Consumption Work in the Circular and Sharing Economy: A Literature Review

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Abstract

The 'Circular Economy' (CE) and the 'Sharing Economy' (SE) are two imaginaries of a more sustainable future that gained significant prominence in policy discourse and academic literature in recent years. A central promise and assumption, especially of the latter, is that they deliver more *convenient* solutions to consumers, relieving them from various household chores and providing hassle-free access to services. However, the positive implications in terms of the work consumers need to do are more frequently assumed than studied. Adopting the lens of 'consumption work', this report reviews existing literature on the circulation and sharing of goods and services to examine this proposition. To this end, a parsimonious framework and taxonomy is introduced to make sense of the interconnections and differences between modes of provision in the CE and SE. A key finding of this report is that many modes of provision based on principles of circulation and sharing, including the ones most strongly associated with convenience, involve significant work for consumers. Furthermore, there are considerable gaps in the literature, especially in relation to the consumption work involved in co-ownership, pooling, repeat exchanges, and avoidance of packaging. The observations are discussed in relation to four key themes emerging from the literature review: convenience, skill and creativity, care and value, and divisions of labour.

Key words: circular economy; sharing economy; consumption work; literature review; convenience; co-creation; prosumption

Summary of Findings

- The added convenience of CE/SE propositions is often assumed, but rarely studied. Methodological and theoretical choices made in many CE/SE studies frequently preclude the possibility to identify and describe the consumption work involved in CE/SE propositions.

- Existing research mainly focused on the experience of consumption work, but paid scant attention to divisions of labour and the ways consumption work relates to complementary economic processes within and beyond households.

- A parsimonious framework connecting the CE and SE is proposed

- While there is little recognition of the domestic sphere in CE/SE debates, wider research on modes of circulating and sharing reveals a wide array of consumption work activities in households.

- Of the various modes of provision based on the circulation or sharing goods or services, pooling, co-ownership, repeat exchanges, and avoiding packaging are most understudied in terms of consumption work.

- Engagement in CE/SE consumption requires various skills that are often found to be lacking among consumers

- Consumption work can be linked to care and a sense of responsibility, creating anxieties among consumers

- The various modes of provision in the CE/SE should not be seen in isolation: they compete for consumer involvement and taken together require significant coordination work on the part of consumers

- Existing knowledge of consumption work is clearly fragmented, both in terms of terminology and empirical focus. Consumption work has so far not been studied systematically in the CE/SE context beyond the foundational research of Wheeler and Glucksmann on recycling.

- While the concept of 'consumption work' has not been used so far in the CE/SE literature, it demonstrates great potential for illucidating processes in the circulation and sharing of goods and services are remain neglected in research on 'co-creation' or 'prosumption'.

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1 Introduction

This report presents the findings of a literature review relating to consumption work in the circular and sharing economy context. The concept of 'consumption work' was put forward by Miriam Glucksmann and Kathryn Wheeler to point at a set of activities that, while essential to many economic processes and consequential from a perspective of social inequality, have been neglected in the literature so far. A key contribution of this concept is to make visible historical shifts in divisions of labour along multiple dimensions. The sharing economy (SE) and circular economy (CE) are both hailed as solutions to persistent environmental (and partly social and economic) problems and come with imaginaries of a more or less radically different future of economic activity. Approaching the CE and SE from a consumption work lens raises important questions relating to shifts in divisions of labour implied in these imaginaries. In scoping out the literature on the sharing and circulating of products and services from a consumption work perspective, this report identifies avenues for further research. The review is based on key reports from non-governmental organisations and governments as well as academic literature found through a combination of keyword searches in SCOPUS database and snowballing technique (conducted in October 2018). Special attention is further paid to the domestic sphere as an important site of economic activity.

The report is organised as follows. Section 2 introduces the 'consumption work' concept and presents how this concept is adapted for the purposes of this report. This is followed by a discussion of the concepts of sharing and circulation in section 3. This section puts forward a framework that integrates various modes of provision involving sharing and/or circulating, providing a basic set of categories for organising the literature review. Section 4 considers references to consumption, the domestic sphere, and consumption work and related concepts within wider CE and SE discourses, being mainly based on NGO and government reports as well as published literature reviews. While section 5 collates existing research on consumption work relating to ownership-based consumption, section 6 does the same in relation to access-based consumption. Section 7 goes beyond single modes of provision and considers consumption work in relation to household waste reduction strategies as a whole. Finally, results are summarised and discussed in section 8.

2 Adopting a 'Consumption Work' Lens

The concept of 'consumption work' was developed by Miriam Glucksmann and Kathryn Wheeler in a series of publications (Glucksmann, 2009, 2013, 2014, 2016; Wheeler & Glucksmann, 2013, 2015a, 2015b). It emerged from a long-term project of Miriam Glucksmann to develop a coherent framework that captures the complex divisions of labour in modern society and make visible the interconnections and historical shifts across various boundaries (see Glucksmann, 2005). The 'socio-economic formations of labour' (SEFL) goes beyond employed labour and considers all forms of work. To analyse divisions of labour, a multidimensional conception of the SEFL was developed, consisting of (see figure 1):

1) Division of labour (DL) or *technical* division of labour: technical specialisation, both within organisation and across sectors; typically hierarchical allocation of labour; based on traditional conception of division of labour

2) Total social organisation of labour (TSOL) or *modal* division of labour: division across socio-economic modes including the state, market, not-for profit sector, household, and community

3) Division across instituted economic process (IEP) or *economic processual* division of labour: across the stages of production, distribution, exchange, and consumption

Figure 1: Dimensions of differentiation and integration of labour
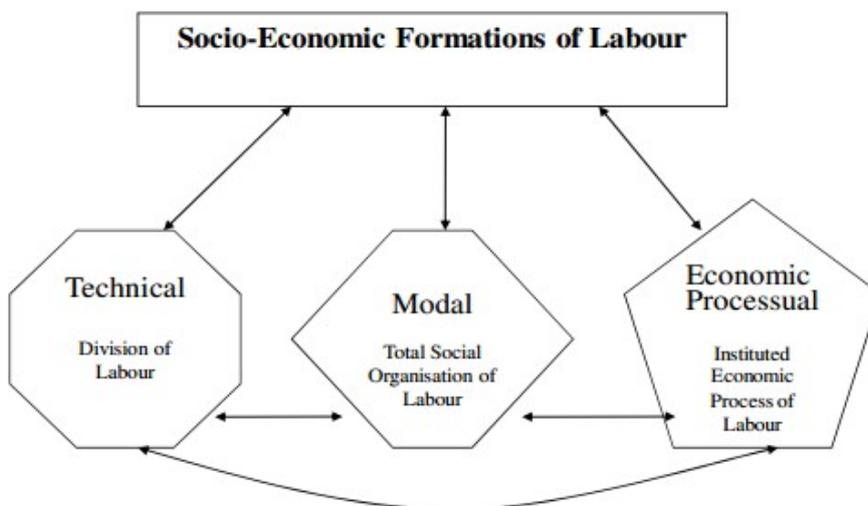
Source: Glucksmann (2013, p. 9)

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The economic processual division of labour is fundamental in bringing the work of consumers to the fore. Wheeler and Glucksmann argue that consumption work is not only distinct from consumption, but a key stage in the economic process that shapes what is actually consumed (2015a, p. 46). They define consumption work as "*all work necessary for the purchase, use, re-use and disposal of consumption goods and services*" (ibid., p. 37). Crucially, consumption work is not limited to activities that are experienced as work or necessary. One and the same activity can be both classified as consumption and consumption work. In this context the example of window shopping is given. Glucksmann (2013, p. 11) notes that many activities are taken for granted and thus not recognised or experienced as work, but could be classified as such considering their importance for economic activity. What separates consumption work out is that it is a distinctly economic activity that contributes to "material social reproduction" (ibid., p. 13). For Harvey (2007), an activity is constituted as economic through the interrelationship of the four stages of production, distribution, appropriation/exchange, and consumption.

The consumption work concept promises to capture various processes that other in the CE/SE discourse already established concepts like 'self-service', 'co-production', 'prosumption', and 'co-creation ignore'. Without going into too much detail, it is worth teasing out the main differences. Glucksmann and Wheeler (2015a) acknowledge that there are clear cross-overs between consumption work and such concepts, but highlight multiple differences both in terms of analytical scope and normative approach.

From a more normative perspective, they argue that existing approaches suffer from several biases. First, they suggest that the literature is divided into two camps, where the first praises increased consumer involvement for empowering consumers in the market (associated with prosumption, co-creation concepts), and the second views the same supposed trend in a negative view, highlighting the exploitation of consumers by producers. Wheeler and Glucksmann propose a more balanced account in this regard. Second, they suggest that most research adopts an ahistorical approach by focusing on recent shifts from market to consumer and ignoring countertrends. This links to a third point of criticism, namely the focus of existing research on sectors where work moves from market to consumer. Fourth, they argue that consumption work points to the waste that is (inadvertently) produced in the activities of consumers, not just the value that they co-produce.

In analytical terms, two points can be discerned from Wheeler and Glucksmann's discussion of consumption work and related concepts (2015a, pp. 53–54). First, they take issue with what they

see as a dualistic approach to consumption and production in the prosumption/co-creation/self-service/co-production literature. By contrast, the consumption work concept operates within a broad framework of the division of labour that relies on a conception of the economic process that distinguishes between four stages rather than two (adding distribution and appropriation). Second, the SEFL framework directs attention to how consumption work sits within the wider division of labour, making visible reconfigurations of labour beyond the economic process dimension.

Considering that existing concepts ignore such wider configurations, this is arguably one of the key strengths of the consumption work concept. Ideally, research into consumption work is thus case-based, multi-sited, and has both a geographical and historical component. In this respect, this report approaches consumption work more narrowly through focusing on the **work individual consumers or households need to do for their own consumption of goods and services**. Besides being an interesting realm of consumption work in its own right, such a focus makes it possible to integrate findings from the wide range of different activities that fall under the umbrellas of the CE and SE. At the same time, however, we retain an interest in how work shifts into and out of this sphere. In emphasising the divisions of labour across multiple dimensions, the consumption work concept is uniquely adapted to this task.

3 Organising the Circular/Sharing Economy Literature

Any literature review in the fields of CE and SE has to grapple with the vast number of competing definitions of each that accumulated over the years. Even more challenging is the question of the relationship between the two. This section makes an attempt at developing a basic framework for making sense of their respective modes of provision and how they overlap. The principal aim of this exercise is to develop a system on which basis the discussion of the literature can be structured.

A curious thing about the CE/SE literatures is that reviews in either field pay little tribute to the other and do not engage with the boundaries between the two. Indeed, the precise differences between the SE and CE have yet to be unpacked. Crossovers clearly exist and are acknowledged however, as each literature regularly incorporates specific modes of provision from the other as subcategories. In the case of the CE, sharing is considered as a possible strategy for slowing circulation (Bocken, Olivetti, Cullen, Potting, & Lifset, 2017; Homrich, Galvão, Abadia, & Carvalho, 2018; Lewandowski, 2016; see also review of grey literature in Lazarevic & Valve, 2017). Conversely, the principle of circulation (in the form of reuse) is included within broad definitions of the SE and collaborative consumption (e.g. Botsman & Rogers, 2010; Schor, Fitzmaurice, Carfagna, Attwood-Charles, & Poteat, 2016). A recent review of the CE literature on consumption also explicitly took the sharing economy into account (Camacho-Otero et al., 2018).

Both the CE and SE literature recently began to map respective modes of provision (mostly in the shape of business models in the case of CE) (Bocken, Pauw, Bakker, & Grinten, 2016; Ertz, Durif, & Arcand, 2016; Habibi, Kim, & Laroche, 2016; Lamberton & Rose, 2012; McLaren & Agyeman, 2015; Merli, Preziosi, & Acampora, 2018; Plewnia & Guenther, 2018; Ryu, Basu, & Saito, 2018; Trenz, Frey, & Veit, 2018), providing a basic repertoire of categorisations that can be useful for organising existing research. Building on this work and my own sense-making of the various literatures, I propose a basic framework as a heuristic device to capture and separate out various modes of provision in the CE/SE (see table 1).

The framework is based on categorisations along two dimensions, each drawn from previous research. The first relates to the **distinction between access- and ownership-based consumption**. The term 'access-based consumption' was introduced by Bardhi and Eckhardt and is increasingly taken up in the literature. They broadly define it as "transactions that may be market mediated in which no transfer of ownership takes place" (2012, p. 881). The notion of access-based

consumption strongly overlaps with 'product-service systems' (PSS), to an extent that some even use them interchangeably (e.g. Catulli et al., 2013). Both access-based consumption and product-service systems cover a wide range of modes of provision, leading to a second important axis based on **differences between sharing and exchange**. Focusing on use-oriented PSS, Tukker (2004) usefully distinguishes between three different models depending on the type of access that is granted to users: 1) leasing, involving individual and unlimited access, 2) renting/sharing, involving sequential access, 3) and pooling, involving simultaneous access. A similar categorisation can be found in Russell Belk's seminal work on sharing. He draws boundaries between traditional forms of sharing of which the pooling of resources is the prototypical form, commodity exchange with the prototypical one-time purchase of something for money, and gift giving (Belk, 2010). There are clear parallels to Tukker's more intuitively formulated categorisation, but gift giving is a narrower category than sequential/successive access. Rather than seeing gift giving as a separate category, Habibi and colleagues (2016) suggest that different modes of sharing can be placed on a continuum from sharing to exchange, with gift giving – like other forms of sequential sharing – constituting a compromise between the two. This brief discussion shows that the differences between sharing and exchange have produced some debate, but henceforth I follow Tukker and retain sequential sharing as a distinct category because it captures a set of literatures different from either leasing or pooling. While the same separation has so far not been discussed in relation to ownership-based consumption, it creates useful categories for organising this literature too.

Table 1: CE/SE modes of provision

Consumption	Individual	Sequential	Simultaneous
Access	individual access (e.g. leasing, pay-per-use)	sequential access (e.g. renting, borrowing)	simultaneous access (e.g. pooling)
Ownership	individual ownership (e.g. product care, repair, maintenance, reduce)	sequential ownership (e.g. second-hand, gift, reuse, repeat exchanges)	simultaneous ownership (e.g. co-owning)

Colours: yellow: circulation, red: sharing

In combination, the two categorisations access/ownership and individual/sequential/simultaneous help to make sense of the connections between the CE, SE, and related concepts. Modes of provision associated with sharing are coloured red in table 1, those associated with circulation are in yellow. While pooling can be considered the prototype of sharing according to Belk, the SE or collaborative economy is broader and includes also co-ownership, borrowing, rental, and reuse (see Botsman & Rogers, 2010). Rental and reuse are particularly controversial for including elements of commodity exchange, leading Belk (2014) to call these forms 'pseudo-sharing'. While still commonly referred to as sharing, it is unusual to think of leasing, recycling, or product care as acts of sharing by contrast. At the other side of the spectrum we find people accessing or owning resources alone, preventing 'waste' through product care, repair and maintenance, refurbishment, and recycling among other activities. Circulation occurs also through handing on, leasing, renting, and borrowing however, all of which fall under typical CE principles. Again, pooling and co-ownership are activities not encountered in the CE literature. Besides making visible activities that may be regarded as primarily about circulation or sharing, the heuristic device in table 1 shows where overlaps are strongest (orange areas).

The framework captures various CE/SE-related concepts such as the peer-to-peer economy, the second-hand economy, the collaborative economy, and product-service systems. While this review could have been organised according to these different concepts, this would not have been practical. For each concept, many different definitions exist and in addition, a problem of much research is that empirical cases are positioned within a specific field without examining the variety of ways in which particular innovations are enacted in practice. Recent ethnographies and practice-based studies demonstrated that the same model (e.g. carpooling) can be enacted in different ways (e.g. Davidson, Habibi, & Laroche, 2018; Fraanje & Spaargaren, 2019; Guyader, 2018; Habibi et al., 2016; Herbert & Collin-Lachaud, 2017).

Finally, this review includes only CE/SE literature with a clear sustainability connection. Although both the SE and CE have strong connections to the sustainability agenda (see Geissdoerfer, Savaget, Bocken, & Hultink, 2017), this link is not always evident. This is particularly the case in the 'on-demand economy'. Given that it rarely operates on the basis of underutilised assets (Frenken & Schor, 2017), this literature is excluded here. Equally, wider debates of servitisation and the service-based logic, while undoubtedly overlapping with the SE, typically lack a sustainability dimension and are consequently ignored. Finally, intangible and non-rival goods and services may fall under

the sharing paradigm (e.g. time banks), but again do not involve reductions in material consumption through circulation or sharing for the most part.

4 Consumption Work in the Circular/Sharing Economy: An Overview

This section examines how and to what extent consumption, the domestic sphere, and consumption work are represented in the CE/SE debate at a general level. Consultancy and NGO reports, general literature reviews, and discussion papers in and around CE/SE debates form the basis for this.

4.1 Circular/Sharing Economy and Consumption

Recent years witnessed a proliferation of systematic reviews of the CE literature as well as various attempts at synthesising this literature to draw out the boundaries and identify the key elements of the CE concept (e.g. Blomsma & Brennan, 2017; Bonciu, 2014; Camacho-Otero et al., 2018; Charonis, 2012; Geissdoerfer et al., 2017; Ghisellini, Cialani, & Ulgiati, 2016; Homrich et al., 2018; Kirchherr, Reike, & Hekkert, 2017; Lazarevic & Valve, 2017; Lewandowski, 2016; Lieder & Rashid, 2016; Merli et al., 2018; Mont & Heiskanen, 2015; Reike, Vermeulen, & Witjes, 2018; Winans, Kendall, & Deng, 2017). An up-to-date bibliometric literature review found that the CE literature is mainly clustered in terms of industrial symbiosis, supply chains, and business models (Homrich et al., 2018). In fact, many review articles barely mentioned and only referred to consumption as an external condition that needs to be changed. This is reflected in the research landscape. Ghisellini et al (2016) note that **consumption is a relatively under-researched area of inquiry in CE research**.

Kirchherr and colleagues (2017) suggest that this lack of research on consumption may be linked to the ways CE are defined. Of the 114 existing definitions they identified, only 19% included consumption. In part, this is related to a predominant focus on B2B markets which are considered more amenable to CE offerings. But several authors linked this lack of interest in consumption, the domestic sphere, and the role of citizens more broadly to problematic conceptions of the 'citizen' and the 'consumer' in CE literature (Hobson, 2016; Hobson & Lynch, 2016; Mylan, Holmes, & Paddock, 2016).

The centrality of the consumer or user is widely acknowledged in CE reports (see Welch, Keller, & Mandich, 2017). While they are predominantly seen as 'users', other authors linked the importance of consumers to the effectiveness of short loops and sufficiency and contrasted this with the more

technology-centred and efficiency-focused approach of closing loops (Bocken et al., 2016; Reike et al., 2018).

Key themes in relation to consumers in the CE discourse are:
- **'consumers as users'**: Lazarevic and Valve (2017) analysed dozens of NGO and intermediary reports on the CE, finding that the the 'shift from consumer to user' is one of three central expectations employed in their narratives. The EllenMacArthur Foundation (2013) makes clear that performance contracts, which involve the use rather than the consumption of products, are a key component of the CE.
- **'consumers as rational decision-makers'**: Predominantly individualistic accounts of consumers with a focus on isolated decisions rather than everyday life (Mylan et al., 2016; Welch et al., 2017).
- **consumer acceptance**: In the peer-reviewed CE literature, "deep-rooted consumer habits" are regularly invoked as major barriers to the uptake of CE-based solutions. In the words of Hobson and Lynch: "the CE rehearses a top-down, business-lead approach to change under which the consumer has to reject or accept new business models as well as the shift from a 'consumer' to a 'user'" (2016, p. 21).
- **consumption patterns are already changing**: Business-oriented reports emphasise that changing consumption patterns are a reality to which businesses need to adapt. Specifically, young, modern consumers are said to prefer access over ownership and online shopping over doing shopping trips (e.g. Bicket et al., 2014; Ellen MacArthur Foundation, 2013).

In stark contrast to the business-focused CE literature, **consumption is very prominent in the context of the SE**. Some commentators see in the latter the chance to transform consumption more deeply, linking sharing with other slower loops strategies:

> "New concepts and principles such as collaborative consumption, sharing and performance economy have begun to enrichen the CE framework. CE should not only be confined to production practices, but should also extend its concerns to the societal level, involving consumers and radical shifts in their behavior. […] It also emerged from the study that scholars have mainly devoted their attention to business models for closing resource loops. On the other hand, *little consideration was given to strategies aimed at slowing resource loops*. Therefore, further investigation on these strategies (e.g. sharing economy, collaborative consumption, remanufacturing, reuse, design, second-hand, product-service-system) may open the way to filling this lacuna" (Merli et al., 2018, p. 718, emphasis added).

Similarly, Korhonen and colleagues (2018) suggest that the SE brings a new consumption culture into the CE. However, such statements tend to overestimate the radicalness of the SE and forget

already existing practices. So far, empirical research on the SE and collaborative consumption have mainly focused on modes of provision at the exchange rather than sharing end (see Habibi et al., 2016). More traditional forms of sharing that are not based on digital platforms are barely featured in SE research and debate.

4.2 Circular/Sharing Economy and the Domestic Sphere

The **domestic sphere is barely recognised in the CE/SE literature**.[1] Mylan and colleagues have recently pointed at this gap (see also Holmes, 2018b):

> "In particular, we note the lack of attention paid to the domestic sphere, an important site and space for the enactment of practices which shape how and why consumers use particular products and services, how 'waste' is generated, and ultimately how this might be changed" (2016, p. 2).

Referring specifically to the SE literature, Laamanen and colleagues (2018) argue that 'householding practices' (as opposed to markets and reciprocity as forms of exchange) are neglected due to a lacking historical perspective and predominant focus on commercial applications. Klepp and Laitala add that "sharing within the household, outside the pecuniary market, appears still to be the most important and also the most understudied form of sharing" (2018, p. 153). A first step towards recognising the domestic sphere in the CE/SE was made with the introduction of the concept of 'sustainable homeservice', denoting "a service that relates to living at a home and contributes positively to sustainable development in its environmental, social and economic dimension" (Halme, Jasch, & Scharp, 2004, p. 130).

The domestic also features as a rhetorical device in the way the SE is framed. Fitzmaurice and colleagues find that SE providers "drew on frames from the domestic sphere to justify their participation in the sharing economy, and to distinguish their work from other economic arrangements" (2018, p. 5). They conclude that in practice, the sharing economy very much blurs boundaries of the market and the domestic (see also Richardson, 2015).

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1   A significant body of literature considers domestic practices of waste reduction but does not operate under CE/SE lables. This literature is briefly addressed in section 7.

4.3 Circular/Sharing Economy and Consumption Work

Compared to the SE discourse where notions of convenience are very prominent, there are few references to the implications of CE modes of provision for consumers in terms of effort and work. Some reports suggest that the CE relieves consumers from some efforts. The EllenMacArthur Foundation highlights in particular the **elimination of hassles from premature obsolescence**: "For the customer, overcoming premature obsolescence will significantly bring down total ownership costs and deliver higher convenience due to avoiding hassles associated with repairs and returns" (Ellen MacArthur Foundation, 2013, p. 76). A report for the European Environment Agency identifies additional benefits for consumers through improved reverse logistics and home delivery systems, which are argued to **reduce the need to leave the house and organise the transport of things** (De Schoenmakere & Gillabel, 2017).

Overall, some authors suggest that the CE rather **activates consumers** and relies on the co-creation of value, identifying this even as a distinct attribute of the CE compared to the 'linear economy:

> "In the linear economy, consumers are the last link of supply chains. Their participation is confined to the mere purchase of products, as well as to the compliance to the rules of planned and perceived obsolescence (Latouche 2009; Strausz 2009). Thereby, they are passive and unaware in their condition of intermediaries between retailers and waste collection. Even though there are examples of final users (consumers) eventually actively involved in process innovation, *it is a peculiarity of circular economy to engage consumers*, as well as all the other actors of supply chains, *in an active participation* for the recycling of materials (EMF 2013; Mylan et al. 2016)" (Borrello et al., 2017, p. 2, emphasis added).

Mont and Heiskanen too emphasise the activation of consumers:

> "a circular economy envisions a new role of consumers. This is especially visible in the recent trends of collaborative consumption and the sharing economy (Botsman and Rogers 2010). In addition to being consumers, individuals assume an active role in the co-production of utility (Ritzer et al. 2012). For example they become co-producers of electricity via smart grids or of food via urban gardens. Further consumers are rapidly (re)entering the 'maker movement' by fixing, repairing and upcycling products, from upgrading electric and electronic equipment, refurbishing houses to repairing and restoring cars. […] Consumers also engage in co-creating alternative systems of consumption based on sharing and exchange (Botsman and Rogers 2010; Murray et al. 2010), which utilize the idling capacity of already produced but rarely used products or services (for example, Freecycle), premises and facilities (for example, AirBnB), or even spare time and skills (for example, Task Rabbit). So consumers are *no longer passive recipients of goods and services on the market, but are actively co-creating production-consumption systems with novel properties* (2015, p. 40, emphasis added).

Hobson (2016) goes yet a step further and argues that CE initiatives like Fairphone raise important questions about the involvement of consumer-citizens, where consumers not only co-create new

goods and services, but are also engaged through various modes of **'everyday activism'**. While Hobson also emphasises the skills involved in co-creating, it needs to be added that the general emphasis in the CE literature is less on consumption work than on the role of **consumers as providers**. In their review of the CE/SE literature on consumption, Camacho-Otero and colleagues point to this lack of attention, raising the question: "What about the free labour that companies are getting by transferring assemblage or repair responsibilities to consumers?" (2018, p. 18).

In terms of empirical studies, there is remarkably little evidence on consumer motivations for participating in the CE as whole. A recent study (Cerulli-Harms et al., 2018) on consumer engagement in CE activities finds that **convenience plays a major role and necessary skills are often lacking**. Especially repairs are considered effortful, but some found it more convenient to repair items themselves rather than replacing them. However, the survey design shows that the convenience of some activities is often assumed rather than studied. While participants were given a convenience-related answer-option in the case of buying second-hand or leasing/renting, no equivalent was offered in the case of buying new. But overall, the results show that there is no simple link between the CE and convenience / consumption work for consumers.

In contrast to the CE literature, which barely acknowledges the contributions of consumers, the concepts of co-creation and prosumption are well-established in the SE / collaborative consumption context (e.g. Cai, Phang, Pang, & Zhang, 2017; Ertz et al., 2016; Laamanen, Barros, & Islam, 2018; Rayna & Striukova, 2016; Zhang, Jahromi, & Kizildag, 2018). As Belk (2014) points out, the concept of sharing is often used synonymously with co-creation, prosumption, co-production, consumer participation, and online volunteering. Similarly, Sutherland and Jarrahi (2018) argue that the **dual role as consuming producers and working consumers** is implicit in the idea of a peer-to-peer or sharing economy. In terms of empirical material, researchers called for more studies on co-creation in this area (Benoit, Baker, Bolton, Gruber, & Kandampully, 2017; Johnson & Neuhofer, 2017). However, co-creation and similar concepts are primarily employed to highlight the role of consumers as providers and less for directing attention to consumption work.

Quite to the contrary, the **added convenience is widely taken for granted and considered a key value proposition of the SE**. The following quotes taken from consultancy reports demonstrate this:

- "The phrase "frictionless" may be one of the most shopworn of 2015, but the buzzword should carry weight in the boardrooms across all industries. 43% of consumers agree that "owning today feels like a burden." And the most compelling promise of the sharing economy is that it alleviates burden – the burden of cost, of maintenance, of choice (or lack thereof) and countless other variables. Price will likely always be a factor, but as the sharing economy progresses and expands, creating a seamless experience will be imperative for success. Already, discerning consumers are factoring friction into the value equation. After all, time spent is time lost, and they're looking to capitalize on both dollars and minutes. As a result, flawless digital tools, elegantly simple search and seamless transactions are not merely a nice-to-have for companies today—they are a requirement" (PWC, 2015, p. 17).
- "it may give the misleading impression that sharing is about altruism and helping others. The success of the sharing economy, however, is based on the fact that people can exchange goods and services simpler, faster, and without much effort – and get paid – all through the Internet" (Deloitte, 2015, p. 5).
- "these [shared, on-demand, collaborative economy] services are often premised on removing the friction, hassle and inconvenience from users' everyday lives – for a price. For services that offer physical products, this might mean offering same-day delivery of a variety of household items so that users are saved a trip to the grocery store after a long day at the office. For more task-oriented services, this might mean offering users the ability to instantly summon a driver or personal chef at a moment's notice from a smartphone app" (Smith, 2016, p. 15).
- "The sharing economy is convenient for both the consumer and the service provider. It provides consumers with convenient and cost-efficient access to resources and to access various services with a few taps on their smartphones" (Ernst & Young, 2015, p. 19).

How much convenience benefits are taken for granted is further revealed in the design of consumer surveys. While some surveys offer convenience as an answer option when asking for benefits, an equivalent counterpart (such as effort) is not provided when asking for disadvantages or costs (Dall Pizzol et al., 2017; Eurobarometer, 2016). Existing surveys indicate that **convenience is of major importance to consumers in the case of Internet platform-facilitated sharing** (for a recent review of research on consumer participation in the SE see Andreotti, Anselmi, Eichhorn, Hoffmann, & Micheli, 2017), but the numbers vary:

- A Eurobarometer (2016) survey finds that **41%** of respondents consider the convenient access to services the main benefit of collaborative platforms, ahead of costs (33%), exchange rather than paying money (25%), new or different services (24%). The importance of convenience varies across countries (Ireland 62%, Denmark and Cyprus 27%) and socio-demographic groups.

- Deloitte (2015) survey in Switzerland: 65% low costs, 63% sustainable consumption, 49% more choice, **40%** more convenience. Asked whether the sharing economy offers more convenience to consumers, 7% strongly agree, 33% agree, 33% neither agree nor disagree, 9% disagree, 2% strongly disagree, and 16% don't know. This shows that consumers are not so sure about the convenience benefits, especially when one considers the biased question.
- A PWC (2015) survey among US respondents: 86% makes life more affordable, **83%** makes life more convenient and efficient, 78% builds stronger community, 76% better for environment, 63% more fun than engaging with traditional companies.
- Survey among US, British, and Canadian re-users of sharing platforms (Vision Critical, 2014): **75%** convenience, 68% better price, 36% product/service quality, 27% sustainable lifestyle, 26% couldn't find elsewhere, 23% connect locally, etc.
- Survey in UK (Ozcan, Möhlmann, & Krishnamoorthy, 2017): comparison of motivations in participating in "rides" and "places to stay": convenience on top with **86%/87%**, following by saving money 76%/80%, and curiosity 23%/36%, and environmental reasons 28%/31%.
- In the specific case of automotive sharing economy models (PWC, 2015): 56% better pricing, 32% more choice, **28%** more convenient access. The same report suggests that convenience is also a major motivation in the case of consumer goods.
- Andreotti et al (2018) ignore convenience benefits entirely even though they identified it as a key motivation in the literature. However, they did examine the reasons for not participating in the digital sharing economy. The statement "they are too cumbersome to use" is one reason for that, but not among the main ones (i.e. dislike sharing, privacy concerns, dislike interacting with strangers).

At last, it is worth mentioning that there are also some more critical voices about consumers contributions in the SE. Laamanen and colleagues explicitly problematise the consumption work required in the SE:

> "The literature on platform-based sharing illustrates various problems related to this economic transformation: including predatory practices of extracting rent from users' input (i.e. their 'consumer work'); failing to provide sufficient protection to (providing or consuming) users, and treating workers as independent contractors and entrepreneurs" (2018, p. 1221).

5 Ownership-based Consumption

This section encompasses various circular economy activities where consumers remain the owners of objects, owning them individually, sequentially, or simultaneously.

5.1 Individual Ownership: Reduce

The literature on waste reduction can be split in three categories 1) strategies of household waste prevention which focuses primarily on food as a non-durable product, 2) strategies of extending lifespans of durable products, and 3) strategies of reducing packaging, primarily at the point of purchase.

5.1.1 Household Food Waste

Household food waste has only recently been picked up in research, but has been studied extensively since then (see Roodhuyzen, Luning, Fogliano, & Steenbekkers, 2017; Schanes, Dobernig, & Gözet, 2018). Several studies made clear that **avoiding food waste requires much time and effort** and collides with busy lifestyles and desire for convenience, identifying this as a major factor underlying the generation of food waste (e.g. Aschemann-Witzel, Giménez, & Ares, 2018; Graham-Rowe, Jessop, & Sparks, 2014; Hebrok & Boks, 2017).

One strategy of reducing food waste is the planning of grocery shopping, but people under time pressure may fail to prepare a list, check what is already in the fridge, and coordinate with partners (Ganglbauer, Fitzpatrick, & Comber, 2013). Another strategy is to cook regularly and avoid convenience food. One study found that people who consume convenience food also tend to produce more food waste (Mallinson, Russell, & Barker, 2016). However, cooking requires a lot of planning too and may not be possible or convenient at times (Graham-Rowe et al., 2014). While most research suggests that only few people do a lot of planning, Evans (2014) challenges this approach, arguing instead that there occurs a high degree of planning and people go to great lengths to avoid food waste (describing the various activities), but people cannot account for the many contingencies of everyday life. Evans reports that spontaneous eating out and re-arrangements of everyday practices contribute to food waste. Moreover, food that takes time and effort to cook is

more likely to turn into waste (Evans, 2012). Finally, food waste may be reduced through systematic ordering of food, but this requires effort too (Waitt & Phillips, 2016).

While most food waste research establishes strong links between (in)convenience and food waste, few go beyond this and explore the consequences for the division of labour. One exception to this is a case study on the **'unpaid foodwork'** of households in Indonesia (Soma, 2016). The notion of foodwork captures all the work that goes into producing, procuring, and serving the food at home (see Brady, Power, Szabo, & Gingras, 2016), but Soma emphasises that it also involves the passing on of food-related knowledge such as waste prevention strategies, a contribution people participating in foodwork did not realise. A more detailed and comprehensive study was recently published by Fraser and Parizeau (2018). Building on the concept of foodwork, they study food waste from an explicitly feminist perspective. The study reveals the various work activities that go into avoiding food waste, the skills required, and the gendered division of such work. Finally, Mylan and colleagues (2016) mobilise the case of domestic food provisioning to emphasise the importance of the household as a site where food is transformed and divisions of labour become visible. They present **trade-offs between care and convenience** as particularly relevant in this case, suggesting that it is often women who have to make these trade-offs and carry the burden of guilt. The authors further highlight the specific challenges involved in reusing, sharing, and recycling food, requiring the right equipment, competences, and the coordination the daily schedules of household members.

5.1.2   Product Care, Repair, and Maintenance

The literature on consumer behaviour in relation to product lifetimes[2] is comprehensive too, but only parts of it have produced relevant insights in terms of consumption work. The purchasing process of buying long-lasting products has, with one exception, not been studied so far, as research focuses on purchasing motivations and information deficits. The exception is a detailed study of 'product lifetime optimisation' consumer behaviour across the phases of acquisition, use, and disposal (Evans, 2005; Evans & Cooper, 2010). Evans notes that participants not only lacked the knowledge and skills to identify long-lasting products, but also often tended to buy impulsively,

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2   Activities that prolong product lifetimes (e.g. taking care, repair to restore item) cannot be strictly separated from those creating new products (e.g. DIY). The closer to the latter, the more difficult it is to conceive activities in terms of consumption work (in the narrow definition applied in this report). This review thus leaves out extreme forms of DIY that are primarily about producing new objects.

leading to 'non-optimal' purchases. Some participants invested more time and effort in the purchasing process to avoid hassles later when using the product (Evans, 2005, p. 186). Collins (2013), by contrast, finds that many of her interview respondents (a sample of young consumers) invested considerable effort in prolonging the lives of their possessions. She concludes that young consumers often perceive replacing items as a necessity rather than enjoying it (Collins, 2013). Although there is little evidence on this phenomenon, this suggests that the **frequent replacement of durables is a source of inconvenience** for some people.

Case insight 1: Buymeonce.com

This website collates products that come with an unconditional lifetime guarantee and long-lasting electronic goods. These are typically advertised as 'hassle-free'. The website also features many tips for consumers on how to take care of things and find the most durable products. One article, for instance, responded to concerns over the higher effort in care-taking that iron pans require:

"Okay, well, they're too much work!

So is a puppy, but you aren't going to shove him in the cupboard and forget about him simply because little Fido watered the carpet again, are you? Iron pans may require a little extra love in the beginning, but if you put in the time and effort, the subsequent tasks will take all of five minutes and you'll have a well-behaved pan for the rest of your life."
(https://uk.buymeonce.com/blogs/articles-tips/how-to-care-for-iron-pans, retrieved on May 1st, 2019)

The company's founder recently published a book (Button, 2018).

Very little is known about specific consumer practices of product care (including repair and maintenance such as cleaning) and why these are done or not, as most research focuses on design for durability and repairability.[3] Evans (2005) reports that some participants accepted responsibility for the lifespan of their possessions and took significant care. She further found that some participants undertook repairs simply as a matter of habit and some liked to use such opportunities to be a bit creative. Some even seemed to take great satisfaction from prolonging product lifespans through cleaning and repair. However, other participants perceived cleaning (as an activity of

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3 There is a significant body of research on the consumers' use of care labels (e.g. Shin, 2000) and indirect product care (e.g. laundry frequency) which this review does not include. Furthermore, notions like care and maintenance can be fairly ambiguous at times. For example, laundry and drying are often regarded as 'maintenance' activities and studies rightly point to their resource intensity (Laitala, Boks, & Klepp, 2011), but strictly speaking these activities accelerate the wear and tear of clothes, raising questions about what exactly is being maintained.

maintenance) in particular as a chore and increasingly considered it too tedious after years of cleaning their homes.

A recent study corroborates these findings, making clear that taking care requires consumers' time, effort, and competences and that these factors prevented some interview participants in taking care of products, but also highlighting that some people like to do repairs on their own, considering it as a challenge and perceiving it as fun. For some it is also a form of rebellion against companies that make products difficult to repair (Ackermann, Mugge, & Schoormans, 2018). Twigger Holroyd (2016) discusses in some detail the time invested in various clothing-related activities such as shopping, mending, and knitting and to what extent these are perceived as leisure or chore. She shows that even when people perceive mending as leisure, they are worried that it could turn out to be a waste of time and that they might not find time to do it in the first place. A study on upcycling too finds that this activity requires significant time and effort (Bridgens et al., 2018). Klepp and Laitala (2018) usefully distinguish between three types of mending that may point to the degree of work or pleasure involved in such practices: 1) 'static repair' as restoring an item, 2) 'dynamic repair' as repurposing, and 3) making (sewing or knitting) as creating something new. Analysing Norwegian women's magazines, Klepp identified a **historical shift from more time-consuming mending to simpler methods that emphasise creativity**. She suggests that mending has turned from housework into a hobby (cited in Klepp & Laitala, 2018). Related to this, a recent qualitative study of British households finds that while reuse, recycling, and repair activities are primarily motivated by conscience and financial necessity, more creative activities like upcycling and gifting are perceived as pleasures (Holmes, 2018c). The same study focuses on motivations for participating in such activities and investigates them from the perspective of thrift, but also highlights the interwovenness of consumption and production as well as the gendered division of household labour in the case.

Like Holmes, Gregson et al (2009) and Carr (2017) investigated maintenance and repair activities within the home and also recognise this as work.[4] While the former highlight the importance of this work for consumption and how repair impacts on the biographies of things, the latter examines how repair skills travel from paid work at industrial production sites to homes and thereby contribute to the division of repair work at home. The importance of repair and mending skills is a common theme in the literature (e.g. Ackermann et al., 2018; Fisher, Cooper, Woodward, Hiller, & Goworek,

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4   See also the study on domestic repair practices by Durrani (2018)

2008; Norum, 2013). But acquiring these skills requires work too. A study on care and maintenance activities in the case of vacuum cleaners, for instance, shows that most consumers do not even read the use instructions that come with the product and even less made use of other information sources regarding repair and maintenance (Salvia, Cooper, Fisher, Harmer, & Barr, 2015). Beyond undertaking repair oneself, inconvenience may also prevent people from sending EEE back for repairs (Scott & Weaver, 2014), even though this is not found to be a major factor (Bovea, Pérez-Belis, & Quemades-Beltrán, 2017; Pérez-Belis, Braulio-Gonzalo, Juan, & Bovea, 2017).

Case insight 2: Fairphone

Fairphone produces modular phones with an emphasis on longevity and repairability (and ethically sourced materials). Consumption work appears to be fairly similar to conventional phones, but Fairphone encourages repair and recycling. The model involves learning and active engagement on the part of consumers:

> "For the Fairphone user, this 'complete control' requires learning how to 'use and configure' the Fairphone, which takes place virtually via website information and online discussion forums. A quick glance at the content of these online forums highlights the challenges of learning to configure a smartphone and negotiate the responsibilities and challenges of electronic devices that have functional and material flexibility built into them. But it also highlights the capacities and willingness of citizens to engage with the technical specifications of coding and configuring, potentially fostering an emergent 'Fairphone movement' that the social enterprise speaks of on its website" (Hobson, 2016, p. 98).

5.1.3   Packaging

Packaging has implications for consumption work in at least three ways: First, choosing the right (e.g. recyclable, bio-degradable) packaging requires competences and effort. Summarising existing literature on this topic, Steenis et al (2018) suggest that consumers are able to distinguish between various sustainable packaging solutions. Second, packaging itself is strongly related to convenience, affecting ease of transport, storage, and consumption of goods. Several studies find that a **packaging's convenience of use is at the forefront of considerations for many consumers** (e.g. Rokka & Uusitalo, 2008). The importance of convenience is further highlighted in research on zero-packaging grocery stores (see Beitzen-Heineke, Balta-Ozkan, & Reefke, 2017):

1) Such stores may claim to reduce 'food confusion' resulting from too much information and advertising, but at the same time try to inform their customers themselves about the environmental impact of packaging and the amount of emissions customers can save.

Moreover, zero-packaging assumes that consumers already have knowledge of how to prepare and store the food as such information does not come with the packaging. Also ingredients relevant for people suffering from food allergies or intolerances are not displayed on packagings. Use-by-dates are missing too. Consumer competences are also required for filling containers as cross-contamination of food needs to be avoided.

2) The entire shopping experience differs from conventional grocery stores: consumers need to bring, carry, and fill containers.

A third way in which packaging relates to convenience and consumption work is the work required for disposing it of, but Wheeler and Glucksmann (2015b, p. 558) suggest that their participants did not consider the work of recycling when buying materials.

5.2 Sequential Ownership: Reuse / Second-hand

This section focuses on the reuse of objects through multiple, successive owners. Many acts of reuse and circulation are confined within the household sphere and these are, to bring in an additional layer of complexity, particularly difficult to separate from sharing in the sense of involving co-ownership. Typical forms of divestment within households and in family networks are the inheritance, handing down, passing on, and gifting of items. While largely ignored in the CE/SE literature (but see Mylan et al., 2016), several studies examined such circulations within households from a sustainability perspective (Collins, 2013, 2015; Evans, 2014, 2017; Gregson & Beale, 2004; Gregson, Metcalfe, & Crewe, 2007b, 2007a; Holmes, 2018a; Lane, Horne, & Bicknell, 2009).

Building on these studies and related research on domestic provisioning, the following paragraphs present research that provides insights into the consumption work that is put into making things circulate across multiple owners. For the purposes of this review, this section differentiates between three consumption activities:

1) acquisition and appropriation

2) divestment and disposition

3) repeat exchanges with providers

5.2.1 Acquisition and Appropriation of Second-hand Goods

Convenience and effort are typically not found to be an important consideration in purchasing second-hand goods (Gullstrand Edbring, Lehner, & Mont, 2016a; Pérez-Belis et al., 2017). However, qualitative research into second-hand purchases points to an array of activities and skills required for their completion. For one, second-hand items are often bought in alternative stores. In a study on the consumer acceptance of refurbished phones, participants stated that it would be too much of a hassle for them to visit an alternative store to get them (van Weelden, Mugge, & Bakker, 2016). The opposite may be the case for online platforms. Parguel and colleagues (2017) argue that second-hand online P2P platforms may lead to more consumption rather than less because they make it very convenient to purchase items at any time and any place.

Furthermore, the act of purchasing second-hand itself differs from conventional purchases. Studying car boot sales markets, Gregson and Crewe conclude that the act of purchase "is an activity in which the consumer centres him/herself; in which a great deal of time and a variety of skills are invested" (1997a, p. 253; see also Sherry, 1990). **Buying at car boot markets requires many skills** like negotiating with vendors, judging the quality of items, identifying bargains, and knowing when and where car boot sales are occurring – skills that need to be accumulated over time (Gregson & Crewe, 1997b, 1997a). Similarly, Duffy and colleagues (2012) find that 'doing vintage' is a practice that needs to be learned over time. Crewe and Gregson (1998) further highlight that second-hand markets like car boot sales are much less scripted than conventional markets, **involving more active consumers and unexpected events**.

Second-hand purchases are also intricately connected to the appropriation of goods. Since second-hand goods are not always fully functional, repair and mending skills may be required too. Norum and Norton (2017) find that second-hand acquisitions of clothing are more likely when such consumers have these skills. Gregson and Crewe (1998) observed that the types of second-hand goods purchased are heavily gendered and related to gender-specific skills of women and men. While women's second-hand purchases were infused with notions of care and desire, men's purchases reproduced their roles as rational, competent homemakers. One factor that received much attention in research on purchasing considerations is the **anticipated inconvenience of having to repair a good**. Several studies have shown that warranties and performance risk are key considerations when deciding between purchasing new or second-hand goods (e.g. Guiot & Roux,

2010; Hamzaoui Essoussi & Linton, 2010). Lower prices are often offered as compensation for these risks (Crewe & Gregson, 1998). Finally, Gregson and Crewe argue that **second-hand purchases often involve continued involvement** as items need to be personalised, cleaned, restored, and repaired (Crewe & Gregson, 1998; Gregson & Crewe, 1997a).

5.2.2   Divestment and Disposition

Processes of divestment of goods again reveal the blurred boundaries between consumption work and prosumption. Divestment can be regarded as a moment of consumption (Evans, 2018) as much as work that facilitates consumption. Furthermore, while the act of divestment is a necessary consequence of consumption (unless one starts to hoard things, which would postpone or shift work elsewhere), different routes of disposition have varying implications for the involvement of households.

Divestment as relief

Divestment is often directly connected with the consumption of new things (e.g. Aptekar, 2016; Gregson & Crewe, 1997a). Specifically in the case of clothing, divestments often start with a full wardrobe and the necessity to create storage space (Gregson & Beale, 2004). In linking divestment with purchases of new goods, Gregson and Beale position the activities of **tidying, sorting and displacement as 'consumption work'**. Divestment here is the work that facilitates a constant flow and circulation of consumer goods:

> "Although we talk of the lives of things, their circulation and their potential transience within households, it is nonetheless specific acts located in the on-going *consumption work of caring for clothing* that precipitate its movement and mobility" (Gregson & Beale, 2004, p. 699, emphasis added).

Apart from links to consumption, divestment may also be understood as work of maintaining relationships with people and within the family, both by ensuring the absence of things with unwanted symbolic meanings and through acts of passing on and gifting (Gregson et al., 2007a; Hetherington, 2004; Holmes, 2018a). In the context of the former, Gregson and colleagues speak of 'discarding-as-saving'. Although they primarily discussed this from the perspective of care and

social relationships, this concept could also be understood as a reference to the work involved in consumption.

Routes of disposition

Convenience plays a role in choosing the route of disposition (Albinsson & Perera, 2009; Collins, 2013; Cooper, 2002; Gregson et al., 2007b; Morgan & Birtwistle, 2009). Studying disposal practices of young people, Collins (2013) finds that the bin is perceived as a particularly convenient route because it allows immediate ridding of unwanted objects, relieving consumers from the stress associated with things classified as waste. At the same time, many opt for the bin because of a lack of knowledge of alternative routes. Giving away to charities and handing on to family members are other routes appreciated for their convenience. Selling, by contrast, is associated with more work. Collins' interview participants found selling things on eBay as particularly time-consuming, involving considerable "planning and following through with the transactions" (2013, p. 168; see also Gullstrand Edbring et al., 2016a). Medley et al (2006) document reuse practices of women in US and Chinese households. While US participants mainly donated used items, Chinese ones preferred to sell them to waste collectors for money. The authors further find that reuse practices were largely intuitive for their participants and reflected a 'learned behaviour' that was not necessarily based on environmental awareness. Chinese participants also considered reuse to be a responsibility of women, not men.

Most traditional routes of disposal often involve **time-consuming rituals of cleaning and polishing to remove traces from a previous owner** (Gregson & Crewe, 1997a). While this may be especially critical in the case of traditional gift-giving, recent research on Internet-facilitated gifting even suggests the opposite. Studying Freecycle users, Aptekar (2016) finds that participants particularly appreciate the **convenience of giving stuff away for free** via this platform, allowing them to declutter their homes and not coming with any obligations because it is free. Unlike donations or handing on to friends or family, posting something on Freecycle saves time compared to finding someone who likes the object. However, Aptekar also documents the work necessary for giving something away via Freecycle. An interesting conclusion of the study is that Freecycle tends to reproduce existing inequalities rather than building a community, as most participants use Freecycle either for getting rid of things (to make space for new items) or buying things (to save money), rarely for both.

Somewhat in contrast with Aptekar's study, Eden (2017) casts usage of the Freecycle platform as a form of 'prosumption', involving active engagement of users who seek ways to reinvent and re-valorise items. Specific to this digital form of exchange is that participants can express what they are looking for, but also that objects need to be packaged and delivered. Although Eden does not discuss this in more detail, Freecycle may involve negotiations of how objects are exhanged and specifically who is doing the delivery work.

Recycling

Wheeler and Glucksmann (2013, 2015a, 2015b) undertook a detailed study of the consumption work involved in recycling. They investigated how specifically packaging waste is recycled in Sweden and the UK and how responsibilities of recycling work have shifted over time. They distinguish between three specific activities consumers need to do for recycling (technical division of labour):

1) supplying: separating rubbish, requiring sorting skills; washing, disassembling, which is considered particularly time-consuming

2) warehousing: storing rubbish

3) distributing: putting rubbish into bins, taking bins to collection point at the right time

Wheeler and Glucksmann paid much attention to the household division of labour, specifically in relation to gender. Their findings corroborate previous research suggesting that men and women are equally engaged in recycling work (see also Oates & McDonald, 2006), but they emphasise that men and women do not necessarily exactly the same activities. The identification of specific recycling activities thus allows them to reveal divisions of labour that remained invisible to other researchers.

The importance of convenience and knowledge for households to participate in recycling is well-established (Barr, 2004, 2007; Barr, Gilg, & Ford, 2001; Bernstad, 2014; McDonald & Oates, 2003). Of all activities reviewed in this report, researchers most readily recognise recycling as 'labour'. Studies suggest that **recyclers themselves, however, perceive this task as a routine rather than a part of the overall domestic labour** (Oates & McDonald, 2006; Thomas & Sharp, 2013).

5.2.3 Repeat Exchanges

For some product categories it is crucial that used items are regularly returned to companies. Refillable packaging systems are a case in point. In an insightful, but little-cited study, Vaughan and colleagues (2007) examined a refillable milk bottle scheme in the UK, a system that saw significant decline over the past decades. Convenience is a key reason for participating in refillable milk bottles schemes, as bottles are delivered to the front door and then picked up again in time. The authors further emphasise that all users took great care of bottles, washing them thoroughly and treating them like their own dishes. Interestingly, they felt obliged to wash them even though they knew that this will be repeated at the bottling plant. As the authors remark, this care-taking contrasts with the way bottles were treated in the factory. While users assumed bottles would last 10 to 20 years, the company indicated that bottles endure only about 20 trips. The assumed longevity of bottles was an important motivation for participants to take greater care. Overall, **participants felt a sense of community and were willing to do extra consumption work** they were not expected to do.

Case insight 3: Sodastream

Sodastream sells machines for making sparkling water, involving a scheme for the reuse of gas cylinders. Customers need to sign up to an exchange system for gas cylinders and this is what they need to do:

> "...simply add "gas exchange" to your basket. We will add a £10 refundable deposit for each cylinder you want to exchange. Once you've placed your order and paid for it, we will dispatch your new gas cylinder(s) together with the label so that you can return your empty cylinder. You pay for postage out - we pay for postage back. (If you are buying more than one we do need you to wrap your cylinders up together when you send them back, and return them with a single postage label)"
> (https://www.sodastream.co.uk/fresh-and-convenient, retrieved on October 12th, 2018)

While this involves some work on the part of consumers, the company highlights the simplicity and convenience of this scheme, being "quick, convenient and easy to use" and that it relieves them from other hassles, promising "no more lugging heavy, bulky bottles and cans from the store" and "no more storing cases of soda"
(https://www.sodastream.co.nz/about-us/frequently/, retrieved on October 12th, 2018).

The lessons from the case of milk bottle deliveries are not easily transferable to other refill systems. Lofthouse and colleagues (2009) provide an overview of different refill schemes and suggest that not all may be perceived as convenient options. Depending on the scheme, consumers are required to do different amounts of work. Their survey participants complained that it takes too much time to return to shops to refill containers, adding that having to finish the bottle and clean it before

returning to the shop is annoying and requires planning. Dispensed concentrate schemes (e.g. Soda Stream, see case insight) received similar criticism, but mostly related to the hassle of cleaning and maintenance. By contrast, the study confirms Vaughan and colleagues' finding that delivery systems are perceived as particularly convenient. The authors suggest that convenience was a major concern for participants across the different refill schemes. The specific elements of convenience and inconvenience were:

> "The main features identified by respondents, which made refillable packaging more convenient, were that they are quick and easy to use, are lighter and more easily transported, create less waste, are less bulky, are delivered in a convenient way and are specifically suited to the purpose and nature of the product. Among the factors that were deemed to make refillable packaging inconvenient, were that they required extra organization, are time-consuming, lock you into a brand and can be hard to find/risk being discontinued or not stocked locally" (Lofthouse et al., 2009, p. 344).

5.3 Simultaneous Ownership: Co-ownership

There is **very little research on co-ownership and commoning in the sustainability context** (see Ryu et al., 2018). A typical case of co-ownership is cohousing. Luckner et al (2015) specifically studied the various activities of work involved in sharing services, both in cohousing and platform-facilitated exchanges. They find that sharing networks have devoted people doing most of the work. Work is mostly about administration, moderation, brokering, looking for funding, infrastructure maintenance. In the cases they studied, a lot of work went into growing the service and trying to motivate people to actively participate. Also other studies highlight the amount of work involved in cohousing (see Huber, 2017). Decision-making processes are often extensive, as is the planning and learning required (Jarvis, 2011). In a survey among German consumers, 67.6% of respondents agreed to the statement 'I found it very time-consuming when I had to co-ordinate use of products with other people' (Hirschl, Konrad, & Scholl, 2003). However, Mock (2014) suggests that cohousing is often associated with a reduction of household work for women, as work is more evenly distributed. She describes in much detail how sharing requires specific competences to deal with conflicts. **Conflicts about distribution of work** were particularly dominant in the cohousing case she studied.

Considering sharing within households, Yates (2018) distinguishes between various modes of sharing: successive sharing, simultaneous sharing, and shared work. He shows how consumption work is part of many sharing arrangements, as some do work (prepare a meal) to be collectively

consumed. By far the most shared meals are prepared by a single person. The author does not describe such work activities in detail, but his discussion suggests that as household sizes decline, there are less options for sharing and work shifting to other modes of provision (in the case of eating).

6 Access-based Consumption

This section considers consumption that does not involve transactions of ownership. Before summarising the literature on each individual, sequential, and simultaneous access-based consumption, I discuss the general issue of how access compares to ownership in terms of consumption work.

6.1 Burdens of Ownership

Leasing, renting, borrowing, and pooling all involve different consumer engagements, but the element that unites them is also praised as their main benefit for consumers: access-based consumption is said to relieve consumers from the **'burdens of ownership'** (Cherry & Pidgeon, 2018; Moeller & Wittkowski, 2010; Schaefers, Lawson, & Kukar-Kinney, 2016). In terms of consumption work, these are mainly about the responsibilities of repair, maintenance, and disposal: "For consumers, it lessens responsibility for such services as installation and maintenance as well as product disposal at the end of the useful life" (Beuren, Gomes Ferreira, & Cauchick Miguel, 2013, p. 228; see also Baines et al., 2007; Mont, 2002a). Only recently have some researchers directed attention to the **'burdens of access'** (Hazée, Delcourt, & Van Vaerenbergh, 2017; Schaefers et al., 2016).

The implications of access-based consumption in terms of consumption work are unclear as there is conflicting evidence and opinion on the matter (for an overview see Poppelaars et al., 2018). Some empirical evidence supports the thesis that consumers appreciate access-based consumption for **reducing responsibilities of maintenance, repair, and disposal** (Cherry & Pidgeon, 2018; Gullstrand Edbring et al., 2016a; Hirschl et al., 2003). In a survey among German consumers, 64.3% agreed to the statement: 'If I rented products on demand instead of owning them myself, I would benefit from the fact that I have nothing to do with maintenance, repair, and disposal'. At the same time, 50.1% of respondents also agreed to the following statement: 'I found it very time-consuming to borrow or rent products I do not own myself' (Hirschl et al., 2003). Another study on consumer concerns related to PSS in clothing finds that technical requirements, the time required, and practical issues in the service are all matters of concern to people (Armstrong, Niinimäki, Kujala, Karell, & Lang, 2015). Overall, the study finds that concerns over additional efforts dominate over perceived benefits of more convenience.

In addition to such search and organisation efforts, Rexfelt and Hiort af Ornäs (2009) point out that many product-service systems involve new tasks for consumers which need to be learned before such offerings can be enjoyed. The amount of bureaucracy and required investment of time and money were frequently discussed concerns among their interview and focus group participants. Hazée and colleagues (2017) too report that their interview respondents complained about the work required to understand, access, and use a service, calling it the **'complexity barrier' to access-based services**. They identify a wide range of activities consumers engage in to attenuate this burden. Among them, consumers do work they are not required to do, such as providing feedback, doing repairs, and helping other customers.

Also the widely made assumption that consumers of access-based services are freed from responsibilities of product maintenance does not find support in empirical studies. While Wastling and colleagues (2018) suggest that PSS encourage consumers to take more care of products, seeing this as a positive aspect, other research highlights various anxieties of both consumers and providers. From a provider perspective, customers are often represented as a risk factor (Hildebrandt, Hanelt, & Firk, 2018; Reim, Parida, & Örtqvist, 2015). In the words of Cherry and Pidgeon, "the idea that individuals will take less care when using products that are accessed rather than owned is a common concern surrounding access-based consumption" (2018, p. 5). In their own research involving workshops with users, they find that participants were split with regard to product care. While some stated that they would take less care, others felt that they would **feel responsible for the condition of an object and take more care** – though not feeling comfortable with this. They conclude:

> "Advocated as a way to increase producer responsibility for the products they manufacture and sell, much of the literature around access-based consumption works on the assumption that by removing the responsibility for product maintenance, repair and replacement, such services will be viewed as more convenient than traditional ownership. However, whilst this claim may be partly or wholly true in relation to Use-oriented services such as car sharing and product rental, it is clear that in the case of pay-per-use home service provision the opposite occurs, with participants experiencing a sense of anxiety surrounding a perceived increase in personal product responsibility. These concerns led many to suggest they would be more, rather than less careful with the unowned products in the home, contrasting and complicating assumptions made within the literature" (2018, p. 11).

Similar anxieties related to care-taking towards accessed goods were reported by Gullstrand Edbring and colleagues (2016a). As Cherry and Pidgeon suggest, however, consumer commitments to product maintenance is likely to vary across different types of access-based consumption

offerings. In the case of carsharing, for instance, Bardhi and Eckhardt (2012) report that consumers did not feel obliged to take care.

Also other forms of consumption work are likely to vary across access-based consumption offerings as Bardhi and Eckhardt acknowledge when writing about the importance of consumer involvement:

> "This dimension relates to the level of consumer involvement in the consumption experience, where the consumer can have limited involvement, as in traditional rental services, such as hotels or car rentals, or have extensive involvement, such as in the case of car sharing. In the latter examples, consumer cocreation is extensive, as the consumer picks up and delivers the car, cleans the car, fills up the gas, and reports damage, all crucial elements for the success of car-sharing models. In these cases, *the consumer can almost play the role of an employee* (Frei 2005). The nature of the consumptionscape, from self-service to full service, can have implications for the nature of governance as well as the level of consumer commitment and identification with the accessed object" (2012, p. 885, emphasis added).

Relatedly, Halme and colleagues (2004) suggest a framework for categorising services and briefly discuss how much households are involved in each. The language of co-creation and consumer activation also made inroads into the literature on access-based consumption:

> "A central trait of digitally enabled business models such as ABC [access-based consumption] is the changing role of the consumer within digital business eco-systems (El Sawy and Pereira 2013): whereas before they acted as pure consumers, they are now moving towards becoming co-creators of value (Lusch and Nambisan 2015)" (Hildebrandt et al., 2018, p. 228; see also Hazée et al., 2017).

The consumption work that access-based consumption involves and the advantages that ownership may have in this respect are not recognised in articles on the barriers to wider PSS diffusion. Consumer markets are considered much more difficult to reach than business markets, but this is mainly attributed to the intangible value of ownership and control:

> "There is also a clear difference in the success of PSS between the consumer and business markets – consumers attach far greater value to owning the products they use and having full control over how to use them" (Tukker, 2015, p. 86).

PSS and access-based consumption research increasingly seeks answers in consumer culture theory (e.g. Catulli, Cook, & Potter, 2017), as interest shifts towards symbolic significance of ownership/access and thus away from concrete everyday practices.

6.2 Individual Access: Leasing and Pay-per-use

Leasing is of core interest in the PSS literature. Although there are many calls for more research on consumption (e.g. Beuren et al., 2013; Mont, 2002b; Rexfelt & Hiort af Ornäs, 2009) and critiques of the dominant framings of consumption (Catulli et al., 2017; Mylan, 2015) in this literature, most PSS research remains focused on the business perspective and consumer acceptance. Consumer acceptance is considered a major barrier (Annarelli, Battistella, & Nonino, 2016; Mont, 2002a, 2004) and many relevant factors have been identified so far (see Camacho-Otero et al., 2018; Rexfelt & Hiort af Ornäs, 2009).

The importance of consumers beyond mere acceptance is widely acknowledged. Several authors highlight that consumers need to be included specifically at the design stage, primarily to make sure that PSS are successful (Boukhris, Fritzsche, & Möslein, 2017; Kimita, Sugino, Rossi, & Shimomura, 2016; Manzini & Vezzoli, 2003; Sousa-Zomer & Miguel, 2016; Tran & Park, 2015):

> "Moreover, the relationship between the company and the consumer is fundamental to the success of a PSS, where early involvement aims to achieve better solutions to meet the specific consumer demand (Baines et al., 2007; Manzini et al., 2001; Luiten et al., 2001; Mont, 2000). It is also important that consumers participate in the creation and use of the PSS; after all, the consumers must be happy with what they receive and give productive feedback. Researchers also stress that consumer participation at certain stages of the PSS facilitates acceptance" (Beuren et al., 2013, p. 227).

While phrased in different terms, this implies significant work on the part of consumers. Indeed, some authors suggest that **consumers become 'activated' in leasing models**:

> "For consumers, PSSs mean a shift from buying products to buying services and system solutions that have a potential to minimise the environmental impacts of consumer needs and wants. This *requires a higher level of customer involvement* and education by producers" (Mont, 2002a, p. 239 emphasis added).

A key benefit of leasing models for businesses is the seen in the more intense interaction with customers and longer-term relationships, in which customers engage in the co-creation of value through providing information about their usage behaviour (Beuren et al., 2013; Mont, 2002a; Reim et al., 2015; Tukker, 2004). For Frambach and colleagues (1997) this is a key dimension of PSS and the basis for their distinction between transaction-based from relationship-based PSS. Borrowing the terminology of Cui and Wu (2016), consumer involvement is predominantly seen in terms of **'information source'**, less as 'co-developers' or 'innovators'.

In a study of pay-per-use services involving a series of workshops with potential users, Cherry and Pidgeon (2018) find that "for some the main benefit was seen to be the reduction in the time and effort spent dealing with such eventualities [product maintenance]" (p.7). A major theme were concerns about entering multiple contracts and the financial risks that may entail. However, the work involved in having multiple contracts is not discussed in the article.

6.3 Sequential Access: Renting and Borrowing

Several studies investigated overall motivations for participating in renting, collaborative consumption, or peer-to-peer sharing, but typically ignore convenience and efforts for consumers (Böcker & Meelen, 2017; Godelnik, 2017; Hamari, Sjöklint, & Ukkonen, 2016; Mahadevan, 2018; Roos & Hahn, 2017; Tussyadiah & Pesonen, 2018; van de Glind, 2013). However, looking beyond studies on motivations, a recent review of the PSS literature finds that convenience is thematised in 76% of all studies on B2C renting (n=21), as opposed to 25% and 15% in second-hand and remanufacturing research respectively (Schallehn, Seuring, Strähle, & Freise, 2018). Two studied considered the value of convenience in peer-to-peer consumption and renting at a general level. Hawlitschek and colleagues (2018) produced an overview of research on consumer motives for participating in peer-to-peer sharing and found some evidence suggesting that the required effort and **independence through ownership are strong barriers to participating in peer-to-peer sharing**. By contrast, Cai and colleagues' (2017) research based on survey evidence suggests that people's attitude towards collaborative consumption is not related to the perceived convenience value which includes the effort and time involved in such consumption (the definition of collaborative consumption used in the survey is not clear though).

Qualitative research of renting / borrowing identified various activities consumers need to do and how these are experienced, but evidence is conflicting. Bardhi and Eckhardt studied consumer experiences in car rental and find that this relieves consumers from the burden of ownership by reducing the need for appropriating goods.

> "However, in our study we find that the "work of consumption" is absent, as consumers do not engage in appropriation practices with accessed objects (Miller 1987). Thus, access-based consumption similar to car sharing can be conceptualized as a style of consumer downshifting different from that identified in prior research (Gandolfi and Cherrier 2008). In contrast to the downshifting lifestyles associated with voluntary simplicity (Cherrier 2009), consumers engaging in this type of access-based consumption are not politically motivated by anticonsumerism sentiments but rather by a downshifting of the obligations associated with ownership or sharing. Access systems similar to car sharing emerge as a simpler mode of consumption, compared to ownership and sharing, as they are socially shaped by liquid

modernity, economic recession, reurbanization, and a knowledge society in which, increasingly, value is found in intangible resources that enable identity flexibility and ecologically smart consumption" (Bardhi & Eckhardt, 2012, p. 895).

Their argument is interesting for making a comparison with anti-consumption. Bardhi and Eckhardt suggest that **access-based consumption is mainly about convenience rather than morality**, which if true, would be in stark contrast to the massive work involved in ethically motivated anti-consumption (see section 7). This particular finding also contrasts somewhat with their emphasis on consumer involvement as a key dimension in access-based consumption. However, that access-based consumption skips the appropriation process is questionable. A study of car rental by Dowling and colleagues (2018) identifies appropriation as a critical dimension of car sharing that involves various material adjustments of the car.

Furthermore, the same authors note that car sharing requires significant **thinking work**, especially in terms of planning. In another article, Kent and Dowling (2018) describe the efforts undertaken by participants in the same example of car sharing in more detail: returning to car park, re-arranging meetings because of the inflexibility of car sharing, reporting issues to company, and various ways of dealing with offenders of parking rules. Similar to the study of Hazée and colleagues (2017), Kent and Dowling identify multiple activities consumers undertake in dealing with recurrent problems (e.g. dirty cars, little fuel) in car sharing.

In the case of bicycle rental schemes, similar consumption work is required. Lan and colleagues studied Mobike and suggest that such free-floating bike-sharing schemes "require extensive value co-creation from users as value co-creators/prosumers (Bardhi and Eckhardt 2012), involving a higher level of consumer contribution than in traditional docking bike-sharing systems" (2017, p. 5). They created a list of contributions expected from users:
- park bikes in devoted zones
- report misuse
- report damages
- recruiting friends to use Mobike
- follow usage rules

Analysing what motivates Chinese Mobike users to participate in these ways, the study finds that co-creation is related to the understanding of rules, a feeling of duty, and the reward system Mobike

set in place. Identification with the company and sense of community was frequently mentioned in qualitative interviews, but was not found to be relate to co-creation behaviour in quantitative survey. Overall, the study thus suggests that active co-creation behaviour was mainly based on extrinsic motivations. Karki and Tao (2016) too studied the main inconveniences users of a Chinese bike sharing scheme encounter, but did so in much less detail.

The finding of Lan and colleagues that Mobike users felt a sense of community is intriguing for a case involving relatively little interactions between consumers. This is a form of value co-creation that is not observed in other cases. For example, Bardhi and Eckhardt (2012) find that consumers resist being engaged in a brand community in the case of carsharing, rather preferring anonymous access to services. Similarly, Fraanje and Spaargaren (2019) describe how a Dutch car sharing company tries to build a sense of community through organising events and meetings, but such efforts are considered a waste of time by consumers who do not associate this form of 'sharing' with community values.

While the cases discussed so far were about B2C offerings, borrowing is also discussed in the context of the collaborative and peer-to-peer economy. Research on P2P renting characterises this form of consumption as a high-involvement activity for both providers and users (Benoit et al., 2017; Durgee & O'Connor, 1995; Philip, Ozanne, & Ballantine, 2015). Philip and colleagues remark that:

> "renters need to browse, find and request their wanted items, contact the seller for available times and places to meet for pick-up and drop-off, arrange payment, return the item in the same condition as originally rented and also leave feedback for the provider" (2015, p. 1318).

Their interview **participants heavily lamented about the efforts required for participating in peer-to-peer sharing**, leading them to conclude that these inconveniences are a major deterrent for users. Edbring and colleagues (2016b) too found that sharing things out is perceived as too complicated and impractical by some, especially those living in the countryside or in single family houses.

Specifically in the case of lodging, additional activities come into play. Geiger and colleagues (2018) report that it is common and even considered necessary in Couchsurfing to help hosts "with domestic work or repairs, pay for groceries, or invite hosts for coffee, drinks, or dinner" (p.10). Furthermore, writing a reference is considered a courtesy. There is also an expectation to socially engage with hosts. Couchsurfing is also considered less convenient than paid accommodation,

involving arranging times with hosts and spending a lot of time sending request messages and arranging a couch. Geiger and colleagues suggest that while for some participants the expected reciprocity is part of the experience and thus perceived as an 'asset', other participants perceive this rather as a 'burden'. Similarly, Johnson and Neuhofer (2017) found that cooking and cleaning are often experienced positively as an integral part of guests' AirBnB experiences.

Case insight 4: Rentsher

That participation in the SE may involve considerable consumption work is revealed in the case of the company 'Rentsher'. Operating in India and Dubai, the company's business is in connecting renters and rentees and organising transport. The case indirectly illuminates the consumption work that goes into participating in rentals, promising to lower these 'transaction costs'. The following text is from an analyst report:

> "RentSher connects consumers who want to rent household goods—baby carriages and party supplies, such as tents and speaker systems, are popular items—with people who want to earn extra income from unused items that they own. The service eliminates the inconveniences of traditional leasing, such as the need to arrange for pickup and delivery, and reduces the transaction costs that prevent two parties from finding one another, negotiating, and closing a deal."
> (https://www.bcg.com/en-gb/publications/2017/strategy-technology-digital-whats-next-for-sharing-economy.aspx, retrieved on May 2nd 2019)

The analyst report from this this case is taken from suggests that the demand for such sharing platforms may expand as transaction costs are further eliminated with new technologies such as self-driving cars and drones.

Beyond time and effort, some studies identified the various skills involved in renting (Benoit et al., 2017; Fraanje & Spaargaren, 2019; Huber, 2017; Tussyadiah & Pesonen, 2018). Huber (2017) in particular highlights how demanding P2P accommodation services are for consumers, requiring skills related to ICT, language, local customs and conventions, planning, and coordination. Fraanje and Spaargaren (2019) studied two cases of collaborative consumption from a practice perspective and describe the skills that need to be acquired to participate.

6.4 Simultaneous Access: Pooling

Herbert and Collin-Lachaud (2017) consider carpooling as a form of 'convenience consumption'. However, this may not be the case for all users. Guyader (2018) studied ridesharing practices in France and identified three typical consumption practices: 'communal collaborative consumption', 'consumerist collaborative consumption', and 'opportunistic collaborative consumption'. The

author suggests that the first type corresponds most closely to traditional forms of sharing. While in the consumerist type of ridesharing convenience is at the forefront for participants, Guyader describes how participants in the case of the communal style take extra efforts: preparing snacks to, getting contacts from other people to bypass the platform, helping others, making stopovers and detours, sharing knowledge on shorter routes, and even switching driver roles. Many of these efforts were not observed in the consumerist or opportunistic style.
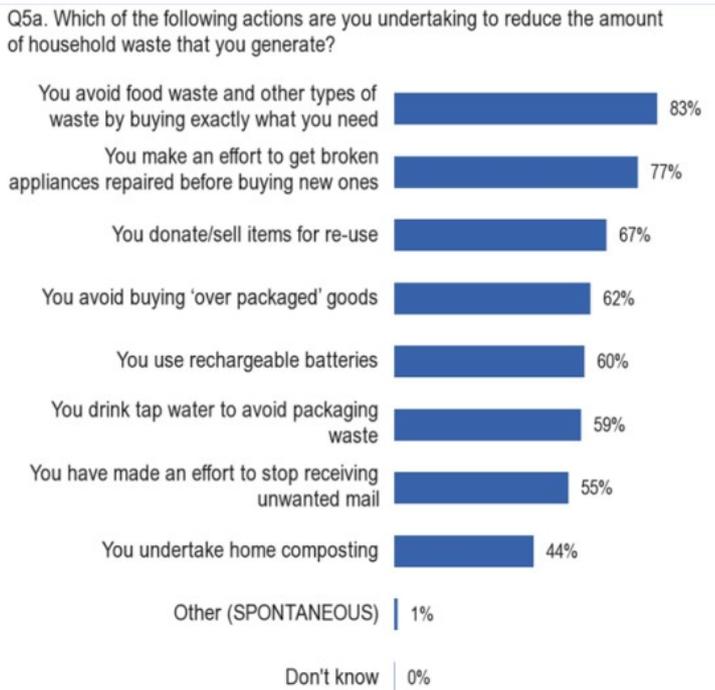
7 Household Waste Reduction

The previous sections explored existing research on various modes of provision in the CE/SE. Since most research focuses on single cases (see sections 5 and 6) or considers the CE/SE as a totality (see section 4), there is no recognition of the **coordination efforts** demanded from consumers. Yet, the coordination of various tasks is a key form of consumption work (see Wheeler & Glucksmann, 2015a). Furthermore, it is clear that the different activities identified in the previous sections require input of limited resources (variably time, money, and/or energy) and are thus in competition with each other. Two research streams are particularly insightful in these regards and will be briefly reviewed in this section: 1) work on domestic environmental labour, and 2) work on anti-consumption and voluntary simplicity.

7.1 Domestic Environmental Labour

A recent Eurobarometer survey (Eurobarometer, 2014) gives an indication of the actions undertaken in European consumers to reduce household waste. Overall, the survey suggests that most consumers feel that they do already a lot and responsibility lies elsewhere. 60% of respondents totally agree to the statement that they **make efforts to reduce the amount of household waste** they generate, with an additional 32% tending to agree, 5% tending to disagree, and 2% totally disagreeing. While 87% think that their country as a whole is generating too much waste, only 43% think that their own household generates too much waste themselves.

In terms of the specific efforts people undertake, there is significant variation, especially across countries. However, there are also some interesting variations across socio-demographic groups. In particular women are a bit more likely to undertake efforts in several categories. Cox and colleagues suggest that the type of activities that are undertaken correlate with the effort required: "Donating items is commonly reported as the most practised behaviour; private reuse of items around the home and other 'low effort' reduction behaviours tend to occupy an intermediate position; and those that require major changes in consumer habits are often least practised" (Cox et al., 2010, p. 200). They also emphasise the importance of interconnections between practices, as **more recycling often leads to less of other waste prevention behaviours**.

Figure 2: Household waste reduction efforts

Q5a. Which of the following actions are you undertaking to reduce the amount of household waste that you generate?

Action	Percentage
You avoid food waste and other types of waste by buying exactly what you need	83%
You make an effort to get broken appliances repaired before buying new ones	77%
You donate/sell items for re-use	67%
You avoid buying 'over packaged' goods	62%
You use rechargeable batteries	60%
You drink tap water to avoid packaging waste	59%
You have made an effort to stop receiving unwanted mail	55%
You undertake home composting	44%
Other (SPONTANEOUS)	1%
Don't know	0%

Source: Eurobarometer 388 (2014)

Perhaps little surprisingly, environmental labour within the domestic sphere has been studied in most detail from a ecofeminist perspective. A series of studies demonstrates that women do not only tend to do more environmental labour, but that theirs is also more fragmented (e.g. Judkins & Presser, 2008; Oates & McDonald, 2006; Organo, Head, & Waitt, 2013). Lucie Middlemiss states in relation to this:

> "Gender is important to think about in relation to sustainable consumption, for two reasons:
> first, men and women tend to do different *consumption work*, with women still more likely to
> take responsibility for maintenance of the home and family. This means that men and women
> are differently affected by sustainable consumption policy" (Middlemiss, 2018, p. 46 emphasis
> added).

The work of a group of Australian researchers is particularly noteworthy in this regard (Farbotko, 2018; Gibson, Farbotko, Gill, Head, & Waitt, 2013; Gibson, Head, Gill, & Waitt, 2010; Gibson, Waitt, Head, & Gill, 2011; Horne, Maller, & Lane, 2011; Lane & Gorman-Murray, 2010). For the most part, however, this research stream studies domestic environmental labour only at a general level or specifically in the cases of domestic water and energy consumption, thus not being of relevance to the CE/SE context in empirical terms. An exception to this is an interesting book by Gibson and colleagues (2013) that collates existing evidence on the consumption of various consumer goods and services, highlighting the various efforts and complex problems involved in

their consumption. Beyond empirical material, their contributions shed light on consumption work in numerous ways. While connections to the concept of 'consumption work' have only recently been made (Farbotko, 2018), their research has clearly been guided by a similar concern about the work consumption requires. Of particular interest in the context of this section is the observation that **green consumption work is often delegated to green products/technologies and that this may often result in even more consumption work** (Farbotko, 2018, p. 37ff). Furthermore, a focus on the domestic also invites to consider how multiple consumption activities recursively interact with ideals of the 'home' (see Cox, 2013; Farbotko, 2018; Gibson et al., 2011).

7.2 Anti-consumption and Voluntary Simplicity

Although some studies quote 'refuse' and 'reduce' as CE principles (see Reike et al., 2018), there are no empirical studies on 'refuse' in the CE literature, nor any explicit links to related literatures of anti-consumption and voluntary simplicity. Given the absence of such links, this review does not discuss anti-consumption and voluntary simplicity (and similar concepts such as downshifting) in much detail. However, research on these two concepts strongly overlaps with notions of circulation and sharing (Black & Cherrier, 2010; Shaw & Newholm, 2002). Furthermore, while one might think that 'refusal' of consumption does not involve consumption work, research into anti-consumption and voluntary simplicity prove otherwise, demonstrating the significant effort and commitment involved in abstaining from regular consumption activities and shifting towards other forms of consumption and production.

On the one hand, the pure **act of resistance implies effort and is associated with self-sacrifice and commitment for the common good** (Cherrier, 2009). Cherrier and Murray further emphasise that 'downshifting' leads to repeated conflicts and struggles with other people, as well as requiring **efforts of unlearning** past consumption habits (Cherrier & Murray, 2007). On this basis, they debunk the myth of downshifting as being about 'simplicity':

> "This constant dialogue with the consumer culture to discover an existence of "being" (rather than "having") shows that downshifting is far more complex and involves deeper struggles than depicted in "choosing simplicity" (Pierce 2000) or in the easy steps to downshift (Schor 1998). Downshifting is very difficult. There is a kind of tenacity that has to do with how one struggles to discover a "being" mode of existence. The actual process should be considered within a context of struggle and tension over the ability to shift away from past selves and mode of "having" and the possibility to adopt new selves and mode of "being"" (Cherrier & Murray, 2007, p. 25).

While for some downshifters or voluntary simplifiers it is primarily about refusal, adopting what Cherrier (2009) describes as a 'hero identity', for others it involves also a shift towards more 'creative consumption'. From this perspective, anti-consumption is a response against passive and addicted consumers driven by advertising and fashion. In some ways, the **anti-consumption discourse implies that consumption is the careless and convenient way of consuming** (see Cherrier, Black, & Lee, 2011). Instead, some anti-consumers consider themselves as more creative consumers, preferring to personalise objects and producing them themselves (Cherrier, 2009). Zavestoski (2002) too describes how voluntary simplifiers seek to obtain self-esteem through producing things themselves. He argues that this is linked to the alienation of labour in capitalist societies. This is an interesting mechanism of change in consumption practices that is ignored in the CE literature, where the focus is on the assumed shift in preferences from ownership to more flexible and mobile, in short, access-based consumption.

Indeed, voluntary simplifiers tend to do different and perhaps even more consumption work, engaging in various activities like product care, refusal, and DIY. Black and Cherrier (2010) report that the notion of 'trying' was common in their participants narratives about reducing and refusing consumption, hinting at the efforts and commitments that such practices entail. They mention the case of refusing to print articles, which requires the constant carrying around of a laptop and reading from the screen. Furthermore, because anti-consumption is less visible, it also leads to more work in expressing it: "ironically, expressing anti-consumption may, in such cases, prove more effortful and require more investment, than expressing consumption" (Chatzidakis & Lee, 2013, p. 198).

On a more speculative note, anti-consumption and voluntary simplicity appear to have interesting implications for the division of labour. Such practices are strongly linked with working time reductions as people seek to reduce stress from over-work (see Hamilton, 2003; Maniates, 2010). One may assume that work shifts from paid work to consumption work in such cases, but I am not aware of any research about this. Furthermore, cases of anti-consumption and voluntary simplicity are interesting in so far as they seem to involve shifts in consumption work too: from the stress associated with over-consumption[5] (Zavestoski, 2002), which may in part refer to the consumption work required in regular consumption activities (e.g. shopping), to forms of consumption work like

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5   In the studies I reviewed, the main motivations for anti-consumption are environmental sustainability and a desire to escape the 'empty' experience of modern consumption. A more detailed review could examine to what extent anti-consumers are motivated by the desire to reduce tedious consumption work.

DIY and repair that are perceived as more pleasant. Overall, it appears that anti-consumption and voluntary simplicity paradoxically lead to more consumption work rather than reducing it. However, existing research suggests that this is a welcome element of such an alternative lifestyle.

8 Discussion and Outlook

The previous sections collated a considerable, though non-exhaustive, body of research that touched upon questions related to the consumption work involved in circulating and sharing things. This report shows that extant knowledge of consumption work is clearly fragmented, both in terms of terminology and empirical focus. Much existing research relevant for understanding consumption work is hidden beneath terms like inconvenience, effort, domestic labour, co-creation, and prosumption, yet it is also clear that consumption work has so far not been studied systematically in the CE/SE context beyond Wheeler and Glucksmann's own research. In the following, I wish to highlight some of the findings in relation to four themes that figured with varying prominence in the literature: 1) convenience and time, 2) skill and creativity, 3) care and value, and 4) divisions of labour.

Convenience and time

As chapter 4 has shown, the added convenience of CE/SE modes of provision, especially so in the case of the SE, is strongly assumed. While convenience represents an important value proposition, the actual work consumers need to invest compared to traditional ('linear') modes of provision is frequently ignored. The evidence of consumption work gathered in this report is, as already noted, scattered across many studies and frequently mentioned only in passing. Prevalent methodological and theoretical approaches in CE/SE studies tend to preclude the possibility of identifying and describing the consumption work involved in CE/SE propositions. Ethnographic research and practice approaches were most successful in this regard, but also the adoption of such an approach did not guarantee insights into consumption work. Non-governmental reports are equally selective in foregrounding convenience benefits of CE/SE economies. CE reports, for instance, promise that consumers benefit from 'hassle-free' services, while ignoring the significant effort that studies report in doing repairs, purchasing second-hand, or reducing packaging waste. The SE discourse emphasises convenience benefits even more, again neglecting the consumption work that is involved in co-ownership and some forms of pooling in particular.

By contrast, the previous sections demonstrate that **consumption work is incredibly diverse and highly prevalent in the circulating and sharing of goods and services**. Consumption work also seems to vary significantly depending on the specific mode of provision, from work of learning and

cleaning in the case of repair and maintenance to the work of planning and negotiation in co-ownership. The specific work involved in some of these consumption activities, however, specifically leasing, purchasing long-lasting products, co-ownership, pooling, and reduction of packaging, is clearly understudied. These relate more broadly to the 'missing spaces' in CE/SE research and discourse, which is more heavily populated with case studies of recycling, product-service systems, and sharing platforms.

A consumption work lens further highlights the need to explore the **coordination of various consumption-related tasks** as an important form of consumption work in its own right. Section 7 of this report brought some studies together that provide a tentative picture of the coordination work specifically involved in the context of sharing and circulating. Overall, however, the literature focuses on single product or service innovations. As a result, there is no coherent strategy in place for transforming consumption according to CE/SE principles (for a similar argument from a business model perspective see Boons & Bocken, 2018). From the perspective of consumption work, important questions arise of how potential conflicts between competing CE/SE solutions are played out and can be resolved. Furthermore, it provokes thinking about forms of consumption work that might be necessary for accomplishing multiple CE/SE consumption activities. Many activities may require some basic knowledge of circularity or sharing for instance.

Skill and creativity

Compared to a passive adoption of preconfigured products and services, many CE/SE modes of provision engage consumers more actively. Beyond being mere 'information sources' as highlighted in the product-service system literature, where most learning is assumed to occur on the business side, it is clear that in more general terms, **consumer engagement in the CE/SE involves a high degree of skill and even creativity**. For one, this is important to acknowledge as necessary skills are found to be lacking in many cases (e.g. Cerulli-Harms et al., 2018). For instance, many consumers find it difficult to identify long-lasting products at the point of purchase and also competences related to repair and maintenance are often missing. There is a clear 'complexity barrier' (Hazée et al., 2017) to many CE/SE related activities, including product-service systems where this is expected the least (Rexfelt & Hiort af Ornäs, 2009). As best documented in the case of engagements in second-hand markets, the required skills can be more than just technical and may take a lot of experience. One of the reasons for this is that such engagements are less 'scripted'

compared to conventional markets (Crewe & Gregson 1998). In relation to other modes of provision, however, there is currently little knowledge about how they are scripted and what this means in terms of consumption work.

Besides recognising the importance of acquiring necessary skills, research on anti-consumption raises awareness of the difficulties and work involved in the unlearning of non-circular- and non-sharing-based consumption habits. At the same time, there is often an important element of creativity and fun involved in consumption work. As shown in research on repair and mending, these activities are often more than just about restoring an item, but filling them with new value. Applying acquired skills can be gratifying and **turn consumption work into a hobby**. Empirical evidence on historical shifts in repair and maintenance shows that this dimension has become more important over time as repair became less motivated by necessity.

Care and value

Existing research further demonstrates that consumption work is often infused with a sense of care for others and the environment. As several studies documented, this dimension tends to be more pronounced among women. A particularly relevant observation in relation to several CE/SE modes of provision is that they may make consumers feel obliged to take care and even responsible for the condition of things. In the interesting case of the refillable milk bottle scheme (Vaughan et al., 2007), for instance, consumers were found to take a lot of extra care for bottles even though this was not required. At the same time, other studies find that this feeling of responsibility is not always appreciated and may involve a great degree of anxieties. Yet other studies report that consumers did not feel obliged to take care at all, as in the case of carsharing for example (Bardhi and Eckhardt 2012). This suggests that more attention needs to be paid to variations across different modes of provision and in what ways consumers are made to feel of responsible. A perspective on ethics of care thus invites **looking beyond the technical requirements underlying consumption work**.

In a more narrow sense, this review finds that there is very little knowledge of how consumers take care of things in everyday life. Perhaps related to its routine character, this form of consumption work seems to be underappreciated, despite its pervasiveness and significance for product longevity. From a historical perspective it should also be noted that the claim that consumers take less care of things than ever before, as suggested in accounts of the 'throwaway society', remains untested.

Divisions of labour

At present, questions relating to the divisions of labour are rarely addressed in the wider discourses on the CE and SE. Research on consumption work in households, however, shows that this is unequally distributed, especially in terms of gender. This has been amply demonstrated in relation to 'foodwork', reuse, repair, and recycling. Yet, more than being a case of women or men doing more work than the other, research finds that **women and men tend to do different consumption work**. Studies on recycling show that such variations may exist even in what would generally be regarded as the same practice. By splitting recycling up into multiple activities, Wheeler and Glucksmann (2015a) were able to identify gendered divisions of labour in household recycling. Furthermore, Carr (2017) shows that such divisions of labour within households can be linked to the travelling of skills from paid work to homes.

Apart from the extensive research of Wheeler and Glucksmann on recycling, this review finds **little engagement in the literature with how consumption work may move into and out of households**. This means that existing knowledge does not allow for solid conclusions about the implications of transitions to a CE or SE in terms of divisions of labour. For the most part, it is not even clear in sufficient detail how the involvement of consumers in CE/SE modes of provision effectively compares with engagements in more 'linear' or individual modes of provision. In this respect, comparative research could provide valuable insights. At the same time, a consumption work lens raises important questions relating to movements in consumption work outside the sphere of households. This would require to go beyond the ahistorical approaches prevailing in current CE/ SE research (see Laamanen et al., 2018).

On a final note, an important implication of the consumption work concept for the CE/SE debate, although unexplored in the work of Wheeler and Glucksmann, is that consumption work itself requires input of energy. As critics of the CE pointed out, notions such as 'zero waste' and 'closed loop' heavily misrepresent material flows, ignoring the energy-expensive processes that sustain them (e.g. Korhonen et al., 2018; Skene, 2018). Studying consumption work would contribute to a re-evaluation of the CE/SE, emphasising the energy required in building up and sustaining such 'alternative' economies. This also connects to an interest in divisions of labour. Besides having important implications in terms of social and ecological justice, variations in divisions of labour are

significant for the absolute amount of energy consumption too as a Swedish study (Isaksson & Ellegård, 2015) of the consumption work involved in domestic food provisioning demonstrates.

9 References

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