The Political Economy of Reuse

Organizing for Reform and Transformation of the Make-and-waste Economy

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Abstract:

In light of the shortcomings of dominant recycling strategies in dealing with the plastic crisis, the circularity strategy of reuse is receiving increasing attention. Due to its goal of extending product lifespans, reuse is often seen as a more progressive strategy that aims to prevent waste rather than diverting it. Investigating the emerging phenomenon of reuse organizations in a multiple-case study, I advance the political-economic understanding of the concept of reuse, differentiate between reformist and transformative organizing, and discuss potential futures of reuse economies. I deployed semi-structured interviews as a main method to analyze the value relations in reuse organizing. The study's thematic analysis yielded four themes: relations within reuse models mediated by use value, relations within reuse models mediated by exchange value, cooperation vs market competition, and standardization vs market fragmentation. While all reuse organizations aim to increase use value by establishing new relations that facilitate the circulation of items, tensions and contradictions arise due to commodification. Subsequently, I elaborate a possible transformative future of reuse and highlight the conceptual importance of decommodification in transformative paradigms such as degrowth.

Keywords:

Reuse, Circular Economy, Reform, Servitization, Transformation, Degrowth, Decommodification, Value Relations

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The future of plastics is in the trash can […] For the package that is used once and thrown away, like a tin can or a paper carton, represents not a one-shot market for a few thousand units, but an everyday recurring market measured by the billions of units. (Stouffer, 1963, pp. 1-3, as cited in Liboiron, 2021)

Introduction

Today's economies are driving widespread social-ecological devastation. The plastic crisis is one of the most emblematic manifestations of this. Next to the alarming known ecosystem and human health impacts of plastic pollution, plastic production is a major contributor to climate change as well as a constant ground for environmental injustices (Jephcote et al., 2020; MacLeod et al., 2021; Mah, 2022, 2023). As nearly all plastics are produced from fossil fuels, they play a key role in the interests of fossil capital. Scholars point out how plastic production serves to safeguard the economic interests of fossil industries against the backdrop of mounting pressure for the decarbonization of energy supplies (Hamilton & Feit, 2019; Mah, 2022). It is expected that by 2050, the total proportion of extracted oil and gas resources used for plastic production will increase to 20% compared to 7-8% in 2009 (Chertkovskaya et al., 2020; Hopewell et al., 2009; World Economic Forum et al., 2016). Chief among plastics production and pollution are plastics with a short lifespan; particularly packaging which constitutes the largest market share in plastic production (~ 40%) as well as 42% of all plastic use (Geyer et al., 2017; Mah, 2022). In their 2023 brand audit report, the international Break Free From Plastic movement found that 90% of the most commonly found plastic items in the environment are food packaging (BFFP, 2023). This material is essentially 'made to be wasted' considering its strikingly short use duration (Chertkovskaya et al., 2020; Hawkins, 2013). But contrary to plastic's increasingly devastating social-ecological record, production is expected to continue its growth trajectory (Barrowclough & Birkbeck, 2020). Mah (2021) summarizes industrial capitalism in the context of plastics as a system of "take-make-waste" (p. 121). I adapt and modify this framing for the purposes of this thesis as 'make-and-waste economies'[1].

Circular economy, which advocates for the closure of material and energy loops, is the main framework deployed for addressing the plastic crisis (Reike et al., 2018). Dominant circular economy strategies revolve around waste management, resource efficiency, and recycling. Critical scholars expose such strategies as illusionary due

[1] Focusing on the latter two dimensions of 'make' (production) and 'waste' (consumption and disposal) narrows down this thesis' framing since I do not explicitly engage with the dimension of 'take' (i.e., the extractive component of plastic economies) in this study.

to their unrealistic and scientifically unsound assumptions (Chertkovskaya et al., 2023; Genovese & Pansera, 2021; Giampietro & Funtowicz, 2020). In fact, only about 9% of all plastics ever made have been recycled (Geyer et al., 2017; UN, n.d.). The root cause of plastic waste, plastic production, is rarely addressed in such dominant circular economy strategies. This is why critical scholars frame circular economy as a corporate sustainability concept or even a potential new form of greenwashing (Genovese & Pansera, 2021; Mah, 2022). However, beyond these dominant strategies in waste management and recycling, other circular economy efforts that are directed at waste prevention are attracting increasing attention in the literature (Calisto Friant et al., 2022).

One strategy that has increased in public attention after the COVID-19 pandemic is reuse which aims to prolong product lifespans (Johansson, 2021). A transition from make-and-waste economies to reuse economies was also a popular demand at the intergovernmental plastic treaty negotiations of 2023 (UN News, 2023). Moreover, large economic institutions and industry-representing NGOs now discuss a 'reuse revolution' (Ellen MacArthur Foundation, 2023; World Economic Forum, 2021). Similarly, critical literature on circular economy increasingly emphasizes the importance of 'shortening the loops' (Reike et al., 2018). Reuse is often seen as a progressive strategy but beyond this, it remains conceptually under-investigated and politically ambiguous (Calisto Friant et al., 2022; Delanoeije & Bachus, 2020).

As once again underscored by the failings of 2023's plastic treaty negations due to economic interests, throwaway plastics are not only a ubiquitous part of modern life but also a deeply ingrained component of current political economies (Comms Hub, 2023; Hawkins, 2013). The notion of a reuse economy could question this. While established corporations in Europe may have already adopted the most economically attractive reuse options, a new phenomenon of reuse organizations has emerged (de Man & Friege, 2016; Genovese & Pansera, 2021). Varying in scale and organizational form, these organizations' core purpose is the provision of reuse packaging reconfiguring the workings of the make-and-waste economy. However, it remains unclear how such a reuse economy could be organized, also due to reuse's conceptual ambiguity. To provide insights into these critical blind spots,

this research investigates the following question: *How do reuse organizations aim to change make-and-waste economies?*

By discussing the political economy of different forms of reuse organizing, this thesis aims to counter depoliticized, technocratic visions of the circular economy (and reuse) and contributes to scholarly efforts of re-politicalizing these crucial social-ecological concerns (Mah, 2021; Pansera et al., 2021). In other words, with this study, I attempt to improve the lack of critical conceptual understanding of reuse and, more broadly, aim to theoretically support calls that advocate for more just, and ecologically sustainable circular societies (Calisto Friant et al., 2022; Passaro et al., 2024).

In the following, I start by laying out the core theory and concepts within the literature, identifying a conceptual typology and analytical framework for answering the research question. For this, I engage with the literature in the fields of Circular Economy, Organization and Management, and Political Economy. Thereafter, I present my methodological approach and the collected empirical results. Lastly, I undertake a critical discussion of the study implications to subsequently finish with concluding remarks.

Theory & Concepts

What is Reuse? Reuse in the Circular Economy Literature

Circular economy is a popular sustainability concept and field of research that advocates for the closure of material and energy loops and the substitution of linear configurations of production and consumption with circular models (Reike et al., 2018). Critical literature often refers to the paradoxes of circular economy (Mah, 2021). On the one hand, it is seen as a technocentric and depoliticized sustainability concept that is instrumentalized to "future-proof" capitalism (Mah, 2021, p. 121). But on the other hand, scholars point out that its rigorous implementation also "demands a project of radical socio-economic change" (Savini, 2021, p. 2115). In light of the paradoxes within the circular economy, researchers underline that further conceptualizations concerning the crucial paradigmatic questions within the field are needed (Calisto Friant et al., 2020). Scholars scrutinize dominant notions of the circular economy for relying heavily on recycling; in some cases, powerful actors in the industry even consider recycling as a synonym for circular economy (Dreyer et al., 2024; Palm et al., 2022). Albeit receiving considerably less political attention, reuse also constitutes a core component of the circular economy (Calisto Friant et al., 2022; Kirchherr et al., 2017).

Reuse entails the direct reutilization of products preserving an item's original form, lengthening its lifespan, and retaining its value (Isenhour & Reno, 2019; Reike et al., 2018). It is referred to as a short-loop strategy since it requires fewer energy-intensive steps than longer-loop strategies such as recycling – a process in which plastic is melted down for new manufacturing (Reike et al., 2018). Thus, reuse is generally ecologically superior compared to recycling in the hierarchy of circular strategies (Moalem et al., 2023; Reike et al., 2018). Moreover, by extending product lifespans, reuse can directly reduce the production of waste which connects to the *waste prevention* side of the circular economy (Calisto Friant et al., 2020; O'Neill, 2019). This contrasts *waste diversion* strategies such as recycling which are often instrumentalized by corporate actors (O'Neill, 2019). However, critical conceptual engagement with reuse remains scarce which is why researchers call for

reuse and its various forms of organization to be understood better (Calisto Friant et al., 2022; Delanoeije & Bachus, 2020).

Previous research on reuse outside of the circular economy literature typically discusses the concept as part of informal economies and socio-cultural practices. This includes individual reuse practices, sharing economies, gifting practices, and local reuse markets (Berry et al., 2019; Foden, 2012; Isenhour & Reno, 2019; O'Hare, 2021). Researchers often display a critical attitude towards the formalization of old reuse practices within the circular economy framework (O'Hare, 2021). But as mainstream organizations such as the Ellen MacArthur Foundation increasingly refer to reuse as revolutionary, I argue that the political economy of reuse's emerging formal organizational landscape can no longer be ignored and deserves critical attention (Delanoeije & Bachus, 2020; Ellen MacArthur Foundation, 2023). I also argue that critical conceptual engagements with reuse must be undertaken in the context of this conjecture. In the following, I engage with the theoretical changes in the patterns of production and consumption that reuse implies.

The Differences between Reuse Economies and Make-and-waste Economies

Current capitalist economies are centered around the growth of plastic production and consumption which shifts circular economy efforts towards longer loop (waste diversion) strategies such as recycling rather than waste-preventing activities such as reuse (Calisto Friant et al., 2022). Genovese and Pansera (2021) highlight that waste is inevitable in capitalist economies due to the self-reinforcing cycle between profit and commodity production serving as the engine of capital accumulation. This cycle leads to a destructive lock-in as "the only thing that keeps the system functioning is increasing production and disposal of waste elsewhere" (Genovese & Pansera, 2021, p. 104). In a systematic manner, the imperatives of capital accumulation drive private actors to pursue ecologically destructive strategies to counteract falling rates of profits by expanding markets and increasing production. Emblematic of this is the widespread practice of planned obsolescence, a corporate strategy in which product lifespans are intentionally decreased and commodities are made obsolete (Genovese & Pansera, 2021; Gorz, 1980). Thus, the mechanisms of

capital accumulation lead to a systematic decrease in the use phase of products to boost production. Plastics are a prominent example of this: even with growing public awareness and increasing visibility of plastic pollution, plastic production continues to grow (Barrowclough & Birkbeck, 2020).

In the introduction to *Pollution is Colonialism*, Max Liboiron (2021) identifies how the spread of plastic packaging was planned in the first place. After World War II, the US-American plastic industry was looking for ways to boost its profits and discovered the immensely profitable option of expanding markets through the diffusion of disposable products leading to the disruption of formerly common reuse practices (Liboiron, 2021). This resonates with critical scholarship highlighting that fossil economies did not originate in the 'natural development' or 'progress' of technology (in other words, the diffusion of advanced, cheaper, and more convenient technologies). Instead, the fossil economy emerged from the structural drivers of capitalism which found a unique potential for profit in fossil fuels (Malm, 2016). Thus, the spread of plastic packaging, a fossil-based commodity, shows parallels to the earlier emergence of fossil energy carriers.

As seen, reuse extends the lifespan and utility of items before their eventual disposal. In this way, reuse can be seen as the opposite of planned obsolescence; resembling something akin to planned 'perseverance'. This is particularly remarkable considering that capitalist economies drive a "hurried nature of society's metabolic process, the quick disappearance of commodities from the sphere of circulation, and their equally quick replacement by fresh commodities" (Marx, 1867/1976, p. 217, as cited in Genovese & Pansera, 2021). Through stable forms of ownership (shared or centralized) and the circulation of items, reuse sharing economies seem to imply the opposite of Marx's observed characteristics of capitalist economies, namely, the maintenance of commodities in the sphere of circulation and slow replacement by fresh commodities[2] (Delanoeije & Bachus, 2020) (see *Figure 1*).

[2] Unlike Delanoeije & Bachus (2020), my definition of reuse economies specifically refers to reuse sharing economies with stable ownership.

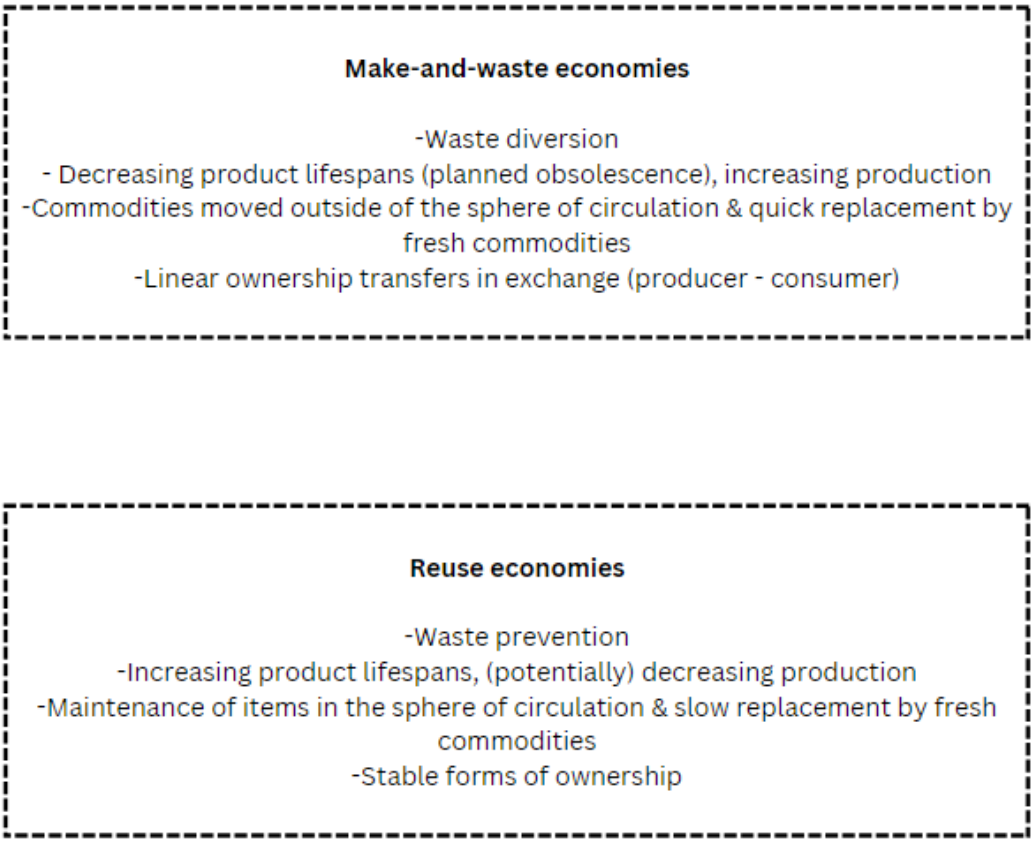

Figure 1: Summary of the core conceptual distinctions between reuse economies and make-and-waste economies.

Thus, from an orthodox Marxian perspective, it seems that such reuse economies contradict the central mechanism of capital accumulation through surplus extraction in commodity production (Marx, 1867/1976). This implies that reuse is a recipe for diminishing rates of return. By extending lifespans, reuse can, in theory, decrease production (Calisto Friant et al., 2020). Arguably this can be seen as a key reason why reuse is usually associated with more holistic and progressive circular economy strategies as opposed to recycling which does not jeopardize production in the same way (Calisto Friant et al., 2022, 2023). But as the discourse on reuse expands to various economic actors, its political-economic understanding remains opaque (Calisto Friant et al., 2022; Delanoeije & Bachus, 2020). How reuse economies can be viably organized and "the details about how such a revolution in the way we produce and consume would happen, are generally vague and, probably intentionally, underspecified" (Pansera et al., 2021, p. 473).

Toward a Reuse Economy: The Political Economy of Reform and Transformation

While the outlined reuse economies seem to contradict the conventional categories of commodity production in capitalism, it cannot be concluded that waste-preventing strategies such as reuse are inherently anti- or non-capitalist. The economic system is not uniformly constituted by linear commodity production and consumption but rather persists in diverse, sometimes contradictory, ways that are in motion (Alakavuklar, 2023; Fraser, 2018; Gibson-Graham & Dombroski, 2020). For instance, researchers in business and management studies argue that waste prevention strategies such as repair "should be seen not just as occasions for restoration of products, but also as opportunities for innovation and entrepreneurial action" (Spring & Araujo, 2017, p. 4). Similarly, literature on reuse is elusive from a political-economic perspective; reuse is a strategy with "a multitude of social, economic, and environmental implications, which remain poorly researched and understood […]" (Calisto Friant et al., 2022, p. 5).

To structure my political-economic analysis of reuse, I draw on the typology of circularity discourses by Calisto Friant et al. (2020) as a conceptual guide. The authors concluded four discourses within circularity: the reformist circular society, the transformational circular society, the technocentric circular economy, and the fortress circular economy. Characterized by their comparatively holistic environmental and political outlook, the former two categories of circular *societies* are usually associated with reuse (Calisto Friant et al., 2020). The differentiation between reformist and transformational discourses adds an important conceptual political-economic nuance as I lay out in the following.

Reformist circular society

Reformist circularity discourses take an optimistic stance toward the role of socio-technological innovations in circumventing the ecological crisis. They usually focus on behavioral and socio-cultural shifts as well as business model innovation (Calisto Friant et al., 2020). The assumption of a reformed, more socially just capitalism that is compatible with ecological sustainability lies at the center of this circularity discourse which links to the broader paradigms of ecological modernization and green growth (Calisto Friant et al., 2020). These paradigms

synonymously refer to a general political-economic worldview according to which the persistence and expansion of capitalist economies can be reconciled with ecological sustainability (Hickel & Kallis, 2020). It relies on scientifically questionable technological assumptions around the decoupling of environmental impacts from economic growth (Kallis et al., 2018).

The process of servitization plays a key role in this worldview and is particularly relevant to the topic of reuse. Highlighting its potential contribution to ecological modernization, Hojnik (2018) frames servitization as a "new economic megatrend" (p. 163). Servitization is defined as the diffusion of product-based services often in the form of new business models that replace conventional commodity exchange models. In other words, servitization is a process through which products are provided as services (Hojnik, 2018; White et al., 1999). Car sharing is a common example of servitization where consumption occurs through use, not by ownership acquisition (the ownership is stable) (Hojnik, 2018). It is important to emphasize that servitization does not imply a transformation of capitalist relations such as private ownership and the profit-imperative but that it rather resembles a reform of the ways in which commodities are produced, used, and discarded (Baines et al., 2009; White et al., 1999)[3]. In parallel with business model innovation, policy plays a central role in such reformist endeavors. Hojnik (2018) discusses the importance of regulatory measures driving servitization business models for green growth. Similarly, critical work in organizational studies and political economy highlights that entrepreneurship is often enabled by top-down regulation that, allegedly, drives markets towards greener outcomes (Hasselbalch et al., 2023).

Frenken (2017) situates servitization within the broader umbrella of sharing economies that are also characterized by consumer "access rather than ownership" (p. 4). Private platforms serve a key function in organizing such interactions between producers and consumers (Kenney & Zysman, 2019). In this context, Frenken (2017) synthesizes three different political-economic scenarios for the sharing economy. The first scenario called *platform capitalism* describes a future

[3] As such, Calisto Friant et al. (2020) also situate early forms of servitization as product service systems under a technocentric circular economy discourse but for the purposes of this thesis which is regarding more recent and purpose-driven forms of reuse servitization, the reformist circular society discourse is more applicable.

in which market mechanisms led to the formation of major private monopolies with the digital capital and capacity to provide services as large-scale, "integrated solutions in [various] areas" (Frenken, 2017, p. 8). This scenario coincides with recent developments in political economy as observed by economist Yanis Varoufakis (2024) who argues that through the growing dominance of digital platforms and service providers such as Amazon, Uber, or Facebook, capitalism evolves into techno-feudalistic configurations. These configurations are characterized by the accumulation of data in private hands and rentier profit extraction rather than surplus generation in commodity production (Varoufakis, 2024). In scenario two, *platform redistribution*, governments regulate markets in the sharing economy with the goal of establishing 'fair' competition with positive social outcomes. It resembles a typical social-democratic political economy (Frenken, 2017). The third scenario, *platform cooperativism*, predicts a sharing economy that is shaped by more localized and alternative organizational forms such as cooperatives with collective ownership and democratic decision-making (Frenken, 2017). This third scenario coincides with Calisto Friant et al.'s (2020) second major circularity discourse: transformational circular society.

Transformational circular society

Transformational circularity discourses argue that broader structural socio-economic changes, beyond business model innovations and behavioral shifts, are needed for just and ecologically sustainable circular societies. Echoing Frenken's (2017) *platform cooperativism*, this includes cooperative organizational models and localized production (Calisto Friant et al., 2020). Transformational discourses do not aim to reconcile economic growth with ecological sustainability but rather aim to organize economies that are liberated from capitalist growth mechanisms. Broader paradigmatic examples of transformative circularity discourses are degrowth and post-growth (Calisto Friant et al., 2020). These paradigms argue for abandoning economic growth imperatives and downscaling production and consumption in an equitable manner toward post-capitalist, ecologically sustainable, and just societies (Kallis et al., 2018).

The conceptual distinction between reformist paradigms and transformational paradigms aligns with recent work in organization studies and political economy

which synthesizes political-economic paradigms (green growth and post-growth) and patterns of change (top-down and bottom-up) with modes of organization (Hasselbalch et al., 2023). The researchers introduce a typology where post-growth approaches to organization resemble the transformational circularity discourses and green growth approaches show similarities with reformist circularity discourses (Calisto Friant et al., 2020; Hasselbalch et al., 2023). As I also approach political economy from an organizational perspective, I draw on Hasselbalch et al.'s (2023) discussion of pathways of political-economic reorganization without narrowing down on a particular pattern (bottom-up or top-down). Thus, I maintain the general conceptual framing of reform and transformation (see *Figure 2*).

Critical literature often discusses decommodification as a key process to transform dominant economic structures. Decommodification refers to the removal of commodity relationships which, according to Marx, are at the very core of the capitalist economy (McNeill, 2021). A streamlined theory and critique of commodification was first formulated and popularized in the field of political economy by the 20th-century economic theorist Karl Polanyi (Hermann, 2021; Polanyi, 1944). Polanyi criticizes commodification and market relations for diminishing overview. He highlights that "[…] in a complex technological society single actors cannot gain an overview of society, and cannot understand the social consequences of their actions. […] Overview, he argues, cannot be substituted by a soulless mechanism like the market system." (Desai & Polanyi Levitt, 2020, p. 150). Thus, according to Polanyi only non-market forms of organization can facilitate the necessary overview in complex technological societies (Desai & Polanyi Levitt, 2020; Polanyi, 1927). More specifically, he advocates for socially embedded economies that are organized around reciprocity and redistribution (Polanyi, 1944, 1957/2011). This overlaps with recent scholarship in the political economy of post-growth that advocates for transformational economies organized around "redistribution, restoration, cooperation and sufficiency" (Banerjee et al., 2021, p. 351).

The argument for decommodification is rooted in the Polanyian idea of reuniting society and economy or, in other words, transforming to a socially determined economy instead of subordinating society to a disembedded market economy (Dale, 2010; Peredo & McLean, 2020; Polanyi, 1944). This resonates with degrowth and

post-growth as it allows for more democratic forms of social organization in which social needs and ecological sustainability can be addressed directly without being dependent on market outcomes or capitalist growth imperatives (Fotopoulos, 2010; Trainer, 2015; Weiss & Cattaneo, 2017). Degrowth scholarship explores reciprocal economies such as commons- or solidarity-based economies in which competition gives way to cooperation (Exner, 2014). *Figure 2* summarizes the conceptual distinction between reform through servitization and transformation through decommodification as two distinct forms of changing make-and-waste economies toward reuse economies.

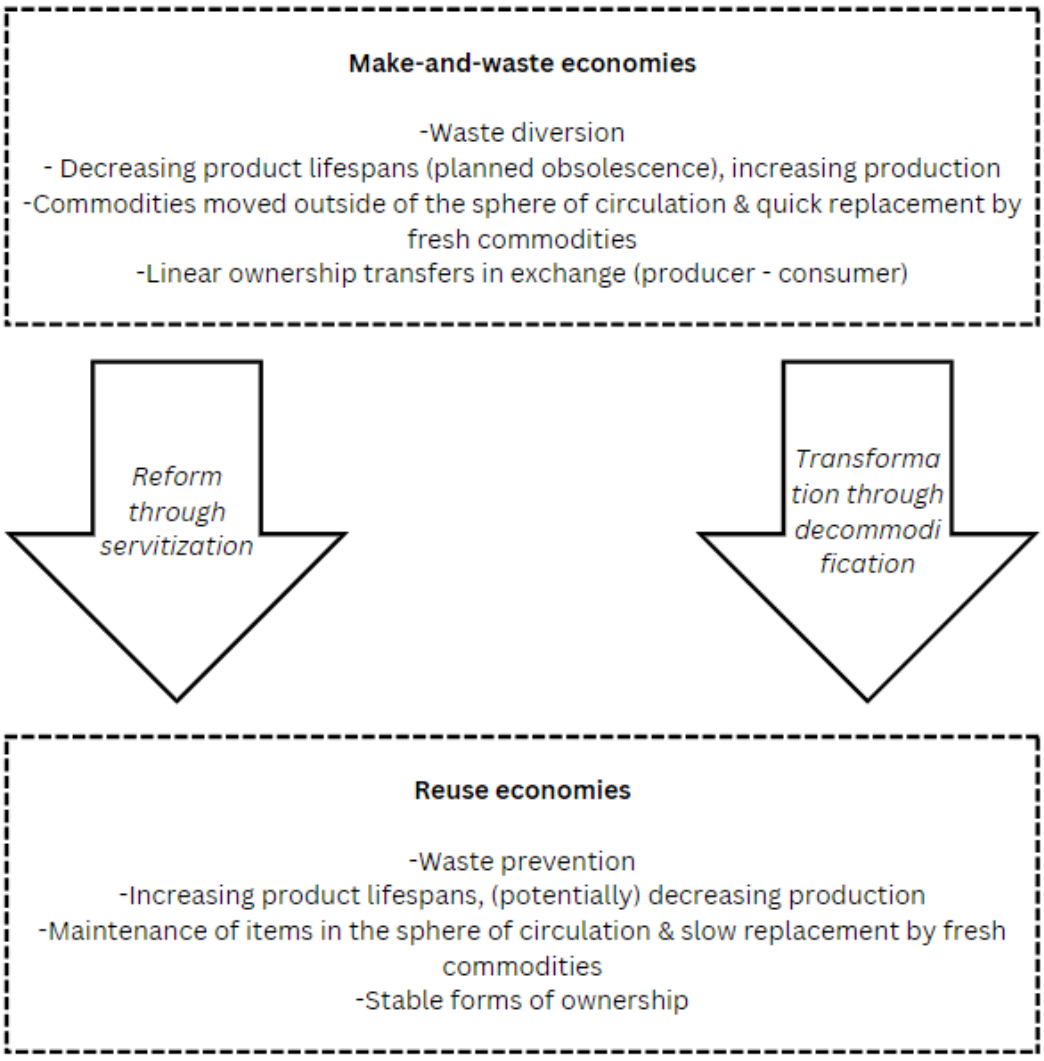

Figure 2: Conceptual distinction between reform through servitization and transformation through decommodification.

However, not all scholars seem to agree with the conceptual distinction I drew in *Figure 2*. In a recent publication Froese et al. (2023) asses that degrowth-oriented

organizations create value by providing "products as a service" (p. 8). Contrarily, the authors also claim that degrowth-oriented organizing also avoids commodification. Thus, it seems like the authors see servitized commodification as an exception. Froese et al. (2023) summarize that "degrowth-oriented value creation means that organizations develop, resource, (re)create, and offer products and services that help to reduce, in absolute terms, product and waste production as well as energy and material consumption and enable more resource effective and sufficiency-oriented lifestyles" (p. 9). This proposition seems particularly depoliticized as it does not tell anything about the political economy of such product-service provision. Indeed, it seems to share more similarities with the outlined reformist paradigm rather than the transformative paradigm degrowth aims to be (Kallis et al., 2018). In the same vein, Khmara and Kronenberg (2018) discuss servitization as a sustainable degrowth business model arguing that degrowth is compatible with capitalist forms of organizing. The authors claim that businesses that commit to 'alternative' values and practices can align with degrowth. I argue that such normative framings result in conceptual ambiguities; the boundaries between transformation (degrowth/post-growth) and reform (eco-modernism/green growth) are thereby blurred. Therefore, I turn to a more structural engagement with (de)commodification in the following which will help to navigate such theoretical conflations.

Value Relations within Reform and Transformation

Hermann (2021) describes the processes of commodification with the help of two central Marxian political-economic categories: use value and exchange value (Marx, 1867/1976). For Hermann (2021), commodification entails the subsumption of use value for exchange value - with decommodification describing the inverse process. Use value refers to the qualitative characteristics of a commodity, in other words, "the usefulness of the commodity and how it satisfies our needs" (Alakavuklar, 2023, p. 5). Exchange value generally reflects the price of a commodity for exchange (Alakavuklar, 2023). Decommodification therefore is a process in which the provision of the usefulness of a good or a service is prioritized over the motive of exchange (Hermann, 2021). This means that make-and-waste economies are fundamentally a result of commodification. The systemic decrease

of the use phase of commodities I described - including the practice of planned obsolescence - parallels the general Marxian observation that the engine of capital accumulation structurally leads to the domination of quantitative forms of value (exchange value) over qualitative forms of value (use value) (Alakavuklar, 2023; Harvey, 2014; McNeill, 2021). As seen, reuse economies seem to imply the opposite: the elevation of use value. Nevertheless, I argue that simply concluding that reuse is an inherently transformative, decommodifying strategy is too generalized in the current conjuncture which is why I engage more closely with value in reuse organizations in this thesis.

Understanding value as a structural and economic rather than moral concept leads to questions of relationality (Alakavuklar, 2023). Marxian scholarship describes exchange value as the comparative validation of commodities facilitating exchange where price serves as a uniform quantitative denominator (e.g., commodity 1 is valued at x euros, and commodity 2 is valued at y euros) (Alakavuklar, 2023; Marx, 1867/1976). This is what McNeil (2021) frames as an apparent relation between things; "[for Marx], exchange value is not a material, nor a natural relation. It is a social relation: a relation between *persons* which assumes the form of a relation (albeit social) between things" (p. 52). Similarly, it can be argued that human needs that shape use value are socially mediated. This is why McNeill (2021) argues for a relational view of use value beyond Marx's more atomized notion of use value as individual utility in consumption. In short, relations are at the core of economic theories of both use and exchange value; in fact, value itself can be seen as a social relation (Alakavuklar, 2023; McNeill, 2021; Pitts, 2020).

Marx's theory of value is also insufficient for the purposes of this thesis with regard to its predominant focus on production (itself grounded in Marx's centering of labor in his economic analysis) (McNeill, 2021). For Marx, exchange and use value are attributed to the linear stages commodities follow in the spheres of production, exchange, and consumption. This means that the basis of exchange value uniformly lies in production and only when commodities are consumed (after exchange) they "serve as use-value" (Marx, 1867/1976, p. 198). Evidently, Marx is concerned with an entirely different historical context – that is, capital accumulation and commodity production in the 19th century – that, as discussed,

fundamentally differs from reuse economies (Marx, 1867/1976). Reuse seems to involve different forms of economic value relations that complicate the binary between exchange value in production and use value in consumption. Thus, the nature of exchange and use value is less clear in this context and deserves further attention, particularly concerning exchange and consumption in reuse. As McNeill (2021) summarizes, "[…] not only the social relations of production but also exchange and consumption are worthy of study" (p. 4).

To undertake this, I draw on recent work in critical political economy that discusses organizations and their embeddedness in broader economic structures using value relations as an analytical framework (Alakavuklar, 2023). Alakavuklar (2023) conceptualizes organizations as understudied relational phenomena within the political-economic system. While research has provided key insights into the normative (moral and political) value relations of alternative organizations that operate in the cracks of capitalism, their embedded structural value relations are often neglected (Alakavuklar, 2023; Parker et al., 2014).

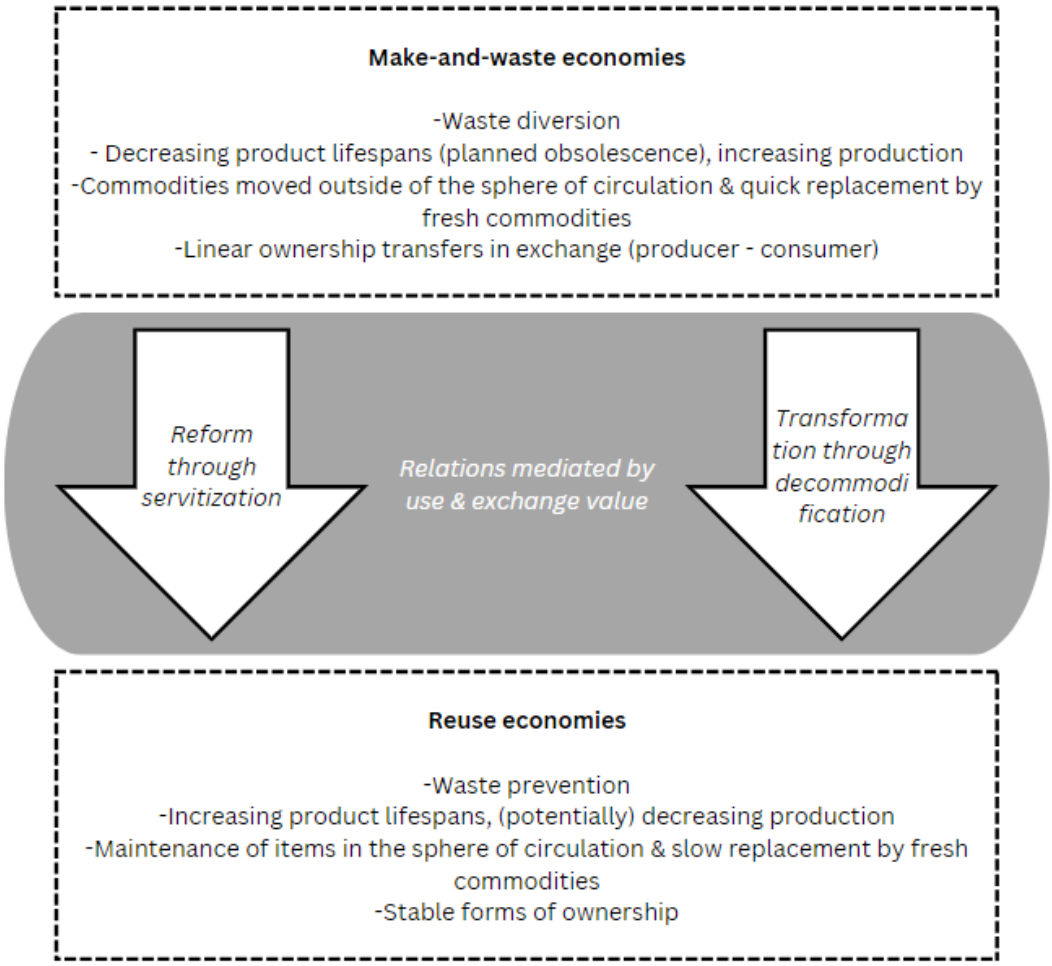

Figure 3: Summary of the conceptual framework with the added analytical framework of value-mediated relations in reuse reform and transformation adopted from Alakavuklar (2023).

This is why I use Alakavuklar's (2023) analytical approach to investigate relations that are "mediated by use value" (p. 6), and complement it with relations that are mediated by exchange value to answer the research question of how reuse organizations aim to change make-and-waste economies (see *Figure 3*). The literature supports that value relations, particularly relations mediated by use value, play a central role in both servitization and decommodification. Concluding from their exhaustive literature review on servitization, Baines et al. (2009) describe the concept as "[…] processes to shift from selling products to selling integrated products and services that deliver value in use" (p. 547). And as discussed, decommodification also describes an orientation toward use value (Hermann, 2021). The differences between value-mediated relations in servitization and decommodification remain to be applied and conceptualized within the context of reuse. This approach also helps the analysis of broader inter-organizational relations

and political-economic tensions and contradictions (Alakavuklar, 2023). Moreover, it facilitates a more structural than normative engagement with the identified conceptual conflations between reform and transformation (Froese et al., 2023; Khmara & Kronenberg, 2018). Rooted in the tradition of critical theory, such structural approaches also help to highlight possible resolutions to structural contradictions (Fraser, 2018). The underlying paradigm of my research approach is shortly outlined below before I engage more closely with this thesis' research instruments.

Methodology

Departing from the core theories and concepts shaping this study, I begin this chapter by shortly describing the underlying paradigm that shaped my research design and deployed methods. The latter are elaborated after I briefly contextualize the background of this study.

Research Paradigm

As described, in this thesis I investigate reuse organizing through a critical political-economic lens drawing on Marx's (1867/1976) qualitative value theory which has subsequently been applied and advanced by other critical political economists and organizational scholars (Alakavuklar, 2023; McNeill, 2021). I complement the Marxian theoretical background with later critiques of commodification coined by Karl Polanyi (1944) following Fraser's (2018) sentiment in *Why Two Karls are Better than One: Integrating Polanyi and Marx in a Critical Theory of the Current Crisis* for a more multifaceted theoretical engagement with reuse organizing against the make-and-waste economy.

In this, my research paradigm or underlying worldview conforms to critical theory which itself is rooted in the Marxian tradition (Guba & Lincoln, 1994; Mahmoud et al., 2018). According to Guba and Lincoln (1994), the ontology, or the fundamental outlook on reality, of critical theory regards real-world social structures from a historically contingent perspective. In other words, social structures are not part of a naturally given or logically determined reality but they are changeable since they are historically, politically, and socially formed (Guba & Lincoln, 1994). The context of a historically shaped social structure I describe and problematize here is the make-and-waste economy and my inquiry concerns potential political and social drivers in reuse organizing for changing this structural reality. Thus, my epistemological position as a researcher resembles what Guba and Lincoln (1994) describe as an "advocate" for transformation (p. 112) (in this case, the transformation toward reuse economies). Thus, critical theory aligns with my research inquiry due to its goal of emancipatory social-ecological change (Mahmoud et al., 2018). As qualitative research, this thesis aims to extend

theoretical understanding (on the political economy of reuse) based on real-world phenomena (reuse organizations).

Research Background

This thesis emerged from my internship activity in the research project *Plastics in a circular society: Alternative organising beyond resource efficiency* led by Ekaterina Chertkovskaya at Lund University[4]. The project engages with the phenomenon of alternative organizing against the plastic crisis investigating how initiatives across the globe tackle plastics within the different lifecycle stages of production, (re)use and recycling as well as trough policy and governance. The initial mapping stage of the project first introduced me to reuse organizations and - by engaging with the literature - I encountered their political-economic ambiguity. Thus, the internship helped to shape this research inquiry. But I do not use any project data in this thesis; the entire data collection was conducted independently after the completion of the internship.

While this thesis aligns with the project's general focus on plastics, specifically plastic packaging, it also expands on the project in three ways: (1) its in-depth investigation of organizing in reuse as one part of the plastic lifecycle, (2) its theoretical focus on political economy instead of alternative organizing, and (3) the resulting broader organizational scope that is not exclusively constrained to 'alternative' forms organizing in this thesis. Point (3) is still a point of contention since it is unclear "which theoretical frameworks inform the dominant and alternative perspectives [within the circular economy]" (Pansera et al., 2021, p. 473). I aim to aid and complement the effort of navigating these conceptual questions. Overall, this thesis can therefore be considered an in-depth case-study of one of the project's components, namely reuse organizations.

Research Design & Methods

To gain a more comprehensive understanding of reuse, I extended my research design beyond a single case study to a multiple-case study design which allows for

[4] https://www.plasticalternatives.lu.se/

comparison between different cases of reuse organizations (Bryman, 2016). Scholars argue that this research design is particularly useful for advancing the conceptualization of phenomena since its comparative element helps to review, modify, and expand theories and concepts (Bryman, 2016; Eisenhardt, 1989; Yin, 2009). As this thesis is theoretically oriented, aiming to advance the political-economic conceptualization of reuse, this research design was chosen to match its purpose. More specifically, the multiple-case study I conducted in this research consists of one main method: semi-structured interviews. But I also complemented the data collection with secondary material from online sources as well as an auto-ethnographic method which I elaborate in the following.

Semi-structured interviews

Semi-structured interviews are an essential method in comparative research designs such as multiple-case studies as they facilitate the collection and analysis of in-depth qualitative data (Bryman, 2016). They are particularly popular due to their flexibility in allowing space for spontaneous follow-up questions by the interviewer. Besides, they often succeed in creating reciprocal interactions between interviewer and interviewee (Kallio et al., 2016). Due to this flexibility and ability to collect in-depth qualitative data, I selected semi-structured as my main research method.

Secondary online material

Complementing qualitative interviews with secondary data such as organizational reports or websites is a common practice in case study research designs as it allows the researcher to retrieve additional, often more general, information about an organization that might have not been collected during the more in-depth interviews (Bryman, 2016). The online material I used to complement the interview data consisted of the organizations' publicly accessible websites and reports that - to ensure their authenticity - were only retrieved from direct organizational sources.

Auto-ethnography

I also complement my study with a minor auto-ethnographic element, namely the participation in a reuse model. Auto-ethnography is a method that allows

researchers to draw on their own experiences to generate research insights (Pink, 2015). This allowed me to reflect on my participation in a reuse model and the value relations I experienced therein. I include this data as personal reflection vignettes in the results (Pink, 2015).

Data Collection & Analysis

As is common in multiple-case studies, I used a case selection strategy based on the inclusion of different case-specific characteristics: in this context, different organizational forms (Bryman, 2016). During my internship in the aforementioned research project, I found that reuse organizations assume two main forms: *private reuse organizations* and *non-governmental organizations (NGOs)/non-profit reuse organizations*. These reuse organizations tackle throwaway packaging in a material way by implementing reuse models and often focus on the food and beverage takeaway sector. I aimed to maintain a more streamlined inclusion of organizing *for* reuse instead of organizing *with* reuse. This is why I excluded organizations that are not explicitly centered in reuse but practice some degree of it (e.g., dairy producers who recollect and refill their yogurt jars). The case selection was conducted using the online information available from each organization which usually showed their respective organizational form. This allowed me to select a set of cases that evenly represent both *private reuse organizations* and *NGOs/non-profit reuse organizations*.

Initially, I set this thesis' geographical scope as Germany since it is said to display the vastest organizational landscape in reuse (KIDV, 2022). However, during case selection cases of *NGOs/non-profit reuse organizations* were not found which is why the geographical scope was extended to the whole of Europe. Within this broader scope, two further relevant organizational forms emerged that I categorized as a *public tender reuse organization* and a *public-private partnership reuse organization*. The former describes an organization that runs a reuse model on behalf of the ministry and the latter describes a collaborative reuse model between a municipality and a corporation. Thus, four different organizational forms were selected as relevant case study characteristics. But beyond these case studies, I found that results would also benefit from more holistic and unbiased perspectives from people who work in the reuse field but do not directly represent a reuse

organization. Therefore, it was decided to include the expert perspectives of people working in *intermediate networks*. Such networks typically operate between public bodies and (private) reuse organizations attempting to promote the spread of reuse on a more systematic scale. The interviews with people from such networks are treated as expert interviews since they helped to complement the case-specific perspectives by adding a broader outlook on the reuse landscape and the relations between organizations.

Organizations that fit the outlined selection criteria were contacted for potential interview participation. This resulted in a total number of 11 interviews, of which eight were conducted with representatives from reuse organizations (cases) and three with experts from *intermediate organizations*. *Table 1* summarizes the cases and expert interviews as they are referenced throughout this thesis. I decided to anonymize all organizations due to ethical considerations elaborated in the following section. The interviews took place in March and April 2024 and were conducted in an online format due to the dispersed geographic locations – with one exception where an in-person interview was possible. Given the participants' consent, interviews were audio recorded - with the same exception for the in-person interview where handwritten notes were taken. The interview duration was between 30 to 60 minutes depending on the availability of the respective participant. After the interviews were held, I transcribed the audio files. This text was manually reviewed and corrected by listening to the audio recordings as advised by Flick et al. (2004). Simultaneously, the complementing secondary online material and auto-ethnographic field notes were collected.

Table 1: Cases and experts as referenced in this study and their respective organizational forms.

# Case or Expert	Organizational form
Case 1	*Private reuse organizations*
Case 2	
Case 3	
Case 4	*NGOs/non-profit reuse organizations*
Case 5	
Case 6	
Case 7	*Public tender reuse organization*
Case 8	*Public-private partnership reuse organization*
Expert 1	*Intermediate networks*
Expert 2	
Expert 3	

In the following, I compiled all the relevant text data - consisting of interview transcriptions, secondary online material, and auto-ethnographic field notes. I conducted my analysis in line with a thematic analysis which is particularly helpful for conceptual research inquiries such as this one (Bryman, 2016). Thematic analyses involve a qualitative coding process to identify core patterns and categories in the qualitative data (Bryman, 2016). This process was performed manually using Microsoft Excel. As a starting point for the coding process, I used the analytical framework of value relations mediated by use and exchange value which provided an initial structure to the coding process. Subsequently, further patterns emerged in an iterative manner. The coding process resulted in four central themes: (1) relations mediated by use value, (2) relations mediated by exchange value, (3) cooperation vs market competition, and (4) standardization vs market fragmentation. The former two themes concern relations within reuse models while (3) and (4) concern relations between reuse models. I present and analyze the themes in the next chapter after I outline some of this research's ethical considerations and limitations.

Ethical Considerations & Research Limitations

Arguably the most important ethical consideration in this study concerns the treatment of the interviewees who generously gave some of their limited time to participate in this study. As I also experienced, navigating the dependence on responses and incentivizing participation can be challenging and often causes discomfort for researchers (Duncombe & Jessop, 2012). To build rapport and improve the incentives for participation, I tried to provide space for more reciprocal interchanges and offered to share research insights from the previously mentioned research project upon contacting organizations. My association with the project likely helped me in this process.

To guarantee that all interviewees were informed about the research as well as their rights as participants, they received an informed consent sheet from me several days in advance of the interviews. When participants did not sign the consent sheet, I sent one reminder. In consideration of the interviewees' limited time, I did not insist further on manual signatures but also offered the option of informed verbal consent. I always made sure to leave space for interviewees to voice concerns and pose questions about the research.

However, the notion of informed consent can pose more fundamental ethical issues as feminist scholars Miller and Bell (2012) point out. Due to the evolving nature of studies, it is often impossible for participants to know what exactly they consent to. While I shared the information with participants about the critical nature of this research as well as its political-economic focus, I did not detail the critical angle I used; much of my theoretical perspective only evolved later, in parallel with the data collection. This parallel process and dialogue between theory and empirical material is typical in critical theory (Mahmoud et al., 2018). Miller and Bell (2012) advise researchers to overcome the issue of informed consent by facilitating repeated negotiations of consent between interviewee and interviewer. However, such a repeated process was unfeasible due to the limited time frame of this thesis. Thus, in consideration of potential ambiguities for participants in 'informed' consent, I decided to not only anonymize participating individuals but also the organizations they represent.

Further limitations of this study concern the representativeness of its collected data. Firstly, my focus on collecting data from reuse organizations excludes the perspective of other actors involved in the reuse such as supermarkets and restaurants that could be relevant for this research. Secondly, almost all cases specifically deal with the reuse of packaging in the food and beverage takeaway sector which seemingly represents the most advanced sector for reuse in Europe. Participants observed that the takeaway sector is the "lowest hanging fruit" for reuse due to its relatively low complexity (Case 8, *public-private partnership reuse organization*). The organizational complexity is said to be comparatively low because packaging and exchange happen in the same location in this sector (for example, a coffee cup that is filled and sold in a café) (Case 2, *private reuse organization*). Moreover, the waste from takeaway packaging is particularly visible and thus receives much public attention (Case 8, *public-private partnership reuse organization*; Case 3, *private reuse organization*). The dominant representation of reuse organizations in the food and beverage takeaway packaging sector limits the research's applicability for reuse in other sectors which involve a different set of actors. Nevertheless, I expect that the political-economic tensions and the conceptual implications I conclude in this research are more broadly relevant for reuse in general.

Results & Analysis

In the following, I elaborate and analyze the core themes that emerged from my analysis. The results are structured by the interconnected relations within reuse models and the relations between reuse models. Throughout this analysis, I refer to the conceptual and analytical framework and draw empirically grounded distinctions.

Relations within Reuse Models

In general, it was found that - in line with the theoretical engagement with reuse - all reuse organizations aim to extend the use value of packaging items such as takeaway coffee cups or food bowls by configuring new models of relations that aim to facilitate the items' optimal circulation and re-utilization. The core relations are created between three actors: reuse providers (reuse organizations), reuse partners (actors implementing a reuse model, e.g., cafés, restaurants, or supermarkets), and the users (people participating in reuse) (see *Figure 4*). Generally, providers supply reuse items, such as coffee cups, to partners who lend these items to users (customers) who then close the loop by either directly returning the borrowed item to a partner or through public return infrastructure (e.g., deposit machines). The different relations mediated by use value and the different relations mediated by exchange value (exchange relations) are further outlined below.

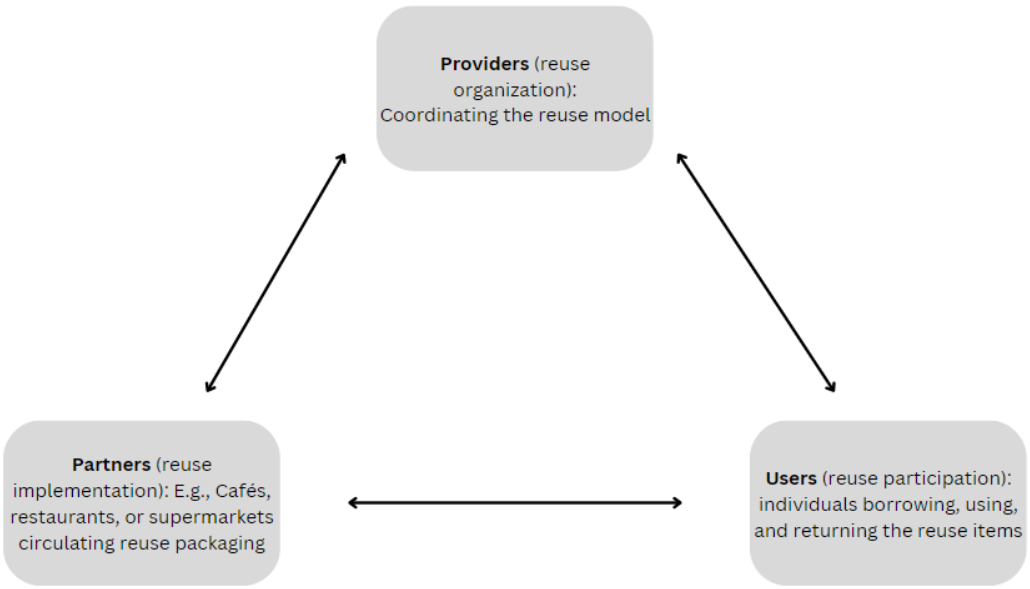

Figure 4: The three main actors in reuse models.

Relations mediated by Use Value

One of the major relations forged by reuse organizations is between partners and users through the borrowing and returning of items. Extra interactions are created that are often shaped by reciprocal interchanges bringing people together and alleviating the disconnection and anonymity of throwaway packaging. However, as pointed out by research participants, such relations are uncommon and are often accompanied by a certain degree of discomfort that users experience. Interviewee from Case 5 summarizes this as follows:

> I always find that [the partners] are very happy to get my cup and very happy to see me again and to have this little interaction. But I have spoken with a lot of people who - I think it's like social anxiety that they have I don't know – […] see it as a very difficult interaction. They don't like it, and I don't know why. Because my experiences have always been interesting. [The partners clean my coffee cup] with the steam from the coffee machine, and then they run it under the water. It makes their work harder and still they do it and they say that it's not a problem. So, I'm really curious why people are feeling so judged when they return their reusable cup. […] [Single use] is so ingrained in the whole ecosystem of this industry. (Case 5, *NGO/non-profit reuse organization*)

Thus, a relation to an object such as a single-use cup which is commonly only used and then disposed of (and anonymously processed as waste) is reconfigured as a relation between people. In other words, there is a social value relation mediated by the use value of reuse replacing conventional transactions. The reconfigured social relation also leads to new relations to the packaging items themselves with the awareness that these items are not only returned to partners but also shared and reused by others.

> *Personal reflection*:
>
> The reuse containers feel somewhat distinct; some of them have an individual inscription. I feel a sense of awareness towards these items as they do not belong to me. They have a history and a future as opposed to something that is produced to be thrown away. The print on the cup is coming off. I know that they will be used by others after me. When returning them, the extra interaction with the people who made my food turned my attention to how I leave them behind in a clean and respectful manner.

Beyond these relations between partners and users, central use value considerations concern the relations between providers and partners as well as relations between providers and users. Providers create use value by scaling and standardizing relations with partners and users. This is also called "a systematic approach" as opposed to so-called "islandsystems" which refers to the isolated provision of reuse by a single actor; for example, a café lending out its own reuse mugs (Case 1, *private reuse organization*). The scaling and standardizing efforts of reuse organizations aim to make the use value of reuse compete with dominant throwaway packaging through network effects. In other words, the more partners are included in a single reuse model the more accessible the borrowing and returning of the reuse items becomes and the more packaging items can, in turn, be standardized and circulated.

Scale and standardization particularly strive for the convenience of partners and users in lending and returning items. In light of persistently low packaging reuse rates, all cases in this study aim to create relations that are convenient. Convenience is seen as a core use value of throwaway packaging which reuse organizations try to compete with (Case 8, *public-private reuse organization*). In the least, reuse is generally attempted to be organized in a way that is not significantly less convenient

than throwaway packaging. For instance, scale allows users to borrow similar items at multiple places that can be returned at different locations and partners again. Specifically lacking return options are seen as a major hindrance to the convenience of reuse. This becomes a point of tension between organizations as I expand on below.

Through their waste prevention, reuse organizations also create more "symbolic relations" mediated by use value (Alakavuklar, 2023, p. 13). The implementation and participation in reuse often create a certain degree of purpose and togetherness for partners and users. Particularly in more locally based *NGOs/non-profit organizations*, partners and users show a strong "sense of being important for the cause" (Case 4, *NGO/non-profit reuse organization*). Moreover, reuse is mentioned to provide symbolic use value in boosting the environmental performance and image of partners and users (see *Figure 5*).

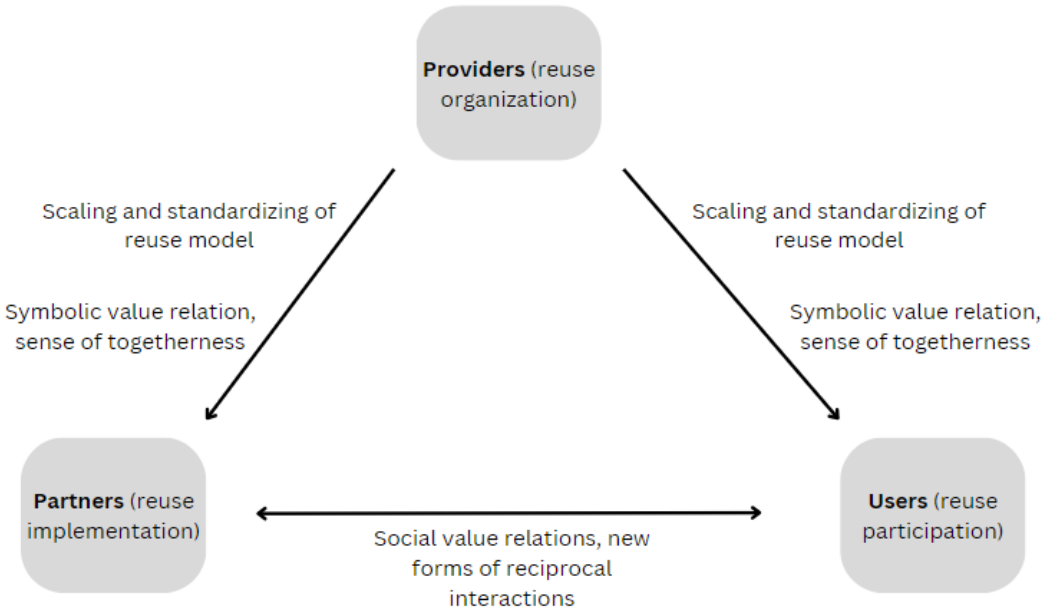

Figure 5: Summary of relations mediated by use value in reuse models.

Relations mediated by Exchange Value

The different models of exchange relations

Participants frequently referred to the different reuse 'systems' which was often used synonymously with the different reuse organizations (Expert 1). But more

broadly, ‘system’ also refers to the reuse model of an organization. Overall, I found that two general reuse models exist that, crucially, are differentiated by their exchange relations: deposit-based models and penalty-based models. Deposit-based models entail so-called ‘pool systems’ in which a reuse organization provides items that are circulated through analog deposit exchanges. Deposits are exchanged whenever a reuse item is transferred between partners and users as well as between providers and partners (Case 1, *private reuse organization*; Case 5, *NGO/non-profit reuse organization*; Case 7, *public tender reuse organization*). Penalty-based models operate through a library system in which reuse items are individualized and equipped with QR codes so that transfers can be digitally tracked. These models often require a membership and app interface that coordinates penalty payments when items are not returned properly (Case 2, *private reuse organization*). All cases included in this study exhibit one - or in a few cases, a combination (Case 6, *NGO/non-profit reuse organization*) - of the described models of exchange relations. As such, the models of exchange relations serve the proper functioning of reuse by incentivizing return and ensuring the providers for their expenses. In other words, they stimulate the proper circulation and (re-)utilization of items. Thus, these exchange relations are still oriented around the use value proposition of reuse. Moreover, since the prices of deposits and penalty payments are generally set around the manufacturing price of an item, these exchanges generally do not generate profit or surplus for providers. Thus, such relations resemble what Alakavuklar (2023) frames as “non-commodified exchange relations” (p. 17).

However, findings suggest that the two models of exchange relations differ in their effectiveness in stimulating the circulation of items; in other words, they differ in their ability to achieve reuse’s central use value proposition. Results echo a general concern about deposit-based models not delivering the required return rates; users seem to not return their borrowed items as consistently as in penalty-based models. Since a reuse item is often of higher material substance, it can be assumed that the item must be reused a certain number of times to be environmentally beneficial compared to throwaway packaging. Findings suggest a general concern about whether deposit-based models achieve sufficient return rates to meet this break-even point (Case 2, *private reuse organization*). Participants explain this phenomenon by highlighting how users often interpret deposit exchanges as

purchases (ownership acquisition) and thereby obstruct the inherent strategy of reuse as stable ownership. An interviewee outlines this as a "factor is to get away from. This idea of: 'Okay I pay 5 Euros, this is mine now; No, it is not mine, I just borrowed it and I can also return it again. And then [it is also important to] remember that when I go next, then I will bring the [reuse item], I do not just put it in the cupboard'" (Case 7, *Public tender reuse organization*). In addition, considering that the rate of deposit per item is often as high as five to ten Euros, there are socio-economic barriers to participation in deposit-based exchange relations since "[not everyone] can afford to take out 20 Euros of deposits every day" (Case 1, *private reuse organization*). In this, deposit-based exchange relations are confronted with a trade-off: with high deposits, the accessibility of reuse options is decreased but with low deposits return rates may falter due to low return incentives (Case 1, *private reuse organization*). In comparison, penalty-based exchange relations have been found to facilitate much higher circulation rates and are thus more successful in delivering reuse's use value proposition (Case 2, *private reuse organization*). Participants argue that the psychological mechanism of penalty circumvention is more effective than the prospect of potential reward for motivating people to return their borrowed items (Case 2, *private reuse organization*). Nevertheless, the requirement of downloading an app to enter penalty-based reuse models is also seen as an obstacle, particularly by users. This is why interviewees observed that penalty-based models are typically more popular among partners than users (Case 1, *private reuse organization*).

Commodified exchange relations

But beyond the two general models of non-commodified exchange relations, some reuse organizations also display commodified forms of exchange relations. Specifically, *private reuse organizations* (providers) show forms of commodified exchange relations with partners in the form of membership fees (usually associated with deposit-based models) and transaction payments (usually associated with penalty-based models). *Private reuse organizations* (Cases 1, 2, and 3) are dependent on generating revenues through these commodified exchange relations to finance their reuse model. As private organizations, they are structurally obliged to become profitable. Such commodified exchange relations are absent in

NGOs/non-profit reuse organizations (Cases 4, 5, and 6), the *public tender reuse organization* (Case 7), and to some degree the *public-private partnership reuse organization* (Case 8). The participant from Case 7 summarizes this difference as follows:

> [Our organization] is really unique, because it doesn't cost the restaurant operator, any extra charge. I don't know [the other's] conditions, but I know that [their partners] have to pay a contribution so that the system is financed. There is a private company behind it just like other providers. That's just not the case here. […] The restaurant partner does not enter any commitments. (Case 7, *public tender reuse organization*)

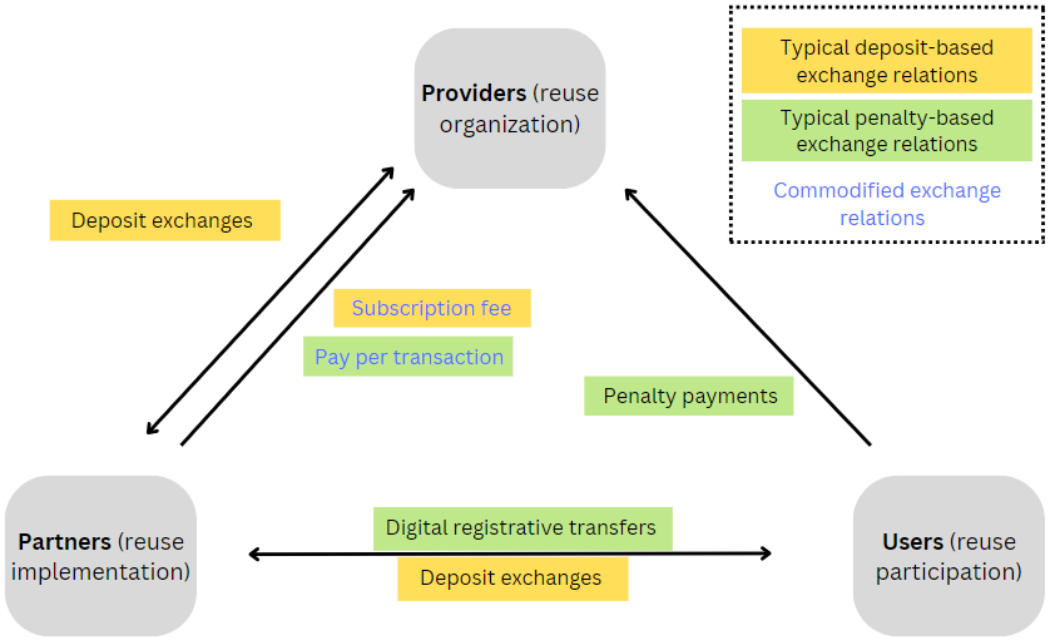

Figure 6: Summary of the typical exchange relations in reuse organizations.

Figure 6 summarizes the outlined exchange relations. In line with the theoretical framework, these results imply that it is precisely these commodified exchange relations that structurally differentiate reform through servitization from transformation through decommodification. The commodified exchange relations are at the core of reformist servitization as they represent the business case of *private reuse organizations*. In contrast, cases without such commodified exchange relations are usually financed through non-commodified means (often public funds). They arguably dismantle the commodity relations that are at the center of capitalist make-and-waste economies since all the relations that are found are

oriented towards use value. Thus, they resemble a transformative approach through decommodification. In contrast, reformist organizing does not remove but rather reconfigures the commodity relations of packaging.

Relations between Reuse Models: Tensions and Contractions in the Reuse Landscape

As elaborated, results show that reuse is a strategy of extending use value that functions through the creation, scaling, and standardization of relations. But this is precisely where structural tensions and contradictions arise since multiple reuse organizations simultaneously try to create, scale, and standardize their relations. The core tensions and contradictions that were found in the broader reuse landscape are elaborated below.

Cooperation vs Market Competition

Both reformist and transformational reuse organizations aim to extend their reuse model relations. However, the crucial difference in commodified exchange relations leads to competitive market relations in reformist organizing. The business case of *private reuse organizations* dependents on a sufficiently high market share, in other words, enough partners who pay for the reuse service. The structural imperative of achieving such a market share inevitably leads to competitive market relations between *private reuse organizations*. Thus, a broader reformist organizational landscape is characterized by organizations that try to differentiate their reuse models from competitors to stay afloat. Though *private reuse organizations* also emphasize their shared purpose and desire to collaborate, they are structurally constrained to a trade-off between their business case and collaboration (Case 3, *private reuse organization;* Expert 3). In fact, it was found that a *private reuse organization* shared resources with Case 5 (*NGO/non-profit reuse organization*) to advance their reuse effort. But crucially, such cooperation is only feasible to the extent that it does not significantly impede a *private reuse organization's* business case. In other words, cooperation is structurally inhibited in reformist organizing due to the underlying commodified exchange relations they depend on for organizational survival.

This is particularly relevant considering that experts expressed the crucial importance of cooperation for reuse (Expert 2). It is emphasized that the project of making reuse the new standard is only possible when organizations collaborate. Since transformative organizing does not exhibit commodified exchange relations, it does not rely on competition for market shares. Instead, transformative organizing is structurally more oriented towards cooperation. One example of this is the open resource sharing and coordinating efforts by Case 6 (*NGO/non-profit reuse organization*). The interviewee also observes this tension:

> I think there's a lot of collaboration to be had, but I think it's just whether everyone's willing to work together. Or if we're just going to be fighting each other for a piece of the pie - if there is a piece of the pie to be had. (Case 6, *NGO/non-profit reuse organization*)

But instead of lacking willingness, I found that it is rather the structural drive towards market competition in reformist organizing - rooted in commodified exchange relations - that obstructs the cooperation called for. This directly relates to the following theme.

Standardization vs Market Fragmentation

In connection to this, another structural contradiction arises in the broader reuse landscape between standardization and market fragmentation. As outlined above, standardization is a central use value proposition of reuse. But differentiated commodified exchange relations are found to lead to a fragmented market of incompatible reuse models (Expert 1). Experts criticize this fragmentation as it complicates the configuration of reuse economies:

> From the beginning, the gastronomy sector has said “Why is there not simply one system? Why is it so complicated?” But that is the free market. You can’t forbid [provider Y] to build up their own system while [provider X] is allowed to just [implement their system] because they were first. The real challenge is how to bring them together and unify this fragmented market of different solutions. […] But I also don’t know how you can regulate this because you have a free market and if one provider says “we want our cups in this format” and the others say “we want it in that format”, then they won’t be stackable anymore and then it’s already impractical. (Expert 2)

Within transformative organizing, it is arguably more feasible to adapt and merge reuse models since, as opposed to reformist organizing, the reuse models do not represent the organizations' core business case and means of survival. A similar observation is made by the interviewee from Case 6 (*NGO/non-profit reuse organization*) who, notably, also alludes to cooperation toward a single 'ideal' reuse model instead of a fragmented market landscape:

> And I think we're being held back by innovation because everybody's kind of scrapping to get in there. Whereas, actually, if we all collaborated, we could come together, see where our strengths are, and then work together on the ideal system. (Case 6, *NGO/non-profit reuse organization*)

Experts particularly highlighted the lack of standardization in the return of reuse items specifically the absence of shared infrastructures such as public vending machines. These attempts are also found to be complicated by the different reuse business models in a competitive reuse market (Case 1; Case 2, *private reuse organizations*). Thus, the needed standardization processes are difficult once market relations are already established. Such complications and tensions between standardization and market fragmentation do not exist on a structural level in transformative forms of reuse organization. As seen, relations in transformative organizing are not subject to market competition in the same way. Thereby they may be able to circumvent the tensions and contradictions discussed here. What transformative futures of reuse economies might look like and how these tensions and contradictions are attempted to be resolved in more reformist scenarios is discussed in the following.

Discussion

Referring back to the previously outlined political-economic theory, this chapter first unpacks the research findings' structural implications for the future of reuse economies and thereafter discusses this study's relevant conceptual implications for the literature engaging with transformative organizing.

Reformative and Transformative Futures of the Reuse Economy

As seen, the broader landscape of reuse organizing displays two central tensions and contradictions that are structurally connected to commodified exchange relations within reuse models. Overcoming these tensions and contradictions by decommodifying such relations towards cooperative and standardized cross-organizational relations would thus correspond to a transformative scenario for reuse economies. However, research findings and the literature also point to more reformist resolutions that do not necessitate the removal of commodified relations which are outlined first.

Reformist Resolutions to Tensions and Contradictions

One possible future resolution constitutes a scenario in which one reuse model dominates the market either by having outcompeted other reuse models or being instigated as the sole reuse provider in a geographic context. The latter is already the case in some smaller cities (Expert 1; Expert 2; Expert 3). As such, this would remove tensions due to market fragmentation since competition is simply absent. A single reuse model would standardize relations and could, in theory, deliver the scale that is required for immense profits (Expert 2). Referring to a larger corporation that is starting to offer IT solutions for reuse, Expert 2 problematizes such a future: "If [Corporation X] succeeds, then it is virtually the Amazon of reuse. And yes, then it will become a huge money machine. […] All the data alone that will flow there." Thus, such a reuse economy coincides with Frenken's (2017) *platform capitalism* scenario in which powerful private monopolies supply streamlined services for reuse provisioning. It also echoes Varoufakis' (2024) warnings of recent political-economic developments toward the monopolization of data and technology services in the hands of large corporations that generate

immense profits through rentier value extraction. Potential resolutions that overcome contradictions through the monopolization of reuse data and infrastructure, I argue, conversely pose an inherent contradiction with the reformist market logic. The tendency towards monopolization might turn out to be a particularly prominent concern in reformist reuse economies with commodified exchange relations which, as seen, are strongly bound to organizational scale (large market shares). In line with Varoufakis' (2024) problematization of the private service economy, this possible scenario for reuse economies warns of an alarmingly undemocratic political economy in which large corporations own and control the packaging items and reuse data circulated by the people.

A second possible reformist scenario exhibits more hybrid forms of public-private reuse provisioning. In this future, public bodies regulate market competition to prevent the formation of monopolies and facilitate the necessary standardization by providing shared infrastructures and coordinating the compatibility between reuse models. This resembles Frenken's (2017) social democratic future *platform redistribution.* Expert 3 summarizes this approach as follows:

> We have the following tension when introducing reusable solutions: There is only one standardized system in a city versus many different providers of reusable systems (different players are present and the best one prevails). Both already exist, both are significant, and both are coming. Of course, we have a social market economy in which the state wants to set as few guidelines as possible, but what needs to be solved are standardized return options in the city: locations, situations, vending machines, you name it... What is best from the customer's point of view has to crystallize itself and be tried out. In any case, practical solutions must be found quickly so that we can make faster progress with the use of reusable tableware and the "inconvenient" or "complicated" return situation can no longer be an argument for lacking participation. (Expert 3)

Though Expert 3 argues for the general feasibility of a publicly coordinated market of reuse models, results also show that overcoming the tensions caused by market competition and fragmentation – particularly in terms of shared infrastructures - proved difficult in many instances (Case 1; Case 2, *private reuse organizations*). And to what extent such standardization processes can actually unify the fragmented landscape without inhibiting the differentiation and market shares

individual private reuse models depend on remains largely unclear. Participants from Case 8 (*Public-private partnership reuse organization*) also expressed the complexity of such an undertaking and - just like research participants across all organizational forms – underlined that more stringent regulations are needed. In fact, most organizations view current policies and regulations as inadequate since they shift the responsibility and costs of reuse - which cannot economically compete with throwaway packaging - onto single organizations. Needed regulations include significant throwaway packaging taxes and/or bans (Case 2, *private reuse organization*; Case 6, *NGO/non-profit reuse organization*). The dependence of reformist organizing on top-down regulation discussed in the literature thus aligns with the research results (Hasselbalch et al., 2023; Hojnik, 2018). This implies that markets within reformist (reuse) economies are, contrary to neoliberal doctrine, only tenable through state intervention. It evokes Polanyi's general argument about how there is no such thing as a self-regulating market (Polanyi Levitt, 2013). Instead, a market economy is fundamentally an *instituted process* (Polanyi, 1957/2011). Reformist organizing can thus be understood as the attempt to institute reuse markets.

Case 8 (*public-private partnership reuse organization*) perhaps displays the most emblematic case of an instituted reuse economy. This case attempts to circumvent the tensions of standardization in an already existing fragmented market by installing a public-private reuse infrastructure in a so-called 'blue ocean' which refers to a geographic context where no market has been established yet (Case 8, *public-private partnership reuse organization*). Through private-public funding, it simulates a future in which reuse packaging can economically compete with throwaway packaging. This is seen as a key preparation for the later introduction of a reuse market where private reuse organizations can operate in a compatible infrastructure (Case 8, *public-private partnership reuse organization*).

In a scenario in which adequate public coordination and regulation were to be instigated, I argue that it still remains questionable if the tensions and contractions rooted in commodified reuse exchange relations can be overcome without transitioning into scenarios that resembles *platform capitalism*. This becomes a point of contention particularly when one considers the drive toward monopolization in other service economies (Varoufakis, 2024). But even if

reformist efforts manage to establish stable competitive market relations with structurally compatible reuse models, I argue that the more fundamental issue of overview in a technologically complex society is not fully addressed. The structurally limited social control and coordination that can be exercised by single actors in competitive market relations can be seen as a crisis of overview (Desai & Polanyi Levitt, 2020). Following Polanyi's notion of "the contradiction between the requirements of the market society for limitless expansion and the social requirements of people to live in mutually supportive social relations" (Polanyi Levitt, 2013, p. 103), I sketch out a possible transformative scenario for reuse economies with increased overview that is rooted decommodification below.

Towards a Transformative Reuse Economy

Instead of market exchange relations, Polanyi advocates for political economies based on relations of reciprocity and redistribution (Polanyi, 1944, 1957/2011). Similarly, often drawing on Polanyi's intellectual groundwork, scholars in transformative traditions, such as degrowth and post-growth, call for economies organized around reciprocity, redistribution, cooperation, and sufficiency (Banerjee et al., 2021; Exner, 2014). As found, all forms of reuse organizations are driven by a normative purpose showing considerable initiative for cooperation. However, it was found that *private reuse organizations* are structurally limited to enter such broader reciprocal and cooperative relations due to their commodified exchange relations. This implies that a transformative reuse economy that is structurally aligned with reciprocal and cooperative relations must be centered in decommodification. Decommodification, I assess, dismantles the structural constraint for cooperation and the fragmenting effect of market relations. Thus, it can be seen as the structural resolution for increased overview that avoids undemocratic political economies of reuse such as Frenken's (2017) *platform capitalism*. In line with this, critical scholarship underlines that "only reciprocity allows democratic governance and participatory planning. To make it effective, markets have to give way to cooperation" (Exner, 2014, p. 23).

More concretely, a transformative reuse economy could look like Frenken's (2017) scenario of *platform cooperativism*. Along with the decommodification of reuse relations, this future would exhibit the collective ownership of reuse

organizations and public democratic control over all relevant assets in reuse including the technology, data, and infrastructure. An *intermediate network* interviewed in this study shows attempts at configuring such futures:

> [Intermediate network X] says 'we will create a common good platform on which digital twins of reuse packaging can circulate but the data does not belong to us but to everyone. And in that way, we facilitate an infrastructure that is oriented towards the common good'. (Expert 2)

Without private ownership over the means of standardization (e.g., technological infrastructure and data processing), cooperative reuse organizations could scale horizontally instead of scaling up through the increase of market shares. Reuse models could be implemented in different local contexts such as communities or cities in complementary ways by diffusing through "[…] replication instead of by scaling. Particularly, with the use of open-source software, local initiatives can benefit from platform architectures tested elsewhere […]" (Frenken, 2017, p. 12). It was found that this approach often already seems to be present in *NGOs/non-profit reuse organizations*; particularly Case 6 (*NGO/non-profit organization*) which works together with other localized reuse organizations and provides tools for scaling by replication.

However, these transformative approaches are also hampered by lacking regulation against throwaway packaging and would also benefit from stricter policies (Case 6, *NGO/non-profit organization*). And while I argue that transformative organizing is the most structurally consistent future for reuse, it must be noted that reformist organizing does not happen in an organizational vacuum. *Private reuse organizations* are shaped by the broader socio-political landscape with lacking public support and neoliberal policies that stipulate the organizations' reliance on commodified exchange relations. Only Case 7 (*public tender reuse organization*) displays an example in which reuse organizing is facilitated in a synergic manner with public support and increasingly stringent national regulations. The political economy of reuse thus reaffirms Polanyi's notion that it is the broader institutional context that shapes economic life (Polanyi Levitt, 2013). This aligns with Frenken (2017) who observes that the future of these economies "[…] will depend most importantly on institutional changes still to come. Institutions do not only regulate activities on sharing platforms, but also shape the

future development of the socio-technical infrastructure that emerges as the sharing economy scales up" (p. 13). With this research, I aim to draw attention to the importance of demanding that such larger institutional changes become oriented toward truly transformative future circular economies.

Beyond reuse, Expert 2 also outlines a transformative strategy against throwaway packaging that, as asserted, receives little attention compared to the more complex reuse models: namely, large-scale campaigns for the refill of self-owned packaging.

> Do you know what the problem is? Self-owned refill containers are a degrowth topic. Because nobody will ever make money if I bring my own mug that I already have in my cupboard […] to Burger King to have my coffee refilled. (Expert 2)

Due to the impossibility of commodifying the practice of refilling self-owned containers, the facilitation of refill can be seen as a complementary transformative strategy. Case 2 (*private reuse organization*) also sees refill as a complementary strategy for a future reuse economy where the packaging - particularly in the takeaway food and drinks sector - would be organized in a hybrid model in which people either bring their own or borrow a packaging vessel through a reuse model. Thus, such refill strategies relate to the importance of relations organized around sufficiency in transformative political economies (Banerjee et al., 2021). Refill avoids packaging transactions altogether and entails an increased effort from people. As the refill of self-organized packaging rejects the convenience of throwaway packaging altogether I argue that it connects to economic relations that are oriented around non-transactional sufficiency. Case 4 (*NGO/non-profit organization*) displays a local example where, due to various cultural and social factors, takeaway packaging is largely redundant since food and drink takeaway is not a common cultural practice. This shows that the need for reuse organizing in the first place is also rooted in broader socio-cultural factors which transformative strategies, I assess, should also consider.

Conceptual Implications for Reformist and Transformative Organizing

Having investigated the value relations within the various forms of organizing a reuse economy, this study proposes a theoretical intervention into the, often

conflated, conceptual distinction between reformative and transformative organizing. Here I specifically refer to Froese et al.'s (2023) and Khmara and Kronenberg's (2018) work in which they argue for the inclusion of servitized business models in the transformative paradigms of degrowth and post-growth. While servitization could lead to reductions in energy and material use that are also called for in degrowth scholarship, reformist organizing also contradicts the transformative political economies degrowth advocates for (Frenken, 2017; Kallis et al., 2018). Degrowth scholarship particularly champions economic democracy and commons (including digital commons) (Kallis et al., 2018). In this research, it was found that reformist forms of servitized business models display commodified exchange relations that contradict the digital commons advocated for in degrowth. Moreover, it was found that market relations in reformist service economies can show strong tensions with economic democracy and overview.

Froese et al.'s (2023) and Khmara and Kronenberg's (2018) studies arguably demonstrate that degrowth and post-growth-oriented organizing, particularly in the context of emerging service economies, is insufficiently conceptualized from a critical political-economic perspective. This study's conceptual distinction between reformist and transformative organizing - where decommodification represents the central pillar of transformative organizing while reform refers to a reconfiguration of the commodity form - contributes to a more critical understanding. I assess that organizing in degrowth and post-growth should be oriented around decommodification and non-market value relations to maintain their transformative nature without encountering the outlined contradictions. In line with Alakavuklar (2023), I propose that value relations aid as a structural tool to enhance normative understandings of transformative organizing. The stricter positioning of transformative organizing within decommodification, I suggest, could help to counter potential cooptation attempts of transformative political-economic paradigms such as degrowth in the future's evolving economies.

Conclusion

This thesis posed the question of *how reuse organizations aim to change make-and-waste economies*. Make-and-waste economies are a result of systematic capitalist commodification processes that elevate exchange value over use value. It was found that reuse organizations aim to change make-and-waste economies by extending the use value of packaging. This is done by creating, scaling, and standardizing new relations that facilitate the circulation and re-utilization of items. Reuse organizations display two main forms of non-commodified exchange relations – deposit-based and penalty-based models - that aim to facilitate the circulation of reuse items. In contrast to *NGO/non-profit reuse organizations*, *private reuse organizations* also display commodified exchange relations that represent their business case and means of survival in the dominant socio-political system. This concluded in the structural differentiation between reformist and transformative reuse organizing. Reformist reuse organizing aims to change make-and-waste economies by reconfiguring (servitizing) commodity relations while transformative reuse organizing aims to change make-and-waste economies by dismantling commodity relations. Reformist organizing encounters structural tensions and contradictions between the cooperation and standardization that reuse's central use value proposition requires and the competition and fragmentation of market relations. In reformist future scenarios of reuse economies, these tensions and contradictions are either resolved by corporate monopolies of reuse service provision or attempted to be resolved through publicly instituted and coordinated reuse markets. Transformative scenarios for reuse overcome tensions and contradictions by configuring a cooperative, non-market organizational reuse landscape that can scale by replication. As such, decommodification is found to sit at the heart of transformative organizing.

This thesis advanced the critical conceptualization of reuse, a waste-preventing strategy that is likely to attract increasing attention with growing awareness over the shortcomings of dominant waste management and recycling approaches in the circular economy. As such, this thesis uncovered important nuances for possible future political economies of reuse. Further research can explore the transformative potential of cooperative horizontal scaling by replication more thoroughly. As

service economies are likely to play an increasingly significant role in the future's political economy, this thesis invites critical researchers in transformative paradigms such as degrowth to position transformative organizing more structurally within decommodification. After all, the structural antidote to a destructive system that commodifies every last inch of social life must surely be decommodification.

References

Alakavuklar, O. N. (2023). Untangling alternative organising within and beyond capitalist relations: The case of a free food store. *Human Relations*, 00187267231203096. https://doi.org/10.1177/00187267231203096

Baines, T. S., Lightfoot, H. W., Benedettini, O., & Kay, J. M. (2009). The servitization of manufacturing: A review of literature and reflection on future challenges. *Journal of Manufacturing Technology Management*, *20*(5), 547–567. https://doi.org/10.1108/17410380910960984

Banerjee, S. B., Jermier, J. M., Peredo, A. M., Perey, R., & Reichel, A. (2021). Theoretical perspectives on organizations and organizing in a post-growth era. *Organization*, *28*(3), 337–357. https://doi.org/10.1177/1350508420973629

Barrowclough, D., & Birkbeck, C. D. (2020). *Transforming the Global Plastics Economy: The Political Economy and Governance of Plastics Production and Pollution* (142; GEG Working Paper).

Berry, B., Bonnet, J., & Isenhour, C. (2019). Rummaging through the Attic of New England. *Worldwide Waste: Journal of Interdisciplinary Studies*, *2*(1). https://doi.org/10.5334/wwwj.16

BFFP. (2023). *BFFP Brand Audit Report 2023*. https://brandaudit.breakfreefromplastic.org/brand-audit-2023/

Bryman, A. (2016). *Social Research Methods* (5th ed.). Oxford University Press.

Calisto Friant, M., Lakerveld, D., Vermeulen, W. J. V., & Salomone, R. (2022). Transition to a Sustainable Circular Plastics Economy in The Netherlands: Discourse and Policy Analysis. *Sustainability*, *14*(1), Article 1. https://doi.org/10.3390/su14010190

Calisto Friant, M., Vermeulen, W. J. V., & Salomone, R. (2020). A typology of circular economy discourses: Navigating the diverse visions of a contested paradigm. *Resources, Conservation and Recycling*, *161*, 104917. https://doi.org/10.1016/j.resconrec.2020.104917

Calisto Friant, M., Vermeulen, W. J. V., & Salomone, R. (2023). Transition to a Sustainable Circular Society: More than Just Resource Efficiency. *Circular Economy and Sustainability*. https://doi.org/10.1007/s43615-023-00272-3

Chertkovskaya, E., Hasselbalch, J., & Stripple, J. (2023). Plastic turbulence: Illusions of containment, clean-up, and control, and the emergent promise of diverse economies. In *Global Environmental Politics in a Turbulent Era* (pp. 25–36). Edward Elgar Publishing.

Chertkovskaya, E., Holmberg, K., Petersén, M., Stripple, J., & Ullström, S. (2020). Making visible, rendering obscure: Reading the plastic crisis through contemporary artistic visual representations. *Global Sustainability*, *3*. https://doi.org/10.1017/sus.2020.10

Comms Hub. (2023, November 20). *Petrochemical Interests Jeopardize Plastics Treaty Negotiations | Break Free From Plastic*. #Break Free From Plastic. https://www.breakfreefromplastic.org/2023/11/20/post-inc-3-press-release/

Dale, G. (2010). *Karl Polanyi: The Limits of the Market*. Polity.

de Man, R., & Friege, H. (2016). Circular economy: European policy on shaky ground. *Waste Management & Research*, *34*(2), 93–95. https://doi.org/10.1177/0734242X15626015

Delanoeije, J., & Bachus, K. (2020). *Reuse: The understudied circular economy strategy* (13; CE Center Publication). HIVA-KU Leuven. https://lirias.kuleuven.be/3243390

Desai, R., & Polanyi Levitt, K. (Eds.). (2020). *Karl Polanyi and Twenty-First-Century Capitalism*. Manchester University Press.

Dreyer, E., Hansen, T., Holmberg, K., Olsen, T., & Stripple, J. (2024). *Towards a Global Plastics Treaty: Tracing the UN Negotiations*. Lund University.

Duncombe, J., & Jessop, J. (2012). 'Doing Rapport' and the Ethics of 'Faking Friendship.' In T. Miller, M. Birch, M. Mauthner, & J. Jessop (Eds.), *Ethics in Qualitative Research* (pp. 108–121). SAGE Publications Ltd. https://doi.org/10.4135/9781473913912

Eisenhardt, K. M. (1989). Building Theories from Case Study Research. *Academy of Management Review*, *14*(4), 532–550. https://doi.org/10.5465/amr.1989.4308385

Ellen MacArthur Foundation. (2023). *Unlocking a reuse revolution: Scaling returnable packaging*. https://www.ellenmacarthurfoundation.org/scaling-returnable-packaging/overview

Exner, A. (2014). Degrowth and Demonetization: On the Limits of a Non-Capitalist Market Economy. *Capitalism Nature Socialism*, *25*(3), 9–27. https://doi.org/10.1080/10455752.2014.882963

Flick, U., Kardoff, E. von, & Steinke, I. (Eds.). (2004). *A Companion to Qualitative Research*. SAGE.

Foden, M. (2012). Everyday consumption practices as a site for activism? Exploring the motivations of grassroots reuse groups. *People Place and Policy Online*, *6*(3), 148–163. https://doi.org/10.3351/ppp.0006.0003.0004

Fotopoulos, T. (2010). Direct Democracy and De-Growth. *The International Journal of INCLUSIVE DEMOCRACY*, *6*(4).

Fraser, N. (2018). Why Two Karls are Better than One. Integrating Polanyi and Marx in a Critical Theory of the Current Crisis. In M. Brie & C. Thomasberger (Eds.), *Karl Polanyi's Vision of a Socialist Transformation* (pp. 67–76).

Frenken, K. (2017). Political economies and environmental futures for the sharing economy. *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences*, *375*(2095), 20160367. https://doi.org/10.1098/rsta.2016.0367

Friant, M. C., Vermeulen, W. J. V., & Salomone, R. (2020). A typology of circular economy discourses: Navigating the diverse visions of a contested paradigm. *Resources, Conservation and Recycling*, *161*, 104917. https://doi.org/10.1016/j.resconrec.2020.104917

Froese, T., Richter, M., Hofmann, F., & Lüdeke-Freund, F. (2023). Degrowth-oriented organisational value creation: A systematic literature review of case studies. *Ecological Economics*, *207*, 107765. https://doi.org/10.1016/j.ecolecon.2023.107765

Genovese, A., & Pansera, M. (2021). The Circular Economy at a Crossroads: Technocratic Eco-Modernism or Convivial Technology for Social Revolution? *Capitalism Nature Socialism*, *32*(2), 95–113. https://doi.org/10.1080/10455752.2020.1763414

Geyer, R., Jambeck, J. R., & Law, K. L. (2017). Production, use, and fate of all plastics ever made. *Science Advances*, *3*(7), e1700782. https://doi.org/10.1126/sciadv.1700782

Giampietro, M., & Funtowicz, S. O. (2020). From elite folk science to the policy legend of the circular economy. *Environmental Science & Policy*, *109*, 64–72. https://doi.org/10.1016/j.envsci.2020.04.012

Gibson-Graham, J. K., & Dombroski, K. (2020). Introduction to The Handbook of Diverse Economies: Inventory as ethical intervention. In *The Handbook of Diverse Economies* (pp. 1–24). Edward Elgar Publishing.

Gorz, A. (1980). *Ecology as Politics*. Black Rose Books Ltd.

Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research*. Thousand Oaks, CA: Sage.

Hamilton, L. A., & Feit, S. (2019). *Plastic & Climate: The hidden costs of a plastic planet*.

Harvey, D. (2014). *Seventeen Contradictions and the End of Capitalism*. Oxford University Press.

Hasselbalch, J. A., Kranke, M., & Chertkovskaya, E. (2023). Organizing for transformation: Post-growth in International Political Economy. *Review of International Political Economy*, *0*(0), 1–18. https://doi.org/10.1080/09692290.2023.2208871

Hawkins, G. (2013). Made to be wasted: PET and topologies of disposability. In J. Gabrys, G. Hawkins, & M. Michael (Eds.), *Accumulation: The Material Politics of Plastic*. Routledge.

Hermann, C. (2021). *The Critique of Commodification: Contours of a Post-capitalist Society*. Oxford University Press.

Hickel, J., & Kallis, G. (2020). Is Green Growth Possible? *New Political Economy*, *25*(4), 469–486. https://doi.org/10.1080/13563467.2019.1598964

Hojnik, J. (2018). Ecological modernization through servitization: EU regulatory support for sustainable product–service systems. *Review of European, Comparative & International Environmental Law*, *27*(2), 162–175. https://doi.org/10.1111/reel.12228

Hopewell, J., Dvorak, R., & Kosior, E. (2009). Plastics recycling: Challenges and opportunities. *Philosophical Transactions of the Royal Society B:*

Biological Sciences, *364*(1526), 2115–2126. https://doi.org/10.1098/rstb.2008.0311

Isenhour, C., & Reno, J. (2019). On Materiality and Meaning: Ethnographic Engagements with Reuse, Repair & Care. *Worldwide Waste: Journal of Interdisciplinary Studies*, *2*(1), 1. https://doi.org/10.5334/wwwj.27

Jephcote, C., Brown, D., Verbeek, T., & Mah, A. (2020). A systematic review and meta-analysis of haematological malignancies in residents living near petrochemical facilities. *Environmental Health*, *19*(1), 53. https://doi.org/10.1186/s12940-020-00582-1

Johansson, N. (2021). Disaster Capitalism, COVID-19, and Single-Use Plastic. *Antipode*.

Kallio, H., Pietilä, A.-M., Johnson, M., & Kangasniemi, M. (2016). Systematic methodological review: Developing a framework for a qualitative semi-structured interview guide. *Journal of Advanced Nursing*, *72*(12), 2954–2965. https://doi.org/10.1111/jan.13031

Kallis, G., Kostakis, V., Lange, S., Muraca, B., Paulson, S., & Schmelzer, M. (2018). Research On Degrowth. *Annual Review of Environment and Resources*, *43*(1), 291–316. https://doi.org/10.1146/annurev-environ-102017-025941

Kenney, M., & Zysman, J. (2019). Work and Value Creation in the Platform Economy. In S. P. Vallas & A. Kovalainen (Eds.), *Work and Labor in the*

Digital Age (Vol. 33, pp. 13–41). Emerald Publishing Limited. https://doi.org/10.1108/S0277-283320190000033003

Khmara, Y., & Kronenberg, J. (2018). Degrowth in business: An oxymoron or a viable business model for sustainability? *Journal of Cleaner Production*, *177*, 721–731. https://doi.org/10.1016/j.jclepro.2017.12.182

KIDV. (2022, June 17). *Reusable packaging: German lessons for the Dutch market*. https://kidv.nl/reusable-packaging-german-lessons-for-the-dutch-market

Kirchherr, J., Reike, D., & Hekkert, M. (2017). Conceptualizing the circular economy: An analysis of 114 definitions. *Resources, Conservation and Recycling*, *127*, 221–232. https://doi.org/10.1016/j.resconrec.2017.09.005

Liboiron, M. (2021). *Pollution Is Colonialism*. Duke University Press.

MacLeod, M., Arp, H. P. H., Tekman, M. B., & Jahnke, A. (2021). The global threat from plastic pollution. *Science*, *373*(6550), 61–65. https://doi.org/10.1126/science.abg5433

Mah, A. (2021). Future-Proofing Capitalism: The Paradox of the Circular Economy for Plastics. *Global Environmental Politics*, *21*(2), 121–142. https://doi.org/10.1162/glep_a_00594

Mah, A. (2022). *Plastic Unlimited: How Corporations Are Fuelling the Ecological Crisis and What We Can Do About It*. John Wiley & Sons.

Mah, A. (2023). *Petrochemical Planet: Multiscalar Battles of Industrial Transformation*. Duke University Press. https://doi.org/10.1215/9781478027126

Mahmoud, Y., Jerneck, A., Kronsell, A., & Steen, K. (2018). At the nexus of problem-solving and critical research. *Ecology and Society*, *23*(4).

Malm, A. (2016). *Fossil Capital: The Rise of Steam Power and the Roots of Global Warming*. Verso Books.

Marx, K. (1976). *Capital: Volume 1*. (Original work published 1867)

McNeill, D. (2021). *Fetishism and the Theory of Value: Reassessing Marx in the 21st Century*. Springer International Publishing. https://doi.org/10.1007/978-3-030-56123-9

Miller, T., & Bell, L. (2012). Consenting to What? Issues of Access, Gate-Keeping and 'Informed' Consent. In T. Miller, M. Birch, M. Mauthner, & J. Jessop (Eds.), *Ethics in Qualitative Research* (pp. 61–75). SAGE Publications Ltd. https://doi.org/10.4135/9781473913912

Moalem, R. M., Remmen, A., Hirsbak, S., & Kerndrup, S. (2023). Struggles over waste: Preparing for re-use in the Danish waste sector. *Waste Management & Research*, *41*(1), 98–116. https://doi.org/10.1177/0734242X221105438

O'Hare, P. (2021). *Cambridge, Carnaval, and the 'Actually Existing Circularity' of Plastics* (1). *4*(1), Article 1. https://doi.org/10.5334/wwwj.66

O'Neill, K. (2019). *Waste*. John Wiley & Sons.

Palm, E., Hasselbalch, J., Holmberg, K., & Nielsen, T. D. (2022). Narrating plastics governance: Policy narratives in the European plastics strategy. *Environmental Politics*, *31*(3), 365–385. https://doi.org/10.1080/09644016.2021.1915020

Pansera, M., Genovese, A., & Ripa, M. (2021). Politicising Circular Economy: What can we learn from Responsible Innovation? *Journal of Responsible Innovation*, *8*(3), 471–477. https://doi.org/10.1080/23299460.2021.1923315

Parker, M., Cheney, G., Fournier, V., & Land, C. (2014). *The Routledge Companion to Alternative Organization*. Routledge.

Passaro, E. R., Ghisellini, P., Barca, S., & Friant, M. C. (2024). *Circular Economy for Social Transformation: Multiple Paths to Achieve Circularity*.

Peredo, A. M., & McLean, M. (2020). Decommodification in action: Common property as countermovement. *Organization*, *27*(6), 817–839. https://doi.org/10.1177/1350508419867202

Pink, S. (2015). *Doing Sensory Ethnography*. Sage Publications Ltd.

Pitts, F. H. (2020). *Value*. John Wiley & Sons.

Polanyi, K. (1927). On freedom. In M. Brie & C. Thomasberger (Eds.), *Karl Polanyi's Vision of a Socialist Transformation* (pp. 289–319).

Polanyi, K. (1944). *The Great Transformation: The Political and Economic Origins of Our Time*.

Polanyi, K. (2011). The Economy as Instituted Process. In M. Granovetter & R. Swedberg (Eds.), *The Sociology of Economic Life* (3rd ed., pp. 3–21). Routledge. (Original work published 1957)

Polanyi Levitt, K. (2013). *From the Great Transformation to the Great Financialization. On Karl Polanyi and Other Essays*. Fernwood Publishing.

Reike, D., Vermeulen, W. J. V., & Witjes, S. (2018). The circular economy: New or Refurbished as CE 3.0? — Exploring Controversies in the Conceptualization of the Circular Economy through a Focus on History and Resource Value Retention Options. *Resources, Conservation and Recycling*, *135*, 246–264. https://doi.org/10.1016/j.resconrec.2017.08.027

Savini, F. (2021). The circular economy of waste: Recovery, incineration and urban reuse. *Journal of Environmental Planning and Management*, *64*(12), 2114–2132. https://doi.org/10.1080/09640568.2020.1857226

Spring, M., & Araujo, L. (2017). Product biographies in servitization and the circular economy. *Industrial Marketing Management*, *60*, 126–137. https://doi.org/10.1016/j.indmarman.2016.07.001

Stouffer, L. (1963). *Plastics Packaging: Today and Tomorrow*. National Plastics Conference, New York.

Trainer, T. (2015). The Degrowth Movement from the Perspective of the Simpler Way. *Capitalism Nature Socialism*, *26*(2), 58–75. https://doi.org/10.1080/10455752.2014.987150

UN. (n.d.). *Beat Plastic Pollution*. Retrieved February 27, 2024, from http://unep.org/interactive/beat-plastic-pollution/

UN News. (2023, November 13). *New round of talks on global plastic pollution treaty underway in Nairobi*. https://news.un.org/en/story/2023/11/1143537

Varoufakis, Y. (2024). *Technofeudalism: What killed capitalism*. Melville House.

Weiss, M., & Cattaneo, C. (2017). Degrowth – Taking Stock and Reviewing an Emerging Academic Paradigm. *Ecological Economics*, *137*, 220–230. https://doi.org/10.1016/j.ecolecon.2017.01.014

White, A. L., Stoughton, M., & Feng, L. (1999). *Servicizing: The quiet transition to extended product responsibility* (pp. 1–89). Tellus Institute.

World Economic Forum. (2021, July 20). *Future of Reusable Consumption Models*. World Economic Forum. https://www.weforum.org/publications/future-of-reusable-consumption-models/

World Economic Forum, Ellen MacArthur Foundation, & McKinsey & Company. (2016). *The New Plastics Economy: Rethinking the future of plastics*. https://www.ellenmacarthurfoundation.org/the-new-plastics-economy-rethinking-the-future-of-plastics

Yin, R. K. (2009). *Case Study Research: Design and Methods* (4th ed.). SAGE.