

# How sustainable is the sharing business model? Toward a conceptual framework

Per Carlborg<sup>1,\*</sup> , Hannah Snyder<sup>2</sup> and Lars Witell<sup>3,4</sup>

<sup>1</sup>INTERORG Research Center, Örebro University School of Business, Örebro, Sweden. [per.carlborg@oru.se](mailto:per.carlborg@oru.se)

<sup>2</sup>Department of Marketing, BI-Norwegian School of Business, Oslo, Norway. [hannah.snyder@bi.no](mailto:hannah.snyder@bi.no)

<sup>3</sup>Department of Industrial Engineering and Management, Linköpings Universitet, Linköping, Sweden.

<sup>4</sup>CTF, Service Research Center, Karlstad University, Karlstad, Sweden. [lars.witell@kau.se](mailto:lars.witell@kau.se)

The sharing economy, which is considered a better way of utilizing existing resources, is associated with positive effects not only on the financial aspects of sustainability but also on its environmental and social dimensions. But is this true? Previous research has typically discussed either the positive or negative aspects of the sharing business model in specific contexts. This study adopts a dual perspective regarding the sustainability of sharing business models by critically analyzing the relationship between sharing business models and sustainability. Building on the resource-based view of the firm and practice theory, the current research develops a conceptual framework for evaluating the sustainability of sharing business models at the level of the individual, the firm, and society. Our proposed dual-process model suggests that two competing processes contribute to sustainability. The study's conceptual model and propositions advance theory and provide a research agenda for future empirical studies. This research also provides valuable guidance to managers and policymakers regarding the sustainability of sharing business models, which can inform the business model innovation process.

## 1. Introduction

This study addresses the call for research on emerging questions on the sustainability of sharing business models. Sharing business models have progressed from being a unique, emerging business phenomenon to a widely implemented business practice and a building block of the modern economy. Broadly speaking, the sharing economy provides access to underutilized resources, which prioritizes utilization and accessibility over ownership

(Cheng, 2016); conversely, a sharing business model can be described as a structural template that provides suppliers and customers with a platform to configure new means of generating value with these resources (Belk, 2014). This encompasses business models based on practices such as sharing, renting, borrowing, lending, swapping, trading, exchanging, and buying secondhand. The sharing economy is projected to grow from \$15 billion in 2014 to \$335 billion in 2025 (Tabcum, 2019), and although the COVID-19 pandemic might have adjusted the

growth curve, the largest sharing economy brands have outgrown industry incumbents (Andreassen et al., 2018).

The competitive advantage of sharing business models can be attributed to their facilitation and utilization of resources rather than traditional ownership. This is changing the way firms do business altogether as well as significantly transforming consumption patterns (Zervas et al., 2017) and affecting society in a pervasive manner (Acquier et al., 2017). Gerwe and Silva (2020) argue that such business models facilitate the sharing of physical objects or human assets with people who do not belong to the same social networks of family, friends, or neighbors. They enable more efficient use of resources – helping people share equipment, cars, and bikes – and allow access to equipment that an individual might not be able to afford. In theory, these encapsulate the key features of a sustainable business model. If consumers switch from buying products to using products, it should have positive effects on the financial, environmental, and social dimensions of sustainability. However, is this the case?

Despite convincing arguments for viewing the sharing business model as a means to achieve sustainability (Ala-Mantila et al., 2016; Martin, 2016), this paper argues that there is a potential risk that sharing business models are not as sustainable as they are intended to be. Rather, they could simply be repeating the same market exchange practices as before, resulting in a type of ‘share washing’ by firms (Curtis and Lehner, 2019). Increasingly, societies, NGOs, firms, and individuals have raised concerns that the sharing economy and its business models are far from sustainable. Critics maintain that sharing services, as part of the gig economy, are inspired purely by market individualism and anti-unionism, wherein traditional work is transformed into insecure gigs mediated by digital algorithms controlled by large corporations (Fleming et al., 2019). Thus, the sharing economy contributes to reinforcing an already unsustainable economic paradigm by eroding ecosystems and increasing social injustice while arguing for the opposite (Martin, 2016).

For some time, much of the research on sharing business models has focused on defining sharing services (Curtis and Lehner, 2019), the potential of such services (Curtis and Mont, 2020), and how to get consumers to use them (Sanasi et al., 2020). However, the sustainability aspect of sharing business models has recently gained attention, and there seems to be growing recognition of the complexity of the connection between sustainability and sharing business models. Existing studies concerning sharing business models have largely examined either

the positive (Kumar et al., 2018; Laukkanen and Tura, 2020) or negative effects related to sustainability and resilience (Ryu et al., 2019). However, the present study adopts a dialectic perspective on the sharing economy and identifies both the positive and negative effects of sharing business models on the financial, environmental, and social dimensions of sustainability.

The purpose of this research is to provide a theoretical foundation and to critically analyze the relationship between sharing business models and sustainability to advance our understanding of what makes such business models sustainable. Building on a resource-based view of the firm (RBV) and practice theory, the current study develops a conceptual framework to examine the sustainability of sharing business models for individuals, businesses, and society.

This work offers several important implications for research and practice. The key contribution is a new conceptual framework that, through a dual-process model, links a sharing business model and sustainability through two competing processes. The conceptual framework considers the multi-level and multidimensional nature of sustainability and further identifies the objects of sharing and the sharing platform as characteristics that influence the relationship between the sharing business model, sharing practices, and sustainability. Based on the proposed conceptual framework, specific propositions are developed to advance our understanding of the sustainability of sharing business models. This study contributes to research regarding the sharing economy and business model innovation; it also extends the RBV literature by addressing how resources are being shared and the effects of resource integration on sustainability (Andersen, 2021; Gueler and Schneider, 2021). This conceptualization of the sustainability of sharing business models, grounded in RBV (Gueler and Schneider, 2021) and practice theory (Reckwitz, 2002), facilitates a new understanding of key mechanisms and highlights tensions and paradoxes. Our proposed model can be applied at different levels (i.e., user, firm, and society) and to different dimensions of sustainability (i.e., overall or individual). In addition, our research identifies characteristics that are inherent to the design of sharing business models (Ryu et al., 2019) and thus makes an important contribution to business model innovation. The suggested conceptual model can be employed by businesses to identify the anticipated and rebound effects on sustainability; how the effects differ between dimensions of sustainability; how the effects vary across different levels;

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and how the different design choices for business model characteristics (e.g., the object of sharing and the sharing platform) influence sustainability at different stages of business model innovation.

The next section reviews previous research, clarifies the paper's theoretical underpinnings, and examines the nature of sustainability in sharing business models. We then develop a conceptual framework based on a dual-process model illustrating the sustainability of sharing business models. Subsequently, we develop research propositions by integrating our theoretical foundation with previous research regarding sharing business models. The concluding section of the paper presents theoretical and managerial implications and delineates a future research agenda.

## 2. Theoretical background

While the positive effects of sharing business models are well-known in research and business practice, a well-informed perspective concerning the

potential negative effects is lacking. Nonetheless, as the research field (and the phenomenon itself) has matured, a few studies have addressed both the positive and negative effects of the sustainability of sharing business models simultaneously (see Table 1). These studies collectively propose that sharing business models cannot be assumed to be sustainable *per se*; all the sustainability dimensions of these models must be carefully evaluated in relation to their effects on individuals, firms, and society.

Starting with the positives, there are compelling arguments for why sharing business models can have positive effects on sustainability, thus rendering them highly attractive. Sharing business models reportedly enables innovative ways of using resources and thus are more sustainable (Dabbous and Tarhini, 2021). Another argument is that by facilitating more efficient use of resources and alternative modes of consumption (collaborative, sharing, access-based), these models drive sustainable economic development (Acquier et al., 2017). For example, car-sharing services offer

**Table 1.** An overview of existing research on the sustainability of sharing business models

Authors/Year	Topic	Positive effects	Negative effects	Level
Barnes and Mattsson (2016)	Meta-analysis	Financial interest from incumbents		Firm
Curtis and Mont (2020)	Business modeling	Better use of idling resources	Increased use of resources resulting in a poor environment	Society
Geissinger et al. (2019)	Sharing platforms	Sustainability		Firm
Heinrichs (2013)	Conceptual	Environmental		Society
Acquier et al. (2017)	Conceptual	Social bonding among users and service inclusion	Limited scaling, social misbehavior, environmental rebound effects	Individual, firm, society
Buhalis et al. (2020)	Airbnb	Providing income, meeting people	Destroying homes, sexual harassment	Individual, firm, society
Gerwe and Silva (2020)	A review of studies	Additional income and lower prices, personal growth and sense of community, environmental benefits	Employment disadvantages, tax evasion, increased property prices, discrimination, environmental costs	Individual, society
Cheng and Foley (2018)	Airbnb		Digital discrimination	Individual, firm
Lutz and Newlands (2018)	Airbnb		Discrimination	Individual
Fang et al. (2016)	Empirical	Higher level of employment	Lower level of employment	Society
Ritter and Schanz (2019)	Review paper	Economic potential	Erosion of trust on platform	Firm
Schor and Attwood-Charles (2017)	Conceptual paper		Discrimination	Society, individual

new ways to organize transportation that can contribute to sustainability through improved and more efficient ways of connecting people. Thus, a transport service not only offers mobility but also addresses environmental challenges. Similarly, Barnes and Mattsson (2016) found that sharing services encourage collaborative consumption among digital platforms. In addition, they are helpful for infrastructural and support services, such as social networking, payments, telecommunications, and logistics. Research has also emphasized the benefits at the customer level and the supplier level. Acquier et al. (2017) highlighted several benefits of sharing services for individual consumers, such as better access, large and secure exchange systems, and individual economic opportunities. They also discussed opportunities for resource optimization, inclusiveness, and social bonding within the community (Acquier et al., 2017). Using Airbnb as a case study, Buhalis et al. (2020) found that individual hosts wishing to rent out their properties enjoy several benefits, including earning income, meeting people, taking pride in providing hospitality, and exhibiting their location and culture.

However, there is a negative side to the sustainability of sharing business models. Curtis and Mont (2020) claimed that sharing services are not sustainable *per se* and that at a societal level, these services do not reduce net consumption. Although Barnes and Mattsson (2016) identified improved environmental sustainability as an opportunity, they also noted that companies rarely consider environmental factors to be an important driver or a key outcome of launching sharing services. For example, while Airbnb might provide opportunities for individual guests and hosts, at the societal level, Buhalis et al. (2020) have observed that individuals renting out their properties can gradually cause inflation in the prices of products, services, and rents. It can also create local problems, such as increased traffic, reduced parking, and overcrowding, as well as noise pollution both within buildings and outside. They also demonstrated that hosts experience pressure to achieve high ratings from guests, suffer damage to their properties, and must deal with unreasonable and demanding guests (Buhalis et al., 2020). Furthermore, if the income received from renting a property is for additional consumption, the overall potential environmental benefits of the sharing service are reduced even further. Research has also claimed that sharing business models potentially stimulates increased economic inequality (Dabbous and Tarhini, 2021) and intensifies the overall consumption of resources and energy (Ala-Mantila et al., 2016). For example,

Akimoto et al. (2022) argue that while car-sharing leads to emission reduction because it is directly linked to fewer cars on the road, sharing business models might lead to an increase in the number of trips taken, which, in turn, might offset the emission reduction effect. Research has also identified similar patterns in other types of sharing business models, i.e., how the initial motives of using resources in a better way (and generating lower emissions) lead to a massive increase in demand and therefore create a counter effect on sustainability. These 'rebound effects,' or unintended consequences, have been discussed in relation to sharing business models (Warmington-Lundström and Laurenti, 2020).

In summary, the link between sharing business models and sustainability has been questioned for good reasons. Studies on sharing business models typically examine users' motives and the benefits of this behavior (first-order effects), while the systemic effects on sustainability (second-order effects) remain less explored. Research is frequently based on the assumption that the sharing economy drives sustainability through better use of resources (Heinrichs, 2013). However, as described above, studies have indicated that this is often not the case (see Acquier et al., 2017). Hence, it is relevant to ask how the resources are distributed in the sharing economy and how new sharing business models (e.g., Airbnb and Uber) relate to sustainability in different ways.

### 2.1. A resource-based view of sharing business models

To advance the existing knowledge on sharing business models, we build on the resource-based view (RBV). Scholars within the RBV tradition have long recognized the importance of resources and how unique firm-controlled resources are being combined to improve competitiveness (Wernerfelt, 1984). However, in this study, we apply RBV in a partly new way by acknowledging the function of resources in a sharing economy context, and more specifically, the role of resources and how they are used in sharing business models. This approach responds to research calls demanding that the firm-centric tradition of RBV should be expanded and that the use of resources should be examined (Lockett et al., 2009).

From a resource-based view, organizations are collections of heterogeneous resources (Barney, 1991, 2001), and they can gain a long-term competitive advantage if their resources are *valuable*, *rare*, *inimitable*, and *non-substitutable*



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(VRIN) (Barney, 1991). How these resources are utilized in combination with other actors' resources is crucial to firm growth and success. However, there is still limited knowledge regarding what makes resources valuable, and the narrow understanding of resources has been criticized for not accounting for the social aspects of the surrounding ecosystem (Nason and Wiklund, 2018). Further, the need to consider resources when addressing sustainability challenges has been emphasized by several researchers, and their arguments present a roadmap for how RBV can be used to address sustainability (Tate and Bals, 2018). Previously, research on RBV has always prioritized firms' financial performance first; however, there has recently been a push to prioritize environmental and social concerns (Tate and Bals, 2018). By acknowledging the use of resources and its effects on the social and environmental dimensions of sustainability, this paper contributes to extending RBV research.

A key feature of the sharing business model is the objects of sharing (i.e., resources). To understand resources and their relation to social and environmental dimensions, resources can be categorized based on degrees of human interaction. Resources that require a high degree of human interaction to achieve their full potential in terms of value creation can be regarded as *services* (babysitters, teaching support), while resources that are focused on resource materiality to realize their value creation potential (car sharing, equipment rental) are defined as *goods*. These two categories of resource configurations (services and goods) represent two different types of objects of sharing and will help us to understand resources in a broader context. However, the sustainability of a sharing business model does not depend solely on the plan or template (i.e., the business model) or the resources involved but also on the actions and interactions of the various actors.

### 2.2. Sharing practices

We propose a novel approach to studying sharing business models that integrates a resource-based view with an analysis of sharing practices. *Sharing practices* can be understood as activities and interactions that occur within social systems, wherein actors (providers and customers) make choices regarding which activities they wish to engage in (Kjellberg and Helgesson, 2007). At the core, practice theory suggests that an individual's worldview affects how the individual interacts, through accepting or adjusting to norms of behavior, with others (McColl-Kennedy et al., 2017). These

practices are 'routinized ways in which bodies are moved, objects are handled, subjects are treated, things are described, and the world is understood' (Reckwitz, 2002, p. 250). Consistent with McColl-Kennedy et al. (2012), we view 'activities' as performing or doing, while 'interactions' denote how individuals engage with others in their service network. McColl-Kennedy et al. (2017) specifically study practices performed by customers to demonstrate that through using resources in activities involving interactions with others, customers can influence outcomes such as well-being. As mentioned in the introduction, specific sharing practices include sharing, renting, borrowing, lending, swapping, trading, and exchanging; however, they can also encompass associated practices such as driving, delivering, babysitting, teaching, counseling, assembling furniture, or helping with finances. By combining a resource-based view of sharing business models with an analysis of sharing practices, we can advance our understanding of what makes sharing business models sustainable.

### 3. Dual-process model for the sustainability of sharing business models

Our conceptual model, presented in Figure 1, illustrates the link between sharing business models and sustainability. Building on previous literature and applying a RBV lens, we show the positive and negative effects of sharing business models on sustainability. While existing research typically presents anecdotal evidence and does not include any systematic attempts to conceptualize the mechanisms linking sharing business models and sustainability, this study bridges this gap by introducing sharing practices as the intermediaries of action. Accordingly, we have developed a dual-process model that is based on resources and how they are used in sharing practices to achieve sustainability. The model encompasses the architecture and design of the sharing business model, the action of usage (sharing practices), and the outcome (sustainability as multilevel phenomena) (see Figure 1). Although previous research has suggested that the relationship between the sharing business model and sustainability will vary based on how the business model is designed and implemented (Curtis and Mont, 2020), it is not clear how this link can be understood. The overall logic of the dual-process model holds that there are positive effects (anticipated effects) and negative effects (unintended

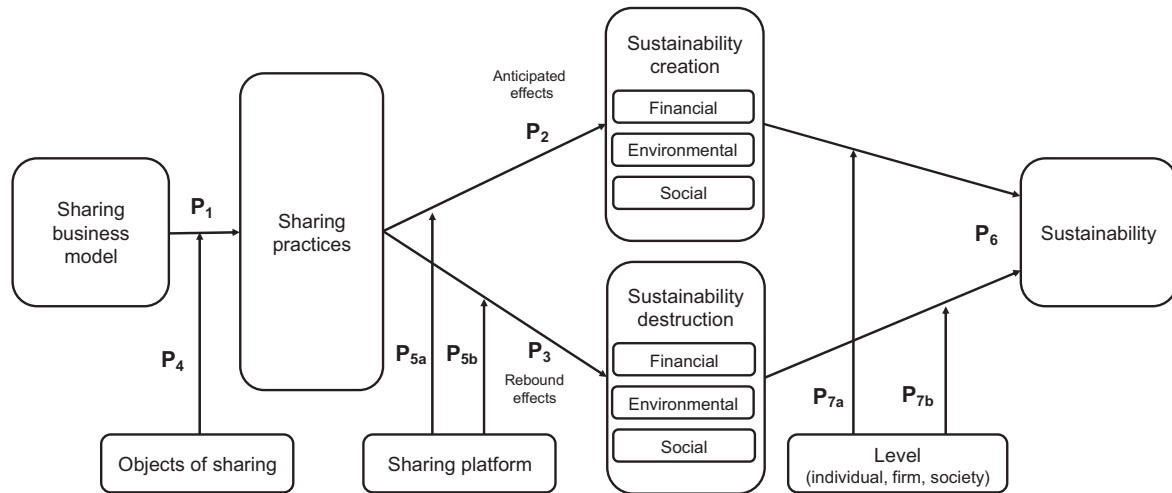


Figure 1. A dual-process model of the sustainability of sharing services.

effects, i.e., rebound effects) of sharing business models that determine the extent to which sharing practices result in sustainability creation or sustainability destruction. Three mechanisms guide the link between sharing business models, sharing practices, and sustainability: (a) what resources are shared (objects of sharing); (b) how the resources are shared (sharing platform); and (c) how resource use influences the individual, firm, and society (level). These concepts can be viewed as the moderators of the effects of the sharing business model through sharing practices on sustainability.

The objects being shared influence the extent to which a sharing business model results in sharing practices. Furthermore, the sharing platform influences the extent to which sharing practices result in sustainability creation and sustainability destruction. In the final step, there are cross-level effects between the user, firm, and society that influence the extent to which sustainability creation or destruction results in sustainability. In the following section, we build on the identified theoretical concepts as well as their relations and develop propositions concerning sharing business models and sustainability.

### 3.1. A sharing business model

A sharing business model can be viewed as a structural template that provides suppliers and customers with a platform to configure new ways of generating value with underutilized (idling) resources (Belk, 2014). In the sharing economy, sharing practices are performed on platforms that connect suppliers and customers (Habibi et al., 2017). A sharing business model governs the platforms

so that different types of sharing practices can be performed, such as mobility and resource sharing (Salvia and Morello, 2020). The sharing practices between suppliers and customers on platforms are governed by a sharing business model in which specific resources shape and direct the social mechanisms for actors to interact and engage (Reischauer and Mair, 2018). Through the sharing practices on the platform, a potential unused or idling resource of a supplier is turned into a specific benefit for a customer (Lusch et al., 2008). Accordingly, we propose the following:

**Proposition 1** The sharing business model affects the sharing practices of suppliers and customers.

### 3.2. Sustainability creation

We define sustainability creation as the factors that enhance the sustainability of sharing business models. Existing research has introduced several compelling arguments for why the sharing economy is positive from a sustainability perspective (Acquier et al., 2017), including the notion that it minimizes resource exploitation. From a theoretical perspective, the basic premise of a sharing business model is a better and more accurate use of resources, which reduces the negative effects on the environment (fewer new resources are needed because of a more resource-efficient use of existing resources). Moreover, a resource that is used more frequently can generate increased revenues, and sharing a resource provides access to individuals who possibly cannot afford to buy that resource (Eckhardt and Bardhi, 2016). Building on the work of McColl-Kennedy et al. (2012), we view sustainability

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creation as a direct sustainability benefit of integrating resources through activities and interactions.

RBV emphasizes the usage of a resource; different resources are assigned different values based on how they are being applied (Lockett et al., 2009). A resource is not only a physical entity but also has a functionality that is shaped by different actors through various practices (Andersen, 2021). Hence, idling resources have value creation potential that is not being fully utilized, and despite their potential, these resources will not create value for the actors while idling.

Research on the sharing economy has suggested that there are environmental benefits of a sharing business model, including more efficient resource use and reductions in waste and unnecessary ownership (Geissinger et al., 2019). In other words, through sharing, existing resources will be used more efficiently. For businesses, a sharing business model can provide better resource utilization and improve profit margins (Andreassen et al., 2018). For example, service providers, such as large hotel chains, are more rigid and less agile in their adaptation to external changes; are asset-heavy; and employ more people than sharing services such as Airbnb (Andreassen et al., 2018). Companies providing sharing services typically have lower initial costs, as capacity investments (e.g., the number of rooms) are not tied to fixed assets (e.g., a hotel). One of the positive social aspects of a sharing business model is that customers and suppliers become more connected to each other and feel a sense of community (Buhalis et al., 2020). In the case of multisided platforms such as Uber and Airbnb, it has been argued that sharing services are beneficial to the suppliers and workers, as they can have a flexible work schedule based on their available time and need for money (Andreassen et al., 2018).

**Proposition 2** Sharing practices affect sustainability creation through anticipated effects on financial, environmental, and social dimensions of sustainability.

### *3.3. Sustainability destruction*

We define sustainability destruction as the factors that undermine the sustainability of sharing business models. Existing research has reported that the introduction of a sharing business model can have unintended consequences on sustainability. Building on McColl-Kennedy et al. (2012), we view sustainability destruction as the direct sustainability sacrifices of integrating resources through activities and interactions. Lower prices create a direct effect of

increased customer demand; however, they also produce secondary effects, as customers spend the saved resources on other services (Greening et al., 2000). For example, shortly after the launch of Uber in New York, the number of total taxi rides increased by nearly 20%, resulting in increased CO<sub>2</sub> emissions (Eichhorst and Spermann, 2015). This is a rebound effect (Skjelvik et al., 2017) – the unintended effects whereby the resources saved by using sharing services (e.g., cheap taxi travel) are spent on additional services.

From a theoretical perspective, this rebound effect (also known as a backfire effect) implies that rather than more efficient resource use leading to higher sustainability, the freed-up resources are used to consume other resources (Warmington-Lundström and Laurenti, 2020). Apart from the backfire effect, introducing a sharing business model can create a product substitution effect (direct effect) and a price effect (secondary effects) (Greening et al., 2000; Zink and Geyer, 2017). RBV research accounts for the environmental effects of a firm's resources and the processes stemming from these resources (Hart and Dowell, 2011). Thus, even sharing practices that reduce the use of resources can create effects such that more resources are used.

At the individual level, Airbnb provides additional income to individuals who already own apartments and houses in attractive locations. However, many sharing business models are operated by young individuals without decent salaries or working conditions. A sharing business model can be applied to various types of washing behavior by firms (e.g., green washing, woke washing, share washing) in that the firm can hide an unsustainable business model behind a thin layer of greenness or social awareness (Muñoz and Cohen, 2018). Such sharing practices contribute to sustainability destruction, either through an increased use of resources or through an uneven distribution of existing resources.

**Proposition 3** Sharing practices affect sustainability destruction through rebound effects on financial, environmental, and social dimensions of sustainability.

### *3.4. What resources are shared: objects of sharing*

Depending on *what* is being shared, this can either amplify or mitigate the effect of the sharing business model on sharing practices. That is, what is being shared (e.g., competencies, cars, houses,

tools) influences the types of sharing practices that will be performed. Often but not always, a resource involving a high degree of human interaction will result in different sharing practices than a resource involving less human interaction. If what is being shared is intangible, such as time with a high degree of interaction (e.g., babysitting), the individual performing the service will integrate resources from different actors and sources to produce a valuable output (Vargo, 2008; Andersen, 2021). That is, the babysitter will use their own skills, but the output will also depend on the resources provided by the customer (parents and baby). This will influence what type of sharing practices will be performed. On the other hand, if the object of sharing is a good (such as a car, a house, or a bicycle), the degree of human interaction is typically low, and other types of sharing practices will be performed. In summary, the objects of sharing influence what sharing practices are used. Depending on what sharing practices are being performed and what resources are required for it, the effects of the sharing business model on sharing practices will be mitigated or amplified.

**Proposition 4** The strength of the effect of the sharing business model on the sharing practices is influenced by the objects of sharing.

### 3.5. *How resources are shared: the sharing platform*

The sharing business model is based on platform-based businesses in which two-sided markets are monetized when two actors interact through a sharing platform (Kumar et al., 2018). Three key roles are filled by different actors on a sharing platform: supplier, service enabler, and customer. When incumbents encounter competition in the sharing economy, they respond by providing sharing services based on sharing practices such as renting or access. Amit and Han (2017) have argued that rather than competing based on the characteristics of their resources, incumbents focus on the managerial actions that best configure and manage their resources to gain a competitive advantage. These have frequently been based on one-sided platforms, where the incumbent provides both the resources (supplier) and the sharing service (service enabler). In other words, they construct a dyadic market (Andreassen et al., 2018).

How resources are shared is decided by the number of sides to a sharing platform. In line with Andreassen et al. (2018), we distinguish between dyadic and triadic sharing platforms. In a triadic sharing platform, each actor only has one role (three

actors involved), while in a dyadic sharing platform, one actor adopts the roles of supplier and service enabler. This suggests that a sharing platform does not require that the supplier and service enabler be independent (e.g., Markman et al., 2021). A distinct feature of the sharing economy is that a platform matches an individual with excess resource capacity to one who needs that resource for a fee in a two-sided market (Botsman, 2015). Car sharing, peer-to-peer lending, food delivery, ride sharing, home renting, coworking, and talent sharing are a few popular examples of such markets.

When firms compete with triadic sharing platforms through dyadic sharing platforms, the incumbent adopts multiple roles in the sharing platforms. Often, new resources are used and provided to customers, which is why the positive sustainability effects of resource sharing are not observed. This could potentially occur in triadic sharing platforms as well, but not to the same extent. Notably, a sharing platform can strengthen the effect on one dimension of sustainability while reducing the effect on another dimension. For example, using dyadic sharing platforms for car hiring can reduce the effects on the environmental dimension (use of new resources) but simultaneously strengthen the effects on the social dimension (access to new resources by vulnerable groups).

**Proposition 5a** The strength of the effect of sharing practices on sustainability creation is influenced by the sharing platform.

**Proposition 5b** The strength of the effect of sharing practices on sustainability destruction is influenced by the sharing platform.

### 3.6. *Sustainability of sharing business models*

To determine the sustainability of a sharing business model, the effects of both sustainability creation and destruction need to be considered. The nature and scope of sustainability are complex and multidimensional. Any effort to determine the sustainability of a sharing business model needs to be based on careful and systematic conceptualization and operationalization of sustainability in the specific context (Plewnia and Guenther, 2018). First, if the different dimensions of sustainability are independent, the net effect of the sustainability of the sharing service is the simple summation of the individual dimensions. However, if the dimensions are interrelated but are measured differently and are of different severity, sustainability can only be determined based on an evaluation of each dimension.



For instance, for a sharing service based on the rules of the gig economy, the social dimension might be the key sustainability dimension, whereas for car sharing, the environmental dimension might be the most important one. To be considered sustainable, a sharing service must have positive effects on all three dimensions of sustainability.

**Proposition 6** Sustainability of the sharing business model is formed by sustainability creation and sustainability destruction.

### 3.7. *How resources are used: a multilevel problem*

Starik and Rands (1995) suggest that sustainability must be addressed as a multilevel problem. In other words, the achievement of sustainability requires an understanding and integration of multiple levels and the identification of potential cross-level effects on sustainability. In the present research, we account for the effects on sustainability at the individual, firm, and societal levels. To treat the sustainability of a sharing business model as a multilevel problem, Starik and Rands (1995, p. 909) suggest that ‘the achievement of sustainability by an entity at any one of these levels requires simultaneously recognizing and addressing the actions of and interactions with entities at each of these levels.’ A sharing business model might contribute to improving sustainability in one of the three dimensions (social, financial, or environmental) while simultaneously reducing sustainability in another. As an illustration, consider a sharing business model that provides cheap and accessible babysitting. Such a service might help the everyday routines of a household and allow parents to focus on activities away from their children and families. This can have positive financial effects on the family, as it generates income for the family. However, this can also have negative effects on individual families (e.g., reduced time with children) as well as for society at large in terms of the problems of raising future generations (parents spending less time with their children might have long-term consequences on a generation). Thus, although there are positive effects of more efficient resource integration for individuals (short-term perspective at an individual level), there are rebound effects that offset the positive effects (long-term at the societal level).

**Proposition 7a** The effects of sustainability creation on sustainability are influenced by cross-level effects between the individual, firm, and society.

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**Proposition 7b** The effects of sustainability destruction on sustainability are influenced by cross-level effects between the individual, firm, and society.

## 4. Discussion

Previous research has described how sharing business models contributes to sustainable development, along with their potential positive effects on all three dimensions of sustainability (social, environmental, and financial) (Boar et al., 2020). In this research, we answer the call for research to further explore the relationships between sharing business models and sustainability, identify mechanisms on how the relationships work, and advocate a dual approach toward business model innovation that accounts for a multidimensional and multilevel conception of sustainability.

### 4.1. *Theoretical implications*

The present research has three main theoretical implications for research concerning business models in the sharing economy. First, the conceptualization of the sustainability of sharing businesses is grounded in RBV (Gueller and Schneider, 2021) and practice theory (Reckwitz, 2002), which has allowed us to identify the key mechanisms that make a sharing business model sustainable and to discuss both anticipated and rebound effects (i.e., unintended consequences). To a large extent, existing research has focused too narrowly on either the positive or negative effects of sharing business models on sustainability. The suggested conceptual model allows us to identify tensions and paradoxes in sharing business models, such as how improved social sustainability might backfire by harming environmental sustainability. The proposed theoretical framework conceptualizes what has previously only been shown through empirical illustrations and anecdotal evidence. Using RBV to explain the relationship between a sharing business model and sustainability, the present work contributes to research on the sharing economy; it also extends RBV by addressing how resources are being shared and identifying the effects of resource integration on sustainability (Andersen, 2021; Gueller and Schneider, 2021).

Second, the theoretical conceptualization of the sustainability of sharing business models considers the multilevel and multidimensional nature of sustainability. The dual-process model of sharing

business models can be applied at different levels (i.e., user, firm, and society) and to different dimensions of sustainability (i.e., overall or individual dimensions). Joyce and Paquin (2016) have suggested that firms apply a firm-level approach to business model innovation when vertical coherence between the different dimensions of sustainability is needed. The present research extends this approach by providing a conceptual model that is multidimensional (vertical coherence) and that extends beyond a firm-level approach toward a multilevel approach to business model innovation. In the design of sharing business models, entrepreneurs can use the suggested conceptual model to identify the true effects on sustainability at different levels.

Third, the present research identifies the mechanisms that determine the sustainability of sharing business models. Specifically, it identifies characteristics that are inherent to the design of the sharing business model and those that have a direct influence on multiple dimensions and multiple levels of sustainability (Ryu et al., 2019). The objects of sharing (what resources we share), the sharing platform (how we share resources), and the levels (how we use resources) are vital to business model innovation and work as mechanisms linking the sharing business model and sustainability. The identification of these mechanisms provides a better understanding of the effects of sharing services on sustainability at different levels and helps clarify avenues for further research. Our conceptual model also contributes to the literature on the sustainability of sharing business models by analyzing sharing practices. We argue that sustainability is not a fixed property of a business model, but rather an emergent outcome of the practices of different actors involved in sharing. By analyzing the practices of sharing, the model can be used to further identify the factors that create or undermine sustainability.

#### 4.2. Managerial implications

Sharing business models are not the default sustainable alternative to traditional service provision. Instead, sharing business models have both positive and negative effects on sustainability. Often, actors in the sharing economy emphasize that sharing services have positive effects on sustainability, such as better resource efficiency, reduced CO<sub>2</sub> emissions, and strengthened social bonds between consumers. In practice, however, sharing business models often result in increased resource use, negative environmental effects, and discrimination. For example, few customers have sold their cars and adopted car-sharing services. Moreover,

these services are primarily used by new customers who tend to increase the number of trips they take since they can afford to use a car. Indeed, some cities have reported increased CO<sub>2</sub> emissions after introducing car-sharing services. This represents a paradox – the more businesses adopt sustainability, the more the environment continues to decline (Landrum, 2018). According to our model, a sharing business framework must treat sustainability as a multidimensional and multilevel problem, where design choices of the sharing business model can have both positive and negative effects on sustainability.

The increasingly common practices of green washing and woke washing can have a negative effect on sustainability, particularly for dyadic sharing platforms driven by financial motives for sharing. In these cases, a sharing business model is introduced to communicate that a firm is taking a step toward sustainable service provision when the real reason is to create a new revenue stream. The conceptual model proposed here can be used to identify (1) the anticipated and rebound effects on sustainability; (2) how the effects differ between different dimensions of sustainability; (3) how the effects differ between the different levels of users, firms, and society; and (4) how different design choices of business model characteristics (such as the object of sharing and the sharing platform) influence sustainability in different stages of business model innovation.

Many of the multinational sharing platforms that offer their services under the umbrella of the sharing economy (e.g., Uber, Airbnb) are successful at the organizational level (the firm); however, they frequently fail to have positive effects on sustainability at the societal level. The sharing economy is not a completely new way of doing business; instead, it retains several of the sustainability challenges that exist in existing business practices. However, the need to examine sustainability as a multidimensional and multilevel problem is an important consideration, not least for policymakers. To address whether sharing business models can support the transition toward sustainability, different actors, including individuals, firms, and society, as well as different sustainability dimensions, must be considered. The profits and growth of multinational firms in the sharing economy should not be funded by environmental losses for society.

#### 4.3. Future research agenda

The conceptual model and the propositions we have developed offer insights into and directions for a

### How sustainable is the sharing business model?

future research agenda on how sharing business models contribute to sustainability. Summarized in Table 2, we contend that four key issues should be in focus to guide further research. These include (1) an understanding of sharing practices; (2) the effects of sharing business models on sustainability; (3) business model innovation and sustainability; and (4) a multilevel understanding of sustainability. There remains substantial work to be done to understand the effects of sharing business models on sustainability.

#### 4.3.1. Understanding sharing practices

Our conceptual model suggests that sustainability is a function of what different actors *do*; that is, sharing practices are important to make sharing business models more sustainable. More research must be conducted that closely investigates what actions and interactions are in play and how they affect

the overall sustainability of a service. This extends beyond the sharing business model itself (the template or plan) and concerns what happens when the plan is executed. Which resources are shared, and how do suppliers use the monetary resources gained from their sharing practice? A detailed understanding of sharing practices can be achieved through ethnographic studies in which different types of actors are studied in detail.

#### 4.3.2. Effects of sharing business models on sustainability

We need to better understand the effects of sharing services on sustainability (Ryu et al., 2019). Instead of empirical illustrations and anecdotal case studies, research must shift toward extensive studies that provide more accurate and nuanced knowledge of the effects of sharing business models of all dimensions

**Table 2.** Future research agenda for the sustainability of sharing business models

Research area	Research questions	Notes on methodology
Understanding sharing practices	<ul style="list-style-type: none"> <li>• How do we translate the sharing business model into actions and interactions throughout the stages of the business model innovation process?</li> <li>• What actions and interactions (sharing practices) occur when a sharing business model is executed?</li> <li>• How do sharing practices affect the different dimensions of sustainability?</li> </ul>	Ethnographic studies can contribute to a more in-depth understanding of sharing practices. As sharing practices are broad and diverse, in-depth studies that follow individuals closely can offer insights into the connections between sharing and sustainability. Additionally, this should be complemented with comprehensive quantitative studies that examine the effects of these practices on sustainability
Effects of service business models	<ul style="list-style-type: none"> <li>• How can the effects of a sharing business model on sustainability be quantified?</li> <li>• How can methodologies be developed for the valuation of the different dimensions of sustainability so that an improvement in one dimension can be evaluated against a deterioration in another dimension?</li> </ul>	Studies that elaborate on how the business effects on sustainability can be quantified (e.g., through simulation models) might contribute to a more accurate and valid model for evaluating how sharing business models relate to sustainability. With more advanced knowledge, policy implications can be discussed to better direct decisions in a more sustainable direction
Business model innovation and sustainability	<ul style="list-style-type: none"> <li>• How can sustainability issues be addressed in the business model innovation process?</li> <li>• How do different characteristics of the sharing business model influence sustainability?</li> <li>• What are the detailed mechanisms of the effects of the object of sharing and the sharing platform on sustainability?</li> </ul>	We argue that extensive qualitative research is necessary to identify elements of sustainability in both the process and outcome of business model innovations. Methods such as fuzzy-set qualitative comparative analysis (fsQCA) can be used to identify the conditions for sustainability
Multilevel understanding of sustainability	<ul style="list-style-type: none"> <li>• What are the relations between the different dimensions of sustainability and between the different levels?</li> <li>• What are the longitudinal effects of sharing business models on sustainability at different levels?</li> </ul>	To enable multidimensional and multilevel modeling of sustainability, we need to work with simulation models based on detailed data from existing sharing business models. In addition, it is necessary to study different sharing business models from a longitudinal perspective to identify cross-level effects over time

of sustainability for suppliers, customers, service enablers, ecosystems, and society. These extensive and rigorous studies should aim to build comprehensive data sets utilizing qualitative, quantitative, and mixed methods. Research regarding the sharing economy frequently draws on illustrative examples, such as Airbnb and Uber. While this is valuable, it provides a limited insight into the effects and outcomes for customers, service enablers, and other actors and society at large.

#### 4.3.3. Business model innovation and sustainability

Our research has identified two key characteristics of the sharing business model that likely influence the extent to which sharing practices contribute to sustainability. Both the sharing platform and the objects of sharing influence the sustainability of a sharing service; however, the conceptual model does not elucidate the mechanisms through which these characteristics influence sustainability or its individual dimensions. While the identification of these mechanisms is important, a more detailed understanding of the effects of sharing services on sustainability is necessary. Through a better understanding of these mechanisms, we can design better processes for business model innovation that address sustainability issues.

#### 4.3.4. Multilevel understanding of sustainability

It is important to assess the different effects of sharing services at the level of the individual, firm, and society. However, it is challenging to estimate and quantify the effects on sustainability for individuals and to link these effects to firms and society at large. Our research suggests that in relation to sharing business models in the gig economy, the social aspects of sustainability are typically overlooked. In addition, there is a lack of longitudinal studies on the effects of sharing business models on sustainability.

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## Conflict of interest statement

All the authors declare no conflicts of interest.

## Data availability statement

The data that support the findings of this study are available from the corresponding author, [per.carlborg@oru.se], upon reasonable request.

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**Per Carlborg** is a senior lecturer at the Örebro University School of Business. His current research focuses on business model transformation and circular economy. As a teacher, he is responsible for the Master program of Sustainable Business at Örebro University. He has published in Industrial Marketing Management, Journal of Business and Industrial marketing, Service Industries Journal, etc.

**Hannah Snyder** is an Associate Professor at the Department of Marketing, BI – Norwegian School of Business, Oslo, Norway. Her research interest relates to service innovation, customer creativity, business model innovation, and service encounters. She has published in the *Journal of Service Research*, *Journal of Business Research*, *Journal of Service Management*, and *European Journal of Marketing*.

**Lars Witell** is a Professor at the CTF Service Research Center at Karlstad University, Sweden. He also holds a position as a Professor in Business Administration at Linköping University, Sweden. He conducts research on service innovation, customer experience, and service infusion in manufacturing firms. He has published in Journal of the Academy of Marketing Science, Journal of Retailing, Journal of Service Research, and Journal of Business Research.