for continued car sharing, whereas there occurred no such effect for Airbnb. Tussyadiah and Pesonen (2016) find the social appeal of community to be a consistent driver for the use of P2P accommodation for Finnish and American travelers. We thus suggest:

**H<sub>13</sub>:** *Sense of belonging has a positive impact on attitude towards PPS.*

The sharing economy is often associated with a certain lifestyle, commonly perceived as modern, lightweight, and smart (Botsman and Rogers, 2010). PPS users are typically young, well-educated, tech-savvy, and live in urban rather than rural areas (PwC, 2015). Among them, collaborative and minimalistic lifestyles have gained popularity and represent a novel form of conspicuous consumption and the display of independence (Teubner and Hawlitschek, 2018). In this sense, “I am doing the smart thing/Makes me feel smart” ranked among the top three emotional benefits of sharing (Lahti and Selosmaa, 2013). We conceptualize this in the motive of *Modern Lifestyle* (LIF), that is, the idea that PPS reflects a contemporary and smart way of living. In this sense, access to novel, fashionable, or trending products represents an accentuated act of

self-expression, making it part of a user's social identity (Möhlmann, 2015). In fact, Moeller and Wittkowski (2010) find that individual trend orientation has a positive influence on a consumer's preference for non-ownership modes of consumption. We thus suggest that:

**H<sub>14</sub>:** *Modern lifestyle has a positive impact on attitude towards PPS.*

One manifestation of the perceived downsides of PPS is *Effort Expectancy* (EFF), that is, the idea that PPS is associated with (a lot of) effort. In the context of collaborative consumption, many users state that it would be impractical to share resources due to distance to other people and the necessity to plan ahead (Edbring et al., 2016). Additionally, Lamberton and Rose (2012) report a negative impact of the technical demands of car sharing on usage likelihood. For example, some users resent the annoyance of having to familiarize themselves with the controls of a new car every time. Furthermore, Schaffner et al. (2017) find the functional value of a P2P sharing platform (ease of use, clarity, support) to be a strong driver of usage intentions. We hence suggest that:

**H<sub>15</sub>:** *Effort expectancy has a negative impact on attitude towards PPS.*

Importantly, beyond attitudes and subjective norms, consumer behavior also hinges on the corresponding perception of ease or difficulty, which is captured by the notion of perceived behavioral control (Ajzen, 1991). Examples of aspects related to this category are the availability of technical equipment, the tech-savviness and skills to operate it, and a fundamental understanding of the principles of PPS. We consolidate these aspects into the single category of *Familiarity* (FAM), that is, the idea that one is familiar with PPS and its peculiarities. Consumers may be reluctant to use PPS if they are unable to clearly estimate transaction costs (Möhlmann, 2015). On the other hand, becoming familiar with a system reduces uncertainties about its use and the ability to successfully exploit the system's utility (Alba and Hutchinson, 1987). Also, it

reduces *actual* operation cost. In fact, prior experience and familiarity with sharing platforms is commonly found to be positively related to future usage intentions. We thus hypothesize that:

**H<sub>16</sub>:** *Familiarity with PPS has a positive impact on perceived behavioral control in PPS.*

From the consumer perspective, *Trust in Other Users* (TRU) – that is, the idea that PPS providers are trustworthy – represents a crucial factor and prerequisite for usage and control (Botsman, 2012; Ert et al., 2016; Hawlitschek et al., 2018a, 2016c; Mittendorf, 2017). Trust can be defined as “the belief that the other party will behave in a socially responsible manner, and, by so doing, will fulfill the trusting party’s expectations without taking advantage of its vulnerabilities” (Pavlou, 2003; p. 74). It plays a key role in environments of high uncertainty and numerous potential liabilities, such as e-commerce platforms (Gefen et al., 2008). A lack of trust can hence be a strong deterrent against the use of peer-based forms of consumption (Tussyadiah, 2015). Research on the role of trust on P2P platforms points to the fact that it is a major driver of the respective behavioral intention (Leonard, 2012; Lu et al., 2010), which has been confirmed in a variety of contexts such as, for instance, accommodation sharing (Hawlitschek et al., 2016c; Mittendorf, 2016; Möhlmann, 2015), rental and leasing (Catulli et al., 2013), as well as car and ride sharing (Mazzella et al., 2016; Mittendorf, 2017; Shaheen et al., 2012). Importantly, in the context of PPS, trust can be defined as the belief that one can successfully complete a transaction without being misled, harmed, or exploited. As argued by Pavlou and Fygenon (2006), who first placed trust in the nomological network of TPB, trust is therefore both a driver of positive attitudes and a means of uncertainty reduction. By reducing uncertainty, trust increases controllability and helps individuals overcome psychological barriers in order to engage in trust-related behavior (Pavlou and Fygenon, 2006; Zand, 1972). In keeping with this notion, we

suggest that also in the context of PPS, trust influences behavior by acting as both an attitudinal and control belief. We hypothesize that:

**H<sub>17a/b</sub>:** *Trust has a positive impact on a) attitude and b) perceived behavioral control.*

Similar to other systems, there may be a discrepancy between consumers' attitude towards PPS, usage intention, and their actual usage behavior, which calls for measuring behavior and intention separately (Hamari et al., 2016). Since attitude is regarded as the main determinant of behavioral intention (Ajzen, 1991), we hypothesize that:

**H<sub>18</sub>:** *Attitude has a positive influence on the behavioral intention to use PPS.*

Moreover, subjective norms refer to the perceived social pressure in favor of a certain behavior (Ajzen, 1991), that is, the idea that one's social environment encourages and values the use of PPS (Venkatesh et al., 2012). We hypothesize its effect on behavioral intention to be positive, which is consistent with findings for sharing in general (Bock et al., 2005; Frick et al., 2013; Kankanhalli et al., 2005):

**H<sub>19</sub>:** *Subjective norms have a positive impact on the intention to use PPS.*

Next, internal and external factors may restrict a person's behavioral control over a situation (Ajzen, 1985). Therefore, it is important to take perceived behavioral control into account as a determinant of intention and actual behavior (Ajzen, 1991). It is suggested that perceived behavioral control drives behavioral intention as it anticipates successful performance and, hence, outcomes:

**H<sub>20</sub>:** *Perceived behavioral control has a positive effect on the intention to use PPS.*

Beyond its effect on intention, perceived behavioral control affects behavior directly for two reasons. First, the confidence of being able to successfully perform a certain behavior increases

the effort expended to perform it (Ajzen, 1991). Second, perceived behavioral control is generally understood as a substitute for actual control (Ajzen, 1991). We hence suggest that:

**H<sub>21</sub>:** *Perceived behavioral control has a positive effect on actual PPS usage behavior.*

Last, linking intentions to actions, human behavior usually follows deliberate plans. We thus put forth the general assumption that intentions can be seen as a predictor of actual behavior (Ajzen, 1985).

**H<sub>22</sub>:** *Behavioral intention has a positive effect on actual PPS usage behavior.*

### 3 METHODOLOGY AND RESULTS

#### 3.1 Survey Design and Procedure

To evaluate the proposed research model, we conducted two surveys. In the first survey, we operationalized and validated the measurement instruments for all of the model's constructs as reported in Hawlitschek et al. (2016b). To evaluate the proposed hypotheses in this study, we then conducted a second, large-scale online survey. In line with recent research on sharing platforms, we argue that PPS is particularly attractive to young users and so-called millennials (Akbar et al., 2016; EU, 2017; Godelnik, 2017; PwC, 2015; Ranzini et al., 2017). Therefore, we recruited participants from the student pool at Karlsruhe Institute of Technology (Germany). As an incentive for participation, we offered a prize draw of  $5 \times 50$  EUR and  $25 \times 20$  EUR. Participants were assured that their answers would be reported in aggregated and anonymous form only. We invited a total of 2,247 participants to the survey via email and sent a reminder to non-responders after three days. The survey was accessible for one week.

Altogether, 938 participants started the survey and 776 completed it. Considering the length of the survey, response (41.7%) and completion rate (82.7%) can be considered high. We assessed a

potential non-response bias by comparing the demographics of early and late respondents without identifying significant differences (Armstrong and Overton, 1977). Thus, non-response bias does not seem to be a major issue.

At the beginning of the survey, a short introduction explained the scope and context of the survey (see Appendix A). In the following sections, we then assessed participants' consumption behavior on PPS platforms, querying actual usage of different forms of PPS on six-point scales with levels from "*less than once a year*" to "*basically every week*." These categories were peer-to-peer accommodation-, car-, ride-, product-, and money sharing/rental. All 17 consumer motives and the four TPB constructs were operationalized by reflective, validated, multi-item measurements based on extant literature. All indicators were measured on seven-point Likert scales ranging from "*strongly disagree*" to "*strongly agree*."

To control for priming effects, item-context induced mood states, and other biases related to the question context, we presented blocks of items for predictor variables in random order (Podsakoff et al., 2003). Additionally, we implemented the marker variable technique to control for common method variance (CMV) by including a thematically unrelated measure (Lindell and Whitney, 2001; Podsakoff et al., 2003). Several control questions directly assessed participants' attention. We assessed the demographic background of participants through a set of separate questions at the end of the survey, including age, gender, and household size.

To ensure data quality, we excluded participants who did not successfully answer understanding and attention questions or stated that they did not answer honestly. This resulted in a final set of 745 observations with an average completion time of 14.6 minutes (median: 13.0 minutes). In total, 218 of the 745 participants were female (29.3%). Age ranged from 17 to 35 years with mean and median of 23 years. With regard to household size, 125 participants (16.8%) lived on

their own, 508 (68.2%) in households with two to four persons, and 112 (15%) in larger households. Table 2 provides an overview of PPS usage behavior in our sample.

[ Table 2 ]

### 3.2 *Measurement model*

We employ PLS-SEM rather than a covariance-based approach due to the fact that our model comprises a formative scale (Gefen et al., 2011), for the modest distributional requirements of PLS-SEM, and the exploratory nature of our approach to identifying key drivers (Chin, 2010; Hair et al., 2017). Before evaluating the structural model, we establish construct reliability and validity, based on the guidelines by Hair et al. (2016). Following the recommendations of Gefen et al. (2011), we report reliability and validity measures (Table C1), item loadings and cross-loadings (C2), descriptive statistics per item (C3), and construct correlations (C4) in Appendix C. As a primary measure of internal consistency reliability (ICR), we consider Cronbach's Alphas and composite reliability of all constructs. The smallest ICR arises for Perceived Behavioral Control (ICR = .833). Thus, composite reliability is well above the conventional threshold of .70, indicating acceptable consistency reliability (Nunnally and Bernstein, 1994). To demonstrate discriminant and convergent validity, we verify that all items' main factor loadings are higher than their respective cross-loadings. One item of the effort expectancy construct (EFF3) was dropped due to a factor loading below .70 and a substantial increase in average variance extracted (AVE) and composite reliability after deletion. Moreover, the square root of all AVE values exceeds the correlations with other constructs (Fornell-Larcker criterion). The smallest AVE occurs for Process Risk Concerns (AVE = .627), well above the conventional threshold of .50. Thus, convergent validity is established (Au et al., 2008). All heterotrait-monotrait ratios (HTMT)



are below the threshold of .90, further speaking in favor of discriminant validity (Henseler et al., 2015).

The formative construct of PPS usage is based on accommodation and ride sharing, as the analysis revealed insignificant outer weights and a lack of substantial outer loadings for money-, product-, and car sharing (Hair et al., 2017). The variance inflation factor (VIF) of any item contributing to the formative construct PPS usage and among the latent variables is well below the conventional threshold of 5 (Hair et al., 2017). Thus, multi-collinearity is not an issue in the structural model.

Recent studies suggest that fit measures, such as Standardized Root Mean Square Residual (SRMR), can identify a range of model misspecifications (Dijkstra and Henseler, 2015; Henseler et al., 2014). For our model, SRMR is .041 for the saturated model and .045 for the estimated model. Both values are well below the thresholds of .10 or .08 (Henseler et al., 2016, 2014), suggesting good model fit. Note, however, that unlike in covariance-based models, it is rather uncommon to study global fit measures for PLS models.

To control for common method bias, we employ 1) Harman's single factor test (Podsakoff et al., 2003), 2) the correlational marker technique (Lindell and Whitney, 2001; Richardson et al., 2009), and 3) a marker variable with a theoretically unrelated construct (Lindell and Whitney, 2001; Richardson et al., 2009). All tests indicate that common method bias is not a concern in this study.

### **3.3 Structural Model and Hypotheses Testing**

The structural model was evaluated based on PLS bootstrapping (5,000 samples, no sign changes, complete bias-corrected and accelerated bootstrapping, two-tailed hypotheses testing) using the software SmartPLS3 (Ringle et al., 2015). Table 3 summarizes the path coefficient estimates.

[ Table 3 ]

Overall, 12 of the 17 evaluated prospective motives exert a significant influence on attitude, perceived behavioral control, and intention to use ( $H_1 - H_{17a/b}$ ). Only uniqueness, privacy, scarcity concerns, prestige of ownership, and anti-capitalism did not emerge as significant motives. Moreover, attitude, subjective norm, and perceived behavioral control have significant and positive effects on the consumer's intention to use PPS ( $H_{18} - H_{20}$ ). In addition, usage intention has a significant and positive effect on actual PPS usage ( $H_{22}$ ), while perceived behavioral control does not ( $H_{21}$ ). This suggests that PPS usage, in contrast to Ajzen's (1991) original example of learning to ski, represents a behavior under volitional control. Hence, PPS usage may not depend as crucially on one's confidence in being able to successfully use PPS as is the case for other, presumably more complex activities. The explained fraction of variance for PPS usage is rather low ( $R^2 = .235$ ). In turn, the model explains the variance in behavioral intention to a moderate degree ( $R^2 = .601$ ), which is due to significant effects of attitude (large effect size), subjective norm (small effect size), and perceived behavioral control (small effect size). Variance in perceived behavioral control is explained moderately ( $R^2 = .440$ ) by the effects of familiarity and trust in other users (large and small effect sizes, respectively). Finally, the  $R^2$  of attitude is moderate ( $R^2 = .689$ ). Given the large number of hypothesized antecedents and the simultaneous test, it is not surprising that effect sizes are rather small.

An analysis of total effects (i.e., the overall effect of prospective motives on actual PPS usage behavior) reveals the predominant roles of financial benefits, trust in other users, and modern lifestyle as the three strongest drivers and prerequisites (Table 4). Furthermore, effort expectancy, independence through ownership, and process risk concerns constitute significant overall deterrents to behavioral intentions.

[ Table 4 ]

## 4 DISCUSSION

This paper makes two core contributions. First, we develop a validated, survey-based measurement model for consumer motives with satisfactory psychometric properties. This eases the study of PPS consumers for researchers and practitioners alike. Second, we establish a comprehensive model of consumer motives for taking part in or avoiding PPS, shedding light on the social side of platform-mediated PPS as a socio-technical system. Overall, we identified 12 distinct consumer motives as significant, including financial benefits, trust in other users, and modern lifestyle as key drivers and effort expectancy, independence through ownership, and process risk concerns as key impediments of PPS usage intentions.

### 4.1 Theoretical Implications

The sharing economy represents an inherently complex and multi-faceted phenomenon. Its widespread adoption, facilitated by modern IT-based platforms, gives the sharing economy a new quantitative and qualitative appearance and relevance in terms of consumer behavior and policy-making. In PPS, as conceptualized in this paper, consumers interact with providers who are both non-corporate and commercial, a rather unconventional combination in the traditional economy. These characteristics, uniquely inherent to PPS, require a detailed understanding of consumer motives and behavior rather than simply applying theory from traditional consumer interactions with corporate providers. As such, the present paper contributes a new body of knowledge regarding consumer behavior in the context of PPS.

By reviewing and combining results from multiple disciplines, we have collated what is, to our knowledge, one of the most comprehensive theoretical models of consumers' motives in relation

to PPS yet produced. Building on and extending prior work (e.g., Hamari et al., 2016; Lamberton and Rose, 2012; Möhlmann, 2015), our analysis sheds light on the absolute and relative importance of a large set of consumer motives within the context of PPS. Overall, the data suggests that a broad variety of motives play a part in the formation of behavioral intention and, hence, actual PPS usage. Contrasting our findings with the existing literature (see Table 1) yields a notable picture. First, there exist several commonly studied and agreed-upon motives with virtually undisputed, and thus hardly surprising, effects. These include financial benefits, social experience, ecological sustainability, sense of belonging, and familiarity. However, not all motives commonly discussed in prior work turn out to be as significant when studied in the context of PPS and a more comprehensive set of motives. Examples are prestige of ownership and anti-capitalism. On the other side, motives such as product variety and availability, process risk concerns, independence through ownership, and trust in other users have thus far garnered much less attention as drivers, impediments, and requirements for peer-to-peer sharing. As our results reveal, however, several of these appear to play substantial roles with respect to intentions and actual usage behavior. Specifically, the role of trust in other users as a crucial prerequisite should be noted. In summary, our results suggest that it is viable to jointly examine potential motives for PPS usage within a comprehensive model to allow for the judgment of their absolute and relative importance.

Consideration of the total effects of consumer motives on PPS usage intentions facilitates a holistic view on the relative importance of significant motives. With this outlook in mind, we can provide well-founded recommendations for practical measures and future research. In view of the current state of the literature and our results, we suggest financial-, trust-, lifestyle-, effort-, and sustainability-related motives as the most viable starting points.

## 4.2 *Practical Implications*

Customers represent a core pillar of every business model (Osterwalder and Pigneur, 2010). This is particularly true for PPS platforms, where private consumers and providers interact and thereby generate revenue for the platform (EU, 2017). With our study, we provide insights and measurement tools in relation to the consumer side of peer-to-peer sharing, supporting platform operators in designing and implementing flourishing online marketplaces. Our findings are particularly relevant for start-ups in the realm of the sharing economy, who may be seeking to better understand potential customers, but also for established companies trying to extend their business model. Our study can facilitate business model generation and innovation processes by providing a deeper understanding of customer preferences, segments, and target groups (Neunhoeffler and Teubner, 2018; Osterwalder and Pigneur, 2010). As our results are based on the rather narrow segment of millennials, our study may serve as a starting point for investigations into other customer groups and types.

Obviously, several motives can be directly addressed by corresponding platform design and IT (e.g., trust in other users), whereas others are less likely to be effectively addressed by specific artifacts (e.g., modern lifestyle). In the following, we briefly sketch out how platform operators may address relevant motives technically, that is, linking our results to a specific operationalization.

Trust towards other users is considered one of the most, if not *the* most, important prerequisites and driving factors for the long-term success of sharing platforms (Botsman, 2013; Gebbia, 2016; Hawlitschek et al., 2016c). Our results support this claim. Currently employed mechanisms to establish trust in practice include meaningful user profiles and pictures, mutual ratings and text reviews, identity verification, secure payment systems, and back-up insurance (EU, 2017;

Mazzella et al., 2016; Teubner, 2014). Especially since most of these concepts are well established in the literature, platform operators should diligently work to maintain and develop effective trust-building mechanisms. Due to the unique character of PPS transactions (Hawlitschek et al., 2016a), platform operators will also benefit from more detailed insights into the antecedents and intricacies of trust in the sharing economy (ter Huurne et al., 2017).

Effort expectancy has emerged as a strong barrier to PPS attitude and usage intentions. As indicated by Zhou et al. (2010), technological conveniences, such as mobile and real-time access, can help to lower users' level of effort expectancy. Other factors for mitigating effort expectancy are experience with technology and computer self-efficacy (Brown et al., 2010). Platform operators should therefore attempt to lower entry barriers, clearly communicate how their platforms and services work, and thereby instill a sense of ability and control in potential users (e.g., based on step-by-step instructions or explanation videos). One of PPS platforms' core challenges is to mitigate process risk concerns. In practice, certified user or product photographs may help to reduce both product uncertainty (Dimoka et al., 2012) and the risk of falling victim to a fraudulent offer. Escrow processes can reduce payment risks. Additionally, customer support, for instance, performed by agents or chatbots on a website can help to reduce user uncertainty.

Beyond the implications for platform design and IT, our study also provides a valuable starting point for sustainability-related policy and user behavior recommendations. In particular, our results reveal that perceptions of ecological sustainability emerge as one of the strongest motives for PPS usage intentions. We believe that PPS can contribute to ecological sustainability (Piscicelli et al., 2018; Toni et al., 2016). However, research establishing the full ecological effect of PPS and its various facets (e.g., in the sense of rebound effects and a life cycle assessment following guidelines such as DIN EN ISO 14040) is still in its infancy (Voytenko Palgan et al.,

2017). From a policy and user behavior perspective, it is thus all the more important to critically reflect and challenge green marketing narratives in the sharing economy in order to uncover the recent phenomena of green- and/or sharewashing (Hawlitschek et al., 2018b; Vos, 2009).

In a similar direction, the desire to engage in a contemporary and smart lifestyle appears to be a strong driver for taking part in PPS. Peer-to-peer sharing as a modern form of consumption does, however, come at a societal cost. This can be seen when reflecting on the perspective of employees working in the traditional hospitality industry (Xie and Kwok, 2017; Zervas et al., 2017) or the increasing difficulty of finding affordable, long-term lease contracts as some owners now prefer the greater economic promise of short-term and PPS-based rental (Schäfer and Braun, 2016). This dichotomy frequently crops up in policy debates regarding PPS. We suggest that a larger social debate and individual reflection on the societal benefits, drawbacks, and ethicality of this modern lifestyle is required and will lead to a more mature perspective on PPS.

#### **4.3 Limitations and Future Research**

Certainly, studying consumer motives has its limits, in particular with regard to inferences pertaining to actual behavior. We are very aware of the fact that, even though user intentions are well explained by our model, the predictive power for *actual* user behavior is rather weak. A potential explanation for this is grounded in the fact that we analyze user motives for PPS *in general* rather than for a specific platform or service. While this yields generalizability, it may also result in somewhat biased survey responses if participants unintentionally referred to particular but varying platform types in their responses. Further concerns may relate to the studied sample. Like many other studies, our research draws on a student-based subject pool, implying limitations with regard to age and education. For the purpose of studying PPS, this limitation may not be too stark in view of the fact that sharing platform users are typically young

and well-educated (Akbar et al., 2016; EU, 2017; PwC, 2015). We acknowledge, however, that the relative gender imbalance impairs our findings' generalizability. Future work may consider broader samples, include individual differences as moderators, or investigate the potential dual consumer-provider role that is of particular importance for two-sided markets (Stummer et al., 2018; Teubner and Hawlitschek, 2018).

Going beyond addressing the direct limitations of the present study, we see several routes for fruitful future research on PPS. First, other empirical designs including experimentation will help to more strongly carve out causation and potential interactions among the different factors involved in consumer decision-making with regard to PPS.

Second, given the novelty of PPS in its current form, it would also be informative to conduct longitudinal studies and evaluate how the relative importance of factors changes over time as sharing business models develop and mature.

Third, while our study focuses on the consumers' perspective, it is also important that the role, psychology, and decision-making of PPS *providers* be explored both theoretically and empirically. Based on our sample's indications, the number of consumers is much larger than that of providers across all resource types. Importantly, almost all providers (90%) are also active as consumers, while the opposite is not the case. Thus, exclusive providers are far less common than exclusive consumers. From a practical perspective, people with the dual consumer-provider role are particularly interesting for platform operators in their launch phase as they are considered key in the platform's effort to address two-sided markets' inherent chicken-and-egg problem and thus to surpass critical mass (Stummer et al., 2018; Teubner and Hawlitschek, 2018).

Fourth, the aforementioned practical implications are derived from our identification of relevant motives for PPS usage, along with deliberate reasoning and analogies to the literature. We see a



need for future work that extends and tests the reflections on potential actions by platform operators, consumer choices, and policy-making in the context of the sharing economy and PPS in particular.

Fifth, complementary research should target the ecological effect of PPS. This should not only consider individual PPS transactions in comparison to more conventional modes of consumption. Rather, such research should investigate the overall life cycle of provision, usage, and decommissioning of physical goods underlying PPS or alternative forms of consumption. It should include the full behavioral effects (e.g., substitution of other forms of consumption, demand expansion, demand suppression) and influence of externalities on other users of the physical goods underlying PPS, as well as the providers of conventional modes of consumption.

## 5 CONCLUSION

The sharing economy is a growing and fascinating phenomenon. Peer-to-peer sharing (PPS) represents an important sub-category therein, including services such as accommodation sharing (e.g., Airbnb, Homestay), ride sharing (e.g., BlaBlaCar), and many niche platforms for renting special-purpose commodities (e.g., camera equipment, outdoor gear, boats, etc.). As we have highlighted in this paper, the range of user motives for either taking part in or avoiding PPS is truly diverse. While previous work has shed light on several of these motives in rather isolated setups, we provide a broad overview that facilitates the evaluation of the motives' relative importance.

The proponents of the sharing economy present narratives of creating more efficient, more social, more personal, or more sustainable ways of conducting commerce. Its critics point instead to aspects of precarious work conditions, bypassed regulation, tax evasion, or exploitation. It is therefore essential to understand the true drivers and barriers of user adoption – not only in order

to draw conclusions regarding appropriate platform design, but also to inform the ongoing debate on how to deal with such platforms from a personal, societal, and regulatory point of view.

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Authors		c	p	P	M	N	FIN	UNI	VAR	UBI	SCX	RSK	PRV	SCR	PRS	IND	ECO	CAP	BLG	LIF	EFF	FAM	TRU
this study		x			s/s	605/745	+	o	+	+	+	-	o	o	o	-	+	o	+	+	-	+	+
Validated scales + correlation estimation	Teubner and Flath 2019	x			s	237	+						-										
	Wang et al. 2018	x			s	426						-					+				o		
	Amaro et al. 2018	x			s	202	+	+	+			o											
	Sung and Kim 2018	x	x		s/s	322/100	o		+		o						o						
	Oyedele and Simpson 2018	x			s	345	o		+	+	+						+					+	+
	Mahadevan 2018	x			s	354	+				+								+				+
	Mao and Lyu 2017	x			s	624	+	+				-										+	
	Barnes and Mattsson 2017	x			s	115	+				+						+		+				o
	Schaffner et al. 2017	x			s	76					+										-		
	Akbar et al. 2016	-x-			s/i/s	117/130/251	o	o							o			+		+			
	Bucher et al. 2016	x			i/s/s	110/300/491	+				+												
	Hawiitschek et al. 2016	x	x		s	91						-										+	+
	Tussyadiah 2016	x			s/s	356/644	+				+						-						
	Hamari et al. 2016	-x-			s	168	+										+						
	Möhlmann 2015	x			s/s	236/187	o										o		+	o		+	+
	Lamberton & Rose 2012	x			s/s	369/123	+			+				o			o	o			-	+	
	Moeller and Wittkowski 2010	x			s	461	o									-	o			+			
	Bock et al. 2005	-x-			s	154													+				
	Kankanhalli et al. 2005	-x-			s	150													o	o	o	+	o
Other studies	Guttentag et al. 2018	x			s	844		.	.		.						.			.			
	Milanova and Maas 2017	x			i	49	.						.					.		.			
	Wilhems et al. 2017	x			i	20					.				.		.		.				
	Böcker and Meelen 2017	x	x		s	1,330	.				.						.						
	Gossen et al. 2017	-x-			s	4433/1637/...	.				.						.						
	Lawson et al. 2016	-x-			s/s	72/214	.		.						.		.						
	Lee et al. 2016	x			c		.				.	.	.				.						
	Tussyadiah and Pesonen 2016	x			s/s	799/1,246	.				.		.				.		.		.	.	.
	Yin et al. 2016	x			s	755					.		.		.		.				.	.	.
	Zhang et al. 2016	x			i/s	35/1,786					.		.		.		.					.	.
	Zhang et al. 2016	x			c						.	.	.		.		.				.	.	.
	Edbring et al. 2016	x			i/s	9/1159	.	.			.	.	.	.	.		.		.		.	.	.
	Hellwig et al. 2015	x			i/s	10/1121	.				.	.	.	.	.		.		.		.	.	.
	Bellotti et al. 2015	x	x	x	i	68	.				.	.	.	.	.		.		.		.	.	.
	PwC 2015	-x-			s	1000	.				.	.	.	.	.		.		.		.	.	.
	Kim et al. 2015	x			c		.		.		.	.	.	.	.		.		.		.	.	.
	Balck and Cracau 2015	x			s	105	.	.	.	.	.	.	.	.	.		.		.		.	.	.
	Matzner et al. 2015	x	x		c		.				.	.	.	.	.		.		.		.	.	.
	Frick et al. 2013	-x-			i/s	10/1121	.				.	.	.	.	.	.	.		.		.	.	.
	Albinsson and Perera 2012	x			i/i	10/36					.	.	.	.	.		.	.	.		.	.	.
	Bardhi and Eckhardt 2012	x			i	40					.	.	.	.	.		.		.		.	.	.
	Shaheen et al. 2012	x	x		i	17					.	.	.	.	.		.		.		.	.	.
	Clausen et al. 2010	-x-			s	2,404	.	.			.	.	.	.	.		.		.		.	.	.
	Ozanne & Ballantine 2010	x			s	397	.				.	.	.	.	.		.	.	.		.	.	.
#							31	8	8	4	23	13	7	4	11	2	25	5	14	7	12	11	14

Table 1. Literature Overview (c = consumer, p= provider, P = platform; M = Method: s = survey, i = interviews, c = conceptual

Frequency	Resource Type									
	Apartment		Car		Product		Ride		Money	
<i>less than once per year</i>	376	(50.5)	625	(83.9)	579	(77.7)	190	(25.5)	704	(94.5)
<i>approx. once per year</i>	204	(27.4)	76	(10.2)	82	(11.0)	101	(13.6)	22	(3.0)
<i>several times per year</i>	150	(20.1)	35	(4.7)	72	(9.7)	269	(36.1)	14	(1.9)
<i>approx. once per month</i>	7	(0.9)	5	(0.7)	11	(1.5)	114	(15.3)	3	(0.4)
<i>several times per month</i>	4	(0.5)	3	(0.4)	1	(1.3)	59	(7.9)	2	(0.3)
<i>basically every week</i>	4	(0.5)	1	(0.1)	0	(0.0)	12	(1.6)	0	(0.0)
	745	(100)	745	(100)	745	(100)	745	(100)	745	(100)

**Table 2.** Stated Consumer Usage Frequencies (in percent), Based on n=745 Observations

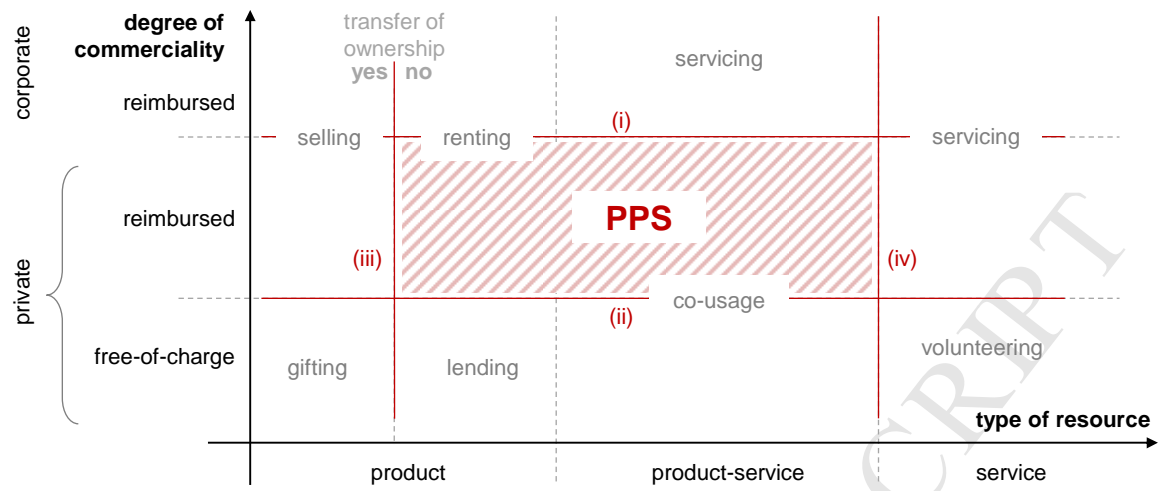
		Hypothesis	Estimate	SD.		Effect size $f^2$	Classification
DV: Attitude							
Relative Advantages/ Disadvantage	FIN	H <sub>1</sub> (+)	.231	.042	***	.096	small
	UNI	H <sub>2</sub> (+)	-.040	.029		.003	
	VAR	H <sub>3</sub> (+)	.112	.036	**	.019	small
	UBI	H <sub>4</sub> (+)	.064	.028	*	.007	
	SCX	H <sub>5</sub> (+)	.076	.035	*	.010	
	RSK	H <sub>6</sub> (-)	-.069	.030	*	.010	small
	PRV	H <sub>7</sub> (-)	-.043	.028		.004	
	SCR	H <sub>8</sub> (-)	.026	.024		.002	
	PRS	H <sub>9</sub> (-)	.007	.027		.000	
Compatibility	IND	H <sub>10</sub> (-)	-.069	.027	**	.011	
	ECO	H <sub>11</sub> (+)	.129	.035	***	.027	small
	CAP	H <sub>12</sub> (+)	.048	.025		.005	
	BLG	H <sub>13</sub> (+)	.090	.033	**	.015	
Complexity	LIF	H <sub>14</sub> (+)	.163	.036	***	.044	small
	EFF	H <sub>15</sub> (-)	-.139	.030	***	.038	small
	TRU	H <sub>17a</sub> (+)	.129	.029	***	.028	small
	Adj. R <sup>2</sup>		.689				
DV: P. Behavioral Control							
Facilitating Conditions & Efficacy	FAM	H <sub>16</sub> (+)	.524	.028	***	.416	large
	TRU	H <sub>17b</sub> (+)	.254	.032	***	.096	small
	Adj. R <sup>2</sup>		.440				
DV: Intention to Use PPS							
	ATT	H <sub>18</sub> (+)	.581	.032	***	.569	large
	SBN	H <sub>19</sub> (+)	.234	.029	***	.114	small
	PBC	H <sub>20</sub> (+)	.119	.028	***	.026	small
	Adj. R <sup>2</sup>		.601				
DV: Actual PPS Usage							
	PBC	H <sub>21</sub> (+)	.030	.038		.001	
	INT	H <sub>22</sub> (+)	.471	.033	***	.233	medium
	Adj. R <sup>2</sup>		.235				

**Table 3:** Structural Equation Model Estimates; DV = Dependent Variable; SD = Standard Deviation (\*\*\*  $p < .001$ ; \*\*  $p < .01$ ; \*  $p < .05$ )

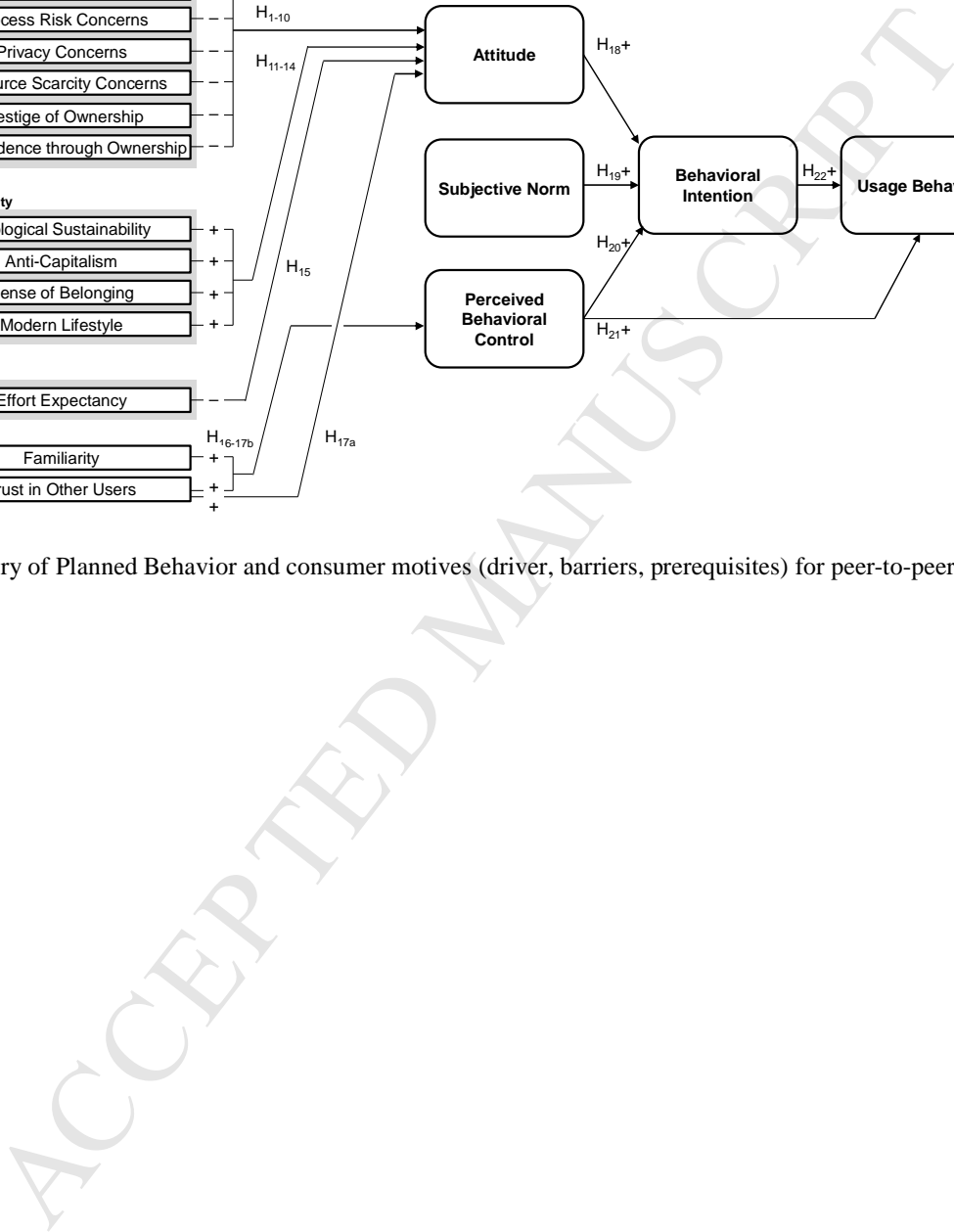
	FIN	TRU	LIF	EFF	ECO	VAR	FAM	BLG	SCX	IND	RSK	UBI	CAP	PRV	UNI	SCR	PRS
Total effect	.134	.105	.095	-.081	.075	.065	.062	.053	.044	-.040	-.040	.037	.028	-.025	-.023	.015	.004
St. Dev.	.026	.019	.022	.018	.020	.021	.016	.020	.020	.016	.017	.016	.015	.016	.017	.014	.016
Sig.																	

\*\*\*  $p < .001$ ; \*\*  $p < .01$ ; \*  $p < .05$

**Table 4.** Total Effects on Behavioral Intention (INT) in descending order of absolute coefficient size



**Figure 1:** PPS Taxonomy



**Figure 2:** Theory of Planned Behavior and consumer motives (driver, barriers, prerequisites) for peer-to-peer sharing