WILL RENTING SUBSTITUTE BUYING? DRIVERS OF USER INTENTION TO PARTICIPATE IN RENTAL-COMMERCE

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WILL RENTING SUBSTITUTE BUYING? 
DRIVERS OF USER INTENTION TO PARTICIPATE IN RENTAL-COMMERCE

Research paper

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Abstract

In recent years, consumer consumption has undergone massive change. Different consumption forms, such as collaborative consumption or access-based consumption, are on the rise in the environment of the sharing economy. A relatively new field is rental-commerce, in which users rent everyday products via an online website for a fixed period of time and a fixed (e.g. daily or monthly) price. To investigate this new phenomenon, we examined what drives inexperienced users to take part in rental-commerce. Our results showed that sustainability, economic benefits, trust, safety, complexity, and knowledge of rental-commerce serve as predictors of the intention to rent products via a rental-commerce website. Surprisingly, knowledge of terms of use has no significant influence on this behavioral intention. As such, rental-commerce retailers should pay special attention to these results and highlight the advantages to determine users’ willingness to take part in this business model.

Keywords: rental-commerce, sharing economy, e-commerce, website.
1 Introduction

Nearly 20 years ago, Rifkin assumed that society was on its way to changing the relevance of possession. In his opinion, the importance of ownership for Western society was beginning to decline markedly, and he supposed that access to and use of objects would become more relevant than owning them (Rifkin 2001). Indeed, nowadays, users increasingly seem to seek access to products and prefer to pay for the experience of temporarily accessing them rather than buying and owning them (Bardhi and Eckhardt 2012). This phenomenon is closely related to the “sharing economy”. One example of this growing trend are rental models, which are one way to participate in the sharing economy that will be considered more closely in this study. According to recent studies by KPMG (2017) and PwC (2017), the relevance of rental models and barter transactions is constantly increasing. Referring to KPMG’s Consumer Barometer (KPMG 2017), 43% of respondents were interested in renting products in the future. What is new, is that the increasing relevance of rental models and the associated use of unowned products is leading to changes in consumer behavior, especially concerning everyday items. In rental-commerce, user behavior is moving away from “classic” forms of consumption under property law towards the alternative of “non-ownership” consumption via internet platforms that offer rental options. "Non-ownership" means that users use a product but do not have property rights. In the case of non-proprietary consumption, only the right of use is transferred to the user, while the full rights (use and ownership) are reserved exclusively for the owner (Moeller and Wittkowski 2010).

Surprisingly, as far as we know, no study has yet brought up empirical insights on consumer motivation to participate in rental-commerce or adequately addressed management implications to enhance the acceptance of rental-commerce websites. The results of previous research have referred to a number of rental models and primarily addressed high-priced luxury products, conventional (i.e. not online mediated) rental models, or non-commercial forms of sharing (Zervas et al. 2017; Hudders and Pandealaere 2014; Bock et al. 2005; Miron 1995). The renting of luxury products is usually limited to special occasions and a short time period, such as when renting a wedding dress. Conventional rental models, such as car leasing, are usually connected to high rates and additional expenses (e.g. monthly costs), and non-commercial forms of sharing are often used among family and friends or have a specific social character, like food sharing to prevent food waste. Rental-commerce, which is focused on in this research, has a different character, and we have supposed that it might address different user needs, such as need for change or variety-seeking (e.g. trying new things for a special period of time), financial needs (e.g. spending less money), testing and trying (e.g. for users who are unsure if the product is really worth it), and social needs (e.g. for those who cannot afford certain products but also want to have the feeling of group belonging). With regard to theory, it is not clear what drives participation in rental-commerce. According to the property rights theory, experiencing the product is more important to the user than owning it (Furubotn and Pejovich 1972; Baumeister et al. 2015), which might drive consumers to engage in renting products rather than buying them. However, in contrast, both the theory of perceived ownership and the endowment effect imply that users develop feelings towards an object, resulting in emotions that impact their behavioral intentions (Thaler 1980; Pierce et al. 2001). Here, we see a gap in the literature: while these contrasting theoretical concepts seem to play a role, no study has, to our knowledge, discussed these central points concerning rental-commerce. Therefore, we have addressed as research questions: (1) What determinants are relevant in driving inexperienced users’ behavioral intentions to participate in rental-commerce? (2) Which drivers are most important in influencing behavioral intentions? To answer these questions, we based our study on well-established determinants from literature in the context of sharing models. Hereby, we can contribute to a more profound understanding of the motivations by respecting the relevant drivers of a novel branch within the sharing economy. Thus, based on this more holistic approach to participating in rental-commerce, we can derive implications for further research and managerial implications.

2 The Concept of Rental-Commerce

To the best of our knowledge, rental-commerce – as a specific type of business model in the sharing economy – has not yet been generally defined. Nevertheless, a number of studies have dealt with non-
ownership consumption, access-based services, collaborative consumption, and sharing or co-owning which offer an access to the topic, presenting alternative forms of consumption in which users gain access to products or services and use them conjointly without a transfer of ownership (e.g. Benoit et al. 2017; Lawson et al. 2016). While commercial retailers charge a fee for the temporary use of products, in rental-commerce, users enter into a tenancy agreement for the period of use. According to Belk (2010), these forms of consumption have a second common feature, as well: a dependence on information and communication technologies to enable access to products or services. As such, in this study, we focused on information and communication mediated rental-commerce models. To understand the differences between the alternative consumption forms, the following provides a very short overview of the most important types of related consumption forms before concentrating on rental-commerce:

Access-based business models such as Car2Go or DriveNOW differ from traditional renting, as they are market-mediated and digitally processed (Botsman and Rogers 2010) and provide users with limited access to products in return for an access fee, while the legal ownership remains with the service retailer (Schaefer et al. 2015). They are often web-based and/or app-based, such as car and bike sharing services, short-term rental models for high-priced products like designer fashion, and peer-to-peer websites. Sharing or co-owning is often between two or more individuals and is mediated through social mechanisms. These forms do not imply ownership transfer or shared ownership, which leads to simultaneous or sequential use (Benoit et al. 2017). In general, collaborative consumption focuses on special websites, primarily in peer-to-peer sharing, with shorter periods of agreed consumption in which resources are consumed jointly and sustainably (Böcker and Meelen 2017; Hamari et al. 2016; Belk 2014; Hawlitschek et al. 2016). In contrast to this, the rental-commerce business model concentrates on economic motives by operating “pseudo-sharing” (Hawlitschek et al. 2016). Compared to traditional sharing models, pseudo-sharing does not describe classic sharing in the original sense, where the focus is on joint benefit. Rather, it is on a profitable business relationship. Users do not share a product at the same time but use it one after the other, concentrating on their own needs’ satisfaction and not on collaborative usage. Economic aspects, such as money saving, have primary relevance, while the feeling of being part of a community and of consuming resources sustainably is of less importance (Belk 2014). Concerning rental-commerce, there are two actors: the retailer and the user. For the latter, there is no transfer of ownership but, rather, a fixed period of agreed consumption time, wherein the phenomenon is predominantly mediated through market mechanisms instead of social mechanisms as in the sharing or co-owning environment (Benoit et al. 2017).

When engaging in rental-commerce, users pay a contractually-agreed price for the duration of use and can then use the product to its full extent. The user can determine the rental period themselves, usually under the condition of a minimum rental period specified by the provider. The contact between user and provider takes place via information and communication technology websites, either directly between the provider and user or a through third-party-run online website. However, as the concept of rental-commerce is relatively new, there is a lot of uncertainty among users regarding their rights and obligations, which might also lead to an increasing possibility of risks. Aside from certain benefits (e.g. economic reward) that users may experience in the context of the sharing economy as well as in rental-commerce, they must also face perceived costs – including privacy and security risks and the risk of quality flaws like poor hygiene, traces of usage, and health issues – that influence their intentions to participate in forms of collaborative consumption (Lee et al. 2016; Bardhi and Eckhardt 2012). One reason for this is that products offered by rental-commerce providers are often of an intimate nature, e.g. clothing, electronics, or durable household goods, and the user thus has to show some higher level of trust. Hence, forms of consumption like rental-commerce require a higher tolerance of risk compared to traditional buying processes (Santana and Parigi 2015).

Considering the differences between the rental-commerce model and other alternative forms of consumption in the sharing economy, the concept of rental-commerce can be summarized by certain characteristic features. Overall, rental-commerce does not differ in its entirety from other sharing models but, rather, represents a branch of them. To distinguish this concept from these other forms, the following characteristics are considered specific to rental-commerce: (1) the rental offers are offered by companies...
to users (B2C); (2) rental-commerce, as regarded in this study, takes place via digital websites; (3) rental-commerce involves renting user products for everyday use that are used several times over a longer period of time, such as refrigerators, mobile phones, and clothing; (4) providers may offer a purchase option at the end of the rental period; (5) there is no “community spirit” involved; and (6) websites usually rent different types of products. While all these features are not new phenomena and can be observed in other business models of the sharing economy, individually or partially aggregated, it is the bundling of these features that distinguishes the rental-commerce model according to this definition. As Lawson et al. (2016) stated, social status, flexibility, trying different things, variety-seeking, and loyalty are factors that explain why users select rental models, while greed and materialism were identified as factors that lead to an aversion to rental models. This study will not only expand these factors but will also take determinants concerning the rental websites into consideration. Other motives to take part in this business model can be economic, ecological, and social (Böcker and Meelen 2017).

3 Conceptual Background and Hypotheses

This study’s conceptual model is presented in Figure 1. Based on the property rights theory, the theory of perceived ownership, and the endowment effect, we investigated inexperienced users’ perceptions in the environment of rental-commerce websites and postulated that feelings of ownership influence the perception of different determinants and thus build the basis for user behavior. The use of a system is not only influenced by behavior intentions but also by facilitating conditions and behavioral expectations (Venkatesh et al. 2008). In particular, the consideration of user behavior in this study revealed whether an inexperienced user intends to participate in rental-commerce in the future. This aided in gaining a better understanding of users’ motivations and formulating adequate management implications.

Frequent use of an object increases the value of the perceived property (Peck and Shu 2009). In rental-commerce, the user receives exclusive rights and control over the rented property. Peck and Shu (2009) suggested that the development of feelings of ownership can even arise from the mere idea that something belongs to the user. They examined how psychological property develops when there are no points of contact with the object. This is an interesting factor in the context of rental-commerce, as it is obviously possible for users to already develop feelings of ownership during the ordering process through photos or descriptions of the objects, without having seen them beforehand. Therefore, it might be difficult for users to return the product after the rental period, as they have developed emotions or feelings and perceive the return as a loss. The theory of perceived ownership, as well as earlier research and social practice, surmises that the sense of ownership is part of the human condition, that people develop feelings or emotions towards property objects of both a material and immaterial nature, and that property feelings have a great influence on behavior on an emotional and psychological level (Pierce et al. 2001). Thus, we referred to this approach to explain the phenomenon of psychological ownership. According to Dittmar (1992), it is not unusual for users to have a connection at a psychological level between themselves and an object since property can play a dominant role in an owner’s identity as a form of the extended ego (Belk 1988). It could be assumed that users who participate in rental-commerce may also develop feelings of psychological ownership. In order to develop these feelings, the psychological constructs of effect and effectiveness, self-identity, property as a place, and attitudes as a catalyst for propertyless consumption might be experienced. However, the duration of ownership is significant in the development of feelings of ownership (Pierce et al. 2001). As such, it might be difficult for users to return the product after the rental period because they have developed emotions or feelings and perceive the return as a loss. The experience of psychological property can have a positive effect on the attitude towards the property object (Van Dyne and Pierce 2004). In addition, the endowment effect refers to the phenomenon that people perceive the sale of property as a loss, while the increase in ownership is perceived as a gain (Thaler 1980). As a result, owners find it much harder to relinquish ownership than to buy new property, even if the sale could turn out to be profitable. Another consequence is that people usually charge a higher price when selling their property than they would be willing to spend on the same property if it was not theirs (Thaler 1980).
The property rights theory contradicts this approach: as in rental-commerce, the user uses a product but does not own the product, and only the right of use is transferred to the user while the full rights (use and ownership) are reserved exclusively for the owner (Moeller and Wittkowski 2010). According to the property rights theory, products represent bundles of property and disposal rights. This is particularly suitable for understanding the relationship and value of property-free and proprietary consumption and describes the rights of both owners and non-owners (Alchian and Demsetz 1973). The key message of the property rights theory is that the value of a product is determined not only by its nature but also, above all, by what it is used for (Furubotn and Pejovich 1972). The experience of a product is of central importance. This leads to the assumption that ownership by itself has no predominant significance and that alternative forms of consumption may be preferred due to the increasing importance of usage relevance. However, users identify with their property and regard it as part of their personality (Baumeister et al. 2015). Property does not just fulfill functional features. Users communicate and interact through their property in their social environment, and it plays an essential role in the perception of quality of life (Chen 2009) and creates a relationship between the object and the owner on a personal level. Therefore, property has a personal function, and its loss would be a major threat to the individual’s self-identity (Ferraro et al. 2011). However, rental objects offer a special consumption possibility to experience a product, and the option to buy gives users the option of self-identity at the end of the term. Another approach is the context of the classic user property form in which "property" is often reported as a burden of ownership, while a rental model reduces this burden on the user (Moeller and Wittkowski 2010; Schaefer et al. 2015).

In order to answer this study’s research questions, a number of hypotheses were proposed, based on a literature review. According to Leismann et al. (2013), economically effective use of natural resources is important in order to generate wealth in the future. Thus, through the repeated use of products, sharing concepts can generally prove to be an environmentally friendly and sustainable form of consumption, as the use of a product is maximized (Lawson et. al. 2016). This leads to one of the key intentions of users to share products: sustainability (Hamari et al. 2016). In addition, unlike private property, these solutions almost always have a positive impact on the environment (Möhlmann 2015). Following Luchs et al. (2011), different online websites attempt to promote the concept of sustainable consumption in regard to the “environmental, social and economic consequences of consumption”. As such, apart from the economic benefit, it is a kind of ideology. Since the products offered on rental-commerce websites are not used only once but several times by different users, it could be argued that the usage of these products will be maximized, leading to a higher sustainability and reducing the likelihood of products (such as children's clothing) being thrown away or destroyed after a certain period of time. Thus, it is not only an economic benefit but also an ideological one. Since Hamari et al. (2016) found that sustainability is an important factor in collaborative consumption, we therefore hypothesized that perceived sustainability influences users’ behavioral intentions towards rental-commerce.

**H1. Perceived sustainability has a positive effect on the intention to rent products.**

Rental-commerce is not only assumed to have an ecological and thus environmentally friendly and sustainable aspect but also an economic one. According to Hamari et al. (2016), the sharing economy can offer economic benefits for users. Past studies on collaborative consumption have confirmed this assumption, as they have discovered that financial benefits are the key to motivating peer-to-peer sharing (Tussyadiah 2015). Renting products might be cheaper than buying them, so people can afford more expensive products when using rental-commerce. Therefore, participation in sharing can also be a rational, use-maximizing behavior in which the user replaces the exclusive ownership of products with the cheaper options of a rental-commerce retailer (Hamari et al. 2016). In rental-commerce, renting is a more cost-effective option than purchasing a new product. Kim et al. (2008) defined the perceived benefits in terms of online shopping, but the definition can also be specifically applied to the economic benefits of rental-commerce by the extent to which the user believes that they will benefit financially from an online transaction with a particular rental-commerce company. This allows for cost and time savings as well as access to resources (Hamari et al. 2015). By eliminating fixed costs like the purchase price, costs can be reduced in rental-commerce for the users’ benefit (Demary 2015). They also gain
more time and energy because they no longer need to spend much of it on considerations (e.g. in the form of product and dealer comparisons). The more economic benefits (and thus advantages) users perceive for themselves with a rental-commerce website, the more willing they are to enter into online transactions. Therefore, we assumed:

**H2. Perceived economic benefits have a positive effect on the intention to rent products online.**

Research on online shopping has shown that trust is an important influence factor on user behavior. For example, if the user decides to buy from an online retailer, they have confidence in the retailer and its website as well as in the internet transactions. The user relies on the company’s actions and technology. Consequently, they trust that the company is honest with them and that it deals with high quality products (Flavián and Guinalíu 2006; Wiencierz and Röttger 2017). In addition, the user also trusts that the company's products and services will offer exactly what is available and promised on the website. At the same time, trust in the website often represents a proxy for trust in the online retailer (Mukherjee and Nath 2007). Trust is a multidimensional model in the field of information and communication technology. Consequently, there are different types and forms of trust, e.g. disposition to trust, institution-based trust, trusting beliefs, and trusting intentions, which influence and shape users’ trust-related behavior in e-commerce (McKnight et al. 2002).

According to Suh and Han (2003), a website that creates trust can improve the behavioral intentions towards shopping on it. Leonard (2012) also assumed that trust in the seller influences an individual's attitude towards internet commerce. This was confirmed by other studies (Pennington et al. 2004; Verhagen et al. 2006), as well, which also showed that repurchase intentions are significantly increased by trust in the vendor (Fang et al. 2014). Adapting these e-commerce results to rental-commerce leads to the assumption that behavioral intentions to participate in rental-commerce depend on trust in the retailer. The greater a user's trust in the rental-commerce retailer, the more positive their behavioral intentions will be. In addition, according to Cheung et al.’s research model on e-commerce, trust in internet transactions is influenced by the perceived security of users, among other things (Cheung et al. 2000). Other studies have assumed that the intention to buy (e.g. from an online retailer) is influenced by trust (e.g. Pavlou 2003; Liu et al. 2005). Therefore, we hypothesized:

**H3. Perceived trust has a positive effect on the intention to rent products online.**

As a new economic model form, rental-commerce still offers users many uncertainties and risks compared to physical shopping and renting in a brick-and-mortar store, as rental-commerce companies are not yet widespread. In contrast to physical shopping or renting, users cannot check the quality of a product, the handling of their data, or the safety precautions before placing an order. Especially when doing rental-commerce, there may be huge insecurity concerning traces of usage when receiving a used product. Users are not able to estimate the functionality and look of the product, and moreover, they cannot inspect the chosen product beforehand. Thus, the users do not know what to expect from the retailer (Lee and Turban 2001). In addition, there is no physical interaction with the seller, since rental-commerce takes place exclusively via the internet. Therefore, the user is not in a position to effectively evaluate the offered products or to verify the identity of the rental-commerce retailer. As a result, and also due to possible hacker attacks and viruses, there is the possibility of fraud and misuse of users’ data (Flavián and Guinalíu 2006). As internet purchases are perceived as riskier than physical purchases, users need even more certainty from companies that they are protected from such threats (Kassim and Abdullah 2010). It must be ensured that these promises and intentions are translated into reality (Flavián and Guinalíu 2006). In rental-commerce, it is not only about the private data and the payment methods but also about the quality of the product and the conditions to return it. This is especially important because the products will be used and then returned, so there may be high uncertainty concerning the return conditions. This shows that safety is an important factor in the relationship between companies and users, which is why we hypothesized the following:

**H4. Perceived safety has a positive effect on the intention to rent products online.**
Complexity shows the degree to which an innovation, like a new technology or business model, is perceived to be difficult to use and requires a high level of effort to be performed (Rogers and Shoemaker 1971). For many users, rental-commerce still seems very complex and not sufficiently transparent, raising questions about return policies, security aspects, and the process itself. However, previous research has shown that, in general, the more complexity there is, the more potential disadvantages there might be for users (e.g. Triandis 1980; Davis 1989; Cheung et al. 2000). According to Nieschlag et al. (1997), the higher the perceived risk via the internet, the more users tend to shop in stationary retail outlets. This could ultimately be due to the negatively-perceived complexity. Conversely, as the purchasing risk decreases, the willingness to shop by distance selling increases (Nieschlag et al. 1997). In the technical sector especially, intermediaries sell unfavorable contracts to users that are "so (...) complicated that it is difficult to see through what services they actually receive and how much they actually cost" (Thorin 2015). It is questionable whether the rented services in rental-commerce are apparent to users. Finally, several studies have already investigated the negative influence of increased complexity on the use of information technology, the intention to make purchases, and the adoption of a "green consumerism" (e.g. Thompson et al. 1991; Teo et al. 1999).

**H5. Perceived complexity has a negative effect on the intention to rent products online.**

As experience bundles the already-accumulated knowledge of something, the experience value is used as a popular parameter to map users’ knowledge. Thus, this experience value can be used for the assessment of knowledge. Alba and Hutchinson (1987) stated that experience with a brand results from the knowledge and familiarity of the user with this brand category. Users who have had positive experiences with shopping on the internet and who have tried out new technologies and ways of shopping tend to buy online more often, as they estimate the perceived risks to be lower compared to those who have not yet gained experience with internet shopping (Miyazaki and Fernandez 2001). Many years of experience with online shops increase users’ self-confidence and leads them to use their previous knowledge to reduce any uncertainties (Bhatnagar and Ghose 2004). In this way, users influence their self-assessment with regard to their knowledge and know-how. Further research also demonstrated that knowledge about a particular brand or product has a direct positive effect on the intention to buy from an online retailer (Chen and He 2003; Wang and Yang 2008). Here, knowledge about a brand that also offers its products in the form of an online shop reflects familiarity and experience with the brand, which are relevant implications for self-assessment (Laroche et al. 1996). Thus, it can be assumed that, similar to knowledge about brands and products, higher knowledge about a new technology or business model (like rental-commerce) may increase the intention to use and buy from the online retailers.

In addition, users’ knowledge of terms of use is particularly influenced by the information content of the rental-commerce website. Users evaluate their purchasing decisions on the basis of how strong the information quality of the online shop is and how well they know that their privacy and data are protected by the online shop (Kim et al. 2008; Forsythe and Shi 2003). It is of great importance for users to know exactly what happens to their personal data and payment information. The online shop must be able to assure users that their information will not be passed on to third parties and that there is a high quality of information service (Park and Kim 2003). This so-called assurance to users by the online shop acts as the users’ knowledge of what is happening with their information and influences their loyalty and buying behavior (Sarkar 2011; Hoffman et al. 1999). Wang et al. (1998) also found out that buying behavior on the internet is influenced by the extent to which the information transparency of online shops is used to create a user-oriented knowledge system. Further research has also shown that users wish to avoid uncertainty and that they strive for secure information when buying online (Wang et al. 1998). Risk-averse users are increasingly shopping in online shops if the shops provide the users with better information about their security precautions and data protection regulations. As such, the exchange of communication and subsequent transfer of knowledge play an important role in the purchasing decision of unsettled users in particular (Forsythe et al. 2006; Bhatnagar and Ghose 2004). Therefore, it can be assumed that users’ knowledge of terms of use in rental-commerce could have a positive influence on their intentions to rent online. We thus supposed:

**H6. Knowledge of rental-commerce has a positive influence on the intention to rent products online.**
H7. Knowledge of terms of use has a positive influence on the intention to rent products online.

Figure. 1  
Theoretical framework

4  
Empirical study

4.1  Procedure and sample

To test the hypotheses, we conducted a quantitative study. Before our main study, we conducted a pretest (N = 30) to ensure that the questionnaire was understandable and to determine whether there were interesting results. Afterwards, we generated data for our main study with an online questionnaire, which was distributed to potential respondents via e-mail and social networks. Before analyzing the data, data sets of all participants who did not answer the survey completely were eliminated. In addition, we decided that this study concerns the intentions to use rental-commerce of actual non-users, hence, we only included inexperienced users in the study. After this procedure, we obtained a data set of N = 652 random German participants in total, of which 63.3% were female (M_age = 29.51 years, SD = 12.13).

4.2  Adaptation and development of measures

While we primarily relied on well-established, reflective multi-item scales from previous studies that we modified to fit the context of our study, all constructs were measured via seven-point Likert scales. We adapted Bhattacherjee’s (2001) scale of collaborative consumption behavioral intention, which consists of four items, to the context of our study to capture the online renting intention. Following Bock et al. (2005), perceived economic benefits were measured. The approaches of Chai et al. (2015) and Bhattacherjee (2002) were used to measure trust. Knowledge of rental-commerce was adapted from Flynn et al. (1996) to our context, as well as perceived sustainability and perceived complexity, both of which were measured using a four-item scale (Cheung et al. 2000; Hamari et al. 2016). Furthermore, two three-item scales were used to measure safety and knowledge of terms and use (Wolfinbarger and Gilly 2003; Bart et al. 2005). We decided to use these scales because most of them were previously applied in studies investigating drivers for collaborative consumption and sharing or in the field of e-commerce. Therefore, they fit the context of our research, so it was assumed that they could also be used adequately in this study (see Table 1). We assessed the reflective indicators’ unidimensionality using exploratory factor analysis and also measured the models’ internal consistencies. In addition, we supposed that multicollinearity was not a problem, since variance inflation factors (VIF) were tested and all showed a measurement below the recommended threshold of 10 (Hair et al. 2011). Moreover, high levels of scale consistency could be observed, as the average variance extracted (AVE) not less than .67 for all reflective scales, Cronbach’s alpha of .86 and above, and composite reliability (CR) of .91 and above were all satisfactory (see Table 1). No items were removed during the measurement data model analysis, except for two items of knowledge of rental-commerce. Here, the items “I rarely come across offers from rental-commerce websites that I haven't heard of” and “Compared to most other people, I know less about rental-commerce. (r)” had to be removed to provide a high scale consistency of the construct. Additionally, by applying Fornell and Larcker’s (1981) criterion, we assessed all reflective scales for discriminant validity, indicating that discriminant validity should not be a problem because no construct shared more variance with any other construct than with its own indicators.
Reflective instruments
(7-point Likert scale: 1 = strongly agree, 7 = strongly disagree)

Behavioral Intention (Bhattacherjee 2001) (α = .955, CR = .967, AVE = .881)
- All things considered, I expect to continue with rental-commerce often in the future.
  .957
- I can see myself engaging in rental-commerce more frequently in the future.
  .948
- I can see myself increasing my rental-commerce activities if possible.
  .901
- It is likely that I will frequently participate in rental-commerce in the future.
  .946

Sustainability (Hamari et al. 2015) (α = .937, CR = .955, AVE = .841)
- Rental-commerce helps save natural resources.
  .914
- Rental-commerce is a sustainable mode of consumption.
  .910
- Rental-commerce is ecological.
  .931
- Rental-commerce is environmentally friendly.
  .913

Economic Benefits (Bock et al. 2005) (α = .888, CR = .930, AVE = .817)
- I can save money if I participate in rental-commerce.
  .902
- My participation in rental-commerce benefits me financially.
  .938
- My participation in rental-commerce can improve my economic situation.
  .870

Trust (Chai et al. 2015; Bhattacherjee 2002) (α = .875, CR = .909, AVE = .668)
- I trust that the offered rental-commerce products will be displayed as expected.
  .790
- The providers of rental-commerce websites are truthful.
  .792
- I trust that the rental-commerce provider provides enough safeguards to protect me from liability for damage I am not responsible for.
  .820
- Rental-commerce websites provide a robust and safe environment in which I can use the service.
  .840
- Overall, rental-commerce is trustworthy.
  .842

Safety (Wolfinbarger and Gilly 2003) (α = .863, CR = .916, AVE = .784)
- I feel like my privacy is protected at rental-commerce websites.
  .894
- I feel safe in my transactions with rental-commerce websites.
  .900
- Rental-commerce websites have adequate security features.
  .862

Complexity (Cheung et al. 2000) (α = .878, CR = .916, AVE = .732)
- The participation in rental-commerce websites is complicated; it is difficult to understand what is going on.
  .895
- The participation in rental-commerce websites involves too much time.
  .812
- It takes too long to learn how to participate in rental-commerce websites to make it worth the effort.
  .864
- In general, rental-commerce websites are very complex to use.
  .849

Knowledge of Rental-Commerce (Flynn et al. 1996) (α = .905, CR = .927, AVE = .681)
- I feel quite knowledgeable about rental-commerce.
  .861
- Among my circle of friends, I’m one of the experts for renting products on a rental-commerce website.
  .818
- I know pretty much about rental-commerce.
  .879
- I do feel very knowledgeable about rental-commerce.
  .846
- When it comes to rental-commerce, I really don’t know a lot. (r)
  .711
- I have heard of most of the new offers from rental-commerce websites that are around.
  .820

Knowledge of Terms of Use (Bart et al. 2005) (α = .920, CR = .949, AVE = .861)
- I know my rights and obligations when participating in rental-commerce websites.
  .943
- My knowledge of my rights and obligations when participating in rental-commerce websites is very great.
  .930
- My knowledge of my legal claims and obligations when participating in rental-commerce websites is above average.
  .912

Table 1. Items and outer loadings

4.3 Method

To test our hypotheses, we used partial least squares (PLS) structural equation modelling, as the reason for a PLS method is based on the consideration that the research objective is prediction. We applied bootstrapping procedures (5,000 samples) to assess the significance of the parameter estimates. In PLS, the objective is prediction versus fit (Fornell and Cha, 1994), therefore giving a general conclusion on overall productness of fit for the PLS model is controversially discussed (Dijkstra and Henseler, 2015;
Henseler et al. 2014). However, we applied SmartPLS 3, which provides a number of model fit criteria. Model fit criteria with SRMR = .050 and NFI = .877 indicate adequate model specification (Dijkstra and Henseler, 2015). Additionally, we controlled for the effect of variables that relate to respondents’ demographics (i.e. age and gender) as well as shopping relevant aspects, such as their monthly income (measured on a six-point scale: 1 = less than 500 EUR, 6 = 4,000 EUR and more) and their affinity to use offerings of the sharing economy.

To prevent common method bias, which might occur since evaluation and outcome measures were answered by the same person, a marker variable was included as a latent variable that directly affected the other variables in the model but was conceptually independent from the other variables in the questionnaire (Podsakoff et al. 2003). It can be confirmed that the model with the marker variable shows consistent results compared to the model without the marker variable. There were only marginal changes in the path coefficient but no changes in significance levels.

5 Results

The R² (adjusted R²) of the dependent variables reports a value of .348 (.341), and the Q² reports a value of 0.280, indicating an adequate model specification, as results of .20 and above for R² and results larger than 0 for Q² are already considered high in the field of consumer behavior research (Hair et al. 2011). Therefore, 34.8% of the variance of the behavior intention can be explained with the chosen constructs in our model.

Regarding the effects of the independent determinants, we see that many of the predicted influences can be confirmed: Beginning with perceived sustainability, H1 can be confirmed, showing a significant influence on the BI (p < .01). Additionally, H2 – the hypothesized effect – can be confirmed, assuming that perceived economic benefits have a significant impact on the BI (p < .001). As in previous studies (e.g. Pavlou 2003; Liu et al. 2005), the intention to participate in rental-commerce is influenced by the perceived trust, thus confirming H3 (p < .01). With regard to the hypothesized effect of H4, a significant influence can be confirmed, indicating a positive impact of perceived safety on the BI (p < .05). In terms of perceived complexity, the assumed negative significant impact on the BI can be confirmed for H5 (p < .001). Lastly, on the one hand, H6 (the knowledge of rental-commerce on the BI) shows a positive significant influence (p < .001), while, on the other hand, there is no significant influence of knowledge of terms of use on the BI, therefore rejecting H7 (see Table 2).

<table>
<thead>
<tr>
<th>Sustainability → BI</th>
<th>Economic Benefits → BI</th>
<th>Trust → BI</th>
<th>Safety → BI</th>
<th>Complexity → BI</th>
<th>Knowledge of Rental-Commerce → BI</th>
<th>Knowledge of Terms of Use → BI</th>
</tr>
</thead>
<tbody>
<tr>
<td>.100**</td>
<td>.290***</td>
<td>.165**</td>
<td>.110*</td>
<td>-.150***</td>
<td>.146***</td>
<td>.074*</td>
</tr>
<tr>
<td>1.520</td>
<td>1.460</td>
<td>1.801</td>
<td>1.819</td>
<td>1.091</td>
<td>1.434</td>
<td>1.428</td>
</tr>
</tbody>
</table>

Note: BI = behavioral intention; N = 652; PLS algorithm: maximum iterations = 300; bootstrapping procedure: cases 652; Samples = 5,000; *significant at p < .05; **significant at p < 0.01; ***significant at p < .001; ns = not significant.

Table 2. Results

6 Discussion

One of the purposes of this study was to capture the new phenomenon of rental-commerce in its entirety and differentiate it from other sharing models as well as to work out the relevant determinants that affect behavioral intentions. The results confirmed most of the predicted hypotheses. In regard to the first research question, perceived sustainability, perceived economic benefits, trust, perceived safety, and knowledge of rental-commerce positively influenced behavioral intentions, while perceived complexity negatively influenced behavioral intentions. Surprisingly, knowledge of terms of use had no impact on
the intention to use rental-commerce. To answer the second research question, it can be observed that perceived economic benefits especially influenced the rental-commerce intentions the most, followed by trust, complexity, and knowledge of rental-commerce.

In line with previous assumptions (Lawson et al. 2016; Luchs et al. 2011), H1 can be confirmed. For inexperienced users, sustainability is a motive to participate in rental-commerce (e.g. by hoping to reduce economical waste). Further studies could examine whether the sustainability aspect varies for certain products or depends on the product category offered by the online retailer. Additionally, we observed a positive effect of perceived economic benefits on the BI in our data. Following previous studies (Hamari et al. 2016; Demary 2015), H2 can be confirmed. When participating in rental-commerce, lower amounts have to be paid compared to a purchase, which users perceive as a financial benefit and motivational factor (Tussyadiah 2015). In the moment, this is more important to them than owning the product. Therefore, the monthly installments are less significant than the total purchase price. If products are only wanted for a trial or only needed for a short period of time, the financial benefits cannot be denied. Often, gradations are made between new and used products, whereby the financial advantage is greater for the used products. Moreover, H3 can be confirmed, verifying earlier studies (Cheung et al. 2000; Pavlou 2003; Liu et al. 2005). Thus, trust has a significant impact on BI. The results indicated that trust has a significant influence on the BI, since trust (e.g. about the quality of the products or the reliability of the retailer) plays a decisive role for inexperienced users. One reason for this might be that users know that the products could have been rented by other users before and maybe face the risks of quality flaws or poor hygiene, so they evaluate trust building as more relevant and must rely on a certain quality standard being maintained. As Lee and Turban (2001) demonstrated, it is important for inexperienced users to feel safe regarding products and data. As with traditional internet purchases, where users need security in the settlement process (Kassim and Abdullah 2010), safety is an important driver of rental-commerce. Thus, H4 can be confirmed. If the users feel safe, they are more likely to take part in rental-commerce, and this is an especially critical factor for companies, which should be even more careful in demonstrating a high level of transparency in terms of parameters such as data, payment, settlement, return, and quality. For this purpose, quality seals and the representation of real and satisfied user experiences should be placed on their website. Regarding H5, the negative effect of complexity on the behavior intentions can be confirmed, too. Thus, it can be assumed from the literature that the higher the perceived complexity of rental-commerce is, the lower the users’ intentions to use the rental-commerce website and rent products from the retailer (Thompson et al. 1991). This effect can be explained by the fact that the users would have to make a greater effort in order to achieve the desired goal, i.e. the rental of a product (Rogers and Showmaker 1971). In addition, hypothesis H6 can be confirmed, suggesting that a high level of knowledge about rental-commerce reinforces the intention to rent products on a rental-commerce website. As such, the more someone seems to know about their own possibilities to participate in rental-commerce and therefore builds a form of experience, the more likely they will buy on such a website. This assumption can be confirmed by previous studies (e.g. Bhatnagar and Ghose 2004). The knowledge forms a security for an inexperienced user, which in turn reduces the risks of renting from an online retailer. This confidence in one’s own knowledge can be built up by visiting several rental-commerce websites with the same structure to establish some kind of familiarity (Laroche et al. 1996). This positive correlation also demonstrates that the knowledge gained must be positive. Otherwise, there would be no positive intention to shop there. Therefore, looking at both the negative influence of perceived complexity and the positive influence of knowledge of rental-commerce, it is recommended that rental-commerce website retailers should establish clear and transparent information structures. A rental-commerce website should offer users the opportunity to find all relevant information quickly in order to inform them about all important steps of their online rental, reducing complexity and increasing information knowledge. This could also include a simple and clear design of the rental-commerce website. The user must experience the feeling of being well informed so that their intention to rent something from the retailer increases. A visual listing of all payment, shipping, and service options could consolidate this effect. Thus, internal security would be established and ultimately lead to a rent. Surprisingly, users’ knowledge of terms of use seemed to have no significant effect on their intentions to use rental-commerce websites, rejecting H7. Some rated knowledge of terms of use

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in rental-commerce as more important while others rated it as less important, leading to the unexpected result and no clear significant direction.

7 Conclusion

Rental-commerce is characterized by the fact that the basic scheme of the modern market system has changed. The focus is no longer on exchange but on short-term access to property. In other words, the focus is on the use of products, not ownership. In light of the results, to what extent such rental models strengthen environmental awareness and sustainability should also be considered. In this case, the rental model increases the users’ comfort by offering a certain flexibility in contrast to ownership. User durables can be tested without any problems (taking into account the minimum rental period) and without the risk of a bad purchase. On the one hand, this further stimulates consumption, as the user can now afford products that they would not be able to pay for otherwise. On the other hand, there is an increase in logistics due to the permanent back-and-forth shipment of rented products.

The benefits are different: users do not have to wait long for the ordered products and may even be able to order products that are not yet available in the in-store business. With the possibility of being able to afford products that would not be affordable otherwise, rental-commerce also reaches users who cannot or do not want to spend a certain amount of money for products but who want to enjoy “new” devices for a certain period of time. These users can try to determine whether an investment really makes sense or whether it is not worth saving money for. In addition, users who want to try something new (e.g. who are looking for variety-seeking) are addressed. Instead of always buying the latest model, they can rent the product for a certain period of time and then rent the successor, as well. Therefore, they are always up-to-date. Often, especially in the field of information and communication technology, there are new innovations every few months – such as with improved devices like smartphones – which are often associated with financial losses when reselling due to the fast value loss of these technologies. With the rental-commerce model, the product is simply sent back, and a newer model is ordered if necessary, which is much more flexible than buying the product. In contrast, it must not be assumed that there is always no or reduced risk in rental-commerce. For example, one can fall into financial difficulties during the rental period by not being able to pay the rental fee, or a case of damage or loss can occur, the costs of which must be borne. It is also possible that users may rent a product that does not bring the desired performance. In the worst case, the users are bound by a contractually-agreed minimum rental period of several months, during which they still have to pay the rental fee, even if the device is not used. A classic faulty purchase can be resold to reduce the financial damage, whereas this is impossible in the case of a “faulty rental”. Although the financial risk is lower compared to the purchase, the user does not acquire any property and thus no equivalent value.

Not only for users but also for some companies, rental-commerce can provide extra revenues and thus represent a lucrative, expanded business model. For example, the global online clothing rental market alone is estimated to have a value of 1.9 billion USD by the end of 2023, with an annual growth rate of over 10% (Research Nester 2019). In addition to the traditional sale of products, companies have the option to build a website extension for a side-activity to reach a new target group. For instance, users who feel insecure about buying may try the product first through the possibility of renting. Without this option, it is likely that such users would not buy any products at all, leaving the company without any revenue. Therefore, with the option of renting, companies can still generate additional sales and profit. However, in the long run, companies need to decide whether rental-commerce should be an additional side-activity or the main branch of income. Compared to traditional retail websites, rental-commerce websites can offer users more flexibility and the option to experience the product first, improving overall user experience in comparison to competitors. There are also advantages for companies that focus on rental-commerce activities as their pure business model because they can make multiple profits on a single product by renting it several times. Thus, it is important that rental-commerce websites are aware of increasing logistic operations and effort regarding the quality control of returned products. The results demonstrated that rental-commerce providers should highlight the economic benefits to users and emphasize that they can save money while simultaneously mitigating their quest for the latest and newest
products. However, it should be noted that access to information on the process should be kept transparent, simple, and concise in order to reduce complexity and inform users sufficiently. Here, a quality seal would be advantageous, as it would provide additional security for users (Miyazaki and Krishnamurthy 2005). In order to create more authenticity and build trust, it is possible to incorporate customer reports on the website that rate the process and quality of the service and products. In addition, rental-commerce retailers have the opportunity to set up a kind of forum in which users can exchange views. This would do justice to the original philosophy of the sharing economy, i.e. to create a sense of community that binds users in a way that simultaneously accommodates information and communication technology.

To answer the initial question (“Will renting substitute buying?”), it could be argued that rental-commerce needs to be further developed and that inexperienced users need to be more informed that they can rent products online, as many users are unaware of this option or have not done it yet. Based on the study’s findings that general knowledge of rental-commerce promotes the intention to use rental-commerce websites, it could be assumed that the more informed users are, the more likely they will participate in rental-commerce. In the context of the property rights theory, other determinants, such as sustainability, economic benefits, trust, safety, and complexity, seem to contribute to the assumption that rental-commerce might be a substitute to buying. Particularly concerning variety-seeking and flexibility, renting seems to be a promising concept for users. However, with regard to the endowment effect and the theory of perceived ownership, the study’s results contradicted this argument, showing that, for some users, it is more important to possess products. Overall, based on the results, we supposed that rental-commerce websites will undergo further growth but will still constitute an add-on option to traditional purchases. Nevertheless, for certain product categories, renting might be more likely to become a substitute for buying in the future. For example, in terms of digital products – e.g. CDs and video discs that developed from a physical carrier to an online-based medium – this might be an option. Among fast-developing product categories like technology and electronics, it may be possible that users will tend to use rental options in the future rather than buy these products.

However, this study also had some limitations, which will be addressed in the following: firstly, the sample was collected in Germany and largely consisted of a younger age group, somewhat limiting the generalizability of the results. Particularly in the area of e-commerce, previous studies have shown that there are cultural diversity and cultural differences concerning the adoption of new IT models, and influencing factors may vary between countries (Choi and Lee 2003; Gefen et al. 2005; Hallikainen and Laukkanan 2018). However, studies in the field of collaborative consumption have addressed the importance of cultural influences (e.g. Piscicelli et al. 2015). Aside from cultural effects, geographical factors can also have an influential role in the use of rental-commerce, which has been proven by some studies that investigated consumer behavior in e-commerce (Ren and Kwan 2009). Therefore, future studies should acquire participants from other countries in order to verify the general validity of the results. In addition, the age distribution of the data sample could have influenced the results. As this study’s sample primarily consisted of younger age groups (with an average age of 29.51 years), it reached the main target groups of today’s rental-commerce providers, so the results are important for rental-commerce practices. However, the younger average age of the participants may have affected the users’ perceptions differently than older age groups. The younger participants generally had more experience with e-commerce and information and communication technologies. Therefore, the factors influencing the formation of intentions and the intentions’ strength may differ compared to less experienced or older participants. Furthermore, the study only included participants who had not yet rented products on rental-commerce websites. As such, it would be interesting to examine whether the investigated drivers of users who have already participated in rental-commerce are equal to those of inexperienced users, as well as the motivation for repeated use of rental-commerce websites. In this context, a distinction between these two user groups would be recommended, as experience with and knowledge of the technical and organizational processes of the rental-commerce business model could provide an influence again. Moreover, the product category might play a significant role, e.g. trust may be more important when renting a car than when renting a board game. Therefore, further research could highlight whether there are different influencing factors regarding the product category.
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