



# Sharing economy models and sustainability: Towards a typology

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## ABSTRACT

The sharing economy was initially beckoned as a facilitator of exchanges that would not compromise future needs and held great promise for those at the lower end of the socioeconomic pyramid. However, as the sharing economy expanded, questions about its sustainability emerged. This expansion manifested in two main forms: an influx of new users and providers into existing operations and the emergence of new platforms, resulting in a proliferation of sharing economy models. By categorizing these models based on their resource utilization, this paper establishes a connection between scalability and compromised sustainability, shedding light on the interplay between the two. The paper identifies seven distinct configurations in the sharing economy: co-use, re-use, repeated use, sustainable output, pooling of resources, and products and services created specifically for individual users. These configurations serve as a tool to uncover the tensions between scalability and coordination, as well as between sustainability and provision. The paper contributes to prior research by bringing attention to how the sharing economy is entangled in these tensions and by developing a typology. Understanding how these tensions can be resolved presents a highly significant practical contribution, allowing stakeholders in the sharing economy to navigate the challenges of scalability and sustainability effectively.

## 1. Introduction

The imperatives of Agenda (2030), heightened global awareness, and the escalating prevalence of natural disasters and poverty underscore the need for innovative approaches to ensure the survival of a sustainable future, environmentally as well as socially. The sharing economy, originally defined as digital platforms that facilitate exchanges between non-professional individuals (Belk, 2014), was initially linked to sustainability (Zhu et al., 2021). It was characterized by efficient resource utilization (Plewnia and Guenther, 2020) and a non-ownership logic (Laamanen et al., 2018), providing opportunities for individuals at the lower socioeconomic level (Qureshi et al., 2021a). Over time, the sharing economy has evolved to encompass a diverse range of shared resources and various forms of 'sharing' (Öberg, 2023). The different sharing variations and how activities are distributed among platforms, providers, and users define sharing economy models (Geissinger et al., 2021a; Jiang et al., 2021).

The sharing economy has expanded through an increased number of users and providers, as well as through the establishment of new platforms. This expansion has been accompanied by a concern for the sharing economy's continuous sustainability (Cherry and Pidgeon, 2018; Gupta and Chauhan, 2021; Meshulam et al., 2024). The expansion as such has though remained unproblematized (Wei et al., 2021), and –

similar to the sustainability issue – been described foremost on the phenomenon level of the sharing economy (De las Heras et al., 2021; Hira and Reilly, 2017; Merino-Saum et al., 2023). Such a perspective though fails to capture the variety of sharing economy models, where these, as this paper shows, help to explain the connection between scalability and compromised sustainability, or the tension (cf. Wannagsa and Gold, 2020) between these. Through explaining the tension between scalability and sustainability related to various sharing economy models, insights are provided that capture whether and how the sharing economy can still serve as a catalyst for the transition towards a socio-ecological paradigm, ultimately contributing to societal development characterized by reduced resource depletion and more equitable distribution among populations. The expansion of the sharing economy makes it particularly vital to capture the scalability of sharing economy models based on how the scalable sharing economy models carry a larger and larger portion of the sharing economy. If sustainable models can be scaled, much is won from an environmental and base of the pyramid point of view.

The organizing of resources and their accessibility are fundamental related to both environmental and social sustainability as their exploitation and unequal distribution set the future at risk (Brundtland, 1987), making resource-use configurations an effective means to systemize the variety of sharing economy models. By categorizing sharing economy

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models based on different resource uses (as variants of sharing), the paper systemizes and explains the sustainability and scalability of sharing economy models, and the reverse connection between them. The purpose of the paper is to *categorize sharing economy models based on different resource uses to discuss the tension between sustainability and scalability of sharing economy models*. The paper thereby does not only link scalability and sustainability to the variety of sharing economy models, but also explains the underlying mechanisms resulting in the tension between sustainability and scalability. This is achieved by analyzing 63 sharing economy models and developing resource-use configurations that help in drafting a typology.

While we can understand from previous research how the sharing economy may have lost its sustainability as it has expanded (Gupta and Chauhan, 2021; Murillo et al., 2017), we know very little about the mechanisms and relations behind these developments. Furthermore, research remains partly inconclusive related to the lost sustainability (De las Heras et al., 2021; Laukkanen and Tura, 2020; Sadiq et al., 2023), with sustainability both being questioned and continuously praised related to the sharing economy as a phenomenon or in the study of individual platforms. This paper's focus on sharing economy models and their variety helps to capture how certain platforms have indeed remained sustainable, while others are not. Combined, this moves beyond previous descriptions of the sharing economy's expansion at the phenomenological level and a general description of the sharing economy as sustainable or no longer sustainable (Cherry and Pidgeon, 2018; Meshulam et al., 2024; Parguel et al., 2017). With the intention to fill gaps related to scalability and sustainability in the sharing economy, this paper's theoretical contributions thereby consist of 1) identifying mechanisms explaining the scalability and sustainability issues and their reverse connection for sharing economy models; 2) the typology developed from the mechanisms; and 3) the theorizing about tension related to sharing economy models. Collectively, this involves the conceptualization of various configurations, including co-use, re-use, repeated use, sustainable output, resource pooling, as well as the development of products and services tailored for individual users. Based on these, mechanisms of tension are theorized to exist between scalability and coordination, as well as sustainability and provision. This framework helps elucidate the underlying reasons for issues related to scaling sustainable sharing economy models. The typology, derived from these mechanisms, comprises four theorized model types: uni-sided, sharewashing, true sharing, and resource efficiency models. Combined, the resource configurations, discussions on sustainability and scalability issues, and the typology add nuance to the debates on the sustainability of the sharing economy (De las Heras et al., 2021; Gupta and Chauhan, 2021), while addressing less explored aspects such as social sustainability (Qureshi et al., 2021b) and explaining sharing economy growth (Wei et al., 2021). Furthermore, the paper extends beyond empirical descriptions to offer theoretical explanations of the sharing economy's sustainability and scalability.

The rest of the paper is structured as follows: After this introduction, the theoretical background provides an overview of how sustainability has been previously associated with the sharing economy. Research on sharing economy models is then introduced to delve into the research gap this paper addresses. Subsequently, the data-capturing and analysis methods are described. The findings are presented and analyzed, encompassing the steps of 1) categorizing sharing economy models based on resource uses, 2) linking various resource-use configurations to sustainability and scalability, 3) backward tracing to capture underlying mechanisms explaining scalability and sustainability issues and their reverse connection, and 4) developing a typology based on the identified mechanisms. The paper concludes with implications for theory and management, as well as suggestions for further research.

## 2. Theoretical background and framing

### 2.1. The sharing economy and sustainability

Since its inception, particularly with the launch of Airbnb and Uber in 2008, the sharing economy has garnered significant research attention. Numerous literature reviews have been conducted, each seeking to capture the essence of the sharing economy. These reviews have focused on specific sectors (Belarmino and Koh, 2020; Hossain, 2020), scholarly contributions (Klarin and Suseno, 2021), user motives (Merino-Saum et al., 2023), development (Mont et al., 2020), discourses (Cheng and Edwards, 2019), and the main themes in past studies through quantitative and qualitative analyses (Agarwal and Steinmetz, 2019; Elkattan et al., 2023; Sanchez-Perez et al., 2021). Sustainability has emerged as one of the themes in many of these reviews (e.g., Faraji et al., 2024), alongside trust, consumer motives, and sharing economy models. However, by grouping sustainability into one category, the nuances of its various aspects tend to be overlooked. To address this, a literature review was conducted for this paper. The findings are summarized in Table 1, which presents the various themes in the literature on sustainability related to the sharing economy.

As illustrated in the table, sustainability is a topic that spans different analytical levels and is often the subject of critical discussions. For instance, debates on the sharing economy's negative impact, such as excessive consumption, worker exploitation, and the drift towards business practices far from idealistic (sustainable) operations, have been prominent in the literature (Ahsan, 2020; Martin, 2016; Murillo et al., 2017). On the other hand, sustainability is also considered as one of several alternatives, frequently addressed in discussions of users' motives, such as financial gains, limited choices, or altruistic reasons (Hamari et al., 2016; Laurentia and Acuña, 2020; Merino-Saum et al., 2023). Social sustainability is highlighted in the context of sharing instead of ownership transfer, fostering socialization, and enabling social intermediation (Qureshi et al., 2018, 2021a, 2021b). Community building and inclusivity of migrants are emphasized (Geissinger et al., 2021c; Martin-Martin et al., 2020), although concerns about discrimination are also raised.

The literature increasingly depicts the sharing economy as evolving from a non-market to a market-driven logic (Geissinger et al., 2021b), highlighting the shift from genuinely altruistic sharing endeavors to becoming for-profit machines (Murillo et al., 2017). Such a transition pertains to the phenomenon level, signifying potential sustainability challenges stemming from the sharing economy's expansion. Studies at the phenomenon level often mention expansion, primarily to contextualize the studies, and rarely, if ever, to critically examine the expansion itself (Wei et al., 2021). Meanwhile, even with its phenomenon-level expansion, there continue to be operations striving to be sustainable (cf. Öberg, 2023), making it important to highlight the variety of sharing economy models and their relation to sustainability and scalability, respectively.

### 2.2. Sharing economy models

Drawing inspiration from business model research (Osterwalder et al., 2005), sharing economy models illustrate how operations are organized, including providers and users (cf. Martins et al., 2015; Osterwalder et al., 2005, Vanhaverbeke and Chesbrough, 2014), emphasizing the activities and their distribution among involved parties (Zott and Amit, 2010).

Numerous studies on sharing economy models have focused on individual sharing economy operations or models within specific sectors, such as ridesharing, accommodation, and fashion rental (Arrigo, 2022; Gao and Li, 2020; Guyader and Piscicelli, 2019). Additionally, business models have been utilized to define the sharing economy (Curtis, 2021; Munoz and Cohen, 2017). Sanasi et al. (2020) refer to start-up sharing economy models, encompassing pseudo-sharing, gig economy,

**Table 1**  
Literature review, sustainability themes in the sharing economy literature.

Analytical level	Description	Sustainability	Examples of publications
Individual peers	Motivations (and behaviors) of users (and providers)	Sustainability is one of several motives	(Hamari et al., 2016; Hu et al., 2019; Merino-Saum et al., 2023; Wang et al., 2019)
Platform/sharing economy model	Description of individual sharing economy operations	Sustainability as a dimension in the description of a specific operation/part of the sharing economy	(Broccardo et al., 2023; Cohen and Kietzmann, 2014; Geissinger et al., 2019; Laukkanen and Tura, 2020; Ma et al., 2019) Uzunca et al. (2018)
Phenomenon level	Sustainability as part of the sharing economy model	Legitimacy created through sustainability	
	New logic of operations	Sustainability as a non-market logic (compared to a market logic of traditional operations or as other parts of the sharing economy). Non-ownership logic	(Grinevich et al., 2019; Kathan et al., 2016; Munoz and Cohen, 2017)
	Sharing economy as affecting other operations	Sharing economy leading to surplus consumption Sharing economy leading to changed operations for other firms	(Benjaafar et al., 2019; Ciulli and Kolk, 2019; Govindan et al., 2020)
	Debate and discourse	The sharing economy as harmful for the environment and creating exploitation of workers The sharing economy as salient for the environment	(Frenken and Schor, 2017; Heinrichs, 2013; Henry et al., 2021; Martin, 2016)
	Sharing in specific sectors (dominated by tourism) and sharing in smart city studies	How sharing economy affects sustainability in the sector/city	(Cohen and Munoz, 2016; Palátová et al., 2023)

The table is based on a literature review of 325 items, comprised through a *Web of Science* search using the following search string ("sharing economy" OR "gig economy" OR "intangible economy" OR "collaborative consumption") AND sustain\*. All items found were used as the raw material for the section, and thus unfitting results were excluded based on reading each item. The structuring by analytical level helped organize the articles and create a link to the sharing economy model level of analysis in this paper. Updates were made during the revision process, wherein the newly added items were compared to previous categorizations. In total, 1008 items were reviewed.

crowd-based economy, pooling economy, and peer-to-peer rental. Ritter and Schanz (2019) describe singular transaction models, subscription-based models, commission-based platforms, and unlimited platforms. Furthermore, Vaskelainen and Munzel (2018) discuss free-floating and station-based carsharing models.

Regarding sustainability, Gao and Li (2020) explore bike-sharing as a socio-environmental sharing economy operation. Ciulli and Kolk (2019) elaborate on incumbent firms entering the sharing economy and their impact on environmental sustainability. Additionally, Piscicelli et al. (2018) investigate the design of successful and unsuccessful (environmental) sustainable sharing economy models, addressing sharing

economy model configurations without relating the design to scalability, variations in sustainability, or resource usage.

### 2.3. Sharing economy configurations

Configurations represent arrangements that combine to form a cohesive fit (Dess et al., 1993; Morris et al., 2005). They have been extensively explored in relation to firm performance (Gruber et al., 2010), with some adaptations in sharing economy research (Jiang et al., 2021; Munoz and Cohen, 2017), investigating configurations concerning value creation (Reuschl et al., 2022). Configurations align well with (business) model research (Baden-Fuller and Morgan, 2010) in their ability to capture holistic setups of operations, involving both providers and users (Geissinger et al., 2021a).

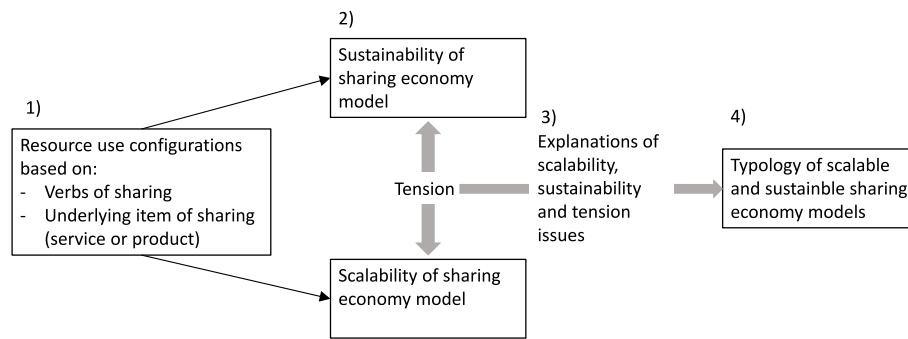
The configurations in this paper draw inspiration from how business models have been conceptualized as activity systems (Zott and Amit, 2010). Belk (2014) discussed the verbs associated with sharing as a means of defining the conceptual boundaries of the sharing economy. He did this specifically concerning whether underlying resources (e.g., the car in ridesharing) were transferred temporarily or definitively. Meanwhile, Frenken and Schor (2017) and others have described product-to-service sharing, thus linking the verbs to resources.

The configurations presented in this paper revolve around various resource uses, aiding in systematizing sharing economy models while connecting them to sustainability, scalability, and past research on sharing variations. The tension between sustainability and scalability has, in past research, thus primarily been described as how the sharing economy has lost its sustainability when expanding (e.g., Martin, 2016; Murillo et al., 2017) presupposing that the sharing economy has developed in a direction from efficient resource utilization (Plewnia and Guenther, 2020) and a non-ownership logic (Laamanen et al., 2018), to for-profit machines abusing individuals at the lower socioeconomic level while forsaking the environment. Echoed from Wei et al. (2021), sharing economy expansion is however rarely researched as such, and the casual claim when sharing economy research describes expansion to contextualize lost sustainability, is that the sharing economy has created opportunities for market-logic actors to establish platform-based operations (Martin, 2016), and a mission drifting based on related opportunities (Klein et al., 2021). The other side of the spectrum consists of studies on sharing economy platforms that are sustainable but have issues to scale. Light and Miskelly (2019), for instance, refer to how local platforms may sustain alternative economies, while their local presence disables their scaling. Envisioned as tension between sustainability and scalability, past research, dominated by the phenomenon-level studies, thus indicates a reverse connection between scalability and sustainability. Research on individual platforms strengthens the notion of tension by providing some examples of non-scaled sustainable models (e.g., Light and Miskelly, 2019) or referring to the development of Uber from a co-riding initiative to a taxi-like operation and Airbnb as coach-sharing to houses being built specifically to facilitate its services. Meanwhile, the systematization across sharing economy models is lacking, as is the explanation of the connection between scalability and compromised sustainability, and indeed what that connection looks like. This is where this paper puts its focus. Fig. 1 illustrates the analytical steps of this paper, which include: 1) categorizing the sharing economy models based on resource uses, 2) analyzing the sustainability and scalability of each configuration, 3) tracing the mechanisms that explain scalability and sustainability issues, and 4) developing the typology.

## 3. Research design

### 3.1. Data capturing methods

The empirical part of this paper is grounded in the analysis of 63 distinct sharing economy platforms and their corresponding providers and users, collectively referred to as sharing economy models. These



**Fig. 1.** Analytical steps. Tension as depicted in the figure is based on past descriptions relating scalability to compromised sustainability, where this paper sets to explain the mechanisms behind such tension through systemizing sharing economy models based on resource-use configurations.

platforms were identified through a study by Geissinger et al. (2019), which examined 5185 social media posts related to the sharing economy and found the 63 named platforms. The selection of these specific platforms was driven by the dataset's extensive coverage of identified platforms compared to other comparable studies (e.g., Munoz and Cohen, 2017). Moreover, the dataset spanned various sectors and, significantly, encompassed diverse variants of sharing. Based on the 63 platforms being identified in 2016–2017, long-term developments in terms of scaling could be captured.

For the present paper, data was collected for the 63 sharing economy models from multiple sources, including their webpages, press releases, apps, annual reports, and other financial reports. A systematic review of newspapers was also conducted, entailing individual searches for each platform name. This comprehensive data gathering aimed to establish an understanding of the individual sharing economy models, including insights into their users, providers (Geissinger et al., 2021a), operations concerning sustainability, and the scalability of these operations. Additional data was captured for each operation, such as registration as a user and provider, to gain a thorough understanding of their resource-use configurations. In total, the dataset comprised over 500 items for analysis.

The utilization of documents as the primary data source allowed for the inclusion of insights from a substantial number of operations and facilitated the integration of platform-internal and publicly published data (Gill and Elder, 2012; Ventresca and Mohr, 2002). Moreover, the author personally engaged as a user, which involved interviewing providers in ten cases from analyzed operations. This approach ensured a triangulation of data sources and a combination of written information with complementary verbal and participatory data sourcing (Denzin and Lincoln, 2000). Ten interviews were conducted, involving open-ended questions, and lasting approximately 30 min each, where providers were asked about how they operated, additional employments and platforms they operated for, their notion of sustainability, and why they engaged in the sharing economy. These interviews provided valuable insights into the sharing economy from the provider's perspective. However, it is important to note that the interviews served as a complement to the primary data.

### 3.2. Data analysis

The data analysis followed the outlined steps: 1) categorizing the sharing economy models based on resource uses, 2) analyzing the sustainability and scalability of each configuration, 3) tracing mechanisms explaining scalability and sustainability issues, and 4) developing the typology. Excel and pivot tables were utilized for each coding step.

In the first step, each of the 63 sharing economy models was open coded as first-order codes (Gioia et al., 2013) based on resource-use variants. While Belk (2014) and Frenken and Schor (2017) provide various verbs of sharing and delineate sharing economy models based on service or product provisions, the open coding allowed for a more

nuanced and resource-use-focused approach. The coding scheme developed throughout the coding process, and the codes were compared and iteratively reduced among the sharing economy models based on 1) overlaps of use between the user and provider (that is, if the provider also used the product/service while providing it), 2) type of use (borrowing, exchanging, transferring, etc.), 3) whether a service or product was in focus, 4) distribution of activities among the providers, users and platform, and 5) characteristics of underlying resource (e.g., latent, produced for the exchange). Subsequently, the codes were reduced into second-order themes as theorized resource uses (cf. Gioia et al., 2013), described as seven sharing economy model configurations. To illustrate the coding process, a first-order code used was "lending tools," which was categorized as "repeated use of latent resource" based on the transfer of the tool and its temporary borrowing. If the tool was specifically acquired for lending purposes and to be lent repeatedly, it was categorized as "pooling of resource", while if it was created specifically for a user, it was categorized differently.

For the second step, the analysis focused on systematically capturing sustainability and scalability connections for each configuration. The sharing economy models were overlaid with descriptions of sustainability elements, such as resource depletion, the non-ownership logic, and social inclusion (Qureshi et al., 2021a). Traces of scalability were also examined, including revenues, financial status, success, venture funding provision, and the number of exchanges (scalability potential), depending on the available data and types of models (to be able to capture also for-free sharing's scalability).

The dataset featured in Geissinger et al. (2019), covering the years 2016–2017, introduced a time gap between the identification of models and the data collection for this current paper. Within this timeframe, sharing economy models may have undergone changes in their operational strategies (Öberg, 2023) or may have ceased to exist. Instances of discontinuation were ascertained through newspaper reviews, accounting for a total of two operations. These discontinuations have been incorporated into the dataset to signify instances of scaling failure or other reasons for no longer operating. Updated operational approaches were documented to reflect the current status of the sharing economy models for this paper.

Each configuration was benchmarked against the sustainability and scalability of a traditional business model involving a supplier producing products specifically for a consumer. For verification purposes, two researchers reviewed the configurations and coding for scalability and sustainability.

The third step involved investigating mechanisms explaining the connections between sustainability and scalability using backward tracing (Jessop, 2005) while revisiting the collected data. As a result, coordination (including locality) and provision were identified as mechanisms creating tension and affecting scalability and sustainability, respectively.

In the fourth step, the focus shifted to developing a typology (Baden-Fuller and Morgan, 2010; Short et al., 2008). The mechanisms of



coordination and provision served as the axes in the typology, with the seven configurations from Step 1 sorted accordingly. The typology comprises types across all combinations, designed to ensure that the axes do not measure correlated items. As the final analysis step, the findings were compared and reflected against previous research on the sharing economy. This step helped refine arguments and solidify the paper's theoretical contribution. Table 2 provides a summary of the data collection and analysis steps.

#### 4. Findings and analysis

Appendix A furnishes a list of the 63 sharing economy operations, succinctly outlined as seven configurations in Table 3. The exposition below adheres to four key steps: 1) detailing the resource use configurations, 2) scrutinizing their sustainability and scalability, 3) elucidating

**Table 2**  
Data collection and analysis.

Step	Task	Description	Outcome
1	Deciding on sharing economy models	Deciding on what platforms and operations to include.	63 platforms listed in Geissinger et al. (2019) due to larger scope than other studies and based on the inclusion of models across sectors and including variants of sharing.
2	Data collection – written documents	Press release and newspaper reviews for named platforms. Annual reports, other financial data, apps and websites to capture how operations were organized and for indicators of scalability and sustainability	>500 documents.
3	Data collection – interviews	Interviews with providers at the use of platforms: Focus on how the provision was conducted, whether the provider was also a user, made a living on provision, provided for additional platforms, and how the provision was organized.	10 interviews (approx. 30 min each).
4	Open coding of sharing economy models	Departing from descriptions of operations to code activities of parties (users, providers, platform).	Empirical codes focusing on resource use.
5	Data reduction	Coding through comparison among operations and reduction of codes.	7 configurations.
6	Sustainability and scalability coding	Descriptions from past research and indications of size considering non-monetary and monetary measures.	Sustainability and scalability codes attached to the 7 configurations.
7	Explaining tension	Backward tracing of configurations to explain sustainability and scalability tension	Coordination and provision as explanations to reverse connection between sustainability and scalability.
8	Typology	Deciding axes based on explaining mechanisms (coordination and provision).	Typology on sustainability and scalability.
9	Verifying findings	Checking findings from previous research.	Refining stated research gap and contribution.

mechanisms that expound scalability and sustainability issues, and 4) presenting the typology.

##### 4.1. Sharing economy resource-use configurations

The data unveiled seven configurations: co-use, re-use, repeated use of latent resources, sustainable output, pooling of resources, services created specifically for the user, and products created specifically for the user.

In the *co-use* configuration, providers and users concurrently utilize a service, aligning with Belk's (2014) concept of true sharing. In contrast to traditional services, co-use eliminates the need for a distinct provider; instead, someone else utilizes the service while offering it, blurring the distinction between the user and provider (Öberg, 2021). This configuration is predominantly associated with various transportation services.

*Re-use*, unlike co-use, necessitates the transfer of an underlying resource from the provider to the user (cf. Frenken and Schor, 2017). It often involves products that the provider otherwise discards or stores. Vintage clothing and toys are prominent resources found among the studied sharing economy models.

The *repeated use of latent resources* can be viewed as a further breakdown of re-use but with an added temporal dimension (cf. Belk, 2014). In this configuration, no ownership transfer occurs, aligning well with the sharing economy's ideals (Laamanen et al., 2018), while still emphasizing the importance of the resource (cf. Frenken and Schor, 2017). Examples include tools, sports equipment, cars, and living/office spaces.

*Pooling of resources* refers to resources acquired communally or individually for use by multiple parties, rather than each party individually purchasing the resource (as would be the case in a traditional business model). This configuration is often one-sided, with the platform providing the resources, exemplifying both incumbents entering the sharing economy (e.g., BMW) and other platforms adopting a repeated-use model.

*Sustainable output* describes how peers collaborate to create resources, such as ecological parks or recycling initiatives, where users must work together to achieve a resource as an output. This category emphasizes the production aspect, in contrast to the other configurations, which focus on resource usage.

*Services created specifically for the user* are akin to any service operation of firms. This configuration includes a wide array of services, some overlapping with co-use (platforms have complemented co-use by offering additional services to address provision constraints), as well as sharing economy models that have evolved from co-use.

Finally, *products created specifically for the user*, like the service counterpart, resemble a traditional business model. The limited number of sharing economy models in this category primarily focuses on food-related offerings.

##### 4.2. Sustainability and scalability of configurations

The first five configurations (co-use, re-use, repeated use, pooling, and sustainable output) offer a more efficient resource use, leading to environmental sustainability (Brundtland, 1987), at the sharing economy model level compared to traditional business models. However, the last two configurations (services or products created specifically for the user) imitate traditional operations and do not exhibit a more sustainable resource use.

Sustainable output and co-use configurations provide opportunities for socializing (Qureshi et al., 2021a), with the latter emphasizing community (Geissinger et al., 2021c). Sustainable output stands apart from other configurations, as it focuses on the co-creation of an output, where parties become co-providers and users overlap or have less distinct roles. Additionally, re-use and repeated use configurations may enable access to resources for those at the base of the pyramid by

**Table 3**  
Configurations.

Configuration	Co-use	Re-use	Repeated use of latent resource	Sustainable output	Pooling of resources	Service created specifically for user	Product created specifically for user
Examples	Skjutsgruppen, Baghitch	Swopshop, Retoy	Rentl, Hygglo	Tiptapp, Boodla, Werel	Car2Go, Sportoteket, Moveabout	Uber, Foodora, Taskrunner	Airdine, Hoodifood
Type of resource use	Simultaneous beneficiaries of service between provider and user	Transfer of goods to new user (that would otherwise not be used)	Temporarily borrowing of product (no ownership transfer)	Focus on resource production	Temporarily borrowing of product (no ownership transfer). Resource produced specifically for repeated borrowing	Underlying resource used in service exchange	Resource produced specifically for user. No gain compared to traditional exchanges
Characteristics among sampled sharing economy models	Transportation of humans or goods	Clothing and toys	Tools, second by clothes, living/office space, sports equipment, and cars	Energy and recycling	Cars, toys, and sports equipment	Shores, deliveries	Here: food production
Sustainability	Focus on service. Additional co-users do not require additional underlying resources. Possibility for socializing and for-free/inexpensive use.	More efficient use of already produced goods. Possibility to obtain product for free/cheaply.	More efficient use of already produced goods. Possibility to use for free/cheaply.	The output is a communally created environmentally sustainable resource. Socializing and community.	More efficient use due to repeated uses. Resource, however, produced specifically for the borrowing. Possibly inexpensive use.	Similar imprint as any service provision. Possible exploitation of providers.	Similar imprint as any product provision. Possible exploitation of providers.
Sustainability issue					Resource acquired specifically for the pooling service; resource depletion through the manufacturing of the pooled resource.	Service created specifically for the user; no more efficient resource use (compared to traditional operations). Issues of exploitation and discrimination.	Product created specifically for the user; no more efficient resource use (compared to traditional operations). Issues of exploitation and discrimination.
Scalability of operations	Difficult to scale. Often organized around friends only. Coordination issues. Sharing economy models have transformed into services produced specifically for user to overcome scalability issues.	Lacking provision side has led to resources produced specifically for the user as complementary or replacing sharing economy models.	Difficulties in handling resources (local presence often required, coordination issues). This has led to pooling as a possible replacement or complementary sharing economy model.	Small-scaled initiatives that require co-location of providers.	Scaled often driven by platform operators extending to the provider side.	Scaled. Here most global sharing economy models are found.	Scaled. Potential difficulties with user interest.
Scalability issue	Instancy of service. Coordination of provision and use.	Provision of resources for re-use.	Local presence. Provision and coordination of resources for re-use.	Local presence may be required among co-producers.	–	–	Lack of users.

providing less expensive or for free resources. Compared to co-use (Belk, 2014), re-use, and repeated use may involve certain resource depletion (wearing out effects) while still remaining more resource efficient than traditional operations. Pooling indicates a similarly efficient resource use, but since the underlying resource is acquired for repeated use, this configuration is less sustainable than co-use, re-use, and repeated use. It is also not associated with for-free use or provision. The configurations involving product transfers (re-use, repeated use, product manufactured specifically for the user) do not foster socializing (cf. Qureshi et al., 2021a). Services and products created specifically for the user represent configurations that are not inherently more environmentally or socially sustainable than traditional operations, although service provision may be argued to be more sustainable than product creation.

Regarding scalability, the situation is almost the opposite of sustainability across all configurations. There are indications of scalability

issues related to co-use, re-use, repeated use, and sustainable output, as discussed in section 4.3 below. Only pooling and services created specifically for users encompass sharing economy models that have successfully expanded their operations. Co-use, re-use, and repeated use platforms have supplemented their sharing economy models with pooling or services/products created specifically for the user for scalability purposes. Alternatively, they have transformed into such configurations to enable scalability, pointing to acknowledged scalability issues of co-use, re-use, and repeated use.

In summary, the reverse connection between scalability and sustainability seems to be present across the configurations. Sharing economy models that have scaled their operations often did so by moving away from sustainable options, creating resources specifically for users, or adding services created specifically for the user and only scaled this part of the operations. Meanwhile, we can start

understanding how the various sharing economy models are more or less sustainable, socially and environmentally, and how scalability requires specific resource provisions.

#### 4.3. Mechanisms explaining scalability and sustainability tension

The seven configurations highlight issues related to scaling sustainable sharing economy models. Scaled models based on specific supply to users are not more environmentally sustainable than traditional business models. Additionally, they do not foster socializing among peers, communities, or for-free sharing (cf. Qureshi et al., 2021a). Furthermore, these models may exploit workers on the provision side. Thus, a negative connection is suggested between the scalability of the sharing economy and the loss of sustainability, which is not solely based on new sharing economy models being launched but also on the disability to scale true sharing. What then explains this reverse connection between scalability and sustainability, or expressed differently: Why is it a problem to scale sustainable sharing economy models, and why is sustainability lost once models are scaled or scalable? The coding in Appendix A indicates issues related to coordination and provision, respectively.

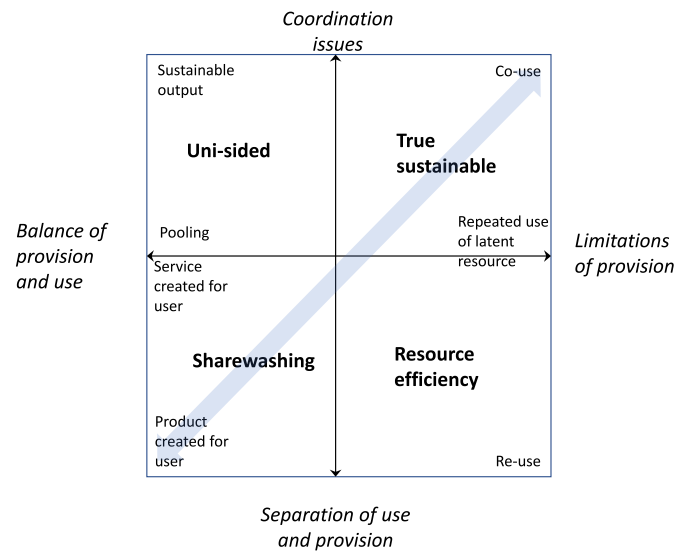
For co-use, there is a need for the provider and user (or multiple users) to access the service simultaneously and with the same content (e. g., travel from A to B at a specific time). This creates a *coordination* issue, which hinders scalability. The temporality of borrowing someone else's product (repeated use) and the sustainable output also require a local presence, which could similarly be seen as a coordination issue. This coordination becomes key for sustainability as it is the coordination – either as simultaneous co-use or as repeated uses of the same resource – that enables efficient resource use (cf. Brundtland, 1987) and social interaction (cf. Qureshi et al., 2021a). This coordination goes beyond the simultaneousness of traditional service provisions as it is intertwined with the provider's co-use or resources that are not only transferred but also fit with the provider's and other users' intentions while adopting a non-ownership logic (cf. Laamanen et al., 2018). Coordination is thus essential for the sustainability of the sharing economy models but creates tension with scalability as the simultaneousness and 'perfect' fit in time and resource make scaling the sharing economy model difficult (cf. Light and Miskelly, 2019). Configurations that do not require the same level of coordination are not more sustainable than traditional operations (services and products created specifically for the user).

Pooling, and services and products created specifically for the user, indicate a second mechanism: *provision*. The interviews indicate a limited interest in providing services for platforms, resulting in a larger demand than supply for repeated use and re-use. Hence, provision becomes the backbone of the service and product created specifically for the user. These configurations directly address the limitations in provision but do so at the expense of sustainability. Provision as an extra activity creates a mechanism with tension towards sustainability as resources become produced specifically for the user.

What may appear as a reverse connection between scalability and sustainability are really tensions between coordination and scalability, and provision and sustainability, respectively. These tensions have some different characteristics. The coordination tension is inherent and dependent on the sharing economy model. On the other hand, the tension resulting from provision's lack of supply is an acted-upon dilemma, leading to a change in configurations and sustainability consequences.

#### 4.4. Towards a typology

Based on the two mechanisms of coordination and provision, a typology is developed (see Fig. 2) in which the seven configurations are plotted. Their positions in the figure are determined by whether provision and use are separate or require coordination (vertical axis) and whether provision is limited or balanced through, for instance, the platform providing resources (horizontal axis). The figure names four



**Fig. 2.** Typology. Arrow indicates the positioning between small-scaled (upper-right) and large-scaled (lower-left) configurations. Reversely, the arrow expresses the sustainability – non-sustainability of the configurations.

types, which bring together the seven configurations, expressing their coordination and provision issues, as well as their sustainability and scalability. Here is a brief introduction to the four types.

1. **True sustainable:** This type harks back to Belk (2014) and the concept of true sharing, where services are co-used among peers. Sharing economy models falling under this type face difficulties in scaling, as co-use requires advanced coordination. In this type, the provider simultaneously acts as a user (cf. Öberg, 2021), and any limitation in provision also limits the co-use. Socializing is an inherent part of this type, as is the non-depletion of resources.
2. **Resource efficiency:** This type aligns with Frenken and Schor's (2017) description of a service-to-product continuum in the sharing economy. Sharing economy models falling under the resource-efficiency type are product-based, with peer-to-peer exchanges, with or without ownership transfer. Locality is a coordination issue, particularly related to the temporal use of someone else's resources, and these configurations have indicated a lack of provision. This type entails for-free or cheap use for individuals at the base of the pyramid while largely excluding socializing.
3. **Uni-sided:** This type describes sharing economy models that are typically one-sided, where the platform and provider are one and the same, to address provision issues. The resolved provision comes at the expense of sustainability, also excluding for-free use.
4. **Sharewashing:** This type, reusing a term from the debate discourse on sustainability (greenwashing), consists of fundamentally traditional operations that are positioned as part of the sharing economy by themselves or by others (Henry et al., 2021; Martin, 2016). The type includes the configurations of services and products created specifically for the user while not being more sustainable than traditional business models and possibly exploiting workers.

The figure illustrates how scalability is enabled on the left-hand side through added provision but at the expense of sustainability, while coordination remains an unresolved issue for scalability but with more or fewer coordination issues depending on the configuration along the vertical axis of the figure. Coordination is particularly vital in relation to socializing and community building.

## 5. Conclusions

This paper categorizes sharing economy models based on different resource uses to discuss the tension between sustainability and scalability of sharing economy models. It establishes the presence of a reverse connection between sustainability and scalability, and proceeds to explain this connection by examining various sharing economy model configurations. The paper introduces seven resource-use configurations: co-use, re-use, repeated use, pooling of resources, sustainable output, services and products created specifically for the user. These configurations offer a nuanced yet systematic depiction of sharing economy models.

The configurations fall into two categories: those that are scalable but compromise on sustainability (pooling and models creating services or products specifically for the user), and those that are sustainable but face scaling challenges (co-use, re-use, repeated use, and sustainable output). Additionally, the configurations suggest correlations between socially and environmentally sustainable sharing economy models. Coordination and provision emerge as key factors explaining the tension between sustainability and scalability, where coordination creates tension with scalability, and provision with sustainability.

### 5.1. Theoretical contributions

The theoretical contributions of this paper reside in its configurations, typology, and provision and coordination explanations regarding the sustainability and scalability issues of sharing economy models. The seven configurations and the uni-sided, true-sustainable, sharewashing, and resource-efficiency types, systemize the diverse and fragmented sharing economy landscape (Klarin and Suseno, 2021; Sanchez-Perez et al., 2021) and its relation to scalability (cf. Wei et al., 2021) and sustainability (De las Heras et al., 2021; Meshulam et al., 2024).

In greater detail, the paper firstly *elucidates the ambiguity surrounding the sustainability of the sharing economy*. Research on the sharing economy is extensive, with sustainability as one of its key themes (Agarwal et al., 2019; Faraji et al., 2024). However, discussions on sustainability within the sharing economy often focus on individual platforms or the overarching phenomenon, overlooking the spectrum of sharing economy models. This paper's systematic categorization of a plethora of models brings clarity amidst the contentious and conflicting debates on sustainability in sharing economy research (e.g., De las Heras et al., 2021; Laukkanen and Tura, 2020; Sadiq et al., 2023), and importantly, it offers explanations regarding sustainability issues.

Secondly, the paper *tackles the absence of growth studies and contributions to defining and explaining growth in the sharing economy*. Growth and expansion have gone unquestioned (Wei et al., 2021). Most references to growth within the sharing economy are solely intended to contextualize a subject of study and have primarily revolved around the sharing economy phenomenon. This ambiguity leads to uncertainty about whether growth follows from the emergence of new platforms or the increase in user and provider numbers. A for-profit perspective (e.g., Martin, 2016) on growth seems to prevail in the literature, disregarding the potential expansion of non-market logic models. By tracing the evolution of sharing economy models, including non-market logic models, this paper enhances our understanding of expansion beyond the mere establishment of new platforms. Through capturing transformation for scalability, the provision issues and their tension with sustainability becomes heightened.

Thirdly, the paper *highlights both social and environmental sustainability, and how each of them relates to scaling*. Past research has predominantly emphasized environmental sustainability, leaving social sustainability significantly neglected (Qureshi et al., 2021a), both in terms of fostering socializing and ensuring access to cheap or for-free resources. This paper's incorporation of environmental and social sustainability considerations, along with its insights into how they co-vary related to scalability, offers a comprehensive approach to sustainability.

Through emphasizing socializing in configurations with blurred roles (Öberg, 2021) between providers and users (co-use and sustainable output), while focusing on cheap or for-free access in product-based (Frenken and Schor, 2017) configurations (re-use, repeated use), conclusions are drawn related to how environmental and social sustainability are connected along resource-use configurations.

Fourthly, and directly pertinent to the paper's focus, it *explains the assumed tension between the sustainability and scalability of sharing economy models* (cf. Wannagsa and Gold, 2020). The paper not only highlights the underlying factors of such tension – namely, coordination and provision – but also elucidates how growth is facilitated and at what expenses to sustainability. This significantly adds to existing discussions on the sharing economy's lost sustainability as it has expanded (De las Heras et al., 2021; Laukkanen and Tura, 2020; Sadiq et al., 2023).

Lastly, the paper *engages in theorizing in a field often focused at practical or empirical contributions*. Review articles (e.g., Agarwal and Steinmetz, 2019; Elkattan et al., 2023; Sanchez-Perez et al., 2021) consistently highlight that sharing economy research tends to be empirical in its conclusions, focusing, for instance, on incumbent firms entering the sharing economy (Ciulli and Kolk, 2019) or bike-sharing (Gao and Li, 2020). This paper's configurational and typological theorizing, coupled with its explanatory insights, propel sharing economy research beyond mere empirical observations and towards theory development.

### 5.2. Managerial implications

For managers overseeing platforms in the sharing economy, the configurations developed in this paper provide valuable insights to reassess their operations and analyze their implications. Managers should identify underutilized resources suitable for sharing, understand the potential for co-use services, and devise strategies to encourage resource provision for re-use, repeated use, and co-use. Addressing social issues and facilitating coordination among parties to enable co-use and re-use are also crucial considerations. Balancing scalability with sustainability and attracting providers should be managed thoughtfully, with a focus on underlying sustainable resources such as electric vehicles or bikes, while minimizing the impact of pooled resources by the platform.

### 5.3. Ideas for further research

This paper importantly provides answers related to whether and how the growth of the sharing economy compromises sustainability. However, additional studies can advance the findings presented here. Future research avenues include quantitative studies that operationalize sustainability and scalability dimensions to deepen analyses and validate the current findings. Expanding sustainability analyses to incorporate life-cycle assessments and supply-chain/network perspectives could offer comprehensive insights, including descriptions of their effects on upstream supply related to the base of the pyramid (Fontana et al., 2021; Öberg et al., 2012). Additionally, exploring measures of scalability, including non-profit and for-free operations, would be valuable for quantitatively testing the present findings. Integrating tension theories (cf. Öberg et al., 2020) with sustainability and scalability explaining mechanisms could enhance future research. On a macro-level, addressing the issue of growth as a measure of welfare, particularly in relation to re-use and the base of the pyramid, is a significant area for further research and debate.

### CRedit authorship contribution statement

**Christina Öberg:** Writing – review & editing, Writing – original draft, Visualization, Validation, Methodology, Investigation, Formal analysis, Data curation, Conceptualization.



## Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

## Data availability

Data consists of mainly Swedish press and documents. Excel coding

## Appendix A. Researched sharing economy models

Platform	Description	Resource use configuration	Sustainability	Scalability
Uber	Journeys produced specifically for consumers	Service created specifically for the user	Not more sustainable than traditional service. Possible discrimination of users and exploitation of providers.	Scale, spread around the globe. Not profitable in small cities. Provider willingness as possible bottle neck.
Swopshop	Clothes swapping and buying. Locally operated at store in Malmö	Re-use	Increasing efficiency of resource. Allowing for inclusion in consumption (BoP).	Local operations only (constraining scalability)
Airbnb	Increasingly more estates produced specifically for Airbnb purposes	Service created specifically for the user (to possible use of latent resource).	Not more sustainable than traditional service (hotel). Possible discrimination.	Scaled, spread around the globe.
Uberpop	Uber but with co-servicing consumers	(Co-use)	Efficiency in use (not further depletion due to co-use).	Cancelled due to legal requirements.
TaskRunner	Simple services on users' demands	Service created specifically for the user	Not more sustainable than traditional service. Possible exploitation of providers.	User and provider needs to be located close by, no scaling issues.
Buddler	Simple services on users' demands	Service created specifically for the user	Not more sustainable than traditional service. Possible exploitation of providers.	User and provider needs to be located close by, no scaling issues.
Sunfleet	Leasing and renting of cars. Fleet specifically for the operations	(Pooling of resources)	Repeated use of resource manufactured specifically for the 'sharing'.	Large-scale operations. No scaling issues (beyond profitability related to small towns, etc.)
Airdine	Strangers offering meals to one another. Meals produced specifically for users	Product created specifically for the user	Not more sustainable than traditional product transfer. Possible social interaction.	No longer operating due to difficulties finding providers.
Yepstr	Basic services (e.g., dog watching) created specifically based on customers' demand	Service created specifically for the user	Not more sustainable than traditional service.	No scaling issues beyond providers and users located closely.
Freelway	Transportation of goods. Some transports created specifically for Freelway, others being based on individuals bringing parcels with them while traveling anyway	(Co-use)	When co-transported: minimum footprint added.	Scaling issues in the coordination for co-use.
Meetrd	Renting out of office space. Space specific for the operations, while there regardless of use/no-use	Repeated use of latent resource	Efficient use of latent resource. Possible social interaction.	Scaling issue based on the presence of free premises.
Bundling	Renting out of toys	Pooling of resources	Repeated use of resource manufactured specifically for the renting.	No scaling issues. Provision adjusted to demand.
Hoodifood	Locally produced vegan food. Food produced and distributed specifically for customers	Product created specifically for the user	Not more sustainable than traditional product. Possible social interaction.	Scaling issue related to local presence and lack of providers.
Palaver Place	Free places in restaurants, etc., rented out as mobile offices	Repeated use	Efficient use of latent resource.	Provision issues.
Rentl	Renting of tools, etc., from those having them while not using them	Repeated use	Efficient use of latent resource.	Provision issues, local presence required (owner and user needs to meet for the temporal rental. Coordination issues.
Baghitch	Transportation of goods by drivers driving to the destination anyway	Co-use	No added depletion.	
Fritidsbanken	(Free) lending of sports equipment from those not using it at the time	Repeated use	Efficient use of latent resource.	Coordination issues (local presence required)
Skjutsgruppen	Co-riding	Co-use	No added depletion. Social interaction.	Coordination issues based on parties needed to want to travel between the two same destinations at a given time.
Car2Go	Car renting; cars specifically pooled for the service	(Pooling of resources)	Repeated use of resource manufactured specifically for the renting.	Scaled.
Citorent	Renting out of tools, etc., when not used by owners	Repeated use	Efficient use of latent resource.	Local presence required.
Hygglo	Renting out of tools, etc., when not used by owners	Repeated use	Efficient use of latent resource.	Local presence required.
Kollaborativ Ekonomi	The sharing of resources of various kinds	Repeated use	Efficient use of latent resource	Local presence required.
Snappcar	Renting of cars not used by owners	Repeated use	Efficient use of latent resource	Local presence required.

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sheets can be made available upon request

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Platform	Description	Resource use configuration	Sustainability	Scalability
Kollektiva	Help with pension funds	Service created specifically for the user	Not more sustainable than regular service.	Scalable.
RentAway	Renting out of holiday homes while not used by owners	Repeated use	Efficient use of latent resource	Provision constraints.
SharingCityGbg	Sharing, lending, swapping in local municipality	Re-use	Increasing efficiency of resource. Possible inclusion of BoP.	Local presence required.
Urb-it	Deliveries performed by parties doing them on the order of customers	Service created specifically for the user	Not more sustainable than regular service.	Scaled.
Delbar	Renting or selling items not or no longer used	Re-use	Increasing efficiency of resource. Possible BoP.	Possible local presence for coordination (renting).
Lynk & Co	Buying or leasing of cars	Service created specifically for the user	Not more sustainable than regular service.	Scalable.
Cykelkök	Repair and service of bikes	Service created specifically for the user	Not more sustainable than regular service.	Local presence constraining scaling.
Foodora	Delivery of foods from restaurants to consumers	Service created specifically for the user	Not more sustainable than regular service.	Scaled around the world.
BMW/DriveNow	Carpooling/leasing. Cars specifically allocated to the service	Pooling of resources	Repeated use of resource manufactured specifically for the 'sharing'.	Scaled.
Cirqs (Hyber)	Lending of kids' clothes	Repeated use	Efficient use of latent resource.	Local presence or transports affecting sustainability. Coordination issues.
Didi Chuxing	Ride sharing	Co-use	Not added depletion. Possible socializing.	Provision lacking.
Homii	Platform for apartment lets	Service created specifically for the user	Not more sustainable than regular service.	Provision lacking.
GoMore	Co-riding service to coordinate parties going to the same destination	Co-use	Not added depletion. Possible socializing.	Coordination issues related to co-use.
Addcreators	Connecting creative individuals	Service created specifically for the user	Not more sustainable than regular service.	Issue of demand and supply.
Blablacar	Carpooling for shared journeys to the same destination	Co-use	No added depletion. Possible social interaction.	Coordination issues related to co-use.
Budbee	Delivery service based on customers' requests	Service created specifically for the user	Not more sustainable than regular service. Possible exploitation of workers.	Scaled.
Clickworker	Micro tasks (including specific skills) based on customers' requests	Service created specifically for the user	Not more sustainable than regular service.	Provision requested.
Cool Company	Company for freelancing individuals to place their business at	Service created specifically for the user	Not more sustainable than regular service.	Scaled. Revenues based on fees from users.
Drive Back	Using return transports of rented cars for transportation	Co-use	No added depletion.	Dependent on provision and coordination.
Grannsakker	Local coordination of renting/borrowing of tools, etc.	Repeated use	Efficient use of latent resource.	Local presence required.
Lendify	Money borrowing/lending	Service created specifically for the user	Not more sustainable than regular service.	Scaled.
RentATrend	Renting of clothes and bags	Repeated use	Efficient use of latent resource.	Local presence required.
Sportotek	Youths can borrow sports equipment. Equipment specifically acquired for the operations	(Pooling of resources)	Repeated use of resource manufactured specifically for the renting. Social inclusion.	Local presence required.
Tipptapp	App for recycling	Sustainable output	Sustainability created. Socializing possible.	Depending on interest. No longer active.
Boodla	Services specifically created but with a focus on sustainability in outcome	Sustainable output	Repeated use of resource manufactured specifically for the renting.	Local presence required.
Gett	Taxi coordinator	Service created specifically for the user	Not more sustainable than regular service.	Scalable.
Growgbg	Coordination of those owning plots and those wanting to garden	Repeated use	Efficient use of latent resource. Possible socializing.	Provision issue.
Moveabout	Electric carpooling	Pooling of resources	Repeated use of resource manufactured specifically for the renting.	Scaled.
Retoy	Education and playground based on volunteers	Re-use	Increasing efficiency of resource. Socializing enabled.	Local presence required.
Sporthyra	Renting of sports equipment. Equipment specifically acquired for the purpose	Pooling of resources	Repeated use of resource manufactured specifically for the renting.	Scaled through multiple destinations.
Swap.com	Buying and selling of used clothes	Re-use	Increasing efficiency of resource.	Provision issue.
Werel – Nordic Light	Leasing of sun power equipment	Sustainable output	Sustainable output, community based.	Local presence required.
Cargospace24	Coordination of transports, but also transports specifically performed to meet customers' wishes	(Co-use/Service created specifically for the user)	Co-use includes no further depletion. Service specifically created not more sustainable than other services.	Scalable predominately of service created specifically for user.
Fundedby.me	Coordination of funders and those needing funding	Service created specifically for the user	Not more sustainable than regular service.	Scaled.
HyraHyra	Renting and borrowing of diverse goods	Repeated use	Efficient use of latent resource.	Local presence required.
Klädoteket Göteborg	Borrowing of clothes. Clothes (partly vintage) specifically acquired for the purpose	Pooling of resources	Repeated use of resource acquired specifically for the renting.	Efficient use of latent resource.

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Platform	Description	Resource use configuration	Sustainability	Scalability
Säsongsmat	Marketing of seasonal food	Service created specifically for the user	Not more sustainable than regular service.	Scalable.
Swinga bazaar	Borrowing and lending of tools, locally arranged	Repeated use	Efficient use of latent resource.	Local presence required.
UberGreen	Electric rides	Service created specifically for the user	Not more sustainable than regular service. Resource environmentally sustainable.	Scalable.
WayWay	Coordination of taxi rides to the same destination. Service though produced specifically for the customers	Co-use	Not added depletion.	Coordination issue.

## References

- Agarwal, N., Steinmetz, R., 2019. Sharing economy: a systematic literature review. *Int. J. Innovat. Technol. Manag.* 16 (6).
- Ahsan, M., 2020. Entrepreneurship and ethics in the sharing economy: a critical perspective. *J. Bus. Ethics* 161 (1), 19–33.
- Arrigo, E., 2022. Digital platforms in fashion rental: a business model analysis. *J. Fash. Mark. Manag.* 26 (1), 1–20.
- Baden-Fuller, C., Morgan, M.S., 2010. Business models as models. *Long. Range Plan.* 43 (2–3), 156–171.
- Belarmino, A., Koh, Y., 2020. A critical review of research regarding peer-to-peer accommodations. *Int. J. Hospit. Manag.* 84, 102315.
- Belk, R., 2014. You are what you can access: sharing and collaborative consumption online. *J. Bus. Res.* 67 (8), 1595–1600.
- Benjaafar, S., Kong, G., Li, X., Courcoubetis, C., 2019. Peer-to-peer product sharing: implications for ownership, usage, and social welfare in the sharing economy. *Manag. Sci.* 65 (2), 477–493.
- Broccardo, L., Zicari, A., Jabeen, F., Bhatti, Z., 2023. How digitalization supports a sustainable business model: a literature review. *Technol. Forecast. Soc. Change* 187, 122146.
- Brundtland, G.H., 1987. *Our Common Future*. The World Commission on Environment and Development Oxford University Press, Oxford.
- Cheng, M., Edwards, D., 2019. A comparative automated content analysis approach on the review of the sharing economy discourse in tourism and hospitality. *Curr. Issues Tourism* 22 (1), 35–49.
- Cherry, C., Pidgeon, N.F., 2018. Is sharing the solution? Exploring public acceptability of the sharing economy. *J. Clean. Prod.* 195, 939–948.
- Ciulli, F., Kolk, A., 2019. Incumbents and business model innovation for the sharing economy: implications for sustainability. *J. Clean. Prod.* 214, 995–1010.
- Cohen, B., Kietzmann, J., 2014. Ride on! Mobility business models for the sharing economy. *Organ. Environ.* 27 (3), 279–296.
- Cohen, B., Munoz, P., 2016. Sharing cities and sustainable consumption and production: towards an integrated framework. *J. Clean. Prod.* 134, 87–97.
- Curtis, S.K., 2021. Business model patterns in the sharing economy. *Sustain. Prod. Consum.* 27, 1650–1671.
- De las Heras, A., Relinque-Medina, F., Zamora-Polo, F., Luque-Sendra, A., 2021. Analysis of the evolution of the sharing economy towards sustainability. Trends and transformations of the concept. *J. Clean. Prod.* 291, 125227.
- Denzin, N.K., Lincoln, Y.S. (Eds.), 2000. *Handbook of Qualitative Research*. Sage Publications, Inc, Thousand Oaks, California.
- Dess, G.G., Newport, S., Rasheed, A.M.A., 1993. Configuration research in strategic management: key issues and suggestions. *J. Manag.* 19 (4), 775–795.
- Elkattan, A., Gavilan, D., Elsharnouby, M.H., Mahran, A., 2023. Mapping sharing economy themes: science mapping, topic modeling, and research agenda. *J. Market. Anal.* early cite; <https://doi.org/10.1057/s41270-023-00238-2>.
- Faraji, M., Seifdar, M., Amiri, B., 2024. Sharing economy for sustainability: a review. *J. Clean. Prod.* 434, 140065.
- Fontana, E., Öberg, C., Poblete, L., 2021. Nominated procurement and the indirect control of nominated sub-suppliers: evidence from the Sri Lankan apparel supply chain. *J. Bus. Res.* 127, 179–192.
- Frenken, K., Schor, J., 2017. Putting the sharing economy into perspective. *Environ. Innov. Soc. Transit.* 23, 3–10.
- Gao, P., Li, J., 2020. Understanding sustainable business model: a framework and a case study of the bike-sharing industry. *J. Clean. Prod.* 267, 122229.
- Geissinger, A., Laurell, C., Öberg, C., 2021a. Copycats among underdogs - echoing the sharing economy business model. *Ind. Market. Manag.* 96, 287–299.
- Geissinger, A., Laurell, C., Öberg, C., Sandström, C., 2019. How sustainable is the sharing economy? On the sustainability connotations of sharing economy platforms. *J. Clean. Prod.* 206, 419–429.
- Geissinger, A., Laurell, C., Öberg, C., Sandström, C., Sick, N., Yuliano, S., 2021b. Social media analytics for knowledge acquisition of market and non-market perceptions in the sharing economy. *J. Knowl. Manag.* 25 (2), 500–512.
- Geissinger, A., Pelgander, L., Öberg, C., 2021c. The identity crisis of 'sharing': from the co-op economy to the urban sharing economy phenomenon. In: Sigler, T., Corcoran, J. (Eds.), *The Modern Guide to the Urban Sharing Economy*. Edward Elgar Publishing, pp. 41–55.
- Gill, F., Elder, C., 2012. Data and archives: the Internet as site and subject. *Int. J. Soc. Res. Methodol.* 15 (4), 271–279.
- Gioia, D.A., Corley, K.G., Hamilton, A.L., 2013. Seeking qualitative rigor in inductive research: notes on the Gioia methodology. *Organ. Res. Methods* 16 (1), 15–31.
- Govindan, K., Shankar, K.M., Kannan, D., 2020. Achieving sustainable development goals through identifying and analyzing barriers to industrial sharing economy: a framework development. *Int. J. Prod. Econ.* 227, 107575.
- Grinevich, V., Huber, F., Karatas-Ozkan, M., Yavuz, C., 2019. Green entrepreneurship in the sharing economy: utilising multiplicity of institutional logics. *Small Bus. Econ.* 52 (4), 859–876.
- Gruber, M., Heinemann, F., Brettel, M., Hungeling, S., 2010. Configurations of resources and capabilities and their performance implications: an exploratory study on technological ventures. *Strat. Manag. J.* 31, 1337–1356.
- Gupta, P., Chauhan, S., 2021. Mapping intellectual structure and sustainability claims of sharing economy research – A literature review. *Sustain. Prod. Consum.* 25, 347–362.
- Guyader, H., Piscicelli, L., 2019. Business model diversification in the sharing economy: the case of GoMore. *J. Clean. Prod.* 215, 1059–1069.
- Hamari, J., Sjöklint, M., Ukkonen, A., 2016. The sharing economy: why people participate in collaborative consumption. *Journal of the Association for Information Science & Technology* 67 (9), 2047–2059.
- Heinrichs, H., 2013. Sharing economy: a potential new pathway to sustainability. *GAIA - Ecological Perspectives for Science and Society* 22 (4), 228–231.
- Henry, M., Schraven, D., Bocken, N., Frenken, K., Hekkert, M., Kirchherr, J., 2021. The battle of the buzzwords: a comparative review of the circular economy and the sharing economy concepts. *Environ. Innov. Soc. Transit.* 38, 1–21.
- Hira, A., Reilly, K., 2017. The emergence of the sharing economy: implications for development. *J. Develop. Soc.* 33 (2), 175–190.
- Hossain, M., 2020. Sharing economy: a comprehensive literature review. *Int. J. Hospit. Manag.* 87, 102470.
- Hu, J., Liu, Y.-L., Yuen, T.W.W., Lim, M.K., Hu, J., 2019. Do green practices really attract customers? The sharing economy from the sustainable supply chain management perspective. *Resour. Conserv. Recycl.* 149, 177–187.
- Jessop, B., 2005. Critical realism and strategic-relational approach. *Critical Realism Today* 56, 40–53.
- Jiang, F., Zheng, X., Fan, D., Zhang, P., Li, S., 2021. The sharing economy and business model design: a configurational approach. *J. Manag. Stud.* 58 (4), 949–976.
- Kathan, W., Matzler, K., Veider, V., 2016. The sharing economy: your business model's friend or foe? *Bus. Horiz.* 59 (6), 663–672.
- Klarin, A., Suseno, Y., 2021. A state-of-the-art review of the sharing economy: scientometric mapping of the scholarship. *J. Bus. Res.* 126, 250–262.
- Klein, S., Schneider, S., Spieth, P., 2021. How to stay on the road? A business model perspective on mission drift in social purpose organizations. *J. Bus. Res.* 125, 658–671.
- Laamanen, T., Pfeffer, J., Rong, K., Van de Ven, A.H., 2018. From the editor: editors' introduction: business models, ecosystems, and society in the sharing economy. *Acad. Manag. Discov.* 4 (3), 213–219.
- Laukkanen, M., Tura, N., 2020. The potential of sharing economy business models for sustainable value creation. *J. Clean. Prod.* 253, 120004.
- Laurentia, R., Acuña, F.M.B., 2020. Exploring antecedents of behavioural intention and preferences in online peer-to-peer resource sharing: a Swedish university setting. *Sustain. Prod. Consum.* 21, 47–56.
- Light, A., Miskelly, C., 2019. Platforms, scales and networks: meshing a local sustainable sharing economy. *Comput. Support. Coop. Work* 28 (3–4), 591–626.
- Ma, Y., Rong, K., Luo, Y., Wang, Y., Mangalagiu, D., Thornton, T.F., 2019. Value co-creation for sustainable consumption and production in the sharing economy in China. *J. Clean. Prod.* 208, 1148–1158.
- Martin-Martin, J., Prados-Castillo, J., Jimenez Aguilera, J.d.D., Gonzalez, E., 2020. Interferences generated on the well-being of local communities by the activity of online platforms for tourist accommodation. *J. Sustain. Tourism.* 31 (2), 483–503.
- Martin, C.J., 2016. The sharing economy: a pathway to sustainability or a nightmarish form of neoliberal capitalism? *Ecol. Econ.* 121, 149–159.
- Martins, L.L., Rindova, V.P., Greenbaum, B.E., 2015. Unlocking the hidden value of concepts: a cognitive approach to business model innovation. *Strateg. Entrep. J.* 9 (1), 99–117.

- Merino-Saum, A., Jemio, P., Hansmann, R., Binder, C., 2023. Drivers and barriers to participation in the sharing economy: does the environment really matter? A systematic review of 175 scientific articles. *Resour. Conserv. Recycl.* 198, 107121.
- Meshulam, T., Goldberg, S., Ivanova, D., Makov, T., 2024. The sharing economy is not always greener: a review and consolidation of empirical evidence. *Environ. Res. Lett.* 19 (1).
- Mont, O., Palgan, Y.V., Bradley, K., Zvolaska, L., 2020. A decade of the sharing economy: concepts, users, business and governance perspectives. *J. Clean. Prod.* 269, 122215.
- Morris, M., Schindehutte, M., Allen, J., 2005. The entrepreneur's business model: toward a unified perspective. *J. Bus. Res.* 58, 726–735.
- Munoz, P., Cohen, B., 2017. Mapping out the sharing economy: a configurational approach to sharing business modeling. *Technol. Forecast. Soc. Change* 125, 21–37.
- Murillo, D., Buckland, H., Val, E., 2017. When the sharing economy becomes neoliberalism on steroids: unravelling the controversies. *Technol. Forecast. Soc. Change* 125, 66–76.
- Öberg, C., 2021. Disruptive and paradoxical roles in the sharing economies. *Int. J. Innovat. Manag.* 25 (4), 2150045.
- Öberg, C., 2023. Towards a typology of sharing economy business model transformation. *Technovation* 123, 102722.
- Öberg, C., Dahlin, P., Pesämaa, O., 2020. Tension in networks. *Ind. Market. Manag.* 91, 311–322.
- Öberg, C., Hüge-Brodin, M., Björklund, M., 2012. Applying a network level in environmental impact assessment. *J. Bus. Res.* 65 (2), 247–255.
- Osterwalder, A., Pigneur, Y., Tucci, C., 2005. Clarifying business models: origins, present and future of the concept. *Commun. Assoc. Inf. Syst.* 15, 751–775.
- Palátová, P., Rinn, R., Machoň, M., Paluš, H., Purwestri, R.C., Jarský, V., 2023. Sharing economy in the forestry sector: opportunities and barriers. *For. Pol. Econ.* 154, 103000.
- Parguel, B., Lunardo, R., Benoit-Moreau, F., 2017. Sustainability of the sharing economy in question: when second-hand peer-to-peer platforms stimulate indulgent consumption. *Technol. Forecast. Soc. Change* 125, 48–57.
- Piscicelli, L., Ludden, G.D.S., Cooper, T., 2018. What makes a sustainable business model successful? An empirical comparison of two peer-to-peer goods-sharing platforms. *J. Clean. Prod.* 172, 4580–4591.
- Plewnia, F., Guenther, E., 2020. The transition value of business models for a sustainable energy system: the case of virtual peer-to-peer energy communities. *Organ. Environ.* 34 (3), 470–503.
- Qureshi, I., Bhatt, B., Shukla, D.M., 2021a. *Sharing Economy at the Base of the Pyramid: Opportunity and Challenges*. Springer, Singapore.
- Qureshi, I., P, L., S, Zheng, Y., 2021b. Digital social innovation: an overview and research framework. *Inf. Syst. J.* 35 (1), 647–671.
- Qureshi, I., Sutter, C., Bhatt, B., 2018. The transformative power of knowledge sharing in settings of poverty and social inequality. *Organ. Stud.* 39 (11), 1575–1599.
- Reuschl, A., Tiberius, V., Filser, M., Qiuo, Y., 2022. Value configurations in sharing economy business models. *Review of Managerial Science* 16, 89–112.
- Ritter, M., Schanz, H., 2019. The sharing economy: a comprehensive business model framework. *J. Clean. Prod.* 213, 320–331.
- Sadiq, M., Moslehpour, M., Qiu, R., Hieu, V., Duong, K., Ngo, T., 2023. Sharing economy benefits and sustainable development goals: empirical evidence from the transportation industry of Vietnam. *Journal of Innovation and Knowledge* 8 (1), 1–10.
- Sanasi, S., Ghezzi, A., Cavallo, A., Rangone, A., 2020. Making sense of the sharing economy: a business model innovation perspective. *Technol. Anal. Strat. Manag.* 32 (8), 895–909.
- Sanchez-Perez, M., Rueda-Lopez, N., Marin-Carrillo, M.B., Teran-Yepez, E., 2021. Theoretical dilemmas, conceptual review and perspectives disclosure of the sharing economy: a qualitative analysis. *Review of Managerial Science* 15, 1849–1883.
- Short, J.C., Payne, G.T., Ketchen, D.J., 2008. Research on organizational configurations: past accomplishments and future challenges. *J. Manag.* 34 (6), 1053–1079.
- Uzunca, B., Rigtering, J.P.C., Ozcan, P., 2018. Sharing and shaping: a cross-country comparison of how sharing economy firms shape their institutional environment to gain legitimacy. *Acad. Manag. Discov.* 4 (3), 248–272.
- Vanhaverbeke, W., Chesbrough, H., 2014. A classification of open innovation and open business models. In: Chesbrough, H.W., Vanhaverbeke, W., West, J. (Eds.), *New Frontiers in Open Innovation*. Oxford University Press, Oxford.
- Vaskelainen, T., Munzel, K., 2018. The effect of institutional logics on business model development in the sharing economy: the case of German carsharing. *Acad. Manag. Discov.* 4 (3), 273–293.
- Ventresca, M.J., Mohr, J.W., 2002. In: Baum, J.A.C. (Ed.), *Archival Research Methods. Companion To Organizations*. Blackwell Publishers, pp. 805–828.
- Wang, Y., Xiang, D., Yang, Z., Ma, S., 2019. Unraveling customer sustainable consumption behaviors in sharing economy: a socio-economic approach based on social exchange theory. *J. Clean. Prod.* 208, 869–879.
- Wannagsa, L.L., Gold, S., 2020. Assessing tensions in corporate sustainability transition: from a review of the literature towards an actor-oriented management approach. *J. Clean. Prod.* 264 (10), 121662.
- Wei, X., Lo, C.K.Y., Jung, S., Choi, T.-M., 2021. From co-consumption to co-production: a systematic review and research synthesis of collaborative consumption practices. *J. Bus. Res.* 129, 282–294.
- Zhu, X., Liu, K., J, M.F.E.A., 2021. A systematic review and future directions of the sharing economy: business models, operational insights and environment-based utilities. *J. Clean. Prod.* 290, 125209, 290.
- Zott, C., Amit, R., 2010. Business model design: an activity system perspective. *Long. Range Plan.* 43 (2–3), 216–226.