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Consumer Barriers to the Circular Economy: a managerial perspective on the "value-action gap"

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Aim: The purpose of this paper is to analyze the "Value-Action Gap" in the context of the Circular Economy (CE). While European consumers increasingly express concern for environmental sustainability, their purchasing behavior often remains linear. The aim is to identify the specific structural and behavioral barriers that prevent consumers from adopting circular behaviors and to propose managerial strategies to overcome them.

Design / Research methods: This article employs a conceptual review methodology, synthesizing literature from behavioral economics, consumer psychology, and green marketing. It applies the "Attitude-Behavior Gap" theoretical framework to the specific context of circular business models.

Conclusions / findings: The analysis reveals that the primary obstacles to circular consumption are not educational, but structural. Consumers face a "trust deficit" regarding used goods, economic disincentives due to the low cost of new linear products, and cognitive fatigue associated with behavioral change.

Originality / value of the article: This paper shifts the focus from "educating the consumer" to "redesigning the value proposition." It provides a novel framework for managers to use Product-as-a-Service (PaaS) and behavioral nudges to align circular behaviors with consumer convenience.

Implications: Managers must stop relying on "green guilt" marketing and instead compete on convenience and risk reduction. Policymakers must support standardization in secondary markets to build trust.

Keywords: Circular Economy, Value-Action Gap, Consumer Behavior, Green Marketing, Product-as-a-Service.
JEL: M31, Q56, D12.

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1. Introduction

The transition from a linear "take-make-dispose" model to a Circular Economy (CE) is widely recognized as a prerequisite for achieving the European Union's climate neutrality goals. The EU's Circular Economy Action Plan has successfully mobilized legislative and industrial action, focusing heavily on production, design, and waste management infrastructure (European Commission 2020: 3). However, a critical component of this transition remains stubbornly resistant to change: the consumer. For a circular economy to function, consumers must fundamentally alter their relationship with products. They must be willing to return used goods, purchase refurbished items, engage in repair rather than replacement, and increasingly access products through service models rather than ownership. Yet, despite high reported levels of environmental concern, actual market data reveals a persistent "linear lock-in."

This discrepancy between what consumers say they believe and how they actually behave is known in the academic literature as the "Value-Action Gap" or the "Attitude-Behavior Gap." While citizens in surveys consistently demand more sustainable options, their behavior at the checkout counter is driven by habit, price sensitivity, and convenience. Current managerial approaches often attempt to bridge this gap through information and education, operating on the assumption that if consumers "knew better," they would "do better." This paper argues that such an approach is insufficient. The barrier to circular consumption is rarely a lack of knowledge; it is a misalignment of incentives. Circular behaviors often require consumers to sacrifice convenience, pay a price premium, or accept a perceived risk in product quality. As long as the linear option remains cheaper, faster, and easier, the circular economy will remain a niche market.

The aim of this conceptual paper is to deconstruct these barriers from a managerial perspective. It seeks to shift the focus from "changing the consumer" to "changing the value proposition." By analyzing the psychological, economic, and functional friction points that deter circular consumption, this paper proposes specific marketing and operational strategies that firms can employ to make the circular choice the natural

choice. The analysis draws upon behavioral economics to suggest that managers must design "choice architectures" that reduce the cognitive load of circular consumption.

To ensure transparency, it is noted that this study employs a conceptual review methodology. The scope focuses on synthesizing interdisciplinary literature from behavioral economics, consumer psychology, and green marketing published between 2015 and 2025. Selection criteria prioritized peer-reviewed articles from Scopus and Web of Science that specifically address the intersection of behavioral theory and circular business model implementation. incentives that must be redesigned

2. Literature review: theoretical dimensions of the Value-Action Gap

To develop effective managerial strategies, it is first necessary to understand the theoretical mechanisms that prevent consumers from adopting circular behaviors. The literature on sustainable consumption offers a robust framework for analyzing these barriers, primarily through the lens of the Value-Action Gap. This gap describes the persistent discrepancy between consumers' stated concern for the environment and their actual purchasing decisions. While surveys consistently show that a significant majority of European consumers identify as eco-conscious, market shares for circular products (refurbished electronics, upcycled textiles, etc.) remain comparatively low (White et al. 2019: 24). Theoretical models such as the Theory of Planned Behavior (TPB) suggest that intention is the strongest predictor of behavior. However, in the context of the circular economy, this link is often broken by situational factors. As noted by Carrington et al. (2010: 145), intentions formed in a "calm" psychological state often fail to translate into action during the "hot" state of the actual purchase, where factors like price, habit, and convenience take precedence.

2.1. Psychological, economic, and functional barriers

The barriers to circular consumption can be categorized into three distinct but reinforcing dimensions: psychological trust deficits, economic misalignments, and functional inconvenience.

Psychologically, circular consumption often lacks the simplicity and certainty of linear consumption. Buying a used or refurbished item carries a higher perceived risk regarding quality and durability compared to buying new. This "trust deficit" is exacerbated by a lack of standardized grading systems for secondary goods (Echegaray, Hansstein 2017: 178). This phenomenon is best explained by Akerlof's "market for lemons" theory (Akerlof 1970: 489), which posits that in a market where the seller has more information about product quality than the buyer (information asymmetry), the buyer will assume the product is of low quality ("a lemon"). In the context of the circular economy, consumers fear that a refurbished phone or a second-hand car has hidden defects. Consequently, they discount the value of these goods heavily, often refusing to pay a price that would make the refurbishment business model viable for the firm. Furthermore, habit plays a powerful role. Linear consumption (buy-use-discard) is deeply ingrained as the default behavioral script. Breaking this script requires cognitive effort. Research indicates that consumers are "cognitive misers" who prefer familiar routines over the complex decision-making often required to find, evaluate, and trust circular alternatives (Gleim et al. 2013: 46).

Economically, the immediate transaction often presents a barrier, despite the potential for long-term savings offered by durable circular models. In many sectors, linear products remain artificially cheap due to the externalization of environmental costs (such as carbon emissions and waste disposal). Conversely, circular products often carry a "green premium" due to the labor-intensive nature of repair, refurbishment, and reverse logistics. For price-sensitive consumers, this creates a direct conflict between their values and their budget. While a segment of "deep green" consumers is willing to pay a premium, the mass market is largely driven by price. As highlighted by Groening et al. (2018: 260), sustainability is rarely the primary attribute driving choice; it is a "tie-breaker" attribute that only becomes relevant when price and quality are parity.

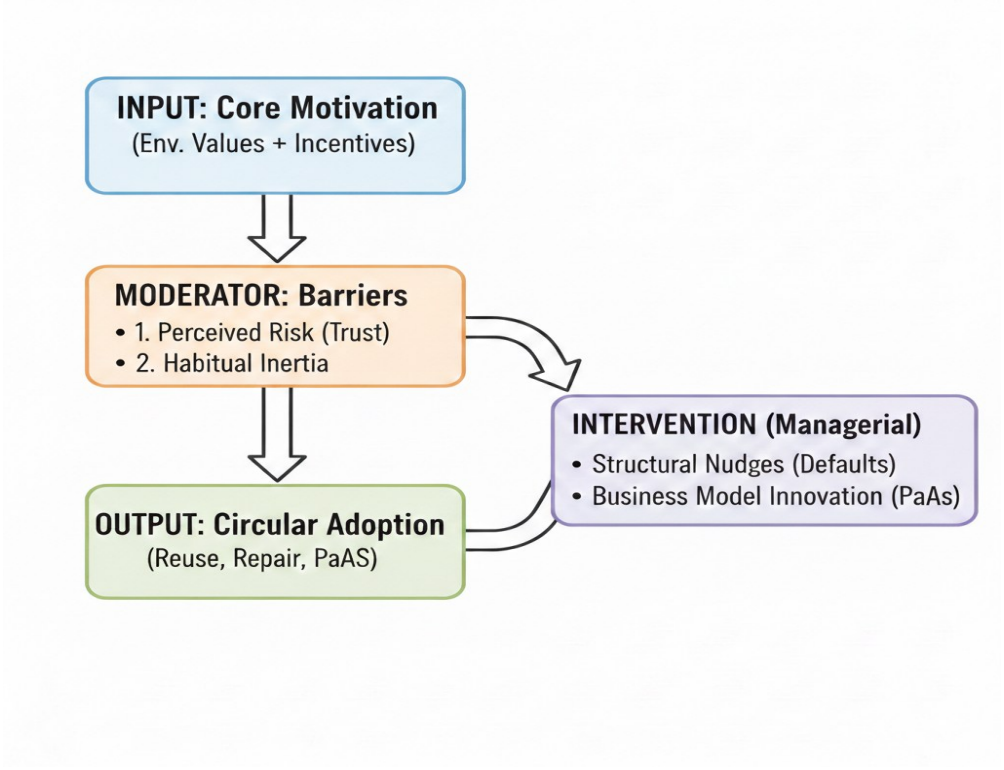
Functionally, convenience is perhaps the most critical barrier. The linear economy has been optimized for decades to deliver maximum convenience: products are cheap, universally available, and disposable. The circular economy, by contrast, often introduces friction. Repairing an item requires time and skill; returning a product for recycling requires logistical effort; using a sharing platform requires coordination.

Studies consistently show that inconvenience is the single largest deterrent to pro-environmental behavior. If a circular business model requires the consumer to change their lifestyle significantly or invest extra time, adoption rates plummet (Tunn et al. 2019: 325). Therefore, the literature suggests that for circular business models to succeed, they must mimic the convenience of linear models, removing the "friction costs" associated with sustainable behavior.

2.2. Synthesis: the Integrated Circular Adoption Model (ICAM)

To synthesize the diverse behavioral theories discussed (TPB, Nudge, Risk Theory), we propose the Integrated Circular Adoption Model (ICAM) to guide the subsequent managerial analysis.

Figure 1. The Integrated Circular Adoption Model (ICAM)



Source: Author's own elaboration based on Thaler (2008) and Akerlof (1970).

The ICAM provides an original theoretical contribution by explicitly incorporating structural and habitual moderators that sit between environmental values and actual adoption. To guide future empirical validation, the following propositions are formulated:

Proposition 1: High levels of environmental concern will not lead to circular adoption if the 'trust deficit' for secondary goods is not mitigated through standardized quality certifications.

Proposition 2: The shift from ownership to access (PaaS) reduces the consumer's perceived economic risk and cognitive load, thereby narrowing the Value-Action Gap more effectively than education alone.

3. The managerial perspective: strategic interventions

Having identified the psychological, economic, and functional barriers, the burden of action shifts from the consumer to the firm. To close the Value-Action Gap, managers must move beyond "educating" the consumer and instead design business models and value propositions that make circular behavior the optimal choice based on convenience and value, rather than solely on ethics. This section proposes specific strategic pillars for managers to dismantle these barriers.

3.1. Business model innovation: the shift to Product-as-a-Service (PaaS)

The most effective strategy to overcome the economic barrier of "high upfront costs" and the psychological barrier of "ownership risk" is the adoption of Product-as-a-Service (PaaS) models. By retaining ownership of the asset and selling the utility (e.g., selling light instead of lightbulbs, or mobility instead of cars), the firm absorbs the risk of product longevity. For the consumer, this removes the "lemon market" fear associated with buying used goods. They no longer need to worry if a refurbished washing machine will break in six months; if it breaks, it is the provider's problem.

As noted by Tukker (2004: 255), this shift aligns the incentives of the firm and the consumer: both parties now benefit from product durability and ease of repair, effectively bypassing the consumer's "disposable" habit loop. Examples such as Mud

Jeans (leasing denim) and Philips (leasing lighting) demonstrate that PaaS can effectively monetize the circular economy while removing consumer risk. Furthermore, PaaS models address the economic barrier by converting a high capital expenditure (CAPEX) into a manageable operating expenditure (OPEX), lowering the threshold for consumers to access high-quality, durable goods.

3.2. Reducing friction through behavioral architecture and "nudging"

Managers can also utilize "choice architecture" or "nudging" to overcome cognitive inertia. Since consumers are cognitive misers, they tend to choose the default option. In a linear model, the default is "new." In a circular model, managers can reset the default. For example, an e-commerce electronics retailer can set "Refurbished—Excellent Condition" as the pre-selected option on a product page, requiring the user to actively click away to buy the more expensive "new" version.

Table 1. Managerial strategies to overcome consumer barriers

Barrier type	Specific barrier	Managerial strategy (the solution)	Operational example
Psychological	Lack of Trust (Fear of low quality in used goods).	**Standardization & Warranty.** Implement industrial-grade grading systems for used goods.	Creating a "Certified Pre-Owned" program with a 12-month warranty (e.g., Apple Refurbished).
Economic	Price Sensitivity (Sustainable goods are expensive).	**Access over Ownership.** Shift to subscription models to lower the entry price.	Leasing high-end baby strollers or tools instead of selling them (PaaS).
Functional	Inconvenience (Recycling is hard).	**Reverse Logistics Integration.** Make returns easier than disposal.	"Take-back" bags included with new delivery; instant credit for returns.
Cognitive	Habit (Defaulting to „new").	**Default Nudges.** Make circular the default choice.	Pre-selecting "Eco-Packaging" or "Refurbished" in the online cart.

Source: Author's own elaboration based on the literature review.

Research in behavioral economics suggests that changing the default can increase the adoption of sustainable options by significant margins without changing the price (Thaler, Sunstein 2008: 85). Similarly, simplifying the "take-back" process by

including a pre-paid return bag with every new purchase removes the functional friction of recycling, nudging the consumer toward circularity through convenience. To provide a clear framework for practitioners, Table 1 synthesizes the identified barriers and matches them with specific strategic countermeasures.

3.3. Empirical illustrations: successes and stagnations

To validate the conceptual arguments presented above, it is necessary to examine real-world applications of these models.

Case Study A: IKEA's "Circular Hub" (Incumbent Transition) IKEA, the world's largest furniture retailer, has shifted from a linear volume model to a circular ecosystem. In 2021, the company rebranded its "Bargain Corners" as "Circular Hubs," selling 43 million resold products globally in 2023 (IKEA Sustainability Report, 2023). This empirical data supports the "Behavioral Architecture" strategy; by normalizing the purchase of used goods within the standard store layout, IKEA reduces the "trust deficit" barrier. However, the initiative also highlights operational friction: the cost of assessing and repairing millions of unique items remains a significant margin pressure compared to flat-pack new sales.

Case Study B: Loop and Tesco (The Limits of FMCG PaaS) Loop, a global reuse platform, partnered with Tesco (UK) in 2021 to offer groceries in durable, returnable packaging. While the pilot successfully demonstrated consumer interest, it also revealed severe scalability limits for Fast-Moving Consumer Goods (FMCG). A Life Cycle Assessment (LCA) indicated that containers must be reused at least 3–4 times to break even with single-use plastic (Loop 2023). The pilot concluded in 2022 without an immediate full rollout, illustrating that for low-value, high-turnover goods, the "reverse logistics friction" often outweighs the convenience factor for the mass-market consumer.

4. Discussion: the frictionless circular economy

The strategies outlined above suggest a fundamental shift in how firms approach the "green" consumer. Rather than relying on altruism, these strategies align self-

interest with sustainability. The overarching theme is the removal of friction—the cognitive or physical effort required to perform an action. While the linear economy is currently optimized for effortless consumption, the circular economy remains high-friction, requiring significant research, trust, and logistical effort from the consumer.

As illustrated in Figure 2, the manager's role is to dismantle this "wall" of barriers through business model innovation. By implementing Product-as-a-Service (PaaS), the firm "outsources" friction from the consumer to itself, taking on the burden of maintenance and end-of-life handling. Furthermore, using default nudges removes the cognitive load of decision-making, creating a "path of least resistance" where the sustainable choice is also the easiest.

Figure 2. The shift from linear friction to circular flow

However, these strategies involve significant operational trade-offs. PaaS requires a massive shift in cash flow management, transforming a manufacturer into a service provider and asset manager. This necessitates new capabilities in data tracking and

reverse logistics (Tukker 2004: 260). Moreover, the success of certification programs depends on rigorous quality control; any failure in a "certified" used product can damage brand trust more severely than a failure in a new product. Therefore, the shift to circularity is a fundamental operational restructuring that integrates marketing, operations, and finance.

4.1. Contextual boundaries: the developed vs. emerging market gap

The "Value-Action Gap" theorized in this paper assumes a European context where consumption is driven by choice and environmental values. In emerging markets, however, circular behavior is often driven by economic necessity rather than ecological intent—a phenomenon termed "necessity-driven circularity" (Choudhary et al. 2022). In markets such as India or Brazil, repair and reuse rates are significantly higher due to lower labor costs and resource scarcity. The barrier there is not "convenience" but "aspirational linearity"—as consumers enter the middle class, they often reject circular behaviors (like buying used) as symbols of poverty (Tuni et al. 2023). Therefore, while European managers must "nudge" consumers *back* to circularity through convenience, managers in emerging markets must "brand" circularity as a premium, modern choice to prevent consumers from shifting to linear habits.

4.2. Limitations and the "rebound effect"

It is critical to acknowledge that removing friction does not guarantee sustainability. Behavioral nudges can backfire if consumers perceive them as manipulative, leading to "reactance"—a psychological pushback against the loss of choice freedom (Thaler, Sunstein 2021). Furthermore, Product-as-a-Service (PaaS) models face a "greenwashing" risk. If a subscription model encourages consumers to upgrade their devices more frequently (e.g., a new phone every 12 months), the increased manufacturing velocity may offset the benefits of material recovery. Thus, PaaS is only truly circular if it extends the *aggregate* lifespan of the asset, rather than merely increasing the turnover rate.

5. Conclusion

The transition to a Circular Economy is not merely a technical challenge; it is a behavioral one. This paper has analyzed the "Value-Action Gap," revealing that the primary obstacle to circular consumption is not a lack of consumer environmental awareness, but a misalignment of market incentives. Consumers remain locked in linear behaviors because linear products are currently cheaper, more convenient, and perceived as less risky. The analysis highlights that attempting to bridge this gap through education alone is destined to fail, as it ignores the structural friction inherent in circular models.

The clear implication for managers is that "green marketing" based on guilt or altruism is a failing strategy for the mass market. To scale circular business models, firms must compete on traditional value drivers: convenience, price, and quality. Strategies such as Product-as-a-Service (PaaS) and rigorous certification of secondary goods are essential to de-risk the circular choice for the consumer. For policymakers, this analysis suggests a need to support the "demand side" of the circular economy. While EU policy has focused heavily on product design (Eco-Design Directive), there is a need for regulations that standardize the grading of used goods to build consumer trust. Furthermore, tax shifts that lower the cost of labor (repair) relative to resources (new production) are critical to making circular business models economically viable for the price-sensitive mass market. The winning circular companies will be those that recognize that the consumer is not an obstacle to be overcome, but a rational actor responding to incentives that must be redesigned.

Ultimately, this research offers a three-fold contribution to the circular transition. *Theoretically*, it reframes the consumer barrier as a matter of structural friction rather than awareness. *Managerially*, it provides a strategic roadmap for using PaaS and behavioral 'nudges' to align circularity with consumer convenience. *From a policy perspective*, it underscores the necessity of standardizing secondary markets to build the trust required for a mass-market circular shift.

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