

Plastic packaging: Are German retailers on the way towards a circular economy?

Companies' strategies and perspectives on consumers

German retailers commit to promoting a circular economy (CE) to tackle the plastic crisis. Their strategies and perspectives on the role of consumers are qualitatively analyzed based on sustainability reports and press releases. Strategies include means of reduction and reuse but focus on recycling. Consumers are rather seen as barriers to realizing a CE.

Katharina Friederike Sträter , Sebastian Rhein 

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Abstract

Environmental pollution caused by single-use plastic packaging waste is one of the major problems of our time. As a means of tackling environmental damage from plastic, many companies are voluntarily committing to promoting a sustainable use of plastic and the idea of a circular economy (CE). Among these companies, retailers play an interesting role. They are the point of sale of different manufacturers' products and, thus, are in direct contact with consumers. This paper qualitatively analyzes retailers' plastic strategies as published in sustainability reports and press releases. In particular, their understanding of the concept of a CE, their perspective on the CE-related role of consumers, and the consistency of their objectives regarding CE goals are investigated. The results indicate that there is a strong focus on recycling, although the retailers also consider means of reduction by avoidance and reuse. Consumers are rather seen as a barrier to implementing a circular economy at all three levels (reduction, reuse, recycling) and are assumed to need waste management education.

Keywords

circular economy, GABEK®, plastic packaging, qualitative analysis, recycling, retailer, self-commitments

Relevance and background

Single-use plastic (SUP) packaging is considered the main source of environmental plastic pollution as it is often not disposed of properly (Geyer et al. 2017). However, in Germany, per capita consumption of disposable packaging has risen continuously.¹ More than 3.1 million tons of respective waste were accumulated in 2019, of which only approximately 1.8 million tons were recycled.²

As a packaging material, plastic is appreciated because it is cheap, light weight, protects food and helps to increase the shelf life of products (Ellen MacArthur Foundation 2013). Thus, most consumables are retailed in SUP packaging. Consequently, the fast-moving consumer goods (FMCG) sector plays a key role in tackling the problems caused by plastics (Phelan et al. 2022), and manufacturers and retailers involved are facing increasing pressure from political and public actors to help mitigate these problems.³

Political pressure is manifested, for example, by the banning⁴ of certain SUP items (such as SUP bags or drinking straws), and policy frameworks are designed in such a way to reduce negative externalities of plastics. Within the EU, the most relevant overarching framework is the *European strategy for plastics in a circular economy*⁵, which has been reinforced by the *Directive on single-use plastics* (Directive [EU] 2019/904). These strategies aim to harmonize the legal framework within the EU (Syberg et al. 2021) and promote a transformation from the currently predom-

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PD Dr. Katharina Friederike Sträter (corresponding author) | Martin Luther University Halle-Wittenberg | Faculty of Law, Economics and Business | School of Economics and Business | Halle (Saale) | DE | katharina.straeter@wiwi.uni-halle.de

Dr. Sebastian Rhein | Martin Luther University Halle-Wittenberg | Faculty of Law, Economics and Business | School of Economics and Business | Halle (Saale) | DE | sebastian.rhein@wiwi.uni-halle.de

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1 <https://www.umweltbundesamt.de/presse/pressemitteilungen/verpackungsverbrauch-2018-weiter-gestiegen>

2 https://www.umweltbundesamt.de/sites/default/files/medien/1410/publikationen/2021-11-23_texte_148-2021_aufkommen-verwertung-verpackungsabfaelle-deutschland-2019_bf.pdf

3 Companies also attempt to achieve a circular economy (CE) out of corporate self-interest, as well-functioning CE systems can promote economic growth and increase business profits (Lewandowski 2016). Both active and reactive transformation attempts, however, require innovative, circular business models (Bocken et al. 2019), which can imply a need for adaptation of production processes and retail strategies (Upadhyay et al. 2022).

4 <https://www.unep.org/resources/report/single-use-plastics-roadmap-sustainability>

5 https://environment.ec.europa.eu/strategy/plastics-strategy_en

inant linear system (Phelan et al. 2022) to a circular one (Foschi and Bonoli 2019) “that is restorative and regenerative by design and aims to keep products, components, and materials at their highest utility and value at all times”.⁶ Even though varying definitions of the term “circular economy” (CE) exist (Kirchherr et al. 2017), there is a general agreement that implementing a CE requires the prioritization of (means of) reduction over (means of) reuse on the product level, and a prioritization of (means of) product reuse over recycling (3Rs) (Rhein and Sträter 2021 a).⁷ These 3Rs are understood as follows:

- **Reduction** is an overarching goal: it can be interpreted to include the (interdependent) reduction of resource use, production and consumption, waste, and much more. Reduction is closely related to both reuse and recycling measures as these can contribute to different reduction targets. In terms of plastic packaging (waste), there is, however, consensus that reducing the use of plastic packaging, per se, is critical to mitigating the plastic problem (Kirchherr et al. 2017).
- **Reuse** includes all measures that enable reuse at the product level, as: “The fewer products we discard (...) the better for our environment.”⁸
- **Recycling** includes not only the end-of-life management of a product, but also all aspects related to recycling, such as design for recycling, recyclability and the use of recycled materials. This understanding is evident in a variety of circular economy projects (Stumpf et al. 2021).

That recycling is only the third priority in this generalized list of priorities is due to the fact that “recycling targets do not necessarily promote a CE as (...) recycling activities destroy products’ integrity and do not help products remain in the economy” (Morseletto 2020, p. 4). The prioritization and interpretations of the 3 Rs above form the basis for the paper’s analyses.

Public pressure on companies comes directly from consumers who are generally considered a key factor in achieving CE goals, as they use and dispose of SUP packaging (Michellini et al. 2017). However, whether they support or hinder the establishment of CE systems is controversial. On one hand, companies report a lack of support from consumers in terms of their willingness to change their consumption patterns or pay more for alternatives to SUP packaging (Gong et al. 2020, Ma et al. 2020). On the other hand, studies report a growing environmental awareness among consumers who are increasingly asking for sustainable consumption options (e. g., Dilkens-Hoffman et al. 2019, Van Oosterhout et al. 2022). These options, so they say, are lacking in everyday shopping situations, which makes it a challenge to avoid SUP packaging (Jacobsen et al. 2022).

As the point of sale for external and home brand products, (food) retailers are in direct contact with consumers. They can approach consumers through information campaigns and guide their behavior (Gong et al. 2020). Methods of implementing a CE become obvious in their stores through the use of, for example, unpackaged goods (Marken and Hörisch 2019) or return systems to collect empty bottles (Rhein and Sträter 2021 b). Thus, they occupy an interesting position between producers and consumers that is worth analyzing.

(Food) retailers’ attempts to contribute to the implementation of a CE are publicly documented in their sustainability reports and press releases. Recent analyses of such commitments indicate that there is a focus on recycling rather than on higher priority measures such as reduction and reuse (Phelan et al. 2022). This could be due to the fact that relying on recycling hardly requires any changes to long-established processes along the value chain (e. g., Temesgen et al. 2021). However, relevant research regarding German retailers is currently rare. In addition, interrelationships between German consumers and retailers have not yet been assessed in much detail. Thus, this explorative qualitative study investigates the role of German (food) retailers regarding a CE in a strict sense (that prioritizes reduction over reuse, and reuse over recycling). Based on the commitments of German food retailers, this paper exemplarily analyzes

1. how retailers interpret the concept of a CE and the associated 3Rs,
2. what actions they take to promote a CE and whether these actions are effective in promoting a CE in the strict sense,
3. how they describe the role of consumers in achieving a CE.

Data and method

The qualitative data base consists of sustainability reports and press releases of eight high-grossing German food retailers/groups: Edeka Group (Edeka, Netto Marken-Discount), Rewe Group (Rewe, Penny), Schwarz Group (Lidl, Kaufland), Aldi Group (Aldi Nord, Aldi Süd), Metro Group, dm-drogerie markt, Rossmann and Globus.⁹ Most of these companies operate internationally. However, due to this paper’s focus, only statements about the operating business in Germany, published in German, were considered.¹⁰

Sustainability reports are a valuable data base for analyzing corporate (sustainability) strategies: they are comparable due to common structures and topics. Besides, one can assume that they cover the measures and strategies that companies consider noteworthy, that is, particularly appropriate for solving the plastics

6 <https://ellenmacarthurfoundation.org>

7 Substantially more Rs, for example, repair or rethink, are discussed in the literature (e. g., Kirchherr et al. 2017). However, many of these can be interpreted as subsets of reduction, reuse or recycling, for example, repair with the intention to reuse.

8 <https://ec.europa.eu/eurostat/documents/3217494/11478276/KS-DK-20-001-EN-N.pdf/06ddaf8d-1745-76b5-838e-013524781340?t=1605526083000>, p. 100.

9 <https://www.lebensmittelzeitung.net/handel/rankings/ranking-top-30-lebensmittelhandel-deutschland-2021-161580?crefresh=1> quoted according to: <https://de.statista.com/statistik/daten/studie/153723/umfrage/groesste-unternehmen-imlebensmitteleinzelhandel-nach-gesamtumsatz-in-deutschland>.

10 For a detailed description of the data set, see the online supplement: <https://doi.org/10.14512/gaia.32.2.7.suppl>.

TABLE 1: Unit of sense and key terms – an example (authors' representation and translation). Key terms in square brackets indicate statements in which the corresponding aspects are addressed in a contextual and/or literal manner.

GA9 (IDENTIFIER OF THE INDEX CARD)	
UNIT OF SENSE	KEY TERMS WITH BRIEF EXPLANATIONS
<p>Als Teil des Rezyklat-Forums setzt sich Globus für die Vermeidung und Reduzierung von Kunststoffverpackungen (...) (ein). (As part of the Recyclate Forum, Globus is committed to avoiding and reducing plastic packaging.)</p>	Zusammenarbeit/Kooperation (collaboration/cooperation; key term is coded whenever a company reports on respective activities)
	Forum Rezyklat (Recyclate Forum; name of the cooperative activity)
	Ziel (goal; coded as the company talks about a goal that they want to reach via cooperative activities)
	vermeiden/Vermeidung (avoid/avoidance)
	reduzieren/Reduzierung (reduce/reduction)
	Plastikverpackungen (plastic packaging; the German terms <i>Plastik</i> and <i>Kunststoff</i> are used synonymously)
	[Reduktion] ([reduction]); key term used to mark all those statements that address aims of reduction independent from whether the specific term "reduction" was used or a synonymous one)

problem (Landrum and Ohsowski 2018, Phelan et al. 2022). Plastic-related press releases issued from 2019 to 2022 were included in the data base to account for ideas and details not included in the reports. Initial data collection was carried out in summer 2021. The data base was updated and supplemented in winter 2022/2023 with then-current reports and statements.

Data analysis was done applying the qualitative GABEK® method (software: *WinRelan*®). GABEK® allows the systematized analysis of textual data (Raich et al. 2014). Firstly, texts must be manually subdivided into units of sense that represent a coherent line of thought, usually consisting of one to a few sentences, each of which is stored on a digital index card in *WinRelan*®. Secondly, key terms that represent each unit of sense's meaning are to be defined by the coder and stored on the respective index card as well (table 1). Zelger (2019) recommends three to nine key terms per unit, as a human brain is able to deal with this amount of information at any one time. Exceptions are possible to preserve completeness of information.

Key terms which are on one index card and, thus, represent one coherent line of thought, are associatively linked to each other. These relationships can be visualized by means of undirected network graphs that serve as a kind of mind map. Thereby, the weight of connecting lines indicates the frequency (*n*) with which key terms are mentioned together. Due to the combination of method and software, all steps of the analysis can be made transparent to third parties (Zelger 2019). Coding was done in German to minimize the loss of information. Only the result and directly quoted statements were translated from German to English in consultation with a native speaker.

Results

In the following, the companies' associations with the central concept of a CE, the measures of reduction and reuse, and the consumers' role are analyzed.

Circular economy

Figure 1 (p. 244) illustrates the retailers' associations with the key term [CE]. This tags all units of sense where the term CE is explicitly mentioned, which are part of a paragraph that refers to the idea of a CE, and/or part of a section whose heading indicates that it deals with the idea of a CE.

The analyses indicate that the companies generally support the idea of a CE, and that they are willing to play their part in implementing respective systems. This is mainly motivated by the insights (figure 1, upper part) that finite resources are to be conserved and handled sustainably; that there is a problem with waste ("a retail company produces a lot of packaging waste" [Ma9]¹¹); and that consumers are attaching more and more importance to sustainable consumption and are making "conscious choices that benefit their own health, their fellow human beings and the environment" (Ad5).

In their statements all companies address, more or less explicitly, means of reduction, reuse and recycling. Text parts addressing recycling (including the use of recyclate and the need for recyclability) and those addressing reduction and reuse (on the product level) are closely interrelated. However, the linkage between reuse and recycling can almost exclusively be ascribed to the naming of the three Rs in a series of measures (e.g., "the circular economy according to the principles of 'reduce, reuse, recycle'" [Ko3]), or to reusable items that are also recyclable and/or made from recyclate (see also figures 2 and 3, pp. 245 f.). The companies argue that, to achieve a CE, cooperation with different actors (environmental organizations, start-ups, etc.) is needed, and various retailers report on their engagement in multi-stakeholder initiatives such as *Forum Rezyklat*, which promotes the improvement of recycling processes, the use of recyclate, and

¹¹ These references refer to the index cards of the *WinRelan*® file, which can be requested from the authors. The online supplement lists the assignment of index cards to companies: <https://doi.org/10.14512/gaia.32.2.7.suppl>. This allows quotes and companies to be matched.

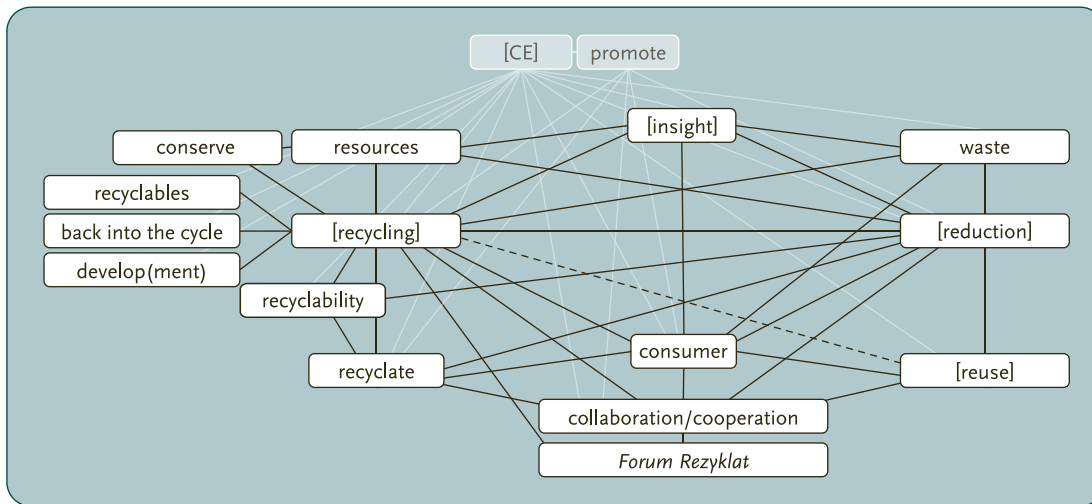


FIGURE 1: Associations with circular economy “[CE]” (solid lines [black and white]: $n \geq 20$). The starting node [CE] is colored light green and connected with white lines. As all measures are intended to promote a CE, “promote” is colored and connected in the same manner for clarity of depiction. Key terms in square brackets indicate statements in which the corresponding aspects are addressed in a contextual and/or literal manner. The dashed line indicates that the respective linkage is mainly due to a listing of terms.

“has initiated many processes to promote people’s awareness of a circular economy and to achieve a correct separation of recyclables” (Ge8). Besides, consumers are seen as important collaborators, who are contextually linked to all three Rs as well as to waste and the question of how to deal with it (see also figure 4).

Reduction

Figure 2 provides an overview of aspects that are recurrently linked to reduction.

Reduction is frequently associated with the amount of virgin plastic in use – which can be reduced by substituting virgin plastic with recycle and, thus, rather refers to recycling. In addition, reduction is linked to (plastic) waste, whereby a reduction of plastic waste can be achieved through various impact channels. Besides, the analyses indicate that the companies aim at/are working on reducing ...

- ... the consumption of certain plastic products, particularly (single-use) plastic carrier bags and very thin flat bags for fruits and vegetables, known as “Knotenbeutel” in German,
- ... plastic and plastic consumption, in general,
- ... plastic packaging itself and, in particular, the amount of packaging material in use via optimization of packaging and the reduction of its weight.

These associations are much closer to the idea of reduction in a strict sense. However, a deeper analysis of the statements reveals limitations. Reduction of packaging itself is, for example, strongly associated with the fruit and vegetable (F&V) sector and, in addition, often restricted to specific products. The plastic-free cucumber might be the most prominent example: several companies claim it as a great achievement (e.g., Iv5). Com-

panies also report, for example, on (more or less) unpackaged “organic fairtrade bananas with a banderole” (Ah2), and/or “organic ginger” (e.g., Iv9) and “sweet potatoes” (e.g., Kc7) which are branded instead of packaged. Aside from the F&V sector, there are only few examples in which packaging as such has been abandoned, such as the additional plastic lid on yogurt pots, which had previously enabled convenient reclosing.

If reduction is stated as a rather general objective, then it is often accompanied by a restriction that can be either quite general (e.g., “wherever possible and sustainable” [Of7]) or related to requirements regarding, for example, “the quality of the products” that must be “maintained during storage and transport” (Li8). In addition, target formulations often allow companies to rely on means other than reduction by using words like “or” or “respectively” that keep many options open (e.g., “100% unpackaged organic fruit and vegetables or use of environmentally friendly packaging alternatives” [Ab6]).

In summary, whereas statements referring to the reduction of the use of virgin plastic or packaging weight through optimization remain largely comprehensive, more far-reaching or generally formulated reduction targets do frequently come with restrictions or are limited to specific examples.

Reuse

Figure 3 (p. 246) summarizes the most common associations with reuse in its strict sense. The analyses reveal that the retailers consider reusable packaging and reuse systems as one possibility to reduce plastic consumption, packaging and waste.

A more detailed look at these projects, however, indicates that the majority either have the character of lighthouse projects that the retailers excessively report on or are test/pilot projects. Among the first ones mentioned are the introduction of

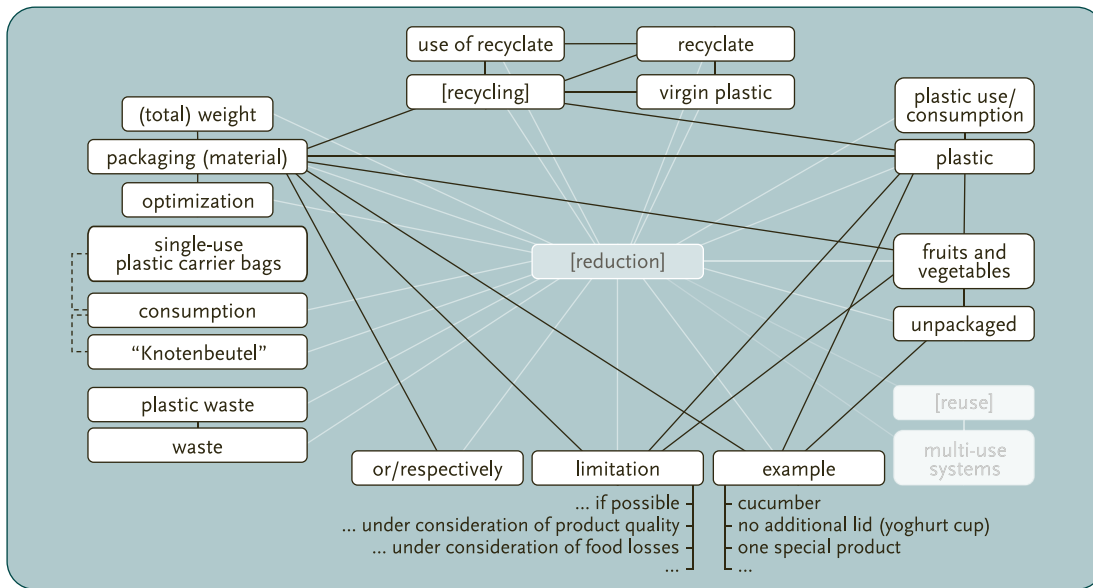


FIGURE 2: Associations with reduction (solid lines [black and white]: $n \geq 20$, dashed lines: $n \geq 10$, supplements in the lower part of the graph: $n \geq 7$). The starting node “[reduction]”, which tags all reduction activities regardless of the specific wording in use, is colored light green and connected with white lines to maintain clarity. “[reuse]” and the associated “multi-use systems” are colored light grey as this topic is discussed in the section *Reuse* below. Key terms in square brackets indicate statements in which the corresponding aspects are addressed in a contextual and/or literal manner.

- reusable carrier mesh bags for unpackaged fruits and vegetables, intended to replace “Knotenbeutel”; and
- a multi-use lid for yogurt pots to compensate for the abandonment of the additional lid.

The pilot projects include refill stations for selected detergents, cleaning or personal care products that are restricted to a quite limited number of stores and/or for a limited time period. They are intended to provide information on consumer acceptance and technical handling under real-life conditions (e.g., Cb6). Besides refill stations located within the stores, some of the retailers provide consumers with refill systems for home usage by offering, for example, cleaning tabs that can be dissolved in water in a reusable bottle at home so that there is no “need to buy new detergents packaged in bottles” (Pb5).

In addition, the results indicate that supermarkets with fresh food counters are increasingly allowing consumers to bring their own reusable boxes for packaging fresh food. Moreover, in response to and/or in anticipation of the ban on specific single-use carrier bags in Germany and further single-use plastic items within the EU, some products were replaced by multi-use ones:

“(…) a year earlier than the legal deadline – EDEKA have been doing away with single-use plastic tableware (…) (and) develop reusable alternatives (…).” Ex1

Consumers

Consumers are seen as important key players (figure 4, p. 247). On one hand, there is general agreement about an increasing environmental sensitivity, which is reflected in purchasing behavior. On the other hand, companies frequently report on a need

to raise consumer awareness. The roles ascribed to consumers differ between the 3Rs.

Regarding *reduction*, consumers, according to the companies, must be specifically encouraged to reduce their “Knotenbeutel” and SUP carrier bag use. However, there is evidence that the retailers presume that not all consumers are ready to do so – and abstain from forcing them. Instead, they offer, for example, “environmentally friendly” single-use alternatives (e.g., bioplastic bags) for those consumers “who do not want to do without disposable fruit and vegetable bags” (Bj2).

Reuse systems that require a change in consumer behavior (e.g., consumers must bring empty bottles to [re-]fill) are tested by companies (e.g., dm) to gather information on consumer acceptance, which is considered a benchmark for scaling. Even regarding the reusable mesh carrier bag for fruits and vegetables, there are, however, voices that see consumer laziness as a barrier to sustainable consumption: “The challenge for customers will be not to forget the vitamin nets at home” (Pa9).

Regarding *recycling*, the retailers report on a need to conduct information campaigns (what they do on a large scale) to raise awareness of the importance of recycling and the use of recycle. Such campaigns primarily involve educational activities explaining how to separate waste correctly. In addition, information on the share of recycled material in home-brand packaging is provided to promote sustainable purchasing behavior and, with it, the idea of a CE:

“The aim of our circular economy campaign was to raise awareness (…) through numerous actions, such as labeling products with a high recycled content directly on the shelf.”

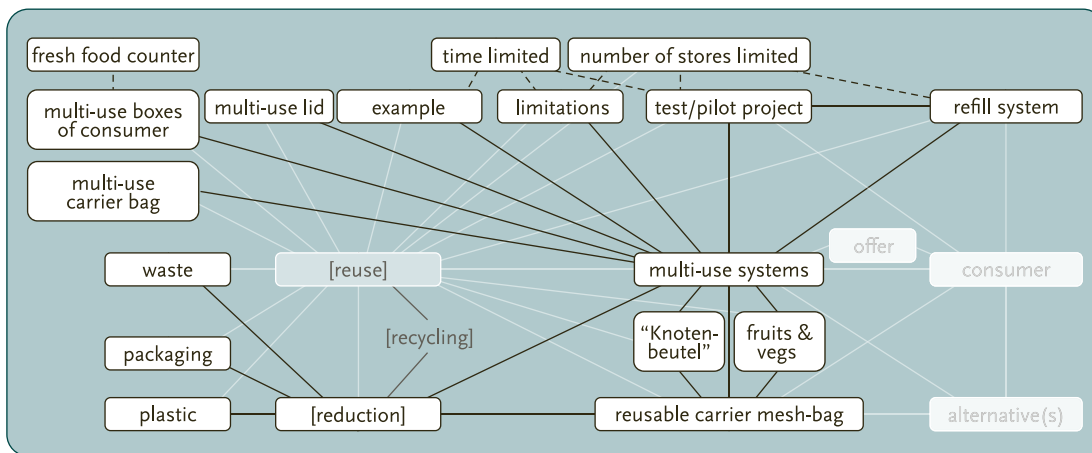


FIGURE 3: Associations with reuse (solid lines [black and white]: $n \geq 15$, dashed lines: $n \geq 4$). The starting node [reuse], which tags all reuse-related activities regardless of the specific wording in use, is colored light green and connected with white lines to maintain clarity. The role of consumers and related topics are colored light grey as this topic is discussed in the section *Consumers* below. Recycling only occurs in a listing of the 3Rs. Key terms in square brackets indicate statements in which the corresponding aspects are addressed in a contextual and/or literal manner.

In summary, the analyses reveal that the retailers have generally recognized the necessity of a CE with all three Rs – whereby the success is said to depend on consumers.

Discussion and conclusion

On the surface, the packaging-related statements considered in this paper create the impression that the retailers are committed to implementing a CE involving the three main measures reduction, reuse and recycling. However, the deeper contextual analyses indicate that there seems to be a stronger emphasis on recycling and, thus, implementing a recycling economy rather than a CE that prioritizes reduction over reuse, and reuse over recycling. These findings are generally in line with Phelan et al. (2022) or Rhein and Sträter (2021 a). However, in the given case, the focus on recycling is less obvious and only becomes apparent when the associations with reduction and reuse are examined in detail. Whereas targets referring to reduction through avoidance of packaging and reuse on the product level are often limited to pilot projects or otherwise constrained, recycling targets are hardly restricted.

Undoubtedly, recycling is important. However, a primary focus on measures to increase recyclability, the use of recycled materials and the end-of-life management of packaging does not contribute to waste prevention and, thus, does not address the roots of the plastics problem: the use of SUP packaging (Owens and Conlon 2021). In addition, such a focus may slow down necessary innovation processes and hinder political policy supporting the development of a circular economy in its strict sense (Fitch-Roy et al. 2020).

In this light, the pilot projects that attempt to realize reduction via reuse are worth highlighting. These indicate that most of the companies considered do not categorically reject relevant

ideas but test their suitability for daily use.¹² However, some of the reported results call for attention: in the case of dm, for example, a test project led to the result that “customers are still very reluctant to use the refill stations” (Cp2). The information provided indicates that a scaling of the reuse project was no longer planned at the time. Thus, it seems to be important to monitor whether these efforts are substantial – or rather serve as flagship measures. In addition, it must be further analyzed whether political incentives are necessary to encourage retailers to establish these systems on a permanent basis.

The analysis of the *perspectives on the role of consumers* reveals that retailers tend to see consumers as barriers to implementing a CE considering all three aspects reduction, reuse and recycling, due to insufficient engagement. Consumers, so the retailers say, are to be made aware of the importance of correct waste separation and the environmental advantages of recycled material in packaging – and retailers expend great efforts to set up relevant information campaigns. Analyses of FMCG companies in the UK, for example, report on similar awareness campaigns (Gong et al. 2020). These are ambivalent: they can have quite positive effects, helping to increase recycling rates (Knickmeyer 2020). However, recycling-centered communication strategies can also shape consumers’ perception of a CE and might create the false impression that a recycling economy is actually a CE (Smol et al. 2018, Sijtsema et al. 2020). In consequence, consumers might become insensitive to and uninterested in strategies of reduction and reuse on the product level and a “cultural barrier” (Kirchherr et al. 2018) to achieving a CE (as defined in the introduction) can

¹² However, it must be noted that some companies do not even offer beverages in reusable bottles even though there is a long-established reuse system in Germany. The market share of multi-use bottles in Germany has decreased in recent decades. This is partly due to the retailers’ strategies (Rhein and Sträter 2021 b).

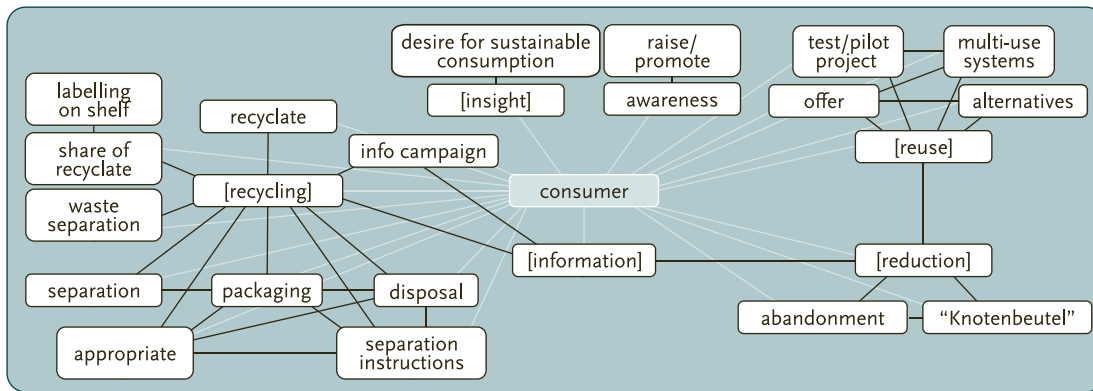


FIGURE 4: The perceived role of consumers (solid lines [black and white]; $n \geq 15$). For information on colors and brackets see figure 3.

emerge. Whether this applies to German consumers must be further analyzed.

Concerning reuse systems, consumer acceptance is seen as one of the most important factors that determine whether respective test projects are scaled. This points to a difficult interactional relationship between retailers and consumers in this regard: if consumers do not (sufficiently) adopt reuse systems within a pre-defined period of time, the corresponding offers will not be implemented at scale, and retailers can comfortably claim that the blame for non-scaling does not lie with them. This indicates how difficult it is to pinpoint responsibilities for (failed) system transformations.

Considering means of reduction by avoidance of packaging, there are some prominently promoted projects – like the abandonment of the additional lid on yogurt pots – that do not really affect the consumers’ shopping routine. Whenever this routine is affected, however, – as is the case with reducing the use of “Knotenbeutel” – there are voices stating that consumers are too inflexible or lazy to change their behavior. These results allow a very cautious discussion of the question: “Who is responsible for a sustainable use of plastics?”

- On one hand, this paper’s findings indicate that companies see themselves achieving a CE but perceive consumers as having a lot of catching-up to do. Concurrently, the companies considered seem to avoid enforcing changes in consumer behavior by, for example, insisting on providing single-use bags for fruits and vegetables for those unwilling to use reusable ones.
- On the other hand, there is evidence (Dilkes-Hoffman et al. 2019) that some consumers regard companies as being responsible for ensuring a sustainable use of plastic and accuse them of not meeting their responsibilities.

This dichotomy between companies and consumers is counterproductive to implementing a CE and should be overcome. More research is needed in this regard, for example, to investigate measures that promote a better fit between companies’ offers and consumers’ acceptance and vice versa. Recent studies indicate,

for example, that consumers are generally positive about reusable packaging, but that various factors, such as usability, also have an important influence on their willingness to change their habits (Miao et al 2023). In this light, further research should analyze whether just offering an *alternative* will encourage consumers to change their behavior as long as single-use options remain available.

In summary, the answer to the question of whether the actions taken by retailers to implement a circular economy are effective, is, they do so in part. As soon as SUP packaging is produced and in use, the best way to deal with it in terms of the CE is, indeed, recycling – and retailers seem to do their part in advancing relevant systems and are encouraging consumers to do their part. However, if the idea of a CE is taken seriously, then retailers should primarily strive for reduction through avoidance and the use of reusable (plastic) packaging – and these measures are currently subject to a lot of limitations, one of which is consumer acceptance. This raises the question of whether retailers should have more courage to provide and scale offers that take reduction through avoidance and reuse seriously even though they might not be accepted at once. An open research question is why certain measures are taken and accepted so hesitantly. In addition, it seems to be important to analyze whether and how the focus on recycling, which can be found in the strategies of producers and retailers, affects political decision-making and consumer behaviors.

In order to achieve a CE retailers and manufacturers must have the courage to substantially change the way products are packaged (or not) and consumers must be willing to change their behavior – or the political framework must be designed in such a way that reduction through avoidance and reuse is actually given priority to recycling.

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Katharina Friederike Sträter

Studies in economics (focus on microeconomics). PhD in economics. Specialization in qualitative research methods in economics. Research assistant at the chair of statistics at Martin Luther University Halle-Wittenberg, Halle (Saale), DE. Research interests: behavioral economics, consumer studies, economy and society.



Sebastian Rhein

Studies in economics with a focus on business ethics and sustainability (MSc). PhD in economics. Research associate at the chair of statistics at Martin Luther University Halle-Wittenberg, Halle (Saale), DE. Research interests: circular economy, consumer studies, resource economics.