

Marketing Scholarship and Environmentally-Sustainable Retailing: A Two-Stage Framework for Greener Consumption and Production

**Forthcoming in *Journal of Retailing*
This Version: March 4, 2026**

Authors: Christoph Ungemach, Vivek Astvansh, Suneal Bedi, Dinesh Puranam, Anna Sáez de Tejada Cuenca, Tamara Sheldon, Christian Blanco, Sara Constantino, Tamar Markov, Shelie Miller, Cem Ozturk, David Reibstein, David Hardisty

Abstract

Marketing scholarship in the retailing domain can play an important role in advancing environmentally sustainable consumption and production. We synthesize prior research across marketing and related fields and introduce a novel two-stage framework that examines sustainability interventions through the lens of retail-actor interactions. The framework characterizes how different actors (e.g., consumers, retailers, manufacturers, regulators) influence one another and evaluates interventions in terms of feasibility and environmental impact. Although marketing has contributed to unsustainable consumption patterns, we argue that it holds significant potential to accelerate the transition toward environmental sustainability. Retail emerges not only as a context in which sustainability challenges manifest, but as a strategic domain where coordinated action can drive transformative change. Our framework offers a structured approach to mapping interventions, assessing their effectiveness, and understanding the mechanisms that link the interventions to their effectiveness. It helps stakeholders identify the most promising strategies to foster environmentally sustainable behavior and manage interactions across the retail ecosystem. The framework informs marketing scholars by highlighting research gaps, by revealing barriers that limit the effectiveness of current interventions, and by pointing to opportunities to adapt successful approaches across actors to better support sustainability goals.

Keywords: Sustainable consumption; Sustainable retail; Climate-change mitigation, Greenhouse gas emissions; Impact; Policy

Acknowledgements: The authors would like to thank the organizers of the 12th Triennial Choice Symposium at INSEAD, Fontainebleau, for selecting the special session that enabled the conceptualization of this paper.

1. Introduction

The urgent challenge of reducing our environmental footprint will require more sustainable consumption and production (Poushter et al., 2022; Tyson & Kennedy, 2023), especially in retailing (Vadakkepatt et al., 2021). It is essential to transition current behaviors and business practices to use natural resources in ways that meet the needs of today while allowing future generations to fulfill their own needs (Catlin & Wang, 2013; Chernev & Blair 2021). Recognizing this imperative, leading retailers, including Walmart, Target, Patagonia, and IKEA, have adopted key sustainability initiatives, sometimes in partnership with other members of the retailing ecosystem, such as platforms, suppliers, policymakers, and consumers. However, retailers regularly announce, modify, and even repeal sustainability efforts, reflecting the evolving and often challenging nature of implementing environmental commitments at scale. Marketing scholarship in retailing can play a pivotal role in addressing these challenges and encouraging sustainable practices. By leveraging its deep understanding of consumer motivation and behavior, the marketing discipline is uniquely positioned to advocate for the efficient use of natural resources, to promote conservation and regeneration, and to minimize pollution and waste.

In this paper, we present a novel two-stage framework for examining the literature related to sustainable marketing. By synthesizing insights from representative articles and case studies from relevant disciplines, we provide a fresh perspective on the field's accomplishments in defining environmentally sustainable decision-making among consumers, businesses, governments, and other stakeholders. Our proposed two-stage framework integrates key concepts and theories, highlighting marketing's unique role in addressing global challenges related to the stewardship of natural resources. Crucially, it serves as a foundation for identifying research

gaps and new opportunities. Rather than being exhaustive, this illustrative review offers a roadmap for conducting meaningful and impactful research. Ultimately, this article aims to shape the future of sustainable marketing research and practice by providing a structured approach to analyzing existing research and promising avenues for future inquiry.

1.1. Defining environmental sustainability

We adopt the United Nations' definition of sustainability and related terms. Consistent with our article's aim, we focus on environmentally sustainable consumption and production. Specifically, we focus on the UN's Sustainable Development Goal 12 (SDG 12), which aims to ensure responsible patterns of consumption and production. For example, one of the targets under SDG 12 (specifically, target 12.6) is to “encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle.” SDG 12 focuses on reducing waste, promoting resource efficiency, and encouraging sustainable practices across production and consumption cycles—all of which are central to modern retail operations. Achieving SDG 12 requires collaboration among various stakeholders to solve this “tragedy of the commons” (Ostrom, 1999) and protect the environmental system on which human life and the retail system rely. Retailers can partner with suppliers, consumers, and other businesses to create a more sustainable value chain and promote responsible consumption and production by shaping supply chains, sourcing practices, product design, and waste management (e.g., Vadakkepatt et al. 2021).

However, it is unclear how to operationalize and best achieve the goals enshrined in SDG 12. First, how do we move from the broader, abstract concept of sustainability to the feasible, effective strategies needed to achieve it? Second, what roles do different actors play?

The parties responsible for sustainability can be classified into individuals, communities, businesses, and governments. Sections 2–7 describe how these actors interact in efforts to achieve a sustainable state. Users of our definition and framework can identify responsible actors, their dynamic interactions in the retail ecosystem, and their potential role in transitioning to a more sustainable state.

The concept of sustainability is inherently multi-faceted, encompassing environmental, social, and economic dimensions (Vadakkepatt et al., 2021). We focus on the environmental dimension and define sustainable consumption as “actions that result in decreases in adverse environmental impacts and reduced use of natural resources across the product or service lifecycle” (White, Habib, & Hardisty, 2019, p. 24).

Most research on sustainable consumption focuses on whether an intervention reduces overall consumption (e.g., Delmas et al. 2013; Tiefenbeck et al., 2018) or enables adoption of more eco-friendly alternatives (Jansson, Marell, and Nordlund 2010; Kumari, Verma, Debata, and Ting 2022). Likewise, most consumer studies focus on relative behaviors (i.e., consumption levels before and after treatment) rather than evaluating absolute impact levels.

The complement of sustainable consumption is sustainable production. A production pattern is considered sustainable if the processes and materials used to manufacture a product or deliver a service are circular, use less energy, emit substantially less waste or pollution than conventional production, and are regenerative.¹ Firms can set science-based sustainability targets for reducing carbon emissions² and directly measure whether the materials or products they deliver are circular—that is, reused, remanufactured, repurposed, and/or recycled. Sustainable production implies avoiding overproduction or overprocessing. This means that demand drives

¹ <https://ellenmacarthurfoundation.org/topics/circular-economy-introduction/overview>

² See <https://sciencebasedtargets.org/> for more background information.

supply and production, but again, there is little guidance for being a sustainable or responsible producer.

2. Framework

Retailers occupy a unique position as both facilitators of consumption and gatekeepers of production standards. Through their decisions on product assortments, private-label sourcing, promotional strategies, and sustainability certifications, they influence both upstream suppliers and downstream consumer behavior. At the same time, retail platforms shape sustainable choices via algorithmic product visibility, default options, and nudges, while intermediaries and logistics providers affect the environmental footprint through packaging, warehousing, and last-mile delivery. Consumers respond to these structures but also exert pressure on retail systems and on other consumers through their preferences, activism, and willingness to engage in alternative consumption models such as resale or repair.

Given their central role across the product lifecycle, retail actors are implicated in both the sustainability problem and the solution space (Vadakkepatt et al., 2021). Many unsustainable practices—including overproduction, excessive returns, fast fashion, and resource-intensive fulfillment—are embedded in retail operations. Yet these same actors also hold significant potential to drive change, whether by shifting supply chain expectations, reconfiguring the consumer choice architecture, or enabling circular models. For example, Do Vale, Collin-Lachaud, and Lecocq (2025) demonstrate how sustainable business model innovation in retailing involves restructuring the ecosystem through the effective management of relationships with both traditional and emerging stakeholders. Through this transformative process, retailers assume new roles within the ecosystem, increasingly functioning as local hubs for circularity. A deeper understanding of, and collaboration with, the various actors in the broader retail ecosystem can

enable retailers to develop more responsible strategies that are not only efficient from a business model perspective but also beneficial to consumers and society as a whole (Holtrop, Lobschat, & ter Braak, 2025).

We propose a two-stage decision-making framework that can be readily applied to the retail ecosystem, helping classify the source and target of sustainability interventions across these actors and evaluate their feasibility and impact. Mapping existing interventions by these dimensions allows actors to identify effective ways to influence a chosen target. It also enables researchers or actors to identify gaps and learn from other actors how to potentially increase the impact and feasibility of their contributions towards SDG 12. Thus, retail emerges not only as a context in which sustainability plays out, but as a domain where coordinated interactions can deliver transformative change.

Prior marketing scholarship has proposed frameworks to induce sustainability in *consumers'* behavior (e.g., Peattie and Peattie 2009; White, Habib, & Hardisty 2019). While these prior frameworks are useful, their exclusive focus on consumers limits their application. We address this limitation by considering a more comprehensive set of stakeholders (1) who can influence consumers and (2) whose behaviors also need to be changed to achieve sustainable production and consumption. These stakeholders include individuals and collectives composed of individuals (i.e., labor unions, community groups), industries/sectors, retailers, manufacturers, platforms, industry associations, institutional investors, and government agencies. Table 1 below outlines key retail stakeholders, their primary roles, and illustrative examples.

The dynamics represented by our framework are especially salient in retail contexts, where a diverse set of actors—including retailers, shoppers, digital platforms, intermediaries, and supply chain partners—interact to bring products to market. The interactions between these stakeholders

can be complex. Consider the following example involving sustainable apparel. From the bottom up, eco-conscious consumers are driving change by demanding transparency in sourcing and environmental impact. Retailers may respond by promoting sustainable options and collaborating with sustainable brands. Manufacturers follow suit, adjusting their production and supply chains to meet expectations. Suppliers, in turn, invest in greener methods to remain competitive. From the top down, governments and regulatory agencies may introduce regulations or offer incentives for sustainable innovation (industry) or adoption (consumer). Ultimately, this interconnected network creates positive feedback loops that encourage greater sustainability across the industry. The example also demonstrates how each actor influences and is influenced by the others.

Table 1: Retail Actors, Roles, and Examples

| Actors | Primary Role | Illustrative Examples |
|--|---|--|
| Retailers | Offer products or services for sale to shoppers via physical stores or online channels. | Walmart, Nike, Zara, Lush, Target, H&M, Tesco, IKEA, Patagonia, Sephora, Best Buy. |
| Shoppers (Consumers) | Evaluate, select, and purchase goods or services for personal or household use. | Amazon.com consumers, mall shoppers, grocery store customers, and individuals participating in the Buy Nothing Project. |
| (Digital) Platforms | Provide a marketplace or infrastructure (online or offline) that connects retailers and shoppers. Includes e-commerce platforms, marketplace platforms, and delivery service providers. | <i>E-commerce Marketplaces:</i> Amazon Marketplace, eBay, Etsy, Alibaba, Tmall, Rakuten, Zalando; <i>SaaS E-commerce Platforms:</i> Shopify, BigCommerce; <i>Food Delivery:</i> Uber Eats, Zomato; <i>Booking Platforms:</i> Booking.com, Expedia. |
| Manufacturers / Suppliers / Wholesalers | Produce, source, or distribute products, supplying retailers with inventory. Includes manufacturing firms. | Procter & Gamble (P&G), Unilever, Nestlé, Samsung, Intel, Foxconn, Sysco, Li & Fung. |
| Regulators / Government Agencies / Intergovernmental Agencies | Establish and enforce legal, safety, and sustainability standards that shape retail practices. | U.S. Federal Trade Commission (FTC), U.S. Food and Drug Administration (FDA), European Commission, State Administration for Market Regulation (SAMR - China), EPA, CPSC. |
| Real-estate Companies | Develop, own, lease, and manage physical properties used for retail stores, shopping malls, and distribution centers. | Simon Property Group, Prologis, Wanda Group, CapitaLand, Westfield, Brookfield Properties. |
| Retail Associations | Advocate for the retail industry on policy issues, provide research and data, offer educational programs, and facilitate collaboration. | National Retail Federation (NRF - US), British Retail Consortium (BRC - UK), EuroCommerce (EU), China Chain-Store & Franchise Association (CCFA). |

| | | |
|---------------------------------------|--|---|
| NGOs / Consumer Groups | Advocate for social/environmental causes, monitor retail practices, influence consumers, and collaborate with retailers. | Greenpeace, World Wildlife Fund (WWF), Rainforest Alliance, Consumers International, Public Interest Research Group (PIRG), and local consumer advocacy groups. |
| Logistics / Delivery Providers | Manage warehousing, transportation, and last-mile delivery of goods. | UPS, DHL, FedEx, SF Express, JD Logistics, Maersk, C.H. Robinson, Kuehne + Nagel, Ryder. |
| Employees | Influence both upstream (purchasing/sourcing) and downstream (customer consumption) practices, and initiate retail-driven change toward sustainable production and consumption | Whole Foods or Patagonia Employees actively recommend certified products, explain their environmental benefits, and guide shoppers toward low-impact options. |
| Technology Providers | Offer various technology solutions beyond payments (e.g., cloud, AI, analytics, CRM, ERP) supporting retail operations and initiatives. | Microsoft, Salesforce, SAP, Google, Oracle, specialized analytics firms, AI personalization engines, and supply chain visibility software providers. |

Our broader focus is consistent with the marketing discipline's ambition to contribute by influencing behaviors not only of consumers but also of all stakeholders that matter to businesses and nonbusiness stakeholders (Chandy et al., 2021; Madan et al., 2023; Moorman, 2024). We propose a two-stage framework that categorizes sustainability interventions by source and target (and whether each is a micro or macro actor), summarizes extant empirical evidence, and elicits questions for future research.

2.1. The first stage: Source-Target Classification

The notion of intervention suggests two parties: a source and a target. The source (or the intervention initiator) is the actor that designs, implements, or sponsors an intervention aimed at changing sustainability-related behaviors of the target actor (or the intervention recipient).

Sources actively deploy resources, messaging, incentives, or policies to influence target behavior. Targets are the focal decision-makers whose actions the intervention aims to modify. We can think of environmental sustainability interventions as persuasion attempts (e.g., Petty & Cacioppo, 1986; McGuire, 2000), in which a source attempts to influence a target. Accordingly, the first stage of our framework includes two axes that answer the two questions: (1) Who

attempts to initiate a behavioral change? (2) Whose behavior is being changed? Depending on the context, the same actor (e.g., a firm) can be either source or target.³

2.2. *Micro-Macro Distinction*

We propose a scheme to classify retail actors based on (1) decision-making agency and (2) scope of influence. These dimensions matter because they shape the types of interventions available to an actor and the scale at which they can operate. Although these dimensions are clearly continuous measures, we categorize them into “micro” versus “macro” for ease of exposition. In other words, we use micro and macro labels to represent opposite ends of a continuum, rather than suggest that an actor is either micro or macro. Micro actors are decision-makers with limited agency and a localized scope of influence. Examples include individual consumers, employees, and small business owners. By contrast, macro actors possess greater agency and a broader scope of influence. Examples include firms implementing enterprise-wide sustainability strategies, industry associations, government agencies, and international organizations. Differences in agency and scope are, in turn, a function of a number of factors, including an actor’s financial and managerial resources, organizational capacity, and political leverage. Three clarifications are in order. First, the micro-macro distinction is dependent on context. Specifically, some organizations may alternate between micro and macro classifications depending on their strategic position and influence (Fischer & Newig, 2016). Second, a limitation of the proposed binary distinction is that its boundaries are not always clear-cut and may overlap in practice. For example, smaller NGOs and enterprises composed of a few individuals with limited resources and agency may operate as micro-level actors, whereas larger organizations operate as macro-level actors with substantial influence. Third, the distinction is

³ Any self-targeted behavioral change is outside our framework’s scope.

made from a retail perspective rather than an economic perspective, where a macroeconomist might classify a firm as micro and a country as macro. Therefore, our micro-macro distinction should be understood as a helpful heuristic rather than as a rigid classification.

Classifying *actors* into (1) source versus target and (2) micro versus macro yields a four-quadrant matrix, as seen in Table 2. We start with simple examples for clarity, but the micro-macro distinction—based on decision-making capacity and scope of influence—remains central and becomes clearer in complex interactions among stakeholders.

Micro → *Micro*. In the first quadrant, a consumer can influence another consumer through word-of-mouth (e.g., Bollinger et al., 2022; Constantino et al., 2022).

Macro → *Micro*. In the second quadrant, a firm can design products or persuasive messages that enable consumers to engage in pro-environmental behaviors (e.g., White, Hardisty, & Habib, 2019). Retailers have increasingly used on-shelf sustainability labels (e.g., carbon footprints, eco-ratings) to guide consumers toward environmentally preferable options. These interventions, often in the form of visual nudges at the point of purchase, exemplify how macro actors (retailers) can influence micro actors (shoppers) (e.g., Ungemach et al. 2018). Similarly, governments can provide monetary or non-monetary incentives to consumers to stimulate demand for environmentally friendly products (e.g., He et al. 2021, 2023).

Micro → *Macro*. In the third quadrant, through their numerous behaviors (such as purchases, boycotts, and word-of-mouth), consumers may influence firm-level sustainability behaviors (e.g., Giannetti et al. 2019). Retailers are increasingly responsive to consumer pressure for sustainable options, with customer advocacy and purchasing data influencing assortment decisions and prompting the introduction of zero-waste products, refill stations, or plant-based alternatives.

Macro → *Macro*. In the fourth quadrant, a firm can influence another via market competition or industry coalitions. Retailers also lead *Macro* → *Macro* interventions by setting sustainability standards for suppliers or forming partnerships to enable closed-loop supply chains. These practices reflect retail's central role in enabling sustainable production by driving innovation across the value chain. In addition, governments can introduce regulations to change an industry's behavior (*Macro* → *Macro*) (e.g., Murali et al. 2019; Pickman, 1998). Many countries have instituted Extended Producer Responsibility, requiring firms—rather than municipalities—to bear the costs of recycling or appropriately disposing of their products (Brown et al., 2023).

Importantly, there is considerable heterogeneity regarding the roles, motivations and decisions for different actors in the same quadrant, or for the same actors across different quadrants. A key feature of the framework is that it can account for this diversity, illustrating how firms, platforms, policymakers, and other stakeholders can occupy different positions across quadrants depending on the focal relationship.

The presented roles within these influence patterns may be multi-directional and can switch dynamically. The same actor may act as both source and target across different interventions and contexts. For example, a retailer (macro) can be a source influencing consumers (micro) through sustainability messaging while simultaneously being a target for regulatory compliance interventions (macro). Similarly, a consumer (micro) can collectively shape retailer policies (macro) while also influencing other consumers (micro) via social networks. Influence chains may span multiple actors and can follow sequential patterns. For example, consumer pressure on platforms (*Micro* → *Macro*) can trigger platforms to impose new sustainability requirements on their suppliers and partners (*Macro* → *Macro*).

To further illustrate the first stage, Table 2 shows the source–target matrix, and the resulting quadrants represent the combinations of who influences whom, with real-life examples of interventions and case studies from the retail sector to illustrate each cell. While previous sustainability influence frameworks have typically assumed one of these four quadrants (most often focusing exclusively on quadrant II, *Macro* → *Micro*), each quadrant has its own distinct dynamics, potential, and opportunities for future research, as we detail below.

Across these quadrants, sustainability interventions can influence diverse marketing decisions, including product assortment and sourcing, pricing and promotional strategies, packaging and waste management practices, communication and labeling approaches, distribution and logistics configurations, and customer engagement programs. The specific decision types vary by actor: retailers make merchandising and supply chain decisions, consumers make purchase and disposal choices, platforms set participation standards and visibility algorithms, while regulators establish compliance requirements and incentive structures.

Table 2: The First Stage: Source–Target Matrix with Actors & Examples by Quadrant

| Quadrant I: Micro → Micro | | | Quadrant II: Macro → Micro | | |
|---------------------------|----------|--|----------------------------|-----------------------------------|---|
| Target | Source | Real-life Examples & Cases | Target | Source | Real-life Examples & Cases |
| Consumer | Consumer | - Social proof & peer-to-peer effects: consumers may influence family members (Lissillour et al., 2025), or peers to make green purchases (Lee, 2008) - Social media influence (e.g., “thrift haul” videos, Maguire 2022). | Consumer | Retailer, Macro-actor Partnership | - Retailers promoting recycling (e.g., H&M Group 2012), reusable packaging (Take-Back Incentives, Lush 2025 ; Bring It Back Fund, Starbucks 2022). - IKEA introduced the “Energy Insights” feature within its smart home app (monitoring, social comparisons, personalized tips) |
| Consumer | Consumer | - Social-norm messages drive sustainable behavior (e.g., Sparkman and Walton 2017) | Consumer | Federal and/or State government | - Tax credits for plug-in hybrid vehicles (e.g., Colorado and Oregon) - HOV incentive for hybrid vehicles (e.g., California, Utah) |
| Consumer | Consumer | - Rooftop solar adoption: Community organizers with solar panels on their own homes recruited 63% more installations (Kraft-Todd et al., 2018). | Consumer | Utility companies/ municipalities | - Pacific Gas and Electric offers residential consumers rebates for EV charging stations |
| Consumer | Consumer | Peer-to-peer gift economy encouraging participants to reuse and repurpose, spreading sustainable consumption habits | Consumer | Manufacturer | - Kia cash rebates for Niro EV - Dodge 0% financing on green models |

| | | | | | |
|------------------------------------|-------------------|---|-----------------------------------|--|--|
| | | (e.g., BuyNothing Project , Danziger 2025) | | | |
| Consumer | Consumer | Neighbors gift and share items via local social media groups. | Consumer | Government | Carbon tax policies influencing consumption (e.g., Sweden , Finland) |
| Employee | Employee | Peer influence within organizational settings: Community-to-Community | Consumer | Federal agencies | - Redesign of consumer labels by the EPA and the NHTSA |
| micro-enterprises | micro-enterprises | "micro-enterprise" retailers adopt a "no plastic bag" campaign (Carrigan et al., 2011). | Consumer | Macro actor Partnerships | Government-backed labeling programs - Personalized home energy reports by the partnership of Opower and U.S. utility companies (e.g., Allcott 2011). - Voluntary labeling program ENERGY STAR by the EPA & partners to identify energy-efficient products and buildings. |
| | | | Employee | Manufacturer, dealerships, associations | " The Chevrolet Experience ", a training program for sales personnel, targeting 7,000+ dealership employees |
| | | | Employee | Dealerships, dealer associations, and non-profit organizations | - ElectrifiQ , a national online EV certification program for sales staff offered by the National Automobile Dealers Association and the Center for Sustainable Energy |
| | | | Employee | Brand / Manufacturer | Corporate sustainability training programs (e.g., Sult et al. 2024) |
| Quadrant III: Micro → Macro | | | Quadrant IV: Macro → Macro | | |
| Target | Source | Real-life Examples & Cases | Target | Source | Real-life Examples & Cases |
| Retailer/ Platform | Consumer | Boycotts / Buycotts: -Analysis of 125 U.S. boycotts from 1978 to 2017, suggesting that boycotts had a negative effect on shareholder wealth (Tomlin, 2019) -Boycott and buycott as a result of partisan consumer reactions triggered by the food brand Goya (Liaukonytė et al., 2023) - Carrotmob as a collective buycott at local stores to reward eco-friendly improvements. | Partners / Suppliers | Retailers / Platforms | Introducing mandatory requirements, emission targets, or certifications: - do.MORE sustainability strategy by Zalando, making the Higg Brand & Retail Module assessment mandatory for brands to sell on the platform (Zalando, 2020). - Etsy's net-zero targets and mandatory sustainability standards for its marketplace to achieve carbon-neutral delivery and increase the adoption of eco-friendly materials among sellers (Eco-Act, 2025). - Booking.com's Sustainability Handbook for its accommodation partners, setting environmental baselines and achieving recognized eco-certifications (Booking 2022). -Amazon's Climate Pledge Friendly program incentivizes sellers to meet sustainability standards or earn trusted certifications by boosting product visibility (Amazon, 2020). - Uber Eats ' "Delivering a Greener Future" initiative, incentivizing restaurant partners to adopt sustainable packaging through subsidies and grants. |
| Retailer/ Platform | Customer | Customer Feedback Shaping Platform Features and Policies | Suppliers | Retailers | Walmart's Project Gigaton, pledging to cut/avoid one billion metric tons of emissions across their operations and supply chains by 2030 (Walmart, 2025). |
| Retailer/ Platform | Consumer | Advocacy group (PIRG) delivered over 138,000 petition signatures urging Amazon to change packaging practices (Rosenblatt, 2024) | Public companies | Institutional investors, Nonprofit Organizations, Coalitions | Shareholder demanding transparency: - The Climate Action 100+ initiative ensures that the world's largest corporate greenhouse gas emitters take action on climate change - Carbon Disclosure Project (CDP) asks top-level management of publicly traded companies to voluntarily disclose climate |

| | | | | | |
|-------------------------------------|----------|--|---------------------------|--|--|
| | | | | | change-related risks and opportunities (Flammer et al., 2021). |
| Politicians / Parties / Governments | Consumer | Mass protests (e.g., the “Fridays for Future” Movement) | Manufacturers / Companies | Governments / Executive bodies | International carbon markets/trading systems: - EU Emissions Trading System , using the “cap and trade” principle, ensuring emissions decrease over time in line with EU targets |
| Retailer | Consumer | Pledges/targets to meet consumer demand: - Walmart announced 100% recyclable, reusable, or compostable packaging for private-brand products (Walmart, 2019). - Zomato is setting “opt-in” defaults for cutlery, tissues, and straws. | Companies | State government | Regulatory frameworks/Legislation/bills: - New York Fashion Act , requiring companies to disclose supply chain impacts and achieve reductions in line with the Paris Agreement. - In 2023, the UK government banned “single-use plastics” in England |
| Platform | Consumer | Dedicated programs to offering sustainable products or services - eBay is launching its Certified Refurbished program, introducing platform enhancements and compelling merchants to participate in the program. | Governments | Governments/ inter-governmental agencies | International treaties (e.g., Paris Agreement) |
| Platform | Consumer | Consumer pressure on Retailers: Amazon announced a commitment to reduce single-use plastic packaging and develop recyclable alternatives. | Companies | Platform | Microsoft’s “ Cloud for Sustainability ” is in response to regulatory pressure and co-developing features with major retailers. |
| Retailer/ Supplier / Platform | Employee | Internal employee-driven advocacy for sustainable practices: - Starbucks employees are initiating a donation program of unsold food to charity. - M&S employee suggestions to remove paper return slips from online parcels. | Retailer(s) | Retailer Collective / Alliance | The Retail Sustainability Collective, comprising competing retailers, shares metrics and best practices to set industry benchmarks and drive adoption of new standards. |

2.3. The second stage: Intervention’s feasibility and impact

Our framework’s first stage helps classify a large set of interventions while staying focused on who is persuading whom (i.e., source vs. target) and at what level (i.e., along a continuum varying from micro to macro). However, when deciding which interventions to implement, a decision-maker must consider an intervention's (1) feasibility and (2) impact.⁴ An

⁴ We note that feasibility is conceptually related to costs (broadly defined), and impact to benefits (in its broadest sense), yet there are important distinctions from cost-benefit analysis as well. For example, changing social norms around beef consumption in the United States might be low in feasibility (due to “the target’s resistance to behavioral change”), but it would be odd to conceptualize this as a “high cost” intervention; cost-benefit analysis typically implies rational actors and rational tradeoffs, whereas many environmental decisions are based on values and norms, thus costs and feasibility are often correlated but are distinct. The right confluence of events and efforts could feasibly change eating norms at relatively low cost, whereas even huge amounts of time and money spent may have almost no impact on eating norms. Cost-benefit analysis thus

intervention's *feasibility* refers to the ease of implementation, the target's resistance to behavioral change, political dynamics, and/or technical or legal barriers. Even if the target is receptive to change, the larger sociopolitical environment may prevent successful implementation. In short, feasibility captures the practical likelihood that a given intervention can be successfully designed, deployed, and sustained within its specific retail context. An intervention's potential environmental *impact*—such as reduced GHG emissions—varies significantly across behavioral domains (waste, transportation, energy, food).⁵ While climate impact is often measured in terms of emissions, environmental benefits also include reduced water use, eutrophication, biodiversity loss, and improved ecological footprint. Ideally, the absolute environmental impacts associated with an intervention would be assessed from a full lifecycle perspective using established methods such as life cycle assessment (LCA) or related methods such as carbon footprinting or environmentally extended input-output analysis (EIO). However, resource constraints, data limitations, and practical considerations often make comprehensive lifecycle assessments unfeasible, leading practitioners to rely on simplified models or literature-based estimates. For example, Ivanova et al. (2020) summarized mitigation potentials across key consumption areas including food, housing, and transport. While detailed cost data for individual interventions are rarely available, we discuss relative feasibility and impact and reference relevant insights from related disciplines, including economics, management, and environmental science.

Consider the example of a retail food outlet seeking to influence consumer behavior (macro → micro). Implementing a program to encourage the use of reusable coffee cups may be relatively

provides a framework that is related to but distinct from feasibility–impact analysis; our terminology emphasizes the practical and environmental dimensions most relevant to retail sustainability decision-making.

⁵ Throughout this paper, “impact” refers specifically to measurable environmental outcomes. While interventions may also generate symbolic, reputational, or normative effects, we treat these as distinct from environmental impact.

straightforward and quickly adopted by customers. However, the program's environmental impact in terms of achievable emission reductions is modest (high feasibility, low impact). In contrast, efforts to significantly reduce beef consumption—a change with far greater potential to lower greenhouse gas emissions and environmental harm—face substantial barriers related to consumer preferences, cultural norms, and dietary habits, making such interventions considerably more difficult to implement effectively (low feasibility, high impact).

These two dimensions help to delineate the landscape of prior research on interventions within the sustainable consumer behavior literature. For example, Lembregts and Cadario (2024) found that high-impact behaviors (e.g., adoption of a plant-based diet) have been severely understudied. Instead, low-impact behaviors (e.g., recycling or reducing packaging) have been prioritized, partly due to their ease of implementation and inadequate understanding of their impacts, limiting the contribution of marketing scholarship to climate-change mitigation.

Just as the first stage comprised a four-quadrant matrix (on source-target and micro-macro), the second stage comprises a four-quadrant feasibility–impact matrix (Table 3), based on an intervention's feasibility (high, low) and impact (high, low). Interventions characterized by both high feasibility and high impact are the most desirable of course, as they provide immediate and significant gains. However, such interventions are rare. Nonetheless, the contributions of interventions in the other quadrants remain critical to advancing sustainability goals.

Interventions with low feasibility but high impact can be made more attainable by cultivating strategic alliances and reinforcing supportive policy frameworks. Conversely, interventions with high feasibility but low impact hold considerable potential when scaled via technological innovation or facilitated by social norms. Although interventions typified by low feasibility and low impact are not primary mechanisms for achieving sustainability goals, they may fulfill an

important symbolic function by elevating public awareness and sustaining discourse on environmental issues. Ultimately, meaningful progress toward the SDGs will likely require a portfolio approach that combines highly feasible, high-impact interventions with complementary strategies from other stage-2 quadrants.

Stages 1 and 2 represent our sequential framework that can enable retail actors to make decisions about sustainable consumption and production. More concretely, stage 1 enables one to identify potential interventions for selected targets and to map which relationships have already been examined and where gaps in the literature remain. Subsequently, stage 2 helps assess which of these interventions are likely to be most impactful and/or feasible. Taken together, the two stages enable decision-makers to systematically identify intervention opportunities and prioritize among them based on their feasibility and expected environmental impact.

The two stages are designed to work together. Stage 1 identifies *what* interventions are possible and *between whom*, while stage 2 evaluates *which* of those interventions to prioritize. Stage 2 is applied within each of Stage 1's four quadrants, so that every intervention is characterized by both its source-target dynamics and its feasibility–impact profile. Whether certain source-target quadrants systematically map onto particular feasibility–impact profiles is an empirical question that the framework helps to surface.

Table 3: The Second Stage of Our Two-Stage Framework: Feasibility–Impact Matrix

| Quadrant I: Micro → Micro | | | Quadrant II: Macro → Micro | | |
|---------------------------|---|---|----------------------------|--|---|
| | Impact Low | Impact High | | Impact Low | Impact High |
| Feasibility Low | <ul style="list-style-type: none"> - Community-to-community sustainability knowledge sharing - Peer-to-peer gift economy movements (e.g., Buy Nothing Project) - Peer-to-peer effects among family/ friends - Employee-to-employee influence in organizations | <ul style="list-style-type: none"> - Rooftop solar adoption through Community organizers | Feasibility Low | <ul style="list-style-type: none"> - Corporate sustainability training programs - Chevrolet sales staff program - ElectrifiQ EV certification program | <ul style="list-style-type: none"> - Carbon tax policies influencing consumption - Tax credits for plug-in hybrids - Rebates for EV chargers - H&M global clothes collection initiative |

| | | | | | |
|------------------------------------|---|---|-----------------------------------|---|--|
| Feasibility High | - Micro-enterprise “no plastic bag” campaigns - Social media trends influencing sustainable choices (e.g., thrift haul videos) - Neighbors gifting/ sharing items in local groups | - Social-norm messages drive sustainable behavior (e.g., Sparkman and Walton 2017) | Feasibility High | - Hybrid HOV lanes - Auto rebates/financing offers Retailers promoting recycling or waste reduction: - Target’s “Target Zero” - IKEA “Energy Insights” - Starbucks “Bring It Back” | - Personalized home energy reports (Opower + utilities) - Government-backed environmental labeling programs (e.g., ENERGY STAR, Fuel Efficiency labels; EPA + partners) |
| Quadrant III: Micro → Macro | | | Quadrant IV: Macro → Macro | | |
| | Impact Low | Impact High | | Impact Low | Impact High |
| Feasibility Low | - Boycotts (e.g., avoiding products that rely on single-use plastics or contain palm oil associated with deforestation) - Buycotts - Carrotmob campaigns | - Mass protests (e.g., Fridays for Future) - Shifting purchasing toward sustainable product lines, such as the consumer-driven rise of plant-based milks | Feasibility Low | - Shareholder proposals & proxy voting - Sustainable investment portfolios (retail level) | - Mandatory sustainability standards & certifications - EU Emissions Trading System (EU ETS) - EU Deforestation-Free Regulation (EUDR) - Regulatory frameworks/bills (e.g., New York Fashion Act) - International treaties (Paris Agreement) - Climate Action 100+ Global investor coalition - Carbon Disclosure Project |
| Feasibility High | - Consumer demand-driven pledges and targets (e.g., Zomato’s opt-in defaults, eBay’s “Certified Refurbished” program) - Advocacy group petitions (e.g., PIRG to Amazon) - Employee advocacy for sustainable practices | | Feasibility High | - Uber Eats “Delivering a Greener Future” initiative - Etsy’s sustainability standards and net-zero commitments - Booking’s sustainability Handbook & certification | - Walmart’s Project Gigaton - Microsoft Cloud for Sustainability - Zalando’s do.MORE strategy - Amazon’s Climate Pledge Friendly program |

The following sections employ the two-stage framework and discuss exemplary interventions in each quadrant.

3. Quadrant I: Micro → Micro Influence

Quadrant I of the source–target matrix covers the tendency of individuals to determine appropriate behavior for themselves by mimicking referent others’ behavior (Cialdini, 1993). These peer-to-peer influences are known as “social influence”. For example, consumers may influence family members to purchase sustainable products (Essiz & Mandrik, 2022; Lissillour et al., 2025), or teenagers can influence peers to make green purchases (Lee, 2008).

Peer-to-peer effects can be amplified through social networks. For instance, TikTok and YouTube “thrift haul” videos—where creators showcase their second-hand fashion finds—have surged in popularity, amassing billions of views and helping to normalize buying pre-owned/second-hand clothing over purchasing new fast-fashion items (Maguire, 2022).

With the rise of the “sharing economy” (Dellaert, 2019), small retailers (such as sellers on Etsy or Facebook Marketplace, or hosts on Airbnb) can also be considered micro actors, potentially influencing the sustainable behavior of other small retailers, as well as their consumers and the communities around them. For example, “micro-enterprise” retailers in the town of Modbury were early adopters of a “no plastic bag” campaign, which quickly spread and soon “not one trader wanted to continue to use plastic bags” (Carrigan, Moraes, & Leek, 2011).

3.1. Social-norm effects

Social norms refer to self-enforced patterns of behavior or shared informal rules that align with individuals’ beliefs about what others in reference groups do (descriptive norms) or think should be done (injunctive norms) (Constantino et al., 2022). In one example, informing online shoppers that “other people are buying sustainable products” resulted in a 65% increase in sustainable purchases (White, Hardisty, & Habib, 2019). Merely learning that “More and more guests are choosing meat-free meals each day” doubled the share of customers ordering a vegetarian entrée, from 17% in the control condition to 34% under a dynamic-norm message (Sparkman & Walton, 2017). While peer-to-peer influence on traditional consumption is well-researched, peer-to-peer sustainability behaviors have been understudied and differ on key dimensions: they often involve consuming less, are less visible, and require long-term commitment for cumulative benefit. These differences call for distinct consideration. For

example, trust may be more important in the sustainability domain, given concerns about greenwashing (Fella & Bausa, 2024).

3.2. Factors shaping social-norm effects

Social norms are powerful drivers of contagion in sustainable behavior, but contextual factors shape the strength and direction of this social influence. For example, Abrahamse and Steg (2013) and Nguyen-Van et al. (2021) demonstrate that large networks with strong connections enhance the effectiveness. White and Simpson (2013) find that social norms are effective only when people view themselves as part of a larger collective. Bollinger et al. (2022) show that the impact of social norms on sustainable behavior is stronger when the behaviors being imitated are more visible (e.g., higher-visibility solar panels have a greater subsequent influence on neighbors' adoption of solar panels). Hogleve et al. (2021) find that the effect of social norms is stronger in consumers with a high tendency to engage in social comparison.

Which individuals or groups are most influential (the reference group) can vary across behaviors and contexts. Hofenk et al. (2019) show that consumers respond more positively to sustainability initiatives when communicated by credible sources, such as scientists or third-party organizations, especially when paired with product-level sustainability labeling. Videras et al. (2012) find that different types of relationships (relatives, neighbors, coworkers) encourage different types of sustainable behaviors; for example, green families increase altruistic and community behaviors, while coworker ties increase cost-saving activities. Essiz and Mandrik (2022) and Lissillour et al. (2025) find significant transmission effects, in which daughters influence their mothers to make sustainable purchases.

Another well-studied mechanism of peer-to-peer influence is status. For instance, Griskevicius et al. (2010) find that status motivates a greater desire for sustainable products

when shopping in public and when such products are more expensive. Therefore, consumers can increase the sustainability of their peers by “showing it off” as a status signal. Similarly, Brooks and Wilson (2015) show that when consumption-reducing behavior is a choice, perceived status is higher than when it is a necessity, but they also find consumption-reduction behaviors are less successful than consumption as signals of status.

However, several studies show that individuals discount prosocial or pro-environmental behaviors of actors who receive private benefits for those actions, such as monetary or reputational gains (Barclay & Willer, 2007), because they perceive these actions as empty gestures, thereby reducing the potential for peer influence. The perception of “virtue signaling” can be reduced when the behavior is costly, for example, when green products cost more or are of lower quality (Griskevicius, Tyber, & Van den Bergh, 2010). Unsurprisingly, those advocating a particular behavior or norm may be more effective when their own behaviors align with what they are advocating. For example, in a field study of rooftop solar adoption, community organizers who had installed solar panels on their own homes recruited 63% more solar installations than those who had not (Kraft-Todd et al., 2018).

3.3. Feasibility and impact Quadrant I (QI)

QI interventions are more social and behavioral in nature, so feasibility often depends on networks, participation, and cultural resonance, while impact depends on the domain and on whether consumers commit to long-term behavior to achieve environmental benefits. In addition, findings from the social influence literature have been leveraged by macro actors, such as firms and governments, to amplify the impact of their interventions; for instance, by crafting advertisements and educational programming that include information about peers (see also QII).

Behavioral nudges leveraging social norms and peer influence (high-feasibility, high-impact quadrant) represent the “low-hanging fruit” of QI interventions: they are cheap, scalable, and deliver measurable effects. By contrast, structural initiatives such as rooftop solar installations, which are low-feasibility and high-impact interventions, are potentially transformative in their environmental benefits, but face substantial financial, infrastructural, and coordination barriers that significantly constrain widespread adoption. Conversely, grassroots campaigns and local sharing economies are highly feasible and, while low in individual impact, can diffuse widely and serve as cultural primers for larger shifts. Finally, gift economies, initiatives like Buy Nothing Day, and peer-to-peer influence, such as “thrift haul” videos (low feasibility, low impact), are more symbolic acts meant to raise awareness and prompt reflection on consumption habits and do not produce quantifiable reductions in emissions.

4. Quadrant II: Macro → Micro Influence

Macro sources, such as firms and governments, can affect micro targets, such as consumers, employees, or shareholders, through policies and programs that promote the transition to sustainable production and consumption. The literature focuses on behavioral change measures implemented by government actors and agencies as sources, targeting consumers: monetary incentives (e.g., tax credits, rebates), non-monetary incentives (e.g., single-occupancy access to high-occupancy vehicle lanes), and nudges (e.g., real-time feedback, social norms, label design). Less-studied macro sources include industry and consumer associations. Existing research primarily examines the impact on consumers, particularly “green consumers” (e.g., Kilbourne & Beckmann, 1998), and pays less attention to other micro-level actors, such as employees and shareholders.

In addition to traditional advertising, retailers try to facilitate sustainable consumer behavior through recycling, take-back, and reusable packaging initiatives. For example, H&M was the first fashion company to roll out a global clothes-collecting initiative (H&M Group 2012), enabling customers to bring unwanted garments or textiles to H&M stores. In return, they receive a voucher to use toward their next purchase, actively incentivizing diversion of textiles from landfill and promoting a circular fashion system. Through its “Bring It Back” Fund in the United Kingdom, Starbucks, in collaboration with the environmental charity Hubbub, encouraged customers to adopt more sustainable habits by reducing reliance on single-use packaging and promoting reuse. Programs included offering a 25 pence discount for customers who bring their own reusable cup and implementing a 5 pence charge on single-use cups in the United Kingdom (Starbucks, 2022). Other retailers have implemented initiatives targeting consumers’ electricity usage. For instance, IKEA has introduced the “Energy Insights” feature in its Swedish smart home app, enabling users to monitor real-time usage, compare it with similar households, and receive personalized energy-efficiency tips.⁶

In the automotive retail sector, consumer barriers to electric-vehicle (EV) adoption critically shape the effectiveness of macro-level initiatives. These barriers include limited awareness and experience, price premiums for green alternatives, range anxiety, insufficient charging infrastructure, and restricted model availability. Here, federal and state governments, as well as manufacturers, have sought to offset high upfront costs by offering monetary incentives, such as tax credits, cash rebates, special financing, and reduced registration fees.^{7,8}

⁶ <https://www.ikea.com/global/en/newsroom/innovation/launching-energy-insights-pilot-smart-energy-inspelning-240513/>

⁷ <https://afdc.energy.gov/laws>

⁸ <https://www.edmunds.com/electric-car/tax-credits-rebates-incentives>

In addition, several initiatives have leveraged behavioral science to facilitate pro-environmental behaviors through enhanced consumer labeling and information campaigns. For example, the Environmental Protection Agency (EPA) and the National Highway Traffic Safety Administration (NHTSA) redesigned the mandatory fuel-economy labels to display information about environmental impacts and fuel costs, which has been shown to increase the choice of fuel-efficient cars and narrow the attitude-behavior gap (Ungemach et al., 2018). Similarly, Opower—a software-as-a-service platform—partnered with U.S. utility companies to deliver personalized home-energy reports that use social comparisons to prompt households to reduce their energy consumption (Allcott, 2011).

Combinations of macro actors have implemented measures to alleviate charging-network concerns: utility companies, municipalities, and federal agencies provide subsidies for home-charging equipment.⁹ Some states further complement these financial incentives with non-monetary benefits—for example, high-occupancy-vehicle (HOV) lane access—that enhance the convenience of owning a green alternative. Upstream supply-chain actors, including automobile manufacturers, dealerships, and dealer associations, have also implemented training programs, certification schemes, and advertising campaigns aimed at sales personnel and consumers to improve EV knowledge and purchase experience.^{10,11,12}

4.1. Feasibility and impact Quadrant II (QII)

Interventions in QII range from widely adopted corporate and government programs to ambitious policies. Proven, scalable initiatives like ENERGY STAR labeling and Opower’s personalized home energy reports have demonstrated both high feasibility and impact. These

⁹ <https://us.sunpower.com/solar-resources/ev-charger-rebates-incentives>

¹⁰ <https://news.gm.com/home.detail.html/Pages/topic/us/en/2024/dec/1205-selling-evs.html>

¹¹ <https://www.electrifiq.org>

¹² <https://pressroom.toyota.com/the-time-is-now-for-toyotas-all-new-2023-prius-and-prius-prime>

initiatives have shaped consumer decisions and industry practices for years by reaching large populations and targeting high-emissions behaviors.

Low-feasibility, high-impact interventions include policies such as carbon taxes, plug-in hybrid tax credits, and large-scale rebate programs for EV infrastructure. These measures offer great potential for environmental savings but face significant barriers, including political resistance and the need for robust supporting frameworks. Similarly, initiatives such as H&M's global clothes-collecting program show promise in the high-impact domain of fashion yet remain constrained by infrastructure limitations and participation challenges. Their long-term success depends on sustained investment and innovation in textile recycling systems.

Finally, high-feasibility, low-impact interventions include corporate-led efforts such as Starbucks' Bring It Back Fund or Target's Target Zero campaign. They are relatively easy to implement, yet tend to deliver incremental rather than systemic changes, as they focus on low-impact domains (e.g., packaging, waste, recycling) and often operate at limited scale (e.g., regional trials). Likewise, measures such as hybrid-vehicle HOV lane access or targeted financing incentives, while highly feasible and symbolically important, are unlikely to have large environmental impacts.

5. Quadrant III: Micro → Macro Influence

In our framework, consumers and employees are micro because, although they can act together to become group actors, they often operate as individuals and have individual motivations, even when these motivations align. However, using their purchasing power, protest rights, and even their work product, consumers and employees can be catalysts for sustainability-oriented change in the retail sector. Therefore, it's important to analyze how consumers, as

micro-actors, can influence macro-actors such as big-box retailers (Lavorata, 2014). This micro→macro pathway is a key part of the sustainable-consumption research agenda.

5.1. Consumer Activism and Public Pressure

Consumers are an important but understudied causal actor in the micro → macro context. While marketing scholarship in retailing focuses on understanding consumers' product preferences, less attention has been paid to how consumers can substantially affect the companies they patronize.

Some companies have picked up on shifts in consumer demand through market research and have begun to position themselves accordingly by announcing various sustainability initiatives, integrating eco-friendly practices throughout their operations, and setting ambitious sustainability targets. For example, eBay launched its Certified Refurbished program after research showed that 80% of Americans were open to receiving a refurbished electronic gift that season (eBay, 2020). The platform provided a dedicated online storefront, standardized grading, new warranties, and inventory vetted directly by manufacturers, compelling merchants to participate in the program and offer refurbished options. Zomato, an online food ordering and delivery service, surveyed thousands of its users and changed its app's default setting from “opt-out” to “opt-in” for cutlery, tissues, and straws, reducing single-use plastic waste (Goyal, 2021). While these case examples are promising, it can be challenging to discern if a macro actor's sustainability initiative is a genuine response to consumer activism or a green marketing tactic designed to gain a competitive advantage and attract environmentally conscious customers. Some measures may constitute “greenwashing,” where eco-friendliness is more about image management than actual environmental impact (Peattie & Crane, 2005).

Consumer activism is sometimes coordinated by macro-level actors, such as consumer advocacy and nonprofit organizations, which provide platforms that centralize actions like petition drives or letter-writing campaigns to CEOs. For instance, in June 2023, an advocacy group (PIRG) delivered over 138,000 petition signatures urging Amazon to cut plastic waste. In response, Amazon announced commitments to reduce single-use plastic packaging and develop more recyclable alternatives, demonstrating how customer pressure can drive a major retail platform to adopt more sustainable packaging practices (Rosenblatt, 2024).

5.2. Boycotts & Buycotts

Consumers can collectively or individually boycott a company's products to protest its excessive environmental footprint. Most research in this space has focused on the motivations driving boycotts and on the conditions under which boycotts can garner sufficient consumer support (Endres & Panagopoulos, 2017; Klein et al., 2004; Sen et al., 2001). Results show that participation depends on perceived boycott success, the number of others who will participate, individual costs, and the relevance to participants' social identity, among other factors.

Efforts have been made to measure whether consumer boycotts can actually affect how companies operate their business. Some research indicates that boycotts can affect companies' financial performance by reducing cumulative shareholder returns (Tomlin, 2019). Other studies show that internet-organized boycotts likely do not have financial effects on their corporate targets (Koku, 2012).

Alternatively, consumers can engage in active purchasing to reward companies for pro-sustainability actions. These so-called "buycotts" are understudied in the literature (Friedman, 1996; Hoffmann & Hutter, 2012) and present a ripe area of investigation.

More recently, “carrotmobs¹³” evolved as a new subtype of boycotts (Hoffmann & Hutter, 2012). A carrotmob is a collective boycott in which consumers gather at a chosen store at a set time to purchase its products and reward the company in exchange for agreed-upon eco-friendly improvements, such as investing extra revenue in energy-saving upgrades. This may benefit the target company more directly. Scaling up carrotmobs is much more difficult, though.¹⁴

Data on the relative magnitude of boycotts versus carrotmobs is scarce. Liaukonytė, Tuchman, and Zhu (2023) analyzed consumer-level purchase data on Goya products to assess the net effect of concurrent boycott and counter-boycott as part of political movements. Although social and news media coverage was dominated by boycott posts, sales rose by 22%.

5.3. Protests

Whereas consumers can use their market power to persuade companies and retailers, government policies are not necessarily susceptible to economic persuasion. Instead, citizens engage in widespread environmental protests to try to change a government’s policy at the macro level. Determining the effectiveness of protests in achieving macro targets and their environmental impact is difficult (Buhl et al., 2016; Yuriev, 2022). Some scholars have studied the effect of protests on the general sentiment of pro-sustainable behavior. For example, Kountouris and Williams (2023) found that protesting has positive spillovers, making community members less likely to oppose pro-environmental policies overall. Other scholars have found evidence of tangible effects of environmental protests on policy decisions and on state-level CO₂ (i.e., structural breaks) in some locations (Adedoyin, 2020). However, the emergence of extreme climate protest actions (e.g., gluing oneself to the streets, defacing

¹³ The term combines “carrot,” symbolizing positive incentives over punishment, with “mob,” reflecting the coordinated, time-bound action.

¹⁴ <https://carrotmob.org/about>

artworks) has raised concerns that protests backfire, potentially undermining support for environmental movements (e.g., Feinberg et al. 2020). Additional research is needed on the factors leading to effective vs. ineffective protest actions in this domain.

5.4. Employee-driven interventions

Company employees and other stakeholders can influence environmental innovation and drive macro change (Buhl et al., 2016; Yuriev et al., 2022). Extant studies document three routes to employee eco-innovation: first-order, where employees themselves create innovations driven by their daily tasks; second-order, where management seeks to organize first-order innovation; and third-order, where management explicitly invites employees to engage in innovation processes (Buhl et al., 2016). Employees with consumer experience, tacit knowledge, and a green identity are key constituents to lead eco-innovation from within a company. In addition, employees can act as enforcers of sustainability in retail environments. For example, Starbucks employees raised concerns about food waste, which led the company to announce a new program to donate unsold food to charity.

5.5. Feasibility and impact Quadrant III (QIII)

Most interventions that have been studied in QIII thus far are easy to implement, but their environmental impacts are modest (high-feasibility, low-impact). For example, sustainability pledges play an important symbolic role by signaling responsiveness to consumer demand, but absent robust monitoring, they often underperform in terms of measurable environmental outcomes. While Zomato's cutlery opt-in default has significantly reduced plastic waste—preventing thousands of metric tons from entering landfills—recycling remains a relatively low-impact domain (Ivanova et al., 2020), and broader change will be necessary. Similarly, employee-driven activism can spark important cultural shifts internally, yet it rarely produces

immediate systemic impact unless it is connected to executive decision-making. Employee-driven advocacy typically scores high on feasibility but varies in impact (Yuriev et al. 2022). Initiatives such as sustainability training, green teams, and grassroots “bottom-up” suggestions are low-cost and require minimal structural change. While such efforts can strengthen a company’s sustainability culture, enhance brand reputation, and occasionally influence operational practices, their overall environmental impact tends to remain incremental.

High-feasibility, low-impact interventions include large-scale collective actions such as Fridays for Future. While these movements have the potential to generate substantial impact by pressuring corporations and governments, shifting public agendas, and influencing global policy (e.g., Eckersley, Haupt, & Kern, 2025), their feasibility depends on sustained mass mobilization, the ability to keep climate action high on the political agenda, and the creation of lasting engagement in climate advocacy.

6. Quadrant IV: Macro → Macro Influence

Macro actors include institutional investors, corporations, non-governmental organizations, government regulators, intergovernmental agencies, political stakeholders, consumer advocacy organizations, and rating agencies. In this quadrant, we locate four main types of macro → macro interactions: private-to-private, private-to-public, public-to-private, and public-to-public.

6.1. Private-to-private

“Private” macro actors are businesses, platforms, corporations, suppliers, industry alliances, lobbying groups, and institutional investors. Firms work with other firms in their supply chains and innovation efforts, strive to meet and influence regulatory standards, and compete for customers. If sustainability considerations lead to compliance, cost savings, and/or a competitive advantage, corporate macro actors will come on board.

Corporations are now cognizant not only of their direct (Scope 1) and indirect (Scope 2) emissions but also of their total supply-chain emissions (Scope 3; Blanco et al., 2016). In retail, the majority of emissions stem from product supply chains rather than from stores or distribution centers. Some corporations are taking ownership of these environmental impacts, starting to improve the environmental performance and footprint of their entire supply chain (Caro et al., 2013). For example, Walmart launched Project Gigaton™, an initiative developed in collaboration with NGOs and other stakeholders, to engage suppliers and reduce or avoid 1 billion metric tons of greenhouse gas emissions across its global value chain by 2030. Its conditions (reporting emissions, setting targets, sharing best practices) have compelled over 5,900 suppliers to reduce emissions across six critical areas: energy use, nature, waste, packaging, transportation, product use, and design (Walmart, 2025).

Platforms play a particularly powerful role in influencing companies' sustainable behavior by setting ecosystem standards. For example, Zalando's do.MORE strategy requires all partner brands to submit detailed supply chain and environmental data, with compliance determining platform eligibility. This puts direct pressure on thousands of fashion retailers (Zalando 2020). Similarly, Etsy partnered with EcoAct to set science-based near- and long-term net-zero targets, including mandatory sustainability requirements for its marketplace: all sellers' shipping emissions are offset to achieve carbon-neutral delivery, and sellers must disclose materials and production methods used in their products. In practice, these requirements led many small, handmade retailers to switch to eco-friendly materials to remain eligible, and the share of sellers using sustainable materials rose to 65 percent (EcoAct, 2025). Under Amazon's "Climate Pledge Friendly" program, brands and third-party sellers on the platform must meet at least one of Amazon's Compact by Design standards or earn one of 19 trusted third-party

certifications to display the “Climate Pledge Friendly” badge and receive priority in search results and filter options. This effectively nudges retailers to redesign products, optimize packaging, or obtain recognized eco-labels (Amazon, 2020).

Microsoft Cloud for Sustainability helps organizations track and reduce environmental impact, especially carbon emissions. By consolidating data and applying AI-driven insights, it both lowers emissions through efficient cloud infrastructure and enables businesses to identify their own reduction opportunities.

Coalitions. Sometimes a group of firms in the same industry forms a coalition to address sustainability issues. A coalition can include competing firms and their supply-chain members. While coalitions can effectively organize a supply chain, some scholars have expressed concerns that coalitions and other sustainability practices have become a means for firms to manage backlash from scrutiny rather than create change (Kotzian, 2024).

Institutional investors can influence publicly traded companies to reduce environmental footprints by demanding transparency. For example, each year the Carbon Disclosure Project (CDP), a nonprofit organization representing more than \$100 trillion in assets, asks top-level management of publicly traded companies to voluntarily disclose their climate change-related risks and opportunities (Flammer et al., 2021). Cohen, Kadach, and Ormazabal (2023) demonstrate that firms with CDP-signatory investors are more likely to disclose to the CDP and subsequently reduce their carbon emissions. Similarly, investor coalitions like the Climate Action 100+ initiative¹⁵, uniting over 600 global investors, collectively engage with the world’s largest corporate greenhouse gas emitters to ensure these companies commit to emissions reductions, governance frameworks, and financial disclosures aligned with the Paris Agreement.

¹⁵ <https://www.climateaction100.org/about/>

6.2. Private-to-public

Researchers are increasingly focusing on lobbying and environmental regulations. Polluting firms oppose environmental regulation because of the expected decrease in profitability, with obvious negative implications for social welfare (Meng & Rode, 2019). Best-in-class firms (in terms of environmental performance) favor environmental regulation because it can give them a competitive advantage. Although climate change-related lobbying expenditures are small at 4% of total lobbying (Brulle, 2018), we can expect an increase as more climate change-related policies are introduced.

6.3. Public-to-private

Public-to-private interactions are the most explored area in business and environmental sustainability research. Work centers on assessing the collective environmental impacts of new laws, tax breaks, regulations, and other interventions applied to or offered to private companies. For example, the European Union Emissions Trading System (EU ETS), launched in 2005, is the world's first and largest carbon market. It sets a cap on the total amount of greenhouse gases that can be emitted by covered sectors, with the cap decreasing annually in line with the EU's climate targets. Emission allowances are allocated through auctions and can be traded on the market. Companies are required to cover their total emissions for the year. Failure to comply results in substantial financial penalties (EC, 2025).

At the state level, New York has proposed the Fashion Sustainability and Social Accountability Act (also known as the Fashion Act). If passed, the bill would require global apparel and footwear companies with an annual global revenue of \$100 million operating in New York to disclose social and environmental impacts within their supply chains and set and achieve climate reductions in line with the Paris Agreement. To pass such legislation, broad support is

needed from a range of stakeholders, including industry leaders, union representatives, labor organizations, academic institutions, and advocacy groups.

6.4. Public-to-public

Public-to-public relationships involve governments, intergovernmental agencies, or multi-actor coalitions exerting pressure on other governments to adopt sustainable practices, often reshaping entire markets and regulatory contexts. For example, in 2015, a total of 195 parties signed the international treaty known as the Paris Agreement to address climate change. Since then, scholars have studied the effects of this treaty on environmental outcomes. Liu et al. (2020) model the effects on CO₂ emissions if the milestones of the Paris Agreement are met and perform sensitivity analyses to assess what would happen if major countries, such as the US, were to unilaterally withdraw from the Agreement. Others have studied treaties more generally. For example, Brandi et al. (2019) report a positive relationship between domestic environmental legislation and both international environmental treaties and preferential trade agreements. A large gap remains in the literature concerning how the enforcement of treaties affects actual environmental outcomes.

6.5. Feasibility and impact Quadrant IV (QIV)

Interventions in the high-feasibility, high-impact quadrant are mostly platform-driven, underscoring the cascading influence of supply chains. Large corporations (e.g., Walmart, Amazon, Zalando) function as sustainability gatekeepers by using environmental requirements as criteria for platform participation. In doing so, they extend sustainability mandates downstream and exert influence over vast supplier networks (Spicer & Hyatt, 2017). The diffusion of standards on the macro level thus constitutes a particularly effective intervention.

In contrast to the major platforms in the broader retail market, initiatives such as Etsy’s sustainability standards and net-zero commitments, Booking’s Sustainability Handbook and certification, or Uber Eats’ *Delivering a Greener Future* campaign exhibit similar feasibility but relatively low impact. Their limited scope (e.g., specific delivery models or sectors) and smaller market size constrain their overall influence. Accordingly, these interventions fall within the high-feasibility, low-impact quadrant.

Policy and regulatory tools (EU ETS, Paris Agreement, regulations on supply chains or products) represent the most effective long-term interventions, given their capacity to transform markets at scale. For example, the EU ETS has reduced greenhouse gas emissions from the power and industrial sectors by 47% between 2005 and 2023 (EC, 2025). However, these tools typically face low feasibility, as they require strong governance structures and political consensus, and enforcement mechanisms to overcome resistance and implementation challenges.

Finally, initiatives such as the CDP and Climate Action 100+ have been effective in enhancing corporate climate transparency and ambition, but their capacity to drive immediate emission reductions is limited (e.g., Hastreiter 2024). They suffer from voluntary participation, weak enforcement mechanisms, and dependence on continued investor coordination. They can nudge corporate behavior but rarely create systemic change on their own, placing them in the low-feasibility, low-impact quadrant.

7. Spillovers and carryovers

We have demonstrated how a variety of sustainability interventions may target specific stakeholders or actors within retail value chains, including individual consumers, employees, suppliers, and retail organizations themselves. These interventions aim to change “targeted”

behaviors, but they may also affect “non-targeted” behaviors throughout the retail system.¹⁶ For example, retailer policies encouraging customers to bring their own shopping bags (targeted behavior) can lead to increased purchases of environmentally friendly organic foods (non-targeted behavior), creating positive spillovers that extend the environmental benefits beyond the original waste reduction objective (Karmarkar & Bollinger, 2015).

Given the large-scale changes needed to mitigate and adapt to climate change, spillovers help facilitate much-needed shifts in lifestyle and consumption patterns (Nash & Whitmarch, 2023; Truelove et al., 2014). But spillovers can also have negative environmental implications (see Maki et al. 2019, for a meta-analysis). For example, a governmental ban on the free provision of grocery bags by retail stores can also lead to an unintended increase in the purchase of thicker plastic trash bags, as consumers need to line their trash bins that were previously lined with the free grocery bags (Huang & Woodward, 2022). Moreover, the resulting spillover demand for trash bags especially benefits retailer brands (Puranam et al., 2025).

Furthermore, sustainability interventions such as government policies may be rolled back, but their effects may persist even after the incentives (or disincentives) are removed, a phenomenon referred to as “carryover.” This can apply to both the initial targeted behavior and the spillover behavior. These carryover effects are particularly important for policy design and evaluation, as research shows persistent impacts on trash bag purchases even after plastic bag policy repeals (Puranam et al., 2025). Because spillovers and carryovers can amplify or dilute the positive effects of a sustainability intervention, they are important to consider when developing intervention strategies for consumption and production.

¹⁶ We note that the literature also uses the terms “intended and unintended consequences” to loosely refer to targeted and non-targeted behaviors, but it seems to make an unnecessary assumption about what policymakers intended. Perhaps these terms imply that spillovers may arise but do not necessarily detract from the benefits of a policy.

The contributions of spillovers and carryovers are important considerations for each quadrant, as they can influence the direction of impact in the second stage of the framework. These effects may also operate across multiple quadrants. For example, when government incentives for electric vehicles influence consumer adoption (macro → micro), this can create market signals that affect industry production decisions (macro → macro).

Significant additional research is needed to better understand the non-targeted effects of the initial interventions. Effective intervention strategies should consider pilot tests to evaluate spillover pre-implementation, incorporate spillover tracking into monitoring, and plan for carryover during the intervention's repeal.

8. General Discussion

A large body of work in marketing and related disciplines, including economics and industrial ecology, has been explored by governments, businesses, advocacy groups, and others to contribute to environmental consumption and production cycles. In addition, multiple interventions aimed at “nudging” individual consumers to make more environmentally friendly decisions have been tried, analyzed, and promoted. Given the critical need for change to occur more rapidly, all these efforts need to be streamlined and focused. The framework put forth in this paper aims to guide researchers and stakeholders in achieving the greatest impact on sustainable patterns of consumption and production, and to identify where additional research is most needed.

In the first stage of our two-stage framework, the source–target matrix, we distinguish between micro and macro actors who may use different types of interventions to influence one another from a retail perspective. This distinction allowed us to map the interventions from the literature across a 2x2 matrix. The matrix highlights a strong emphasis in the literature on macro

→ micro interventions, particularly those targeting consumers, whereas research on micro actors, such as employees or small business owners, remains scarce. By contrast, fewer interventions are documented in the other quadrants. One possible explanation is that macro → micro interventions are easier to study and operationalize (Lembregts & Cadario, 2024). However, it is important to recognize that most emissions are generated by macro-level actors. We applied the second stage of our framework, the feasibility–impact matrix, to map the introduced interventions along the dimensions of *feasibility* and the *impact* of measurable environmental improvements in production and consumption. Examining the interventions through this lens shows a lack of high-feasibility, high-impact interventions across the four quadrants. This is in line with previous research warning that marketing scholarship is often limited to low-impact areas (Lembregts & Cadario, 2024). It can also be seen that interventions by macro sources often have a greater impact than those by micro sources. While research on high feasibility and high impact should be prioritized, more research is also needed to better understand how to utilize low-feasibility but high-potential-intervention approaches and to scale up highly feasible interventions with small impact.

8.1. Limitations of this framework

While the social and economic dimensions of sustainability are also important, our analysis deliberately focuses on environmental sustainability through the lens of SDG 12, which is most closely aligned with the retail sector. This facilitates analytical clarity and provides more actionable insights. Fully addressing the interconnections between environmental and social responsibility—especially for broader SDGs—remains a critical area for future research (Holtrop et al., 2025). Our stakeholder perspective—incorporating employees, labor unions, and traditional actors—highlights important themes to investigate these links.

As noted earlier, the micro–macro distinction is not meant to imply a strict dichotomy or deny continuity across levels, but rather serves to highlight differences in the coordination, scalability, and governance of environmental sustainability interventions. The distinction is a deliberate simplification, adopted for agenda-setting purposes, helping identify which intervention pathways have been explored and where gaps remain. Future research could adopt more granular classifications that capture the full range of actors along this continuum.

As acknowledged in the framework’s introduction, there is substantial heterogeneity in the roles and motivations of actors both within and across quadrants. Despite this diversity, we demonstrate that examining these interactions through a micro–macro lens of retailing is valuable. This perspective allows the framework to reveal how the effectiveness of sustainability interventions depends on the specific focal relationships among stakeholders. Future research applying this framework should account for such heterogeneity by broadening the range of considered outcomes and interventions and by conducting more granular, context-sensitive analyses.

The first stage of our proposed framework focuses on dyadic relationships between micro and macro actors, but more complex, multi-directional chains (e.g., micro → macro → macro) can be unpacked into their basic dyadic components. We acknowledge that alternative views conceptualize marketing interactions as reciprocal exchange processes, in which roles are fluid, and influence is bidirectional. In addition, it is important to highlight that the source–target and micro–macro distinctions are intended as analytical devices to identify intervention leverage points within retail systems, rather than as claims about the ontological nature of exchange. Building on this work, future applications of this framework can map out the cumulative effects

of higher-order chains to identify paths that are highly feasible or manage to transmit high impact across their entirety.

We also recognize that interactions between source and target can range from adversarial to cooperative, depending on the context, shaped by power asymmetries, political conflict, or alignment of incentives. For example, consumers may collectively resist sustainability interventions that impose costs on them without adequate supporting infrastructure, while platform-driven standards may achieve rapid supplier compliance by leveraging market access as a cooperative incentive and network effects. More generally, these dynamics most likely produce nonlinear relationships between intervention effort and outcomes: diminishing returns when early efforts convert the most receptive actors first, leaving each subsequent unit of change costlier to achieve; and increasing returns when factors like network effects, whether functional or social, create self-reinforcing momentum as adoption scales up. Consequently, impact and feasibility are not static properties but dynamic outcomes conditioned by scale, timing, and the nature of the source–target relationship.

A further limitation lies in the current reliance on ordinal distinctions between high and low feasibility and impact. While more continuous measures of feasibility and impact are not widely available, greater transparency in emissions targets and reporting may enable such refinement in the future.

8.2. Future research directions

Our framework identifies key gaps in the existing literature and outlines pathways to strengthen retailing's contribution to environmental sustainability. Several high-priority cross-cutting insights emerge across all quadrants. First, there is a clear need for more research in high-impact domains—such as transportation, meat consumption, and fashion—that are critical to

achieving sustainability goals. In particular, our framework reveals a notable shortage of interventions in the Micro → Macro quadrant that are both highly feasible and highly impactful. Future research may investigate whether interventions exist to fill this gap. Second, since the existing literature has largely focused on North America, Western Europe, and Australia, expanding to multicultural and geographically diverse contexts is essential for identifying boundary conditions and developing interventions with broader—potentially global—relevance. Interventions such as carbon labeling, information disclosure, and carbon markets have the potential to transcend national boundaries if embedded internationally, as evidenced by initiatives such as the European emission standards (Crippa et al., 2016).

Third, to accurately assess environmental impacts, more field studies and natural experiments are required, particularly those involving macro-level actors in high-impact domains, to estimate both short- and long-term effects and potential interactions in real-world contexts. Critically, more work is also needed to better define feasibility indicators, including the ability to influence consumer opinions and retail policy.

Fourth, future research should explore more complex multi-actor and multi-stage processes by deconstructing them into dyadic links based on our framework. This approach can help identify high-leverage intervention pathways and offer deeper insights into the dynamics of these processes, including potential spillover and carryover effects that may amplify overall impact.

Fifth, we invite complementary future research that organizes sustainability interventions using alternative analytical approaches, such as stakeholder-type × stakeholder-type interactions or network-based representations. We view such approaches as complementary to, rather than competing with, the intervention-oriented framework proposed here.

Key future research questions for QI. A key challenge for micro → micro interventions is quantifying their impact, which would allow identification of the most effective approaches for fostering sustainable behavior. Beyond scalability, future work should examine how consumers can amplify the positive contagion of pro-environmental actions and under what conditions peer influence may backfire, generating reactance rather than compliance. While current research has largely centered on consumers and employees, expanding the scope to other micro-actors, such as micro-enterprises, could provide valuable insights.

Key future research questions for QII. Future studies should consider investigating the barriers to low-feasibility, high-impact interventions, such as investments in public charging infrastructure, carbon taxes, and rebates for electric vehicle adoption. Also needed is work on the potential impact of other macro-level actors, such as consumer associations, NGOs, and advocacy groups, which have so far been overlooked in this space.

Key future research questions for QIII. Future research should seek more high-impact interventions in this quadrant. With mass protests providing the most promising high-impact measure, additional work should investigate how their feasibility can be increased. How can consumers (or other micro actors) most effectively engage governments and spark political change on sustainability business issues? This topic, critical for system change, sits at the intersection of marketing and political science and is likely to have a high impact as governments help set policy agendas. Marketing scholarship is best poised to make a contribution here by answering questions like *What is the effect of consumer/corporate collaborations to influence political actors to make environmental changes?*

Key future research questions for QIV. The Macro→Macro quadrant remains a very important yet largely understudied area in marketing scholarship, providing a large number of

high-impact interventions of low and high feasibility. Significant potential lies in exploring how collaborations between large macro actors (private or public) can drive emissions reductions and foster more sustainable behaviors. For example, future research should seek to understand how corporate partnerships can be designed to promote accountability among all parties (e.g., seller and supplier) and to hold each other accountable for sustainable practices. In addition, while some research has examined the effects of governments on corporations, there isn't enough empirical research on how corporations can effectively respond to green legislation. Lastly, while multinational treaties exist, little research has examined the procedures by which these treaties could be improved and replicated.

Table 4 summarizes the specific research questions and avenues for future research arising from this framework.

Table 4: Research Directions/Avenues Stemming From The Framework

| General Research Questions (across quadrants) | |
|---|-----------------------------------|
| <ul style="list-style-type: none"> - Prioritize research and interventions in high-impact domains critical to the environmental sustainability goal (e.g., transportation, energy consumption, meat consumption, and fashion). - Expand studies to multicultural and geographically diverse contexts to identify boundary conditions and enhance generalizability. - Conduct more field studies and natural experiments with macro-level actors in high-impact domains to estimate short- and long-term effects in real-world settings. - Further refine and operationalize indicators of feasibility. - Examine complex multi-actor and multi-stage processes by decomposing them into dyadic links, including spillover and carryover effects. - Complement the framework with alternative analytical approaches, such as stakeholder-by-stakeholder interactions or network-based representations. | |
| Quadrant I: Micro → Micro | Quadrant II: Macro → Micro |
| | |

| | |
|---|--|
| <ul style="list-style-type: none"> - Expanding the scope to other micro-actors, such as micro-enterprises, could provide valuable insights. - Quantify intervention impacts to identify the most effective strategies for promoting environmentally sustainable behavior. - Assess scalability across contexts and populations. - Examine when peer influence amplifies pro-environmental behavior and when it backfires, generating reactance. | <ul style="list-style-type: none"> - Investigate barriers for low-feasibility, high-impact interventions, such as EV charging infrastructure and political resistance. - Examine the indirect effects of interventions targeting micro-level agents, including spillover effects. - Identify key considerations for macro-level actors (e.g., policymakers or platforms) when introducing standards or labeling schemes to drive cross-domain change. - Extend research to underexamined macro-level actors, such as consumer associations, NGOs, and advocacy groups. |
| Quadrant III: Micro → Macro | Quadrant IV: Macro → Macro |
| <ul style="list-style-type: none"> - Identify additional high-impact interventions within this quadrant. - Examine mass protests as a high-impact mechanism and assess how their feasibility can be enhanced. - Investigate how consumers and other micro-level actors can most effectively engage governments and drive political change on sustainability issues. - Foster interdisciplinary research at the intersection of marketing and political science. - Assess the impact of consumer–corporate coalitions in influencing political actors and environmental policy. | <ul style="list-style-type: none"> - Address the large but understudied set of high-impact interventions across feasibility levels. - Explore collaborations among large macro-level actors, including public–private and corporate partnerships. - Examine how corporations effectively respond to and implement green legislation. - Investigate how multinational sustainability initiatives can be improved and scaled across contexts. |

Note. This table summarizes key research directions, including research questions by stage 1 quadrants. We encourage future research to evaluate some of these questions using the stage 2 feasibility/impact framework. This approach can help set the research agenda for environmental sustainability in retail.

9. Conclusion

This research advances a two-stage framework that provides a structured lens for mapping and synthesizing interventions to achieve more sustainable outcomes in retailing. By adopting a full stakeholder perspective and evaluating interventions in terms of both feasibility and environmental impact, the framework identifies dominant foci in the prior literature and critical gaps that offer promising avenues for future inquiry. For example, we find that most

research concentrates on the Macro→Micro quadrant, with consumers as the primary micro actor studied, whereas interventions involving macro actors often carry greater potential for systemic impact. The framework contributes to future scholarship in retailing by (1) characterizing the interactions among retail actors and (2) evaluating the feasibility and impact of prospective interventions. Importantly, it underscores retailing's potential to play a pivotal role in advancing environmentally sustainable consumption and production.

Future research should focus on expanding the scope beyond consumers to other micro-actors, broadening the geographical and cultural scope of studies, and conducting more field studies and natural experiments that assess the real-world impact, particularly in high-impact domains such as transportation, food, and fashion. By systematically addressing these gaps, retailing scholarship can maximize its contribution to advancing environmental sustainability goals and ensure its continued relevance in tackling one of the most defining challenges of the 21st century.

References

- Abrahamse, W., & Steg, L. (2013). Social influence approaches to encourage resource conservation: A meta-analysis. *Global Environmental Change, 23*(6), 1773–1785.
- Adedoyin, F., Ozturk, I., Abubakar, I., Kumeka, T., Folarin, O., & Bekun, F. V. (2020). Structural breaks in CO₂ emissions: Are they caused by climate change protests or other factors? *Journal of Environmental Management, 266*, 110628.
- Allcott, H. (2011). Social norms and energy conservation. *Journal of Public Economics, 95*(9-10), 1082–1095.
- Amazon. (2020, September 25). Amazon launches “Climate Pledge Friendly” program. <https://www.aboutamazon.com/news/sustainability/amazon-launches-climate-pledge-friendly-program>
- Barclay, P., & Willer, R. (2007). Partner choice creates competitive altruism in humans. *Proceedings of the Royal Society B: Biological Sciences, 274*(1610), 749–753.

- Blanco, C., Caro, F., & Corbett, C. J. (2016). The state of supply chain carbon footprinting: Analysis of CDP disclosures by US firms. *Journal of Cleaner Production*, *135*, 1189–1197.
- Bollinger, B., Gillingham, K., Kirkpatrick, A. J., & Sexton, S. (2022). Visibility and peer influence in durable good adoption. *Marketing Science*, *41*(3), 453–476.
- Brandi, C., Blümer, D., & Morin, J.-F. (2019). When do international treaties matter for domestic environmental legislation? *Global Environmental Politics*, *19*(4), 14–44.
- Brooks, J. S., & Wilson, C. (2015). The influence of contextual cues on the perceived status of consumption-reducing behavior. *Ecological Economics*, *117*, 108–117.
- Brown, A., Laubinger, F., & Börkey, P. (2023). New aspects of EPR: Extending producer responsibility to additional product groups and challenges throughout the product lifecycle. *OECD Environment Working Papers*, No. 225, OECD Publishing, Paris.
- Brulle, R. J. (2018). The climate lobby: A sectoral analysis of lobbying spending on climate change in the USA, 2000 to 2016. *Climatic Change*, *149*(3), 289–303.
- Buhl, A., Blazejewski, S., & Dittmer, F. (2016). The more, the merrier: Why and how employee-driven eco-innovation enhances environmental and competitive advantage. *Sustainability*, *8*, 946.
- Caro, F., Corbett, C. J., Tan, T., & Zuidwijk, R. (2013). Double counting in supply chain carbon footprinting. *Manufacturing & Service Operations Management*, *15*(4), 545–558.
- Carrigan, M., Moraes, C., & Leek, S. (2011). Fostering responsible communities: A community social marketing approach to sustainable living. *Journal of Business Ethics*, *100*, 515–534.
- Catlin, J. R., & Wang, Y. (2013). Recycling gone bad: When the option to recycle increases resource consumption. *Journal of Consumer Psychology*, *23*(1), 122–127.
- Chernev, A., & Blair, S. (2021). When sustainability is not a liability. The halo effect of marketplace morality. *Journal of Consumer Psychology*, *31*(3), 551–569.
- Cohen, S., Kadach, I., & Ormazabal, G. (2023). Institutional investors, climate disclosure, and carbon emissions. *Journal of Accounting and Economics*, *76*(2-3), 101640.
- Constantino, S. M., Sparkman, G., Kraft-Todd, G. T., Bicchieri, C., Centola, D., Shell-Duncan, B., ... & Weber, E. U. (2022). Scaling up change: A critical review and practical guide to harnessing social norms for climate action. *Psychological Science in the Public Interest*, *23*(2), 50–97.
- Crippa, M., Janssens-Maenhout, G., Guizzardi, D., & Galmarini, S. (2016). EU effect: Exporting emission standards for vehicles through the global market economy. *Journal of Environmental Management*, *183*, 959–971.
- Dellaert, B. G. (2019). The consumer production journey: marketing to consumers as co-producers in the sharing economy. *Journal of the Academy of Marketing Science*, *47*(2), 238–254.

- Delmas, M. A., Fischlein, M., & Asensio, O. I. (2013). Information strategies and energy conservation behavior: A meta-analysis of experimental studies from 1975 to 2012. *Energy Policy*, *61*, 729–739.
- Do Vale, G., Collin-Lachaud, I., & Lecocq, X. (2025). Resolving paradoxical tensions during business model innovation for sustainability in retailing: The role of the ecosystem. *Journal of Retailing*.
- eBay Inc. (2020, October 21). *eBay launches new destination to meet surging demand for certified refurbished products from top brands*. <https://www.ebayinc.com/stories/news/ebay-launches-new-destination-to-meet-surging-demand-for-certified-refurbished-products-from-top-brands/>
- EcoAct. (n.d.). Etsy sets a science-based net-zero target. <https://eco-act.com/case-study/etsy-sets-ambitious-science-based-near-and-long-term-net-zero-targets/>
- European Commission (2025, September). *EU Emissions Trading System*. https://climate.ec.europa.eu/eu-action/carbon-markets/eu-emissions-trading-system-eu-ets_en
- Eckersley, P., Haupt, W., & Kern, K. (2025). Assessing the impact of Fridays for Future on climate policy and policymaking in German cities. *Journal of Environmental Policy & Planning*, *27*(3), 280-293.
- Endres, K., & Panagopoulos, C. (2017). Boycotts, buycotts, and political consumerism in America. *Research and Politics*, *4*(4), 1–9.
- Essiz, O., & Mandrik, C. (2022). Intergenerational influence on sustainable consumer attitudes and behaviors: Roles of family communication and peer influence in environmental consumer socialization. *Psychology & Marketing*, *39*(1), 5–26.
- Feinberg, M., Willer, R., & Kovacheff, C. (2020). The activist’s dilemma: Extreme protest actions reduce popular support for social movements. *Journal of Personality and Social Psychology*, *119*(5), 1086–1111.
- Fella, S., & Bausa, E. (2024). Green or greenwashed? Examining consumers' ability to identify greenwashing. *Journal of Environmental Psychology*, *95*, 102281.
- Fischer, L. B., & Newig, J. (2016). Importance of actors and agency in sustainability transitions: A systematic exploration of the literature. *Sustainability*, *8*(5), 476.
- Flammer, C., Toffel, M. W., & Viswanathan, K. (2021). Shareholder activism and firms' voluntary disclosure of climate change risks. *Strategic Management Journal*, *42*(10), 1850–1879.
- Friedman, M. (1996). A positive approach to organized consumer action: The “buycott” as an alternative to the boycott. *Journal of Consumer Policy*, *19*, 439–451.
- Giannetti, M., & Gantchev, N. (2019). *Does money talk? Market discipline through selloffs and boycotts* (No. 14098). CEPR Discussion Papers.

- Chandy, R. K., Johar, G. V., Moorman, C., & Roberts, J. H. (2021). Better Marketing for a Better World. *Journal of Marketing*, 85(3), 1-9.
- Goyal, D. (2021, August 30). *Say no to cutlery in food delivery* [Blog post]. Zomato Blog. <https://blog.zomato.com/say-no-to-cutlery-in-food-delivery>
- Griskevicius, V., Tybur, J. M., & Van den Bergh, B. (2010). Going green to be seen: Status, reputation, and conspicuous conservation. *Journal of Personality and Social Psychology*, 98(3), 392.
- H&M Group. (2012, December 6). *H&M first fashion company to launch global clothes collecting initiative*. <https://hmgroup.com/news/hm-first-fashion-company-to-launch-global-clothes-collecting-initiative/>
- Hastreiter, N. (2024) Can investor coalitions drive corporate climate action? *Geography and Environment Discussion Paper Series (49)*. Department of Geography and Environment, The London School of Economics and Political Science, London, UK.
- He, C., Ozturk, O. C., Gu, C., & Chintagunta, P. K. (2023). Consumer tax credits for EVs: Some quasi-experimental evidence on consumer demand, product substitution, and carbon emissions. *Management Science*, 69(12), 7759–7783.
- He, C., Ozturk, O. C., Gu, C., & Silva-Risso, J. M. (2021). The end of the express road for hybrid vehicles: Can governments' green product incentives backfire? *Marketing Science*, 40(1), 80–100.
- Hofenk, D., van Birgelen, M., Bloemer, J., & Semeijn, J. (2019). How and when retailers' sustainability efforts translate into positive consumer responses: the interplay between personal and social factors. *Journal of Business Ethics*, 156(2), 473-492.
- Hoffmann, S., & Hutter, K. (2012). Carrotmob as a new form of ethical consumption. The nature of the concept and avenues for future research. *Journal of Consumer Policy*, 35, 215–236.
- Hogreve, J., Matta, S., Hettich, A. S., & Reczek, R. W. (2021). How do social norms influence parents' food choices for their children? The role of social comparison and implicit self-theories. *Journal of Retailing*, 97(2), 173-190.
- Holtrop, N., Lobschat, L., & ter Braak, A. (2025). Paving the way for responsible retailing. *Journal of Retailing*, 101(1), 1.
- Huang, Y. K., & Woodward, R. T. (2022). Spillover effects of grocery bag legislation: Evidence of bag bans and bag fees. *Environmental and Resource Economics*, 81(4), 711–741.
- Ivanova, D., Barrett, J., Wiedenhofer, D., Macura, B., Callaghan, M., & Creutzig, F. (2020). Quantifying the potential for climate change mitigation of consumption options. *Environmental Research Letters*, 15(9), 093001.
- Jansson, J., Marell, A. & Nordlund, A. (2010). Green consumer behavior: determinants of curtailment and eco-innovation adoption. *Journal of Consumer Marketing*, 27(4), 358-370.

- Karmarkar, U. R., & Bollinger, B. (2015). BYOB: How bringing your own shopping bags leads to treating yourself and the environment. *Journal of Marketing*, 79(4), 1–15.
- Kilbourne, W. E., & Beckmann, S. C. (1998). Review and critical assessment of research on marketing and the environment. *Journal of Marketing Management*, 14(6), 513–532.
- Klein, J. G., Smith, N. C., & John, A. (2004). Why we boycott: Consumer motivations for boycott participation. *Journal of Marketing*, 68(3), 92–109.
- Koku, P. S. (2012). On the effectiveness of consumer boycotts organized through the internet: The Market Model. *Journal of Services Marketing*, 26(1), 20–26.
- Kotzian, P. (2024). Firms' sustainability engagement and sustainability-related controversies. *Business Strategy and the Environment*, 33(3), 1610–1625.
- Kountouris, Y., & Williams, E. (2023). Do protests influence environmental attitudes? Evidence from Extinction Rebellion. *Environmental Research Communications*, 5(1), 011003.
- Kraft-Todd, G. T., Bollinger, B., Gillingham, K., Lamp, S., & Rand, D. G. (2018). Credibility-enhancing displays promote the provision of non-normative public goods. *Nature*, 563(7730), 245–248.
- Kumari, R., Verma, R., Debata, B. R., & Ting, H. (2022). A systematic literature review on the enablers of green marketing adoption: Consumer perspective. *Journal of Cleaner Production*, 366, 132852.
- Lavorata, L. (2014). Influence of retailers' commitment to sustainable development on store image, consumer loyalty and consumer boycotts: Proposal for a model using the theory of planned behavior. *Journal of Retailing and Consumer Services*, 21(6), 1021–1027.
- Lee, K. (2008). Opportunities for green marketing: Young consumers. *Marketing Intelligence & Planning*, 26(6), 573–586.
- Lembregts, C., & Cadario, R. (2024). Consumer-driven climate mitigation: Exploring barriers and solutions in studying higher mitigation potential behaviors. *International Journal of Research in Marketing*, 41(3), 513–528.
- Liaukonytė, J., Tuchman, A., & Zhu, X. (2023). Frontiers: Spilling the beans on political consumerism: Do social media boycotts and buycotts translate to real sales impact? *Marketing Science*, 42(1), 11–25.
- Lissillour, R., Essiz, O., Boninsegni, M. F., & Song, Z. (2025). Intergenerational transmission of sustainable consumption practices: Dyadic dynamics of green receptivity, subjective knowledge, peer conformity, and intra-family communication. *Journal of Environmental Management*, 378, 124754.
- Liu, W., McKibbin, W. J., Morris, A. C., & Wilcoxon, P. J. (2020). Global economic and environmental outcomes of the Paris Agreement. *Energy Economics*, 90, 104838.

- Madan, S., Johar, G. V., Berger, J., Chandon, P., Chandy, R., Hamilton, R., ... & White, K. (2023). Reaching for rigor and relevance: better marketing research for a better world. *Marketing Letters*, 34(1), 1-12.
- Maguire, L. (2023, July 20). Gen Z loves shopping hauls—Can they ever be sustainable? Vogue. <https://www.vogue.com/article/gen-z-loves-shopping-hauls-can-they-ever-be-sustainable>
- Maki, A., Carrico, A. R., Raimi, K. T., Truelove, H. B., Araujo, B., & Yeung, K. L. (2019). Meta-analysis of pro-environmental behaviour spillover. *Nature Sustainability*, 2(4), 307–315.
- McGuire, W. J. (2000). Standing on the shoulders of ancients: Consumer research, persuasion, and figurative language. *Journal of Consumer Research*, 27(1), 109-114.
- Meng, K. C., & Rode, A. (2019). The social cost of lobbying over climate policy. *Nature Climate Change*, 9(6), 472–476.
- Moorman, C. (2024). How to Be a Pro–Social Impact Scholar in Marketing. *Journal of Public Policy & Marketing*, 43(3), 207-209.
- Murali, K., Lim, M. K., & Petruzzi, N. C. (2019). The effects of ecolabels and environmental regulation on green product development. *Manufacturing & Service Operations Management*, 21(3), 519–535.
- Nash, N., & Whitmarsh, L. (2023). One thing leads to another? Pro-environmental behavioural spillover. In *Handbook on pro-environmental behaviour change* (pp. 63–77). Edward Elgar Publishing.
- Nguyen-Van, P., Stenger, A., & Tiet, T. (2021). Social incentive factors in interventions promoting sustainable behaviors: A meta-analysis. *PLoS ONE*, 16(12), e0260932.
- Ostrom, E. (1999). Coping with tragedies of the commons. *Annual review of political science*, 2(1), 493-535.
- Peattie, K., & Crane, A. (2005). Green marketing: legend, myth, farce or prophesy? *Qualitative Market Research: An International Journal*, 8(4), 357 - 370.
- Peattie, K., & Peattie, S. (2009). Social marketing: a pathway to consumption reduction? *Journal of Business Research*, 62(2), 260-268.
- Petty, R. E., & Cacioppo J. T. (1986), *Communication and Persuasion: Central and Peripheral Routes to Attitude Change*, New York: Springer.
- Pickman, H. A. (1998). The effect of environmental regulation on environmental innovation. *Business Strategy and the Environment*, 7(4), 223–233.
- Poushter, J., Fagan, M., & Gubbala, S. (2022). Climate change remains top global threat across 19-country survey. Pew Research Center report, August 31.

- Puranam, D., Kim, S., Hong, J., & Che, H. (2025). Are We Worse Off After Policy Repeals? Evidence from Two Green Policies. *Journal of Marketing Research*, 62(2), 189-206. <https://doi.org/10.1177/00222437241290157>
- Rosenblatt, L. (2024, June 20). Amazon cutting down on plastic in the U.S., after years of criticism. *Seattle Times*. <https://www.seattletimes.com/business/amazon/amazon-cutting-down-on-plastic-in-the-u-s-after-years-of-criticism/>
- Sen, S., Gürhan-Canli, Z., & Morwitz, V. (2001). Withholding consumption: A social dilemma perspective on consumer boycotts. *Journal of Consumer Research*, 28(3), 399-417.
- Sparkman, G., & Walton, G. M. (2017). Dynamic norms promote sustainable behavior, even if it is counternormative. *Psychological Science*, 28(11), 1663-1674.
- Spicer, A., & Hyatt, D. (2017). Walmart's Emergent Low-Cost Sustainable Product Strategy. *California Management Review*, 59(2), 116-141. <https://doi.org/10.1177/0008125617695287>
- Starbucks Coffee Company. (2022, May 11). *Hubbub and Starbucks launch £1 m Bring It Back Fund to boost reuse*. <https://stories.starbucks.com/emea/stories/2022/hubbub-and-starbucks-launch-1m-bring-it-back-fund-to-boost-reuse/>
- Sult, A., Wobst, J., & Lueg, R. (2024). The role of training in implementing corporate sustainability: A systematic literature review. *Corporate Social Responsibility and Environmental Management*, 31(1), 1-30.
- Tiefenbeck, V., Goette, L., Degen, K., Tasic, V., Fleisch, E., Lalive, R., & Staake, T. (2018). Overcoming salience bias: How real-time feedback fosters resource conservation. *Management Science*, 64(3), 1458-1476.
- Tomlin, K. M. (2019). Assessing the efficacy of consumer boycotts of U.S. target firms: A shareholder wealth analysis. *Southern Economic Journal*, 86, 503-529.
- Truelove, H. B., Carrico, A. R., Weber, E. U., Raimi, K. T., & Vandenberg, M. P. (2014). Positive and negative spillover of pro-environmental behavior: An integrative review and theoretical framework. *Global Environmental Change*, 29, 127-138.
- Tyson, A., & Kennedy, B. (2023). How Americans view future harms from climate change in their community and around the U.S. Pew Research Center report, October 25.
- Ungemach, C., Camilleri, A. R., Johnson, E. J., Larrick, R. P., & Weber, E. U. (2018). Translated attributes as choice architecture: Aligning objectives and choices through decision signposts. *Management Science*, 64(5), 2445-2459.
- Vadakkapatt, G. G., Winterich, K. P., Mittal, V., Zinn, W., Beitelspacher, L., Aloysius, J., ... & Reilman, J. (2021). Sustainable retailing. *Journal of Retailing*, 97(1), 62-80.
- Videras, J., Owen, A. L., Conover, E., & Wu, S. (2012). The influence of social relationships on pro-environment behaviors. *Journal of Environmental Economics and Management*, 63(1), 35-50.

- Walmart. (2025, September). Walmart Sustainability Hub. <https://walmartsustainabilityhub.com/home/>
- White, K., Habib, R., & Hardisty, D. J. (2019). How to SHIFT consumer behaviors to be more sustainable: A literature review and guiding framework. *Journal of Marketing*, 83(3), 22–49.
- White, K., Hardisty, D. J., & Habib, R. (2019). The elusive green consumer. *Harvard Business Review*, 11(1), 124-133.
- White, K., & Simpson, B. (2013). When do (and don't) normative appeals influence sustainable consumer behaviors? *Journal of Marketing*, 77(2), 78–95.
- Yuriev, A., Boiral, O. & Talbot, D. (2022). Is there a place for employee-driven pro-environmental innovations? The case of public organizations. *Public Management Review*, 24(9), 1383–1410.
- Zalando. (2020, October 8). *Six Months On: Zalando Reflects on Higg BRM Collaboration with SAC and Higg Co.* <https://corporate.zalando.com/en/people-planet/six-months-zalando-reflects-higg-brm-collaboration-sac-and-higg-co>