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Fashionably Late to Circularity:

Comparing the Effect of Convenience-Based Nudges and Monetary Incentives on Participation in Fast-Fashion Take-Back Programs

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Abstract: Fast-fashion brands increasingly rely on clothing take-back programs to advance circularity goals, yet consumer participation remains modest. This thesis examines how different program designs, namely monetary incentives versus convenience-based nudges, shape consumers' intention to participate in a circular fashion take-back program. Drawing on Expectancy Theory, the study proposes that program design influences participation intention through four motivational beliefs (Expectancy, Instrumentality, Sustainability-Outcome Valence, and Personal-Benefit Valence) and that Brand Trust moderates these relationships. A between-subjects online experiment was conducted with a cleaned sample of attentive participants (N = 720). Results show that the monetary incentive (50 SEK voucher) produced significantly higher participation intention than the convenience-based nudge (free home pickup). This effect operated entirely through Personal-Benefit Valence, while Expectancy, Instrumentality, and Sustainability-Outcome Valence did not differ between conditions. Brand Trust moderated the effect of personal benefit on intention: the benefit exerted its strongest influence among low-trust consumers, indicating a substitutive relationship between trust and monetary rewards. A robustness check using the full sample (N = 1,172) showed that inattentive participants bypassed the cognitive pathway, relying instead on a direct heuristic response to the incentive. These findings contribute to circular fashion research by clarifying the psychological mechanisms through which behavioral change tools influence participation. Practically, the results suggest that monetary incentives are particularly effective for attracting lower-trust consumers, whereas high trust can independently support engagement in take-back programs.

Keywords: *Circular Fashion, Take-Back Programs, Expectancy Theory, Monetary Incentives, Nudging, Sustainable Consumer Behavior*

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Alina & Hanna

List of Abbreviations

ET	Expectancy Theory
PBV	Personal-Benefit Valence
SOV	Sustainability-Outcome Valence

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1. Introduction

1.1 Background

The global fashion industry is one of the world's largest and most influential consumer sectors, generating approximately between USD 1.7 to 2.5 trillion in 2021 (FashionUnited, 2023). Despite slowing growth, the sector continues to expand, highlighting its enduring economic and cultural significance (McKinsey & The Business of Fashion, 2025). Yet its economic weight comes with substantial environmental costs. Fashion ranks among the most resource-intensive industries, accounting for roughly four to ten percent of global greenhouse gas emissions and around 20 percent of industrial wastewater (Bailey et al., 2022; Niinimäki et al., 2020). The industry consumes about 93 billion cubic meters of water per year (e.g. through cotton farming), enough to meet the needs of five million people (Ellen MacArthur Foundation, 2017; United Nations, 2019), and textile dyeing and finishing processes alone are responsible for an estimated 20 percent of global clean-water pollution (European Parliament, 2020).

Underlying these environmental impacts is a rapid increase in clothing production and consumption. Global clothing output doubled between 2000 and 2014, surpassing 100 billion items in 2014 (McKinsey, 2016). This expansion has been driven by the rise of the global middle class and changes in fashion business models (Bick et al., 2018; Ellen MacArthur Foundation, 2017; Olivar Aponte et al., 2024). At the same time, garment lifespans have shortened, with many items being worn only seven to ten times before being set aside – a 36% drop compared to 15 years ago (Igini, 2023). Meanwhile, recycling and material recovery remain negligible: less than one percent of discarded textiles are recycled into new garments, representing roughly USD 100 billion in lost resources annually (Dissanayake & Weerasinghe, 2021).

At the heart of this systematic transformation lies the linear production model built on the logic of take-make-dispose. Although this model has supported rapid growth and profitability, it has also generated significant environmental and social externalities, including resource depletion, waste, and labor exploitation (Bick et al., 2018; Fletcher & Tham, 2019; Niinimäki & Hassi, 2011; Centobelli et al., 2022). While initially democratizing access to affordable fashion, the fast-fashion business model – an accelerated version of the linear system defined by short design-to-retail cycles, low unit prices, and rapid product turnover – further magnified these challenges (Arimany Serrat et al., 2025). Brands such as H&M and Zara were among the

pioneers in the late 1990s and early 2000s to institutionalize speed and affordability (Arimany Serrat et al., 2025). In recent years, the model has further evolved into what scholars term "ultra-fast fashion": platforms such as Shein and Boohoo employ real-time data analytics and micro-batch manufacturing to deliver new garments in ever-shorter cycles (Dzhengiz et al., 2023; Olivar Aponte et al., 2024).

This growth-driven logic increasingly clashes with the environmental and social priorities that have gained prominence in recent years. Sustainability – commonly defined as meeting present needs without compromising the ability of future generations to meet theirs (Brundtland Commission, 1987) – has consequently become a central concern across markets and institutions. At the policy level, this growing public concern has been paralleled by significant regulatory developments. International frameworks such as the United Nations' 2030 Agenda for Sustainable Development and its Sustainable Development Goals (SDGs), particularly Goal 12 (Responsible Consumption and Production) and Goal 13 (Climate Action), explicitly advocate for systemic transitions toward more sustainable modes of production and consumption (United Nations, n.d.). These policy initiatives have, in turn, accelerated the diffusion of sustainability standards, transparency requirements, and accountability mechanisms across industries. From the consumer perspective, this growing public attention has increasingly influenced expectations, with individuals placing greater emphasis on social and environmental responsibility when evaluating brands (Andrade & Vieites, 2025; White et al., 2019b). Consequently, many firms now integrate sustainability into their core strategy to comply with emerging policy mandates and to strengthen long-term competitiveness and stakeholder trust (Kim et al., 2024; Sen et al., 2024).

In this context, circular fashion has emerged as an alternative to the linear production model, aiming to decouple growth from resource use by slowing, closing, and narrowing material loops (Bocken et al., 2016; Geissdoerfer et al., 2017). Rather than designing for obsolescence, circular systems prioritize durability, reuse, and regenerative material flows. Companies operationalize these principles through various initiatives that retain products and materials in circulation for as long as possible (Hvass & Pedersen, 2019; Sandvik & Stubbs, 2019). This development reflects a strategic response to evolving consumer expectations for responsibility, transparency, and waste reduction (McNeill & Moore, 2015; Niinimäki & Hassi, 2011; Pedersen & Andersen, 2015).

These circular approaches have become increasingly visible across the industry, with major brands implementing take-back schemes, resale platforms, repair services, and rental programs. For example, H&M's global Garment Collecting program accepts any-brand textiles for reuse or recycling (H&M, n.d.) while Patagonia's Worn Wear (Patagonia Worn Wear, n.d.) and Arc'teryx's ReBird™ (Arc'teryx, n.d.) platforms integrate repair, upcycling, and resale to extend product lifetimes. Brands have also expanded into branded secondhand markets, such as Levi's buy-back program and Lululemon's Like New initiative (lululemon Like New, n.d.).

To encourage participation in circular initiatives, brands employ different program designs. In this context, program design refers to the specific choices that determine how a circular take-back program is structured, such as the incentives it offers, the level of convenience it provides, and the steps required for consumers to return used products. Monetary incentives range from H&M's fixed 50 SEK voucher (H&M, n.d.) to value-based or tiered credit systems used by Levi's, Lululemon, and Patagonia (Patagonia Worn Wear, n.d.; lululemon Like New, n.d.; Levi's Secondhand, n.d.). Other programs focus on reducing effort-based barriers through convenient drop-off points or at-home pickup services, as seen in Zara's scheme in selected markets (Zara, n.d.).

Yet the effectiveness of these initiatives highly depends on consumer participation. Research shows that participation is shaped by whether consumers perceive such programs as attainable, credible, and worthwhile (British Standards Institution & Cambridge Institute for Sustainability Leadership, 2025; Guyader et al., 2022; Ungerman & Dědková, 2024). However, even when consumers voice strong intentions to act sustainably, their actual behaviors frequently fail to align with these aspirations, revealing a persistent gap between intentions and behaviors (Sheeran & Webb, 2016; White et al., 2019b).

1.2 Research Gap

Although research on sustainable consumer behavior provides a strong foundation for understanding why people engage in pro-environmental actions, much of this work has focused on broader behavioral domains such as recycling or energy use rather than on participation in circular programs.

One influential perspective in this broader literature is the SHIFT framework, which proposes that sustainable behaviors are shaped by five key drivers: Social influence, Habit formation,

Individual self, Feelings and cognition, and Tangibility (White et al., 2019a). The framework emphasizes that consumers are more likely to act sustainably when behaviors feel convenient, low in effort, emotionally positive, and associated with visible benefits, factors directly relevant to how circular programs are designed. From this perspective, mechanisms such as monetary incentives, which increase benefits, and convenience enhancements, which reduce effort, can be understood as tools that make sustainable actions more attainable. Research within circular fashion aligns with this logic and shows that environmental benefits, perceived convenience, and expected value can motivate participation in textile take-back schemes, whereas unclear benefits or limited ease of use often reduce willingness to engage (Kim et al., 2021; Seo & Jin, 2024; Ungerman & Dědková, 2024).

In sustainability research more broadly, incentives and nudges are widely studied tools for promoting pro-environmental actions. Monetary rewards can increase participation in recycling or energy-saving programs, while convenience-based nudges often prove equally or more effective in shifting everyday behaviors (White et al., 2019a). Yet these mechanisms remain underexplored in circular fashion, where participation involves additional considerations such as trust in the brand, beliefs about environmental impact, and the perceived effort of returning garments.

Within the emerging literature on textile take-back schemes, existing studies have examined how individual program features influence willingness to return garments (Kim et al., 2021; Peleg Mizrachi & Tal, 2024; Seo & Jin, 2024; Ungerman & Dědková, 2024). While insightful, this work generally investigates single programs or isolates individual mechanisms, providing only partial understanding of how design choices shape engagement.

Given this, monetary incentives and convenience enhancements are particularly relevant mechanisms to examine, as they reflect two of the key behavioral drivers (Habit and Tangibility) identified in frameworks such as SHIFT and represent the primary approaches currently used by fashion brands to encourage participation in take-back programs (Hvass & Pedersen, 2019). Although other program design elements, such as social norm appeals or informational cues, may also influence participation, this study focuses on monetary incentives and convenience-based nudges because they dominate current industry practice and align most closely with established behavioral mechanisms. Despite their widespread use, no research has, to the authors' knowledge, directly compared these mechanisms within a unified experimental design in the context of textile take-back programs. Existing work provides useful insights into

how features such as convenience, rewards, or information shape willingness to return garments, but these findings typically derive from studies that evaluate only one program format, and therefore offer only partial understanding (McKie et al., 2025; Ungerman & Dědková, 2024). As a result, it remains unclear whether – and, if so, why – monetary incentives or convenience nudges are more effective in motivating *Participation Intention*. This comparison is essential for designing take-back schemes capable of generating meaningful environmental impact and therefore provides both theoretical and practical value.

1.3 Purpose & Expected Contribution

By testing how each condition influences consumers' intention to return garments, the study offers clearer evidence on which program design features are more effective and why. The research further examines the psychological mechanisms through which these formats operate and considers *Brand Trust* – understood broadly as consumers' confidence in a brand's reliability and integrity (Chaudhuri & Holbrook, 2001) – as a contextual condition that may shape their effectiveness. In doing so, the study addresses the lack of comparative insight in existing work and provides practically relevant guidance for fashion brands seeking to increase consumer engagement in circular initiatives.

1.3.1 Research Question

Against this background, the study is guided by the following research question:

How do different circular-fashion program designs (monetary incentives versus convenience-based nudges) affect consumer Participation Intention, and how are these effects shaped by underlying motivational evaluations and Brand Trust?

1.4 Delimitations

This study focuses on Swedish consumers, reflecting Sweden's strong sustainability orientation and its advanced policy and industry engagement with circular fashion. This is evident in Sweden's position as 2nd out of 167 countries on the global SDG Index, signaling one of the highest levels of national sustainability performance and consumer awareness worldwide

(Sustainable Development Report, 2025). While this makes Sweden a relevant context for examining participation in take-back programs, it also limits the generalizability of the findings to other markets.

The experiment examines a fictional fast-fashion brand to control for prior attitudes, brand loyalty, or existing perceptions that may bias responses. This increases internal validity but reduces external validity, as real brands may evoke different levels of trust or emotional attachment. Moreover, fast-fashion brands may differ from premium or luxury brands that offer similar circular initiatives, which further limits generalizability.

Moreover, the study focuses on two specific program design features to maintain conceptual clarity and isolate their comparative effects. Other potential design elements, such as social norm appeals or informational interventions, are not examined.

Furthermore, the experimental manipulation intentionally varied two features simultaneously – the program design (monetary vs. convenience) and the associated level of effort (in-store drop-off vs. home pickup). This confounded design was chosen to align with real-world program formats, but it limits the ability to isolate each feature independently.

Finally, the study relies on self-reported *Participation Intentions* collected in an online experiment. While intention is widely used as a proxy for behavior in experimental research (Ajzen, 1991), this approach does not fully capture real-life constraints or the complexity of in-store or at-home return experiences. As such, caution is required when extending these findings to actual consumer behavior.

1.5 Thesis Outline

Having introduced the background, research gap, research question, and scope of the study in this first chapter, the remainder of the thesis is structured as follows: Chapter 2 outlines the conceptual framework and reviews the relevant literature. Chapter 3 presents the methodological approach. Chapter 4 reports the empirical results. Chapter 5 provides the analysis and discussion of the findings, and Chapter 6 concludes the thesis.

2. Theoretical Framework

2.1 Consumer Behavior & Sustainability

Research on sustainable consumption indicates that consumer behavior can meaningfully shape environmental outcomes since every day purchasing, use, and disposal practices contribute to patterns of resource use and waste. Behavioral change is therefore viewed as an important complement to technological and regulatory measures aimed at reducing environmental impact (White et al., 2019a). Consumption decisions, however, do not occur in a vacuum. They take place in contexts where convenience, habit, and situational cues often guide action, and these factors may limit the extent to which sustainability goals influence everyday choices (Andrade & Vieites, 2025).

Empirical findings show that pro-environmental attitudes do not always translate into sustainable choices. This misalignment is partly due to the decision context, as sustainable actions often involve more effort, time, or information processing than conventional alternatives (Andrade & Vieites, 2025; White et al., 2019b). Cognitive patterns add further complexity. Studies suggest that individuals may misestimate the relative environmental impact of different behaviors, at times prioritizing actions that feel meaningful over those that have greater objective significance (Bocken et al., 2016; Geissdoerfer et al., 2017). Social and cultural dynamics further shape consumption behavior: high-turnover buying and disposal practices which are particularly visible in the fashion sector remain widespread and are reinforced through social norms and market expectations (White et al., 2019b). In contrast, many sustainable practices lack strong normative reinforcement or integration into daily routines, lowering their salience at the moment of choice.

Taken together, consumer behavior is influenced by a combination of motivation, cognitive processing, social expectations, and the decision environment (Andrade & Vieites, 2025; White et al., 2019a). Because all these factors interact, tools that reduce effort, strengthen perceived personal impact, or better embed sustainable actions into existing routines may therefore support more consistent engagement. This perspective is directly relevant to fashion, where circular practices such as repair, reuse, and garment return depend on active consumer involvement and require consumers to take additional steps at the disposal stage.

2.2 Circularity in Fashion

Circularity refers to an economic model that seeks to decouple value creation from resource consumption by maintaining materials in use through reuse, repair, remanufacturing, and recycling (Geissdoerfer et al., 2017; Kirchherr et al., 2017).

Unlike the traditional linear "take-make-dispose" model, circularity emphasizes closed-loop systems that prevent waste and regenerate value across product lifecycles (Bocken et al., 2016; Korhonen et al., 2018). Within the fashion industry, circularity is operationalized through strategies such as resale, rental, repair, textile recycling, and brand-led take-back programs (Hvass & Pedersen, 2019; Sandvik & Stubbs, 2019). These approaches collectively reflect a systemic shift toward responsible production and consumption, requiring collaboration between firms, consumers, and supply-chain actors (Pedersen et al., 2018).

Take-back programs are one of the most prominent applications of circularity (Hvass, 2014; Hvass & Pedersen, 2019). They invite consumers to return used garments for reuse or recycling, enabling brands to regain control over post-consumer textiles and improve sorting quality for material recovery (Rosa et al., 2019). For consumers, take-back programs reduce participation barriers by making the process more convenient and guided by the brand (Seo & Jin, 2024; White et al., 2019a). Prior research also shows that products associated with a circular option are valued more highly, as take-back programs increase perceived control over a product's responsible end-of-life and strengthen psychological ownership (Tari & Trudel, 2024). Compared with alternative circular models such as renting or repairing, which require greater lifestyle adjustments, take-back initiatives are grounded in existing behavioral routines, such as discarding unwanted clothes, thus lowering perceived barriers and increasing attainability (Vicente & Reis, 2008).

While donation is not always defined as a circular strategy, take-back programs often include it as one of the possible outcomes for returned items. When donated garments re-enter reuse or recycling loops, donation aligns with broader descriptions of circularity (Tari & Trudel, 2024), and remains a motivating disposal pathway for many consumers (Bianchi & Birtwistle, 2012; Morgan & Birtwistle, 2009). For this reason, donation is often embedded in real take-back program operations and can influence how consumers perceive responsible disposal. However, donations are often driven by altruism or decluttering motives rather than environmental concern, and consumers often lack visibility into the garments' afterlife (Bianchi & Birtwistle,

2012). Studies show that uncertainty about whether donated clothing is reused, resold, or downcycled can reduce perceived environmental benefit (Rosa et al., 2019).

In contrast, brand-operated take-back programs usually provide clearer structures for reuse and recycling, enhancing perceived accountability and consumer trust in the initiative's environmental impact (Hvass & Pedersen, 2019; Sandvik & Stubbs, 2019). Their perceived transparency also helps explain why consumers may prefer take-back systems over informal or third-party reuse channels. When brands clearly communicate what happens to returned garments, consumers perceive these initiatives as authentic contributions to sustainability rather than symbolic marketing efforts (Hvass & Pedersen, 2019; Seo & Jin, 2024). This credibility is particularly salient for fast-fashion brands, which often face skepticism related to greenwashing.

Overall, take-back programs represent a behavioral lever in an industry where sustainable participation requires not only technological solutions but also consumer action.

2.3 The Intention-Behavior Gap in Circular Fashion

Although consumers increasingly express strong intentions to engage in sustainable actions, their actual behavior often remains inconsistent. This intention-behavior gap reflects the tendency for stated intentions not to translate into concrete actions (Sheeran, 2002). In circular fashion, the gap is particularly visible: consumers report favorable attitudes toward textile take-back programs, yet engagement remains modest (European Commission, 2018; Paparella et al., 2023). Fashion brands have widely implemented take-back schemes, but return volumes remain insufficient to mitigate overall waste, underscoring the challenge of securing consistent participation (Seo & Jin, 2024).

One reason for this gap may be that end-of-life decisions for clothing are often unplanned and shaped by convenience, with fast-fashion habits encouraging short garment lifetimes and rapid disposal rather than deliberate, reflective choices (Morgan & Birtwistle, 2009; Niinimäki & Hassi, 2011). Even consumers with positive sustainability attitudes often default to storing or discarding garments because returning items through take-back options requires additional time or effort (Vehmas et al., 2018) Empirical evidence further demonstrates that time and effort strongly shape disposal decisions, and that consumers are less likely to return clothing when

the process involves higher perceived burdens (Yan et al., 2021). These dynamics illustrate that improving circular participation requires designing conditions that strengthen motivation when habits and convenience dominate.

Within this context, behavioral intention still offers a meaningful indicator of consumers' readiness to act. Intention is one of the most robust predictors of actual behavior in sustainability and consumer domains (Ajzen, 1991; White et al., 2019a), and identifying what strengthens it provides a critical foundation for developing conditions that make follow-through more likely. Because direct behavioral observation is often not feasible in large-scale experiments, intention serves as a theoretically grounded and practically valid measure for predicting future engagement.

Accordingly, this study uses *Participation Intention* in a clothing take-back program as the outcome variable. By examining how different take-back program designs shape the underlying motivational beliefs that drive intention, the study offers insights into levers that may support more consistent participation in circular fashion initiatives and help narrow the intention-behavior gap.

2.4 Behavioral Change Tools in Sustainable Consumption

Given the persistent intention-behavior gap in circular fashion, many brands and policymakers employ behavioral change tools such as nudges and incentives to facilitate follow-through. As noted above, the success of initiatives like take-back programs depends not only on technological feasibility, but also on consumers' willingness to act at the disposal stage. Individuals often struggle to act on sustainable intentions because human decisions deviate from the assumptions of perfect rationality due to bounded cognitive capacity, reliance on heuristics, and sensitivity to how options are presented (Nobel, 2023; Simon, 1955; Tversky & Kahneman, 1974). These cognitive limits and shortcuts mean that many everyday choices are shaped more by contextual cues, complexity, momentary attention, and situational factors such as effort (Kahneman et al., 1982; Kahneman & Tversky, 1973; Nobel, 2023), hindering consistent follow-through on sustainable actions. Behavioral change tools address these predictable biases by altering the choice architecture in ways that steer individuals towards certain options while leaving all alternatives available (Nobel, 2023; Sunstein, 2014; Thaler & Sunstein, 2008).

Marketing research further highlights that sustainable behavior is determined by a combination of social, cognitive, affective, and contextual factors that shape how options are perceived and evaluated (Trudel, 2019; White et al., 2019a). The SHIFT framework for example summarizes these influences and identifies core drivers namely Social norms, Habit formation, the Individual self, Feelings and cognition, and Tangibility (White et al., 2019a). Social norms reflect others' behaviors, while habits capture automatic actions. The individual self refers to identity and values that make certain actions feel personally aligned, and feelings and cognition describe the emotional and evaluative responses that shape how options are interpreted. Tangibility relates to how concrete and easy to visualize outcomes are. Behavioral change tools can target these drivers by altering social information, changing the ease with which habits are performed, adjusting which attributes are salient, and making sustainable outcomes feel more concrete and immediate (Goldstein et al., 2008; Johnson et al., 2012; White et al., 2019a).

Empirical evidence shows that such tools can meaningfully increase sustainable behavior when they target the relevant barrier in the decision process. Social proof messages, for instance, that highlight the prevalence of sustainable behavior among similar others have been found to increase towel reuse in hotels, illustrating the impact of normative information on resource conservation (Cialdini et al., 1991; Goldstein et al., 2008). Changes in the accessibility and proximity of composting or recycling facilities have been shown to raise participation rates in waste separation, demonstrating that convenience is a central determinant of environmentally relevant behavior (Borrello et al., 2017; DiGiacomo et al., 2017). These findings are consistent with the view that lowering friction and simplifying sustainable choices effectively counteract present bias and bounded rationality (Nobel, 2023; White et al., 2019a).

As described above, two common behavioral change tools used by brands and policymakers are nudges and incentives. Both aim to close the intention-behavior gap, but operate through distinct mechanisms, making them central to this study's examination of effectiveness in circularity programs.

2.4.1 Nudging as a Behavioral Change Tool

Nudging refers to subtle changes in the choice architecture that steer individuals toward certain options while preserving freedom of choice, without materially altering economic incentives (Nobel, 2023; Sunstein, 2014; Thaler & Sunstein, 2008). Drawing on psychology and judgment

and decision-making research, nudges help individuals overcome cognitive and contextual barriers such as bounded rationality, temporal discounting and contextual features of the environment (Frederick et al., 2002; Laibson, 1997; Nobel, 2023). The underlying idea is that small, well-targeted adjustments to the choice architecture can compensate for these barriers, thereby making sustainable behaviors and acting in line with long-term goals more likely (Nobel, 2023; Sheeran & Webb, 2016).

Among these barriers, present bias is particularly relevant for sustainable and circular behaviors, which typically involve immediate effort in exchange for delayed, often intangible benefits (Gifford, 2011). It leads individuals to overweight the immediate effort associated with an action and to underweight its delayed benefits (Frederick et al., 2002; Laibson, 1997; Thaler, 1981; Zauberman & Urminsky, 2016). Even small efforts related to time, travel or activation energy can disproportionately reduce follow-through, despite strong favorable intentions (Malkoc & Zauberman, 2006; Sheeran & Webb, 2016; White et al., 2019a).

Nudging addresses such barriers through design features such as defaults, simplification, salience, or reminders, which change how options are perceived, evaluated, and enacted without restricting choice (Johnson et al., 2012; Nobel, 2023; Thaler & Sunstein, 2008). Defaults exploit tendencies to stick with pre-set options; reminders ease cognitive load; and salience cues counteract inattention by making certain attributes or options more prominent at the moment of choice (Gravert, 2021; Keller et al., 2011; Madrian & Shea, 2001; Nobel, 2023). The overarching mechanism is that small changes in how options are structured can compensate for known biases and reduce the cognitive demands of acting on good intentions (Kahneman & Tversky, 1979; Nobel, 2023; Thaler, 2015).

2.4.2 Nudging in Sustainable Consumer Behavior

Sustainable choices often require additional effort, time or inconvenience in the present while offering benefits that are delayed or psychologically distant (Malkoc & Zauberman, 2006; White et al., 2019a). These characteristics make sustainable behaviors especially vulnerable to present bias, bounded rationality, and contextual influences, under which people rely on defaults and heuristics (Newton et al., 2013; Nobel, 2023; Sheeran & Webb, 2016).

Within this literature, convenience-based nudges have emerged as one of the most powerful levers for encouraging sustainable behavior as they directly reduce the immediate effort required to act, thereby weakening the influence of present bias (Nobel, 2023; Soman et al., 2005; White et al., 2019a). When sustainable options are more difficult or time-consuming than unsustainable alternatives, people tend to default to the easier behavior despite positive environmental attitudes (Nobel, 2023; Simon, 1997; Soman, 2017). In this sense, convenience is not merely a practical design feature but a theoretically grounded tool for overcoming a central cognitive barrier that is known to suppress goal-consistent action (Nobel, 2023; Thaler, 1981; White et al., 2019a).

In circular fashion, convenience-enhancing nudges such as free home pickup can therefore reduce friction in clothing return by fitting circular behavior more naturally into established routines. By lowering the activation energy required for participation, home pickup becomes a theoretically coherent and practically relevant behavioral change tool for increasing engagement in take-back programs and other circular initiatives (Borrello et al., 2017; Nobel, 2023; White et al., 2019a).

2.4.3 Incentives as a Behavioral Change Tool

Incentives alter the explicit economic payoff of an action by increasing its benefits or reducing its costs (Gneezy et al., 2011). This approach is grounded in traditional economic theories of rational choice, which assume that individuals respond systematically to financial rewards, price changes, and cost-benefit structures when deciding between alternatives (Frederick et al., 2002; Nobel, 2023; Thaler, 1981). Because incentives operate directly through economic utility, they differ fundamentally from nudges, which shape behavior by changing the decision environment without modifying payoffs (Nobel, 2023; Sunstein, 2014; Thaler & Sunstein, 2008).

Incentives can be monetary or non-monetary but operate through the same mechanism of increasing the relative attractiveness of the targeted behavior (Gneezy et al., 2011). A large body of evidence demonstrates that incentives are among the most effective tools, particularly in domains where the desired action involves immediate time, effort, or opportunity costs (Choi et al., 2001; Greenberg & Hershfield, 2018). For instance, taxes, subsidies, rebates, and price

promotions reliably shift behaviors in areas such as smoking cessation, energy use, transportation, and household waste (Gneezy et al., 2011; Grilli & Curtis, 2021).

Despite their effectiveness, incentives can interact with motivation in complex ways. Research in psychology and behavioral economics shows that external rewards may reduce intrinsic motivation for behaviors that individuals otherwise perform for moral, altruistic, or identity-based reasons – a phenomenon known as motivation crowding out (Deci et al., 1999; Gneezy et al., 2011; Rode et al., 2015). This does not imply that incentives fail, but that their impact depends on the motivational structure of the targeted behavior (Gneezy et al., 2011).

2.4.4 Incentives in Sustainable Consumer Behavior

In sustainable consumption domains, incentives are widely used to encourage behaviors such as recycling, low-carbon transportation, energy efficiency, and participation in environmental programs (Grilli & Curtis, 2021; Line et al., 2017; Sun et al., 2023). Research demonstrates that highlighting pro-self-financial benefits, such as cost savings or long-term economic returns, reliably increases consumer adoption of sustainable behaviors. Financial frames frequently outperform environmental frames in shaping sustainable choices, particularly for behaviors requiring effort, investment, or habit disruption (Gneezy et al., 2011; Trudel, 2019; White et al., 2019a). This evidence illustrates that incentives activate powerful pro-self-motives, which are central drivers of sustainable consumption decisions.

At the same time, incentives can reduce internal environmental motivations. For behaviors with moral or identity-based meaning, financial rewards may lead individuals to attribute their actions to external motives rather than intrinsic ones, potentially reducing engagement in sustainability behaviors and shifting perceptions of the behavior from “doing good” to “getting paid” (Ling & Xu, 2021; White et al., 2019a). This motivation crowding out reflects a dual role of incentives: while they can increase behavior in the short run by offsetting cost and effort, their impact on sustained motivation depends on the psychological meaning of the action (Gneezy et al., 2011; Xu et al., 2018).

In circular fashion, monetary incentives are particularly relevant because returning garments requires consumers to expend additional effort at the disposal stage. Small rewards can offset these short-term costs, making participation more attractive. Research found that when

sustainable actions involve extra time or inconvenience, even modest financial benefits can substantially increase follow-through, positioning monetary incentives as an effective tool for encouraging engagement in take-back programs and other circular initiatives (Borrello et al., 2017; White et al., 2019a).

2.4.5 Effects of Convenience Nudges & Monetary Incentives on Take-Back Program Participation Intention

The literature on behavioral change tools identifies two distinct mechanisms for increasing sustainable behavior: reducing the effort required to act (convenience-based nudges) and increasing the personal benefits associated with the behavior (monetary incentives).

Although both approaches have demonstrated effectiveness, evidence is mixed regarding which mechanism is more influential. Some studies highlight convenience as the primary determinant of sustainable action , while others emphasizes the power of financial incentives (e.g., Grilli & Curtis, 2021; White et al., 2019a). Recent evidence from circular take-back settings shows that while consumers are willing to pay more for products that include a take-back option, adding small monetary incentives or home pickup does not further increase willingness to pay (Tari & Trudel, 2024). This suggests that these design features may not influence product valuation, yet they could still affect *Participation Intention*, which these prior studies did not test. As a result, the relative effectiveness of convenience-based versus incentive-based program designs remains an open empirical question, particularly in fast-fashion contexts where disposal behaviors compete with strong habits and low-effort alternatives.

Building on this literature, the present study directly compares a convenience-based nudge (free home pickup) with a monetary incentive (store voucher). By manipulating these program designs as independent variables, the study examines their relative effectiveness in increasing *Participation Intention* in a circular fashion take-back program.

A non-directional main effect is hypothesized:

> ***Hypothesis 1 (H1):*** *The type of program design (monetary incentive vs. convenience-based nudge) influences Participation Intention.*

2.5 Expectancy Theory as a Cognitive Mechanism

To understand the cognitive mechanisms underlying intention to participate in circular initiatives, this study applies *Expectancy Theory (ET)* (Vroom, 1964). This theory helps explain how individuals make decisions about the amount of effort they are willing to invest in a behavior based on the expected outcomes. Motivation is assumed to depend on three cognitive components: *Expectancy, Instrumentality, and Valence* (Ferris, 1977).

Expectancy reflects the perceived probability that effort will lead to successful performance; *Instrumentality* refers to the belief that performance will produce specific outcomes or rewards; and *Valence* represents the subjective desirability or attractiveness of those outcomes (Van Eerde & Thierry, 1996; Vroom, 1964). Together, these components determine the overall motivational force**,** commonly expressed as:

$$Motivation = Expectancy \times Instrumentality \times Valence$$

This formula implies that all three factors are necessary for strong motivation – if any of them is zero, overall motivation will be minimal.

2.5.1 Expectancy Theory in the Circular Fashion Economy

Although initially developed within organizational psychology, *ET* has since been widely applied across disciplines to explain purchase intentions, prosocial behavior, pro-environmental actions, and sustainable consumption (Chiang & Jang, 2008; Kiatkawsin & Han, 2017; Zhang & Xiong, 2024). However, its use in circular economy research remains limited, with existing studies focusing mainly on narrower contexts such as food waste or technology adoption (e.g., Chopra, 2019; Talwar et al., 2022). Given its demonstrated suitability for predicting pro-environmental behavior (Kiatkawsin & Han, 2017; Talwar et al., 2022; Tang et al., 2021), *ET* could provide a strong theoretical foundation for understanding motivation and intentions in circular fashion initiatives. It is particularly appropriate for this study because take-back participation requires consumers to invest effort at the disposal stage, and *ET* is explicitly concerned with how individuals decide whether to allocate effort based on expected outcomes (Gist & Mitchell, 1992; Van Eerde & Thierry, 1996). In this study, the three *ET* components are used to explain *Participation Intention*, as motivational evaluations have been found to

influence sustainability-related intentions (e.g., Kiatkawsin & Han, 2017). However, as disposal decisions are often low-involvement and habitual, *ET* may only partially capture the automatic aspects of consumers' behavior in this context.

Even so, motivation to participate in take-back programs can still be understood through the three *ET* components. More specifically, *Expectancy* reflects the belief that one's effort, such as returning clothes, will successfully result in participation (Li, 2010), and has been shown to increase when participation requires minimal effort, for example through easily accessible drop-off points or home collection (Chopra, 2019). *Instrumentality* refer to the belief that participation will lead to meaningful outcomes such as recycling or brand follow-through (Talwar et al., 2022), and has been found to strengthen when consumers trust that returned garments will genuinely be reused or recycled and that the brand delivers on its sustainability claims (Wang et al., 2021). *Valence* represents how attractive these outcomes feel to the consumer, ranging from financial rewards to environmental benefits (Wang et al., 2024), and has been observed to be stronger when participation results in personally rewarding outcomes such as vouchers or contributions to environmental protection (Lee et al., 2024; Wang et al., 2021).

Building on the mechanisms outlined above and drawing on related cognitive-motivation research (Gist & Mitchell, 1992), different behavioral change tools can be expected to influence the three *ET* components in distinct ways.

Hypothesis 2 (H2): *The program design will have a direct effect on the ET components.*

2.5.2 Expectancy

Expectancy refers to the belief that one's effort will successfully lead to the intended performance outcome (Lawler & Suttle, 1973; Van Eerde & Thierry, 1996). Within sustainability and circular consumption research, perceived convenience and ease of action are consistently shown to strengthen this belief. This mechanism aligns with the concept of self-efficacy, which posits that individuals are more likely to engage in a behavior when they believe they are capable of carrying it out successfully (Bandura, 1994). The authors argue that higher perceived convenience therefore enhances self-efficacy, which in turn strengthens *Expectancy*. When sustainable actions are easy, accessible, and low in effort, consumers perceive them as

more achievable and feel more confident in their ability to carry them out (Vicente & Reis, 2008; White et al., 2019a).

Empirical research supports this relationship across different sustainability contexts. For example, it has been found that composting participation increased when collection bins were placed on every floor instead of a single central location, demonstrating how simple accessibility improvements can significantly increase engagement (DiGiacomo et al., 2017). In the fashion industry, research showed that consumer engagement in garment take-back schemes depended strongly on perceived convenience and clarity (Hvass & Pedersen, 2019). When in-store return points were viewed as distant or effortful to use, participation declined, underscoring the importance of accessibility in program design to reduce perceived effort and enhance consumers' confidence to act.

Taken together, these studies illustrate that when program designs minimize friction and make participation effortless, consumers' *Expectancy* and consequently their motivation to engage increases (Kiatkawsin & Han, 2017; White et al., 2019a). Thus, the authors believe that convenience nudges are expected to directly activate this mechanism by lowering perceived effort and strengthening consumers' belief that they can successfully complete the behavior. In contrast, monetary incentives are not expected to enhance perceived attainability; instead, they influence the perceived value of the outcome rather than the ease of performing the task (Osafo, 2021; Zhang & Xiong, 2024). Therefore, the following hypothesis is proposed:

Hypothesis 2a (H2a): *A convenience-nudge design will generate higher Expectancy than a monetary-incentive design.*

2.5.3 Instrumentality

In circular-fashion contexts, *Instrumentality* reflects consumers' confidence that returning garments through a take-back program will genuinely contribute to sustainability goals such as reducing textile waste, extending product lifespans, and lowering emissions and water use (Borrello et al., 2017). When consumers believe their actions generate these outcomes, their motivation to participate is expected to increase.

Empirical research supports this mechanism. Studies show that people are more likely to engage in pro-environmental behaviors when they believe their individual actions make a difference, a concept captured in perceived effectiveness research (Ellen et al., 1991). In circular settings,

transparent and reliable collection systems enhance that confidence. For example, it was found that participants valued home waste collection and traceable recycling processes more than small financial rewards, signaling that credible environmental impact is more motivating than monetary gain (Borrello et al., 2017). Similarly, in another study it was observed that when take-back schemes appeared opaque or inconvenient, consumers questioned whether garments were actually recycled, weakening perceived impact and lowering engagement (Hvass & Pedersen, 2019).

Overall, the authors expect convenience-oriented designs to foster credibility and trustworthiness by signaling a smooth and trustworthy system in which individual actions reliably translate into meaningful environmental outcomes. Such designs reduce ambiguity, increase transparency, and demonstrate operational credibility, thereby strengthening consumers' belief that their participation matters, which captures the essence of *Instrumentality*. In contrast, monetary incentives do not inherently increase confidence that garments will be properly reused or recycled (Gneezy & Rustichini, 1998).

Hypothesis 2b (H2b): *A convenience-nudge design will generate higher Instrumentality than a monetary-incentive design.*

2.5.4 Valence

In sustainability contexts, *Valence* encompasses both the satisfaction derived from contributing to environmental goals and the personal gains or enjoyment associated with participation (Ryan & Deci, 2000; White et al., 2019a). When the perceived outcomes are rewarding for either or both dimensions, the overall motivation to act strengthens.

To capture these distinct motivational drivers, this study adopts a two-*Valence* approach, distinguishing between *Personal-Benefit Valence (PBV)* and *Sustainability-Outcome Valence (SOV*). *PBV* reflects the attractiveness of self-oriented rewards that only serve the individual, such as discounts or convenience benefits. *SOV*, in contrast, captures the desirability of contributing to broader environmental or societal outcomes, such as reducing textile waste or lowering emissions.

A multidimensional *Valence* structure is well supported in prior research with studies showing that the components of *ET* can be meaningfully divided into multiple subdimensions to capture

more nuanced motivational processes. This holds true specifically within sustainability contexts, where pro-environmental behaviors depend simultaneously on personal benefits and collective, moral, or societal rewards (e.g., Talwar et al., 2022; Tang et al., 2023).

Monetary-incentive program designs primarily target *PBV* by highlighting immediate, tangible rewards such as vouchers or cost savings. However, these extrinsic rewards simultaneously shift attention away from the environmental purpose of the behavior**,** reducing individuals' focus on sustainability outcomes and potentially undermining intrinsic motivation (Bowles & Polania-Reyes, 2012; Deci et al., 1999). In contrast, convenience-based nudges, such as free home pickup, do not introduce competing financial motives and thus are expected to preserve consumers' intrinsic, pro-environmental orientation, directly supporting stronger *SOV*. Because these nudges provide no explicit, clear personal reward equivalent to monetary savings, any benefits they offer (e.g., time savings) are likely to be perceived as secondary and less salient than those offered by monetary incentives. As a result, sustainability remains the primary reason for participating.

Taken together, the authors argue that these mechanisms imply that monetary incentives should more strongly increase *PBV*, as they directly emphasize individual gain, whereas convenience-based nudges should particularly enhance *SOV*, as they maintain intrinsic pro-environmental motivation without redirecting attention toward financial rewards. These theoretical distinctions underpin the following hypotheses:

Hypothesis 2c (H2c): *A monetary-incentive design will generate higher Personal-Benefit Valence than a convenience-nudge design.*

Hypothesis 2d (H2d): *A convenience-nudge design will generate higher Sustainability-Outcome Valence than a monetary-incentive design.*

2.5.5 Parallel Mediation of Expectancy, Instrumentality & Valence

Prior literature consistently shows that the *ET* components function as independent yet complementary predictors of sustainable behavior. For example, one study found that each *ET* component uniquely predicted tourists' pro-environmental intentions (Kiatkawsin & Han, 2017). Likewise, other researchers demonstrated that the three dimensions independently explained consumer facilitators and barriers in sustainable food choices (Talwar et al., 2022).

Most recently, it was empirically confirmed that *Expectancy*, *Instrumentality*, and *Valence* each exert distinct, positive effects on behavioral intention, reinforcing their role as unique motivational pathways (Zhang & Xiong, 2024).

Taken together, the authors believe that these findings indicate that sustainable behavior is driven not by a single attitudinal factor but by multiple, interrelated cognitive evaluations that jointly shape intention. Building on this evidence and the differentiated mechanisms outlined in the previous sections, this study conceptualizes *Expectancy*, *Instrumentality*, and the two *Valence* dimensions (*PBV* and *SOV*) as separate but parallel mediators through which program design influences *Participation Intention*.

Hypothesis 3 (H3): *The effect of program design on Participation Intention is mediated through Expectancy, Instrumentality, Sustainability-Outcome Valence, and Personal-Benefit Valence as distinct pathways.*

2.6 Brand Trust in Sustainable Consumer Behavior

Brand Trust is defined as consumers' willingness to rely on a brand based on beliefs in its reliability, integrity, and benevolence (Chaudhuri & Holbrook, 2001; Morgan & Hunt, 1994). As a foundational construct in relationship marketing, trust reduces perceived uncertainty and risk, enabling consumers to accept vulnerability in exchange relationships (Morgan & Hunt, 1994). Empirical research shows that trusted brands are perceived as more credible and dependable, strengthening both purchase loyalty and attitudinal stability (Chaudhuri & Holbrook, 2001). Trust similarly enhances perceptions of outcome reliability and facilitates intention formation, especially in digital and information-asymmetric contexts (Gefen, 2000; Kim et al., 2008).

In sustainability and circular consumption contexts, trust plays an especially critical role because consumers cannot directly verify whether environmental claims or take-back processes function as promised (Chen, 2010; Delmas & Burbano, 2011). Scholars highlight the related construct of Green Trust, defined as confidence in a brand's environmental claims and performance, which enhances the perceived credibility of sustainability initiatives (Chen, 2010). Trust thus acts as a cognitive lens through which consumers interpret sustainability brand actions, shaping whether program design elements are perceived as sincere effort to support

sustainability or as opportunistic tactics (Delgado-Ballester & Luis Munuera-Alemán, 2001; Sirdeshmukh et al., 2002).

Across domains, trust strengthens the stability and motivational power of cognitions, positioning it as a key moderator (Gefen, 2000; Kim et al., 2008; Sirdeshmukh et al., 2002). This means trust affects both how consumers form motivational beliefs about a program and how strongly those beliefs translate into intention**.**

2.6.1 Brand Trust & the Interpretation of Program Design

Given that *Brand Trust* influences both the formation and strength of motivational beliefs, it might also shape how consumers interpret program design. While convenience nudges generally reduce perceived effort in a straightforward way, monetary incentives are more ambiguous: they can be interpreted either as supportive reinforcements or as manipulative tactics (Bowles & Polania-Reyes, 2012; Deci et al., 1999). Prior research shows that when trust in a brand is low, consumers are more likely to question the firm's underlying motives, often interpreting its actions as self-serving or opportunistic rather than benevolent (Delgado-Ballester & Luis Munuera-Alemán, 2001; Sirdeshmukh et al., 2002). Although these studies do not examine monetary rewards specifically, their findings imply that firm-initiated incentives are more likely to be met with skepticism under low-trust conditions.

When trust is high, however, consumers exhibit less defensive processing and are less inclined to assume ulterior or manipulative motives behind a brand's actions (Darke & Ritchie, 2007). This aligns with the Persuasion Knowledge Model, which states that consumers interpret marketing tactics by inferring a brand's intentions and activate resistance mainly when those intentions appear manipulative (Friestad & Wright, 1994). Although these sources do not examine monetary incentives specifically, the underlying logic suggests that higher trust should make reward cues feel more genuine and less like attempts to "buy" compliance. As a result, incentive cues may more effectively strengthen motivational beliefs, including both *PBV* and *SOV*, when trust is high. In contrast, convenience-based nudges rely on reducing effort rather than on how consumers interpret brand motives (Shah & Oppenheimer, 2008). Because they depend less on motive attribution, nudges are likely to be less sensitive to variations in *Brand Trust*.

Taken together, the authors argue that these insights suggest that trust determines how strongly consumers respond to different program designs**.** Thus, trust is expected to moderate the extent to which program design influences the *ET* components.

Hypothesis 4 (H4): *Brand Trust moderates the relationship between the program design and the ET components.*

2.6.2 Brand Trust & the Activation of Intentions

Brand Trust operates as a psychological assurance mechanism and strengthens the translation of beliefs into intention, meaning consumers feel more confident to act based on their beliefs (Gefen, 2000; Kim et al., 2008). Prior relationship marketing research similarly shows that trust amplifies the consistency between cognitive evaluations and behavioral responses by enhancing the perceived credibility of those evaluations (Chaudhuri & Holbrook, 2001; Morgan & Hunt, 1994). When consumers trust the brand behind a take-back program, they can therefore be expected to be more willing to rely on their motivational beliefs when deciding whether to participate. Under high trust, participation is expected to feel more achievable, desired outcomes to appear more attainable, and valued results to seem more legitimate. Consequently, each of the *ET* components would exert a stronger influence on intention.

Based on this reasoning, the authors expect *Brand Trust* to determine how strongly the *ET* components translate into actual *Participation Intention*. Accordingly, the following hypothesis is proposed:

Hypothesis 5 (H5): *Brand Trust moderates the relationship between the ET components and Participation Intention, such that the effects are stronger when trust is high.*

2.7 Other Key Factors Influencing Participation Intention

While this study's primary focus is on the *ET* components, a review of sustainability and consumer behavior literature indicates that other pre-existing factors are known to influence behavioral intentions (e.g., Ajzen, 1991; White et al., 2019a). To isolate the specific effect of the experimental behavioral change tools and to prevent these factors from confounding the results, this study measures and controls for several key variables.

One of the strongest predictors of future behavior is past behavior (Ouellette & Wood, 1998). Participants who frequently shop at fast-fashion brands or have previously participated in take-back programs are likely to have different baseline intentions. Controlling for these behavioral histories allows for a more precise measurement of the program design's effect on consumers.

Intrinsic Motivation has been shown to be a powerful driver of pro-environmental action (Silvi & Padilla, 2021). Participants with high pre-existing *Intrinsic Motivation* may be inclined to participate regardless of the program design. Controlling for *Intrinsic Motivation* is especially critical for this study, as it allows us to isolate the effect of the program design and test for potential "crowding-out" effects.

Socio-economic status, specifically income, can influence environmental concern and pro-environmental behavior (Gifford & Nilsson, 2014). In this specific context, income could influence the perceived value of the voucher amount. Consistent with Prospect Theory, individuals experience diminishing marginal utility of money, meaning that the same financial reward carries greater subjective value for lower-income participants than for higher-income ones (Kahneman & Tversky, 1979). A participant with a lower income might therefore perceive the voucher as highly valuable, while a participant with a higher income might view it as negligible. Controlling for income allows us to isolate the psychological effect of the incentive from its purely economic utility.

As the issue of greenwashing has become increasingly prominent**,** consumers have grown more aware and skeptical of environmental claims (de Freitas Netto et al., 2020). This skepticism is especially pronounced in the fast-fashion sector, where sustainability initiatives are often perceived as inconsistent with core business practices (Li et al., 2025). Consequently, *Perceived Corporate Hypocrisy* - the belief that a company's stated values or claims are inconsistent with its actual behavior (Wagner et al., 2009) - represents a critical control variable in this study. Because such pre-existing skepticism can suppress *Participation Intention* regardless of program design, controlling for *Perceived Corporate Hypocrisy* enables us to isolate the true effect of the program design by statistically accounting for this baseline doubt.

2.8 Summary of Hypotheses & Conceptual Model

Table 1 provides an overview of all hypotheses. Figure 1 presents the conceptual model, illustrating the proposed relationships between program design, the *ET* components, *Brand Trust*, and *Participation Intention*.

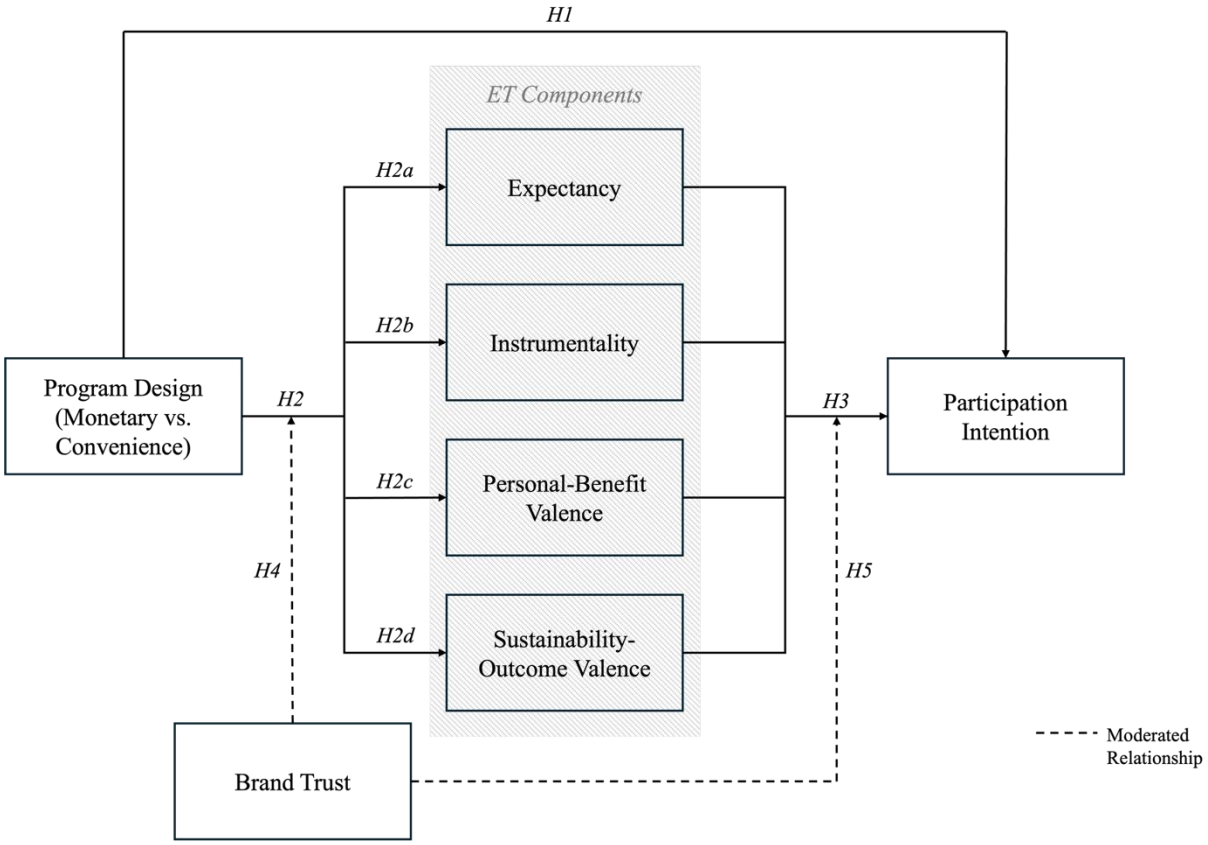
Table 1

Overview of Hypotheses

H1: The type of program design (monetary incentive vs. convenience-based nudge) influences Participation Intention.
H2: The program design will have a direct effect on the ET components.
H2a: A convenience-nudge design will generate higher Expectancy than a monetary-incentive design.
H2b: A convenience-nudge design will generate higher Instrumentality than a monetary-incentive design.
H2c: A monetary-incentive design will generate higher Personal-Benefit Valence than a convenience-nudge design.
H2d: A convenience-nudge design will generate higher Sustainability-Outcome Valence than a monetary-incentive design.
H3: The effect of program design on Participation Intention is mediated through Expectancy, Instrumentality, Sustainability-Outcome Valence, and Personal-Benefit Valence as distinct pathways.
H4: Brand Trust moderates the relationship between the program design and the ET components.
H5: Brand Trust moderates the relationship between the ET components and Participation Intention, such that the effects are stronger when trust is high.

Figure 1

Conceptual Model



3. Methodology

3.1 Research Design: Between-Subjects Experiment

This study employed a between-subjects experimental design to examine how different take-back program designs influence individuals' *Participation Intention* in a circular fashion program. Between-subjects experiments are commonly used in consumer research to assess the causal effects of different stimuli, as participants are exposed to only one condition (Söderlund, 2018). Because the research question centers on comparing the relative effectiveness of two formats, only the monetary and convenience conditions were included. Prior research has already shown that both monetary incentives and convenience nudges increase sustainable participation compared to no intervention (e.g., DiGiacomo et al., 2017; Grilli & Curtis, 2021), meaning that adding a control group would not contribute additional theoretical insight.

Data were collected through an online questionnaire, a method widely used in experimental consumer research due to its efficiency, scalability, and ability to reach diverse respondents. Although online studies provide less control over participants' environments and how questions are interpreted, these limitations were considered acceptable considering the method's practical advantages (Bell et al., 2019).

Aside from the manipulated program design, all other elements of the experiment were identical across conditions to ensure comparability and to isolate the effects relevant to the research question.

3.2 Experimental Design

The experimental manipulation was embedded in an online experiment administered via Qualtrics. The experiment was designed to simulate a realistic brand communication scenario while maintaining experimental control over all elements except the program design. The fictional fast-fashion brand "HALANI" was created to eliminate pre-existing brand associations that could confound the results. Participants were informed that "HALANI" was a trend-driven, affordable fashion brand operating under a typical fast-fashion model. Before presenting the scenarios, the study provided a clear definition of the fast-fashion concept to ensure participants had a consistent understanding of the context. The entire experiment was conducted in English.

Participants were randomly assigned by Qualtrics' internal randomization algorithm to one of two experimental conditions: the monetary incentive condition or the convenience-based nudge condition. The independent variable in this experiment was the design of the take-back program. The dependent variable, *Participation Intention*, was measured immediately after participants read their assigned scenario.

To prevent framing biases, the program purpose was intentionally kept broad ("Depending on their condition, the clothes will be recycled, reused, or donated.") (see Appendix A). Prior work shows that donation framing can increase perceptions of fairness and reduce attributions of opportunism (Harden et al., 2024; Kahneman et al., 1986), which in turn can inflate prosocial responses. Using a neutral description ensured that any differences between conditions could be attributed to the manipulated program design rather than to prosocial activation.

3.2.1 Convenience Condition Scenario

In the convenience-based nudge condition, participants read a short scenario describing "HALANI"'s new take-back program for used clothing, emphasizing effort reduction through a free home pickup. Free home pickup was chosen as the convenience-based nudge because it provides a clear and unambiguous reduction of effort, allowing manipulation to isolate the psychological effect of convenience without introducing financial incentives. Although only limited industry pilots have tested home collection (e.g., Zara, n.d.), it serves as a conceptually strong cue by removing both the physical and time costs of returning textiles.

The description outlined that customers could select a preferred pickup date, pack their used clothing, and have the parcel collected by a climate-neutral courier service to avoid any negative associations with the pickup potentially being bad for the environment and therefore defeating the cause. The scenario emphasized ease, flexibility, and comfort, using phrases such as "select any pickup date" and "enjoying the convenience". The narrative framed participation as effortless and seamless. The rest of the program details, such as the program's environmental benefits, recycling process, and sustainability outcomes, were kept identical to the monetary incentive condition to isolate the effect of the program design framing alone. The full experiment can be found in Appendix A.

3.2.2 Monetary Condition Scenario

In the monetary incentive condition, participants were presented with a parallel scenario describing “HALANI”’s take-back program but with a key difference in the program design framing. Instead of a home pickup service, the description stated that participants would receive a 50 SEK “HALANI” gift card for returning used clothes in-store. The voucher amount was set at 50 SEK to reflect typical incentive levels used by Scandinavian fast-fashion retailers (e.g., H&M, n.d.; Lindex, n.d.), ensuring ecological validity. The program was described as contributing to sustainability by reducing waste, avoiding textile incineration, and saving resources, identical to the convenience condition. The gift card was meant to serve as a small but tangible extrinsic reward. By keeping all other textual and visual elements identical between the two versions, the experimental design ensured that any observed differences in responses could be attributed solely to the program design.

3.3 Experimental Flow

The experimental procedure followed a structured sequence of sections. After confirming language comfort and providing informed consent, participants were introduced to the concept of fast fashion and the fictional brand “HALANI”. They were then randomly assigned to one of the two experimental scenarios and instructed to imagine themselves in the described situation.

Immediately after reading the scenario, participants completed a manipulation check to ensure they had correctly identified the program design presented in their assigned condition. They then responded to a series of questionnaire items measuring the dependent variable, the proposed mediators, the moderator, and several additional constructs.

Subsequent sections captured participants’ previous experience with fast-fashion shopping and take-back or recycling programs, followed by an attention check. The question concluded with demographic questions.

3.4 Data Collection & Sample

A pilot study with 15 participants was conducted between October 21 and 23, 2025 to identify ambiguous statements and potential issues with the wording of items or instructions. Based on the feedback, minor revisions were made to improve clarity and comprehension before launching the final data collection.

The main data collection took place between October 24 and November 4, 2025. Participants were recruited through two channels. The first was Norstat, a professional online panel provider that supplied a diverse and demographically representative sample of Swedish consumers. The second consisted of personal networks of the researchers, limited to Swedish participants to maintain cultural and linguistic consistency. Restricting participation to individuals residing in Sweden ensured cultural homogeneity and minimized potential variance arising from differing national sustainability norms or incentive perceptions.

Prior to analysis, data were screened for completeness and attention check compliance. Responses from participants who failed the manipulation check or the instructed-response attention check were excluded, in line with common practice in experimental research,

3.5 Measures

3.5.1 Main Measures

All constructs were measured using 7-point Likert scales ranging from *"Strongly disagree" (1)* to *"Strongly agree" (7)*. A full overview of all constructs, items, scale sources, and reliability statistics is presented in Table 2.

3.5.1.1 Participation Intention

Participation Intention served as the dependent variable of the study. It was measured using three items from Yoo (2023), assessing respondents' likelihood and willingness to participate in "HALANI"'s take-back program. Three of the four original items were used, with only minimal contextual adjustments (i.e., replacing the original behavior with participation in the take-back program). The construct demonstrated excellent internal consistency (Cronbach's Alpha = .917).

3.5.1.2 ET Components

The three *ET* components served as the mediators in this study. Since no prior study has directly applied *ET* to circular fashion participation, the measurement items were adapted from established *ET* scales used in organizational and consumer behavior research. Specifically, the structure of the items follows Vroom's (1964) work and draws on measurement approaches from prior empirical studies (e.g., Chiang & Jang, 2008; Heneman & Schwab, 1972; Lawler & Suttle, 1973; Van Eerde & Thierry, 1996). All items were contextualized to the take-back program setting by adapting the content while preserving the underlying meaning of each construct. Three items were used for each mediator.

Items measuring *Expectancy* operationalized the construct as respondents' beliefs in their ability and the feasibility of successfully engaging in the program (Heneman & Schwab, 1972; Vroom, 1964). The wording was adapted to reflect perceived ease and self-efficacy in participating in a circular fashion initiative. The construct exhibited high internal reliability (Cronbach's Alpha = .872).

Instrumentality items were developed to capture the perceived likelihood that participation would lead to desired outcomes. The phrasing emphasizes trust in outcome fulfillment. That is, whether participants believe their contribution would genuinely support circularity and sustainability goals as promised. Cronbach's Alpha was calculated to .933, demonstrating excellent internal consistency.

Valence was divided into two subdimensions: *SOV* and *PBV*. *SOV* items measured the intrinsic value participants attach to environmental outcomes. *PBV* was designed to measure extrinsic or self-relevant motivations such as convenience or material gain. The structure follows the classical approach to *Valence* as the attractiveness of outcomes (Vroom, 1964) but with adapted items emphasizing two distinct outcome types relevant to circular fashion. Both subdimensions showed high reliability, with Cronbach's Alpha = .957 for *SOV* and Cronbach's Alpha = .908 for *PBV*.

3.5.1.3 Brand Trust

Brand Trust served as the moderator of this study and was measured using four items adapted from Chaudhuri and Holbrook's (2001) *Brand Trust* scale. Several adaptations were required

to ensure that the construct remained meaningful and interpretable in the context of a fictional brand. Because respondents had no prior experience with "HALANI", experience-based items such as "I rely on this brand" were reformulated into perception-based statements (e.g., "HALANI is reliable"). The honesty item was specified more directly ("HALANI is honest with its customers") to anchor integrity in the transparency of brand communication, which is especially relevant when evaluating sustainability claims. The original item "This brand is safe" was replaced with "I believe HALANI will keep its promises," as "safety" might be interpreted narrowly in product-risk categories and might introduce ambiguity in a fast-fashion context. The general trust item was retained in equivalent form.

These modifications preserved the conceptual core of the original construct which is trust grounded in perceived reliability, honesty, and integrity, while allowing participants to meaningfully evaluate a brand with which they had no prior experience. The resulting scale exhibited excellent internal consistency (Cronbach's Alpha = .957).

3.5.2 Control Variables

3.5.2.1 Intrinsic Motivation

Intrinsic Motivation was measured using three items from the *Intrinsic Motivation* subscale of the Motivation Toward the Environment Scale (MTES) developed by Pelletier et al. (1998). The items capture the extent to which individuals engage in environmentally relevant behaviors because they find them inherently satisfying or personally rewarding. All items were used in their original wording without modification. The scale showed high internal consistency with Cronbach's Alpha = .946**.**

3.5.2.2 Perceived Corporate Hypocrisy

Perceived Corporate Hypocrisy was measured using three items adapted from Wagner et al. (2009). From the original six-item scale, three items were selected that best aligned with the context of brand-led sustainability initiatives. The only modification made was replacing the original company name with the fictional brand name "HALANI"; all other wording remained unchanged. The scale demonstrated good internal consistency (Cronbach's Alpha = .845).

Table 2

Measurement Items

Construct	Measurement Items	Source	Cronbach's Alpha
Participation Intention	I think the described take-back program is a good idea. I would be willing to participate in the described take-back program. I would consider participating in the described take-back program.	Yoo (2023)	0.917
Expectancy	The take-back program makes it easy for me to participate. I feel capable of completing the required steps to participate in the take-back program. Successfully participating in the take-back program feels realistic to me.	Chiang & Jang (2008); Heneman & Schwab (1972); Lawler & Suttle (1973); Van Eerde & Thierry (1996)	0.872
Instrumentality	If I return my clothes through the take-back program, they will actually be recycled, reused, or donated. My participation in the take-back program will contribute to sustainability as promised. The take-back program will achieve the environmental goals it describes.	Chiang & Jang (2008); Heneman & Schwab (1972); Lawler & Suttle (1973); Van Eerde & Thierry (1996)	0.933
SOV	Participating in the take-back program is valuable to me because it contributes to sustainability. Participating in the take-back program would be worthwhile as it supports sustainability. I would feel good about participating in the take-back program because it helps the environment.	Chiang & Jang (2008); Heneman & Schwab (1972); Lawler & Suttle (1973); Van Eerde & Thierry (1996)	0.957
PBV	Participating in the take-back program is valuable to me because it provides personal benefits. Participating in the take-back program would be worthwhile for me personally. I would feel good about participating in the take-back program because it offers something beneficial to me.	Chiang & Jang (2008); Heneman & Schwab (1972); Lawler & Suttle (1973); Van Eerde & Thierry (1996)	0.908

Brand Trust	I trust HALANI. HALANI is reliable. HALANI is honest with its customers. I believe HALANI will keep its promises.	Chaudhuri & Holbrook (2001)	0.957
Intrinsic Motivation	I feel pleasure in improving the quality of the environment. I like the feeling when doing things for the environment. I feel pleasure in contributing to the environment.	Pelletier et al. (1998)	0.946
Perceived Corporate Hypocrisy	In my opinion, what HALANI says and does are two different things. In my opinion, HALANI pretends to be something that it is not. In my opinion, HALANI does exactly what it says.	Wagner et al. (2009)	0.845

3.6 Ethical Considerations

The study followed the ethical standards of the Stockholm School of Economics and adhered to GDPR requirements. Participation was voluntary and anonymous, and respondents were informed of their right to withdraw at any time. No personally identifiable data were collected or stored. To minimize response bias, the specific hypotheses were not disclosed during participation, and no deception regarding procedures or data handling was used.

3.7 Data Quality & Measurement

3.7.1 Reliability

To ensure a high level of reliability, the study was designed as a quantitative experiment. Quantitative approaches offer strong replication potential because they rely on controlled stimuli and uniform measurement across all participants, thereby enhancing reliability (Bell et al., 2019). In addition, the questionnaire consisted exclusively of closed-ended questions, enabling an objective assessment of the data and minimizing risks of subjective interpretation (Bell et al., 2019).

For the final analytical sample, measurement reliability was assessed by calculating Cronbach's Alpha for all multi-item constructs. As shown in Table 2, all constructs demonstrated excellent internal consistency, with alpha coefficients ranging from .845 to .957. These values

substantially exceed the commonly recommended minimum threshold of .70 (Hair et al., 2017; Nunnally, 1978) indicating that the items within each scale were strongly intercorrelated and reliably measured their intended underlying concepts. Consequently, all items were retained for the subsequent analyses.

3.7.2 Validity

Several safeguards were implemented to ensure the validity of the study's findings.

Content validity was established by adapting items from well-established and peer-reviewed scales, with wording adjusted only to fit the context of circular fashion. A pilot test confirmed that all items were clear and aligned with their intended constructs. The use of previously validated scales strengthens content validity, as these measures have already undergone extensive testing to ensure they capture the intended concepts accurately (Bell et al., 2019; Söderlund, 2018).

Internal validity was supported through random assignment to conditions and the inclusion of both a manipulation check and an attention check. Following standard practice (Hauser & Schwarz, 2016; Oppenheimer et al., 2009), only participants who passed both checks were retained for analysis. This increases confidence that respondents were attentive and correctly encoded the experimental stimulus. Statistically significant pre-existing attitudes, such as *Perceived Corporate Hypocrisy*, were included as covariates in the analyses to account for their potential confounding influence.

Discriminant validity was supported through the inter-construct correlations. Although some motivational constructs were theoretically related, no correlation exceeded the recommended threshold of r = .85 (Kline, 2005), indicating that the constructs represent statistically distinct dimensions. The full correlation matrix is presented in Table 4.

Finally, both validity and reliability benefit from the study's large sample size (N = 720). A large sample increases statistical power, reduces random error, and enhances the generalizability of the findings to similar populations (Bell et al., 2019).

4 Analysis & Results

4.1 Data Processing

4.1.1 Analytical Tool

Data analysis was conducted using IBM SPSS Statistics (Version 30.0.0.0). The primary analyses consisted of independent-samples t-tests and regression-based mediation and moderation models estimated with the PROCESS macro for SPSS (Version 4.2) (Hayes, 2022). These techniques were selected as they allow for comparing the two experimental conditions and for testing the proposed mediated and moderated relationships.

For all t-tests, Levene's test for equality of variances was inspected to determine whether the assumption of homogeneity of variance was met and to select the appropriate test statistics.

Mediation analyses were estimated using PROCESS Model 4, and moderation analyses with Model 1. All PROCESS models were run with 5,000 bootstrap samples and 95% bias-corrected confidence intervals. Heteroscedasticity-consistent standard errors (HC3) were applied in all PROCESS analyses to ensure robust inference. All continuous predictors and moderators were mean centered prior to constructing interaction terms.

4.1.2 Data Screening & Cleaning

The initial dataset exported from Qualtrics contained N = 1,329 responses. In a first step, all incomplete responses were removed, resulting in a full usable sample of N = 1,172.

Next, the primary analytical sample was constructed. Following standard practice in experimental research (Hauser & Schwarz, 2016; Oppenheimer et al., 2009), respondents who failed either the instructed-response attention check or the manipulation check were excluded. Such participants cannot be considered to have received the intended "treatment," and their data therefore cannot provide a valid test of the hypotheses. This procedure resulted in the final analytical sample of N = 720 participants, which forms the basis for all subsequent analyses.

It is notable that this filtering process affected the experimental conditions unevenly. A substantially higher proportion of respondents was removed from the convenience nudge condition (49%) than from the monetary incentive condition (28%). This asymmetry suggests

that the convenience manipulation may have been more cognitively complex or less salient than the more concrete monetary offer.

Finally, to add nuance to the findings and to compare the theoretical effect (based on attentive participants) with a more natural "real-world" effect, the full N=1,172 sample (which includes inattentive participants) is retained and used as a robustness check in Section 4.6.

4.1.3 Recoding & Preparation of Variables

Several data preparation steps were conducted to ensure that all variables were correctly structured for analysis in SPSS.

First, the experimental condition variable was recoded into numeric format, with *1 = monetary incentive* and *2 = convenience-based nudge*, as required for regression-based procedures in PROCESS.

Second, the third item of the *Perceived Corporate Hypocrisy* scale ("In my opinion, HALANI does exactly what it says.") was reverse-coded. This item was phrased in the opposite direction of the other items and reversing it ensured that higher values consistently reflected higher *Perceived Corporate Hypocrisy* across all items.

Third, composite variables were computed for all multi-item constructs. After confirming high internal consistency for each scale (Cronbach's alphas reported in Section 3.7.1), the mean across all included items was computed to form each construct's final score.

4.1.4 Preliminary Analyses & Covariate Selection

Prior to hypothesis testing, a series of preliminary checks were conducted. First, descriptive analyses confirmed that all continuous variables were approximately normally distributed, with no extreme outliers.

Second, a rigorous process was used to identify suitable covariates (see Appendix B). Following Hayes (2022), a multiple linear regression was performed with *Participation Intention* as the dependent variable and all 12 potential control variables (past shopping frequency at fast fashion brands, past participation in a clothing take-back or recycling programs, income,

gender, city size, education, age, intrinsic motivation, environmental concern, perceived greenwashing, perceived corporate hypocrisy, and occupational status) as predictors. The overall model was statistically significant (F (12, 707) = 30.686, $p < .001$), explaining 34.2% of the variance in *Participation Intention* ($R^2 = .342$).

Examination of the individual coefficients revealed that five predictors were significant: past shopping frequency at fast fashion brands ($p < .001$), past participation in clothing take-back or recycling programs ($p = .013$), income (**$p = .023$**), *Intrinsic Motivation* ($p < .001$), and *Perceived Corporate Hypocrisy* ($p < .001$). Only these five variables were therefore retained as covariates in all subsequent PROCESS analyses.

As discussed in Section 2.7, these covariates are theoretically linked to behavioral intentions. Their inclusion also improved statistical accuracy: the primary mediation model with these covariates explained more variance (Adjusted $R^2 = .560$) than a model without them (Adjusted $R^2 = .529$).

4.2 Descriptive Statistics

4.2.1 Sample Characteristics

The sample was well-balanced in terms of gender, with 51.5% identifying as female and 47.6% as male. Participants ranged in age from 17 to 89 years, with a median age of 46. The sample was generally well educated, with a majority (57.8%) holding a university-level degree. "Working full-time" was the most common occupational status (52.2%).

Residential distribution was well-spread across different area types, from large cities (33.5%) to rural areas (21.7%), ensuring representation of both urban and non-urban perspectives. Annual income was broadly dispersed, with the most frequent income bracket (22.9%) being 400,000–549,999 SEK.

With respect to the experimental manipulation, 426 (59.2%) participants were assigned to the monetary incentive condition and 294 (40.8%) to the convenience nudge condition. As noted in Section 4.1.2, a larger share of participants in the convenience condition did not pass the attention or manipulation checks, which explains the imbalance between the two groups in the final analytical sample.

A summary of the sample's demographic characteristics is provided in Table 3.

4.2.2 Randomization Check & Group Comparability

A randomization check was conducted to ensure that the two experimental conditions were comparable following data cleaning. Given the imbalance in condition sizes, it was essential to verify that the groups did not systematically differ on key demographic or attitudinal variables. Chi-square tests (for categorial variables) and independent samples t-tests (for continuous variables) were conducted to compare the two groups. As shown in Table 3, no statistically significant differences ($p > .05$) emerged between the two conditions for any demographic characteristic, including gender, education, income, city size, age, or occupational status. These results indicate that the randomization remained successful despite unequal group sizes. The two groups can therefore be considered comparable, supporting the internal validity of the experiment. Consequently, any observed differences in *Participation Intention* can be attributed to the experimental manipulation rather than to pre-existing group differences. A detailed overview of the sample characteristics and test statistics is provided in Appendix C.

Table 3

Demographic Comparability of Experimental Conditions

Characteristic	Metric	Total Sample (N=720)	Monetary Condition (n=426)	Convenience Condition (n=294)	p-Value
Age	Mean (Years)	46.6	46.6	46.4	.860
Gender	% Female	51.5%	53.5%	48.6%	.428
Education	% University Degree	57.8%	58.5%	56.8%	.521
Annual Income	% > 400k SEK	48.3%	46.9%	50.3%	.384
City Size	% Large City	33.5%	33.8%	33.0%	.351
Occupational Status	% Working Full-Time	52.2%	50.5%	54.8%	.425

Note. p-values indicate no significant differences between groups (all $p > 0.05$). Age tested via t-test; categorial variables tested via Chi-square on full distributions.

4.2.3 Descriptive Statistics & Intercorrelations

Table 4 summarizes the descriptive statistics and Pearson correlations for all studied constructs. Overall, participants reported high levels of motivation, particularly for *Intrinsic Motivation* (M = 5.57, SD = 1.20) and *Expectancy* (M = 5.37, SD = 1.18), as well as generally high *Participation Intention* (M = 5.16, SD = 1.38).

As expected, *Participation Intention* showed strong, significant positive correlations ($p < .001$) with all four *ET* components, providing initial support for the theoretical model.

Table 4

Descriptive Statistics and Pearson Correlation Matrix

Construct	Mean	SD	1	2	3	4	5	6	7
1. Participation Intention	5.16	1.38	-						
2. Expectancy	5.37	1.18	.700**	-					
3. Instrumentality	4.98	1.42	.613**	.481**	-				
4. SOV	5.09	1.50	.757**	.568**	.742**	-			
5. PBV	4.55	1.40	.722**	.580**	.607**	.710**	-		
6. Brand Trust	4.03	1.20	.562**	.416**	.724**	.661**	.574**	-	
7. Intrinsic Motivation	5.57	1.20	.382**	.394**	.290**	.540**	.391**	.282**	-
8. Perceived Corporate Hypocrisy	4.08	1.11	-.385**	-.195**	.607**	.497**	.374**	.660**	-.085*

Note. N = 720. All variables measured on a 7-point Likert scale .** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).

4.4 Hypothesis Testing

4.4.1 Main Effect (H1)

To test the primary hypothesis (H1), an independent-samples t-test was conducted to compare the *Participation Intention* between the two experimental conditions. The results of the t-test revealed a statistically significant difference in *Participation Intention* between the two groups, $t(718) = 2.585$, $p = .010$ (two-tailed). This significant finding provides support for H1.

Participants in the monetary incentive condition reported a higher intention to participate (M = 5.27, SD = 1.34) than those in the convenience nudge condition (M = 5.00, SD = 1.41).

This result indicates that offering a monetary incentive was more effective in increasing *Participation Intention* than providing a high-convenience home pickup service.

4.4.2 Analysis of Program Design Effects on ET Components (H2)

This section tests the "Path A" hypotheses, which predict how the program design directly influences each of the four *ET* components. Collectively, H2a-H2d operationalize the overarching Hypothesis 2 (H2), which proposes that the program design exerts a direct effect on these components. These paths represent the first part of the overall mediation model.

To examine these relationships, a multiple linear regression analysis was conducted for each *ET* component. This approach allowed the inclusion of the five significant covariates, ensuring that the effects attributed to the program design reflect its unique contribution rather than underlying individual differences. These regression coefficients correspond to the first stage of the PROCESS Model 4 analyses presented in the following section.

4.4.2.1 Expectancy (H2a)

H2a predicted that the convenience-nudge design would generate higher *Expectancy* than the monetary incentive. The analysis did not support this prediction. The effect of program design on *Expectancy* was not statistically significant (b = –.018, p = .819). Thus, *Expectancy* levels did not differ between the two conditions.

4.4.2.2 Instrumentality (H2b)

H2b proposed that the convenience-nudge design would produce higher *Instrumentality* beliefs. This hypothesis was not supported. Program design did not significantly predict *Instrumentality* (b = –.057, p = .488), indicating no systematic difference between the conditions.

4.4.2.3 Personal-Benefit Valence (H2c)

H2c predicted that the monetary incentive would lead to higher *PBV* than the convenience nudge. The results supported H2c. Program design significantly predicted *PBV* (b = –.229, p =

.009, 95% CI [–.401, –.058]). The negative coefficient indicates that the monetary condition yielded higher *PBV* compared with the convenience condition.

4.4.2.4 Sustainability-Outcome Valence (H2d)

H2d stated that the convenience-nudge design would generate higher *SOV*. This hypothesis was not supported. Program design did not significantly influence *SOV* (b = –.010, p = .897).

4.4.2.5 Summary of Findings for H2

Overall, H2 is partially supported. Program design did not significantly affect *Expectancy*, *Instrumentality*, or *SOV*. However, it had a clear and significant effect on *PBV*, indicating that the manipulation influenced cognitive evaluations specifically through perceived personal gain.

4.4.3 Parallel Mediation Analysis (H3)

Following the tests of the individual Path A hypotheses, the overall mediation hypothesis (H3) was examined. H3 proposed that the effect of program design on *Participation Intention* would be mediated through the four distinct *ET* components. This prediction was tested using a series of parallel mediation models estimated with PROCESS Model 4 (Hayes, 2022).

As established in Section 4.4.2, only one of the four Path A relationships was statistically significant: the effect of program design on *PBV* (p = .009). All four Path B effects, linking each mediator to *Participation Intention*, were statistically significant (p < .001). Consequently, mediation was assessed by examining whether the 95% confidence intervals for the indirect effects included zero.

The indirect effects through *Expectancy* (Effect = –.012, 95% CI [–.117, .092]), *Instrumentality* (Effect = –.027, 95% CI [–.103, .050]), and *SOV* (Effect = –.007, 95% CI [–.111, .096]) were not significant, as their confidence intervals included zero. In contrast, the indirect effect through *PBV* was significant (Effect = –.130, 95% CI [–.230, –.034]), indicating that this component mediated the relationship between program design and *Participation Intention*.

Importantly, once *PBV* was included in the model, the direct effect of program design on *Participation Intention* became non-significant (b = –.078, p = .283), whereas the total effect had been significant (p = .010; see Section 4.4.1). This pattern is consistent with full mediation: the influence of program design on intention operates through changes in perceived personal benefits.

The complete results, including total, direct, and indirect effects, are summarized in Table 5.

Table 5

Summary of Mediation Analysis Results (H1, H2, H3)

Pathway	Hypothesis	Coeff. (*b*/Mean)	*p*-value/CI	Outcome
Program Design -> Intention	H1	5.27 > 5.00	.010	Supported
Path A				
Program Design -> Expectancy	H2a	–.018	.819	Not Supported
Program Design -> Instrumentality	H2b	–.057	.488	Not Supported
Program Design -> PBV	H2c	–.229	.009	Supported
Program Design -> SOV	H2d	–.010	.897	Not Supported
Indirect Effects (Mediation)				
via Expectancy	H3	–.012	[–.117, .092]	Not Supported
via Instrumentality		–.027	[–.103, .050]	Not Supported
via PBV		–.130	[–.230, –.034]	Supported
via SOV		–.007	[–.111, .096]	Not Supported

Note. For H1, values are group means. For H2 and H3, values are unstandardized regression coefficients. Significance level was set at 95%.

4.4.4 Moderation Analyses

4.4.4.1 Moderation Analysis of Brand Trust on Interpretation of Program Design (H4)

H4 predicted that *Brand Trust* would moderate the effect of the program design on each of the *ET* components. To test this, four separate moderation analyses were conducted using PROCESS Model 1 (Hayes, 2022).

The analyses showed no significant moderating effects of *Brand Trust* on *Instrumentality* (interaction b = .083, p = .220), *SOV* (b = –.033, p = .657), or *PBV* (b = .121, p = .117). All interaction terms were clearly non-significant.

For *Expectancy*, the interaction term was marginal (b = .153, p = .057) but did not reach the conventional significance threshold. A simple slopes analysis indicated that this marginal trend was driven by participants with high levels of *Brand Trust* (+1 SD), for whom the convenience nudge predicted higher *Expectancy* (effect = .209, p = .040). No corresponding effects emerged at low or average levels of trust, and the overall moderation remained statistically non-significant.

Taken together, the findings do not support H4. The marginal trend observed for *Expectancy* may offer an avenue for interpretation in the discussion section, as it suggests that highly trusting consumers may react somewhat more positively to a convenience-based program design, but the effect was not strong enough to constitute reliable evidence of moderation.

4.4.4.2 Moderation Analysis of Brand Trust on Participation Intention (H5)

H5 predicted that *Brand Trust* would moderate the relationship between each of the four *ET* components and *Participation Intention*, such that these relationships would be stronger when *Brand Trust* is high. Four separate moderation analyses were conducted using PROCESS Model 1 (Hayes, 2022) to test this prediction.

The results showed that *Brand Trust* did not significantly moderate the relationships between *Expectancy* and *Participation Intention* (interaction b = .019, p = .406), *Instrumentality* and *Participation Intention* (b = –.025, p = .237), or *SOV* and *Participation Intention* (b = .007, p = .723). All three interaction terms were non-significant, indicating no moderating effect for these three pathways.

In contrast, the interaction between *PBV* and *Brand Trust* was statistically significant (b = –.061, p = .006), demonstrating that Brand Trust moderates the influence of perceived personal benefits on *Participation Intention*. Notably, the direction of this effect was opposite to the original prediction.

A simple slopes analysis revealed that the positive effect of *PBV* on intention was strongest among participants with low *Brand Trust* (effect = .569, p < .001) and weaker among those with high *Brand Trust* (effect = .423, p < .001). This pattern suggests a substitutive effect: when trust in the brand is already high, personal benefits play a smaller role in driving intention; when trust is low, personal benefits become more important for motivating participation.

A complete summary of the moderation analyses is presented in Table 6.

Table 6

Summary of Moderation Analysis Results (H4, H5)

Interaction Effect Tested	Interaction Coeff. (*b*)	*p*-value	CI	Outcome
Program Design x Brand Trust -> ET Components (H4)				
Program Design x Brand Trust -> Expectancy	.153	.057	[–.004, .310]	Not Supported (Marginal)
Program Design x Brand Trust -> Instrumentality	.083	.220	[–.050, .216]	Not Supported
Program Design x Brand Trust -> PBV	.121	.117	[–.030, .271]	Not Supported
Program Design x Brand Trust -> SOV	–.033	.657	[–.178, .112]	Not Supported
ET Component x Trust -> Intention (H5)				
Expectancy x Brand Trust -> Intention	.019	.406	[–.026, .064]	Not Supported
Instrumentality x Brand Trust -> Intention	–.025	.237	[–.067, .017]	Not Supported
PBV x Brand Trust -> Intention	–.061	.006	[–.104, –.018]	Supported (Opposite Direction)
SOV x Brand Trust -> Intention	.007	.723	[–.030, .043]	Not Supported

Note. Coeff = Unstandardized regression coefficient for the interaction term. Significance level was set at 95%.

4.5 Exploratory Analyses

4.5.1 Exploratory Moderation Analysis: City Size

In addition to the pre-registered hypotheses, an exploratory moderation analysis was conducted to investigate whether the effect of the program design on *Participation Intention* was conditional on the participants' living area.

A moderation analysis was conducted using PROCESS Model 1 (Hayes, 2022), with the full statistical output presented in Appendix D. Although the interaction term did not reach the

conventional threshold for statistical significance, it approached significance (b = –.132, p = .065), indicating a marginal moderation effect.

A simple slopes analysis was conducted to interpret this pattern, supported by the Johnson–Neyman output. The results showed that for participants living in large cities (–1 SD on City Size), there was no significant difference in *Participation Intention* between the monetary and convenience conditions (effect = –.054, p = .654). In contrast, for participants in rural areas (+1 SD on City Size), the monetary incentive produced significantly higher *Participation Intention* compared to the convenience nudge (effect = –.358, p = .002).

These findings suggest a potential boundary condition for the main effect observed in H1. The superiority of the monetary incentive is not uniform across all participants; rather, it appears to be driven primarily by those living in suburban and rural areas. For urban participants, both program designs were equally effective.

4.6 Robustness Check: Comparison with Full "Realistic" Sample (N=1172)

A robustness analysis was conducted to compare the results from the cleaned analytical sample (N=720) with those from the full sample (N=1172). This comparison provides insight into how inattentive respondents influence the observed effects and clarifies the distinction between the theory-driven mechanism and the more “realistic” pattern that emerges when attentiveness is not controlled. Appendix E1 reports the randomization check for the large sample, and Appendix E2 provides the full hypothesis testing results.

Substantial differences emerged in the mediation analyses for H3. In the clean sample, the results indicated mediation through *PBV*. This pattern reflects the “true,” theory-consistent mechanism among attentive respondents. In the full sample, however, this mediation was not supported; the indirect effect was non-significant (b = –.070, 95% CI [–.141, .001]), and the program design operated through a marginally significant direct effect on *Participation Intention* (b = –.107, p = .054). This indicates that the indirect pathway was reduced in the full sample.

Apart from this difference, all other findings were consistent across the two samples, including the direction and significance of the main effect and all remaining mediation and moderation patterns.

4.7 Summary of Hypothesis Test Results

Table 7 provides a comprehensive overview of all hypotheses tested in this study.

Table 7

Summary of Hypotheses Testing

H1	The type of program design (monetary incentive vs. convenience-based nudge) influences Participation Intention.	**Supported**
H2	The program design will have a direct effect on the ET components.	**Partially Supported**
H2a	A convenience-nudge design will generate higher Expectancy than a monetary-incentive design.	**Not Supported**
H2b	A convenience-nudge design will generate higher Instrumentality than a monetary-incentive design.	**Not Supported**
H2c	A monetary-incentive design will generate higher Personal-Benefit Valence than a convenience-nudge design.	**Supported**
H2d	A convenience-nudge design will generate higher Sustainability-Outcome Valence than a monetary-incentive design.	**Not Supported**
H3	The effect of program design on Participation Intention is mediated through Expectancy, Instrumentality, Sustainability-Outcome Valence, and Personal-Benefit Valence as distinct pathways.	**Partially Supported**
H4	Brand Trust moderates the relationship between the program design and the ET components.	**Not Supported**
H5	Brand Trust moderates the relationship between the ET components and Participation Intention, such that the effects are stronger when trust is high.	**Not Supported***

Note. *H5 was statistically significant for PBV ($p = .006$), but the effect was stronger when trust was low, contradicting the directional prediction.

5 Discussion

5.1 Key Findings

The results of this study provide a nuanced and complex picture of consumer motivation in circular fashion.

First, the findings strongly support Hypothesis 1: the monetary incentive was significantly more effective at increasing *Participation Intention* than the convenience-based nudge. A 50 SEK voucher requiring an in-store drop-off outperformed a free home pick-up service, challenging the subset of studies that identify convenience as the stronger motivator.

Second, this effect was fully mediated by *PBV*, providing support for Hypothesis 2. The monetary incentive increased *Participation Intention* because it enhanced perceptions of personal benefit. In contrast, the incentive did not significantly influence *Expectancy*, *Instrumentality*, or *SOV*. This indicates that the driving mechanism behind the monetary incentive's success is its ability to increase perceived extrinsic gain rather than perceptions of ease or pro-social value.

Third, the analyses revealed an important moderation involving *Brand Trust*, consistent with Hypothesis 5 but in the opposite direction of the original prediction. The positive relationship between *PBV* and *Participation Intention* was weaker among consumers with high *Brand Trust*. This pattern suggests a substitutive effect: high-trust consumers are already motivated to participate and therefore rely less on the promise of personal benefits, whereas low-trust consumers depend more heavily on these benefits to form their intentions.

Fourth, the robustness check uncovered a crucial distinction between attentive and "realistic" consumers. In the full sample (N = 1,172), which included inattentive respondents, the mediation effect disappeared and the program design operated primarily as a direct cue.

Finally, an exploratory moderation analysis indicated that context also plays a role in shaping program design effectiveness. The monetary incentive was marginally more effective for participants living in rural or suburban areas, whereas for urban participants the monetary incentive and convenience nudge performed similarly.

5.2 Theoretical Contributions

This study makes several contributions to research on consumer motivation, program design, and sustainable behavior by offering a mechanism-based explanation for how different behavioral intervention tools shape *Participation Intention* in circular fashion programs.

First, the study demonstrates that *ET* meaningfully applies in a circular fashion context, but only one of its components explains how program design shapes intention. *PBV* emerged as the primary causal mechanism, mediating the relationship between program design and *Participation Intention* in the cleaned sample (N = 720). This provides evidence that attentive consumers evaluate recycling programs through the lens of perceived personal gain. This finding not only validates *ET* components in this context but also isolates the specific *ET* component through which behavioral intervention tools operate.

Second, the study contributes to theoretical clarity by separating the two components of *Valence*. While *PBV* strongly mediated the program design–intention relationship, *SOV* did not respond to the manipulation. Treating *Valence* as a single construct would have concealed this distinction. By showing that *PBV* and *SOV* behave differently, the study highlights the importance of distinguishing between personal, extrinsic value and sustainability-oriented, pro-social value in sustainable consumption research.

Third, the results provide insight into the ongoing debate about whether extrinsic rewards undermine *Intrinsic Motivation*. In this study, no evidence of crowding-out emerged: the monetary incentive increased *PBV* without reducing *SOV* or other sustainability-oriented motivations. This suggests that for lower effort sustainable behaviors, such as fast-fashion recycling, small, tangible rewards might not harm intrinsic values. Instead, they can operate alongside existing motivations. These findings support the view that crowding-out effects are context-dependent rather than universal.

Fourth, the study identifies a substitutive relationship between *PBV* and *Brand Trust*. The moderation analysis (H5) showed that the influence of *PBV* on intention was significantly weaker among consumers with high trust in the brand. This suggests that trust and personal benefit can compensate for one another: low-trust consumers rely more heavily on *PBV* as a concrete justification to act, whereas high-trust consumers require fewer personal benefits to participate. This finding adds conceptual nuance to how different motivational pathways

interact and highlights that motivational forces can compensate for one another rather than operate independently.

Finally, the robustness check contributes a useful framework for future research by differentiating between elaborative and heuristic processing. The mediation pathway through *PBV* emerged only in the attentive sample (N = 720), whereas in the full sample (N = 1172) the program design's effect operated mainly as a direct, heuristic cue. This pattern aligns closely with the dual-system model: attentive respondents appear to rely on System 2 thinking, which is slow, deliberate, and effortful, while inattentive respondents rely on System 1 thinking, which is fast, intuitive, and driven by simple cues (Kahneman, 2011). This interpretation clarifies when the cognitive mechanisms predicted by *ET* are likely to emerge and help bridge the gap between controlled, theory-driven prediction and real-world consumer behavior.

5.3 Methodological Contributions

This study also offers methodological insights relevant to research on sustainable consumer behavior and applied motivational models.

First, the findings highlight the methodological importance of participant attentiveness in experimental designs. The robustness comparison between the cleaned sample (N = 720) and the full sample (N = 1,172) showed that the theoretically predicted mediation through *PBV* appeared only among attentive respondents. This demonstrates that theoretical mechanisms may be obscured if researchers do not adequately screen for attention or comprehension. Consequently, the study underscores the value of manipulation checks and instructed-response items for identifying the cognitive processes at work.

Second, the use of a fictional brand ensured that the manipulation was not confounded by strong pre-existing attitudes toward an existing company. This reduced variance introduced by brand familiarity, loyalty, or credibility, and thereby increases internal validity. This approach demonstrates a practical and controlled way to test behavioral intervention effects without the noise of real-world brand perceptions.

5.4 Managerial Contributions

The findings from this study offer several actionable insights for managers designing take-back programs in the fast-fashion industry.

First, the results show that highlighting personal, tangible value is an effective strategy for driving participation. The monetary incentive outperformed the convenience nudge (H1), and this effect was transmitted through *PBV* (H3). This suggests that communicating a clear and concrete benefit such as a voucher can be especially influential. For attentive consumers, convenience alone is not the main motivator. Messaging should therefore place the personal reward at the center of the offer, as it is the key factor that shapes consumers' willingness to participate.

Second, the moderation results indicate that monetary rewards are particularly effective among consumers who have low trust in fast-fashion brands. The effect of *PBV* on intention was strongest for low-trust participants (H5), suggesting that tangible benefits help compensate for skepticism. This implies that vouchers can serve as an effective entry point for consumers who may be doubtful of a brand's sustainability intentions. At the same time, the findings also show that high-trust consumers require less emphasis on personal benefits, as trust itself already supports participation. This highlights a dual strategy: monetary incentives can help engage skeptical consumers in the short term, while building authentic *Brand Trust* remains a strong long-term lever for participation without relying on financial rewards.

Third, the exploratory moderation analysis on living area revealed a marginal pattern suggesting that geographic segmentation may inform tailored program design strategies. The monetary incentive appeared more effective among participants in rural and suburban areas, whereas in large cities both interventions performed similarly. This pattern should be interpreted cautiously, but one plausible explanation is that the convenience nudge used in this study, while helpful, may not fully remove the logistical barriers rural consumers face. Arranging a home pickup still requires scheduling, presence at home, and trust in the service, and may therefore not be perceived as sufficiently convenient to offset the higher baseline effort. In contrast, the monetary incentive provides a clear and immediate benefit that may compensate more directly for the perceived inconvenience of participating. While exploratory, this suggests that monetary incentives may hold particular value in less accessible regions.

Finally, the robustness check suggests that consumers vary in how much attention they pay to sustainability communications. Some consumers carefully read and evaluate program details, while many react quickly to simple cues. This has clear implications for marketing strategy: the monetary incentive should stay central, but the communication surrounding it should be tailored to attention level. Broad, low-engagement channels (e.g., social media ads, in-store posters) benefit from simple, highly salient messages such as "Get 50 SEK for your old clothes." In contrast, higher-engagement touchpoints such as loyalty programs, apps, or email newsletters can communicate additional value, explain the program more fully, and appeal to consumers who are more likely to take the time to process details.

5.5 Limitations

While this study provides meaningful insights into consumer motivation and program design, several limitations should be considered when interpreting the findings.

A first limitation concerns the generalizability of the primary analytical sample consisting of attentive participants only. This approach increases internal validity but restricts external validity, as it reflects a more attentive and engaged consumer segments than the broader population. The robustness comparison with the full sample showed that inattentive participants follow different motivational patterns, suggesting that real-world responses may be more heterogeneous than those observed in the cleaned sample.

A second limitation relates to the use of *Participation Intention* rather than actual behavior as the dependent variable. Although intention is widely recognized as a strong predictor of behavior, sustainable consumption research consistently documents an intention–behavior gap (Sheeran, 2002; Webb & Sheeran, 2006). Decisions made in a hypothetical online scenario may differ from real-world recycling behavior, where effort, timing, and competing priorities play a greater role.

A third limitation is linked to the use of the fictional brand "HALANI." As outlined in the delimitations, fictional brands strengthen internal validity by removing pre-existing brand attitudes. However, this also limits ecological validity. Participants' rather moderate and homogeneous trust in "HALANI" does not reflect the varied and often polarized perceptions consumers hold toward real fast-fashion brands. Given that *Brand Trust* moderated the effect

of *PBV* on intention, the results may evolve differently when applied to brands with strong positive or negative reputations.

A fourth limitation stems from the intentionally confounded design of the experimental manipulation. The two intervention conditions differed not only in program design type (monetary vs. convenience) but also in effort level (in-store drop-off vs. home pickup). This design choice was appropriate for testing the study's hypotheses, but it limits the ability to isolate whether the monetary condition's advantage is driven solely by the voucher or by the combined effect of the voucher and the effort difference. Because the 'personal benefit' in one condition was financial (voucher) and in the other was functional (time-saving via pickup), the PBV mediator captures a composite of different benefit types. Consequently, we cannot isolate the individual contribution of the reward magnitude from the convenience of the logistics.

A fifth limitation relates to the cultural and contextual specificity of the sample. While the delimitations acknowledge that the study focuses on Swedish consumers, the limitation extends further: Sweden's infrastructure, environmental culture, and familiarity with textile recycling schemes may influence how program designs are perceived. The value of a 50 SEK voucher, the attractiveness of home pickup, and the salience of sustainability messaging may differ substantially in other countries.

A sixth limitation concerns the manipulation-related exclusions. The convenience condition resulted in substantially higher exclusion rates (49%) than the monetary condition (28%), indicating that the convenience nudge was less clear or insufficiently salient in our design. This limits the study, as such high manipulation-failure rates reduce the comparability of the conditions. At the same time, it is possible that this pattern also reflects a broader challenge for real-world implementation: if consumers struggle to understand or remember convenience-based offerings, these programs may underperform relative to simpler, more concrete incentives.

A further limitation concerns the specific operationalization of the two program features. The study examined only one form of convenience, a scheduled home pickup, which may not represent other high-convenience formats such as free drop-off at a parcel shop or collection point, or automated drop-off lockers located at store entrances. Likewise, the monetary incentive was fixed at a single amount (50 SEK), preventing conclusions about how different reward sizes might influence motivation. These choices were necessary for experimental

control, but they limit the generalizability of the findings to other convenience nudge formats or incentive magnitudes.

Finally, the study relies exclusively on self-reported data. This method is susceptible to biases, particularly Social Desirability Bias (Grimm, 2010), where participants may over-report pro-environmental attitudes or under-report skepticism to present themselves in a more favorable, socially conscious light. Furthermore, all variables were collected from a single source at the same time, which raises the possibility of Common Method Bias (Podsakoff et al., 2003), although the high discriminant validity and use of covariates mitigate this concern.

5.6 Directions for Future Research

These limitations outline several promising avenues for future research.

A first and essential step is to directly test the "heuristic versus elaboration" pattern observed in the robustness check. It suggests a dual-process mechanism that warrants explicit hypothesis testing, potentially drawing on established System 1 / System 2 frameworks.

Second, future work could move beyond self-reported intention and examine actual consumer behavior. Field experiments conducted in collaboration with fast-fashion brands, such as A/B tests comparing a monetary voucher to a home pickup service, would allow researchers to measure real return rates and validate whether the motivational mechanisms observed in this study translate into actual participation.

Third, the moderating role of *Brand Trust* could be replicated using real-world brands. Because trust levels for the fictional brand in this study were relatively neutral, examining brands with high and low pre-existing trust could clarify whether vouchers are indeed more persuasive for skeptical consumers and whether high-trust brands might benefit more from convenience-based designs.

Fourth, future research could employ a 2 × 2 factorial design that independently manipulates incentive type (monetary vs. no monetary) and convenience (high vs. low). Such a design would disentangle the individual and interactive effects of both components and could identify whether certain combinations such as pairing monetary incentives with high convenience produce disproportionately strong effects.

Fifth, research could extend this work across cultural and market contexts. The perceived value of the monetary incentive, the attractiveness of convenience, and the underlying motivations may differ substantially across countries. Applying the *ET* framework to other circular initiatives such as repair services, resale platforms, or rental models could also help assess whether *PBV* remains the dominant mediator across sustainable consumption domains.

Sixth, future studies could investigate the optimal magnitude and structure of program designs. This study examined only a single monetary amount (50 SEK) and one form of convenience (a scheduled home pickup). Testing multiple monetary levels (e.g., 25 SEK, 50 SEK, 100 SEK) could allow researchers to estimate an incentive curve and determine the point at which additional reward value no longer meaningfully increases participation. Likewise, examining alternative convenience formats could clarify how different types of effort reduction influence motivation and whether certain convenience designs can match or complement monetary rewards.

Finally, the marginal trend indicating stronger monetary effects in suburban and rural areas could be systematically re-tested. Future studies could examine whether geographic differences such as accessibility or travel effort moderate how consumers respond to monetary incentives versus convenience-based nudges.

6. Conclusion

This thesis examined how two widely used behavioral intervention tools (monetary incentives and convenience-based nudges) shape consumers' willingness to participate in fast-fashion circular take-back programs, thereby answering the research question:

"*How do different circular-fashion program designs (monetary incentives versus convenience-based nudges) affect consumer Participation Intention, and how are these effects shaped by underlying motivational evaluations and Brand Trust?"*

The findings reveal a clear pattern: participation is driven less by perceived convenience or environmental benefit than by the feeling of receiving something personally valuable in return. Even a modest voucher outperformed a home-pickup service, highlighting that *PBV* is a central motivator in the context of circular fashion.

These results challenge one of the common assumptions that convenience is the most effective lever for encouraging sustainable behavior. Instead, the results show that consumers approach circular participation as a value exchange. When that exchange feels meaningful through a small reward, recognition, or clear personal benefit, intentions rise significantly. *Brand Trust* further shapes this dynamic: consumers who are unsure of a brand respond most strongly to monetary incentives, suggesting that extrinsic value can help bridge credibility gaps and bring hesitant consumers into circular systems.

For the future of sustainable fashion, these insights point toward a more pragmatic and consumer-aligned approach. Brands aiming to scale circularity may benefit from offering tangible, low-threshold rewards that signal appreciation and make participation feel worthwhile. Rather than relying solely on narratives of environmental impact or convenience, circular initiatives should be designed around motivational structures that reflect how people actually decide to act.

Ultimately, the path to higher participation lies not only in making circular behaviors easy, but in making them feel valuable. As the industry continues to expand take-back models, understanding and leveraging these motivational drivers will be critical for turning circularity from a niche behavior into a mainstream habit.

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Appendices

Appendix A: Questionnaire

Note. Unless otherwise indicated, all attitudinal items were measured on a 7-point Likert scale (1 = Strongly disagree, 7= Strongly agree)

A1. Screening and Introduction

Language Check

Välkommen till en ny undersökning från Norstatpanelen. Denna gång är undersökningen på engelska - vi undrar nu om du känner dig bekväm med att svara på engelska?

- ○ Ja det går fint
- ○ Nej tack

Introduction

Welcome!
Thank you for taking the time to participate in this short survey. This study is conducted as part of a Master's thesis at the Stockholm School of Economics.
*Your participation will take approximately **8-10 minutes**. **All responses are anonymous, stored securely, and used only for academic purposes**. You may stop the survey at any time without consequence.*
If you have any questions, please contact: Hanna Pohl (42826@student.hhs.se) or **Alina Schmiedeke (42806@student.hhs.se).**

Consent

*I have read the information above and **consent** to participate in this study.*

- ○ Yes
- ○ No

Brand Description

Brand Fast fashion refers to a fashion business model ***defined by rapid production cycles, frequent assortment turnover, and affordable, trend-driven clothing.***

HALANI is a fictional fast fashion brand*. It offers trendy and affordable clothing and frequently updates its collections to reflect the latest fashion trends.*

A2. Scenario Instructions

On the next page, you will read a ***scenario about the fast fashion brand HALANI.*** *Please take a moment to imagine yourself in that situation as clearly and realistically as possible. Think about what you might see, think, and feel in that moment. Your answers will be based on this imagined experience.*

A3. Experimental Scenarios

Monetary Incentive Condition

HALANI has launched a take-back program. *Customers can return used clothes. Depending on their condition, the clothes will be recycled, reused, or donated.*

The take-back program contributes to sustainability by cutting waste, avoiding emissions from burning clothes, and saving water and energy by reducing the need to make new fabrics.

How it works:

1. Bring it in: *Drop off your clean, pre-loved clothes or textiles from any brand at a HALANI store.*

2. Box it up: *Place your items in our dedicated collection box.*

3. We handle the rest: *The textiles are sorted for reuse, donation, or recycling, giving each item the best possible next life.*

By participating, you help close the loop and make fashion more circular ***- and as a thank-you, you'll receive a 50kr HALANI gift card for your next purchase.***

Convenience-Nudge Condition

HALANI has launched a take-back program. *Customers can return used clothes. Depending on their condition, the clothes will be recycled, reused, or donated.*

The take-back program contributes to sustainability by cutting waste, avoiding emissions from burning clothes, and saving water and energy by reducing the need to make new fabrics.

How it works:

1. Choose your day: *Select any pickup date that suits you.*

2. Prepare your items: *Pack your clean, pre-loved clothes or textiles from any brand.*

3. We handle the rest: *Our logistics partners collect your parcel through a climate-neutral pickup. The textiles are then sorted for reuse, donation, or recycling, giving each item the best possible next life.*

By participating, you help close the loop and make fashion more circular ***- while enjoying the convenience of pickup right at your doorstep.***

A4. Manipulation Check

Customers participating in the take-back program get ...

- ○ a gift card for their next purchase
- ○ a free home pick-up
- ○ Neither of these
- ○ I don't remember

A5. Participation Intention

In the following statements, please indicate how much you agree or disagree with each statement.

I think the described take-back program is a good idea.

I would be willing to participate in the described take-back program.

I would consider participating in the described take-back program.

A6. Expectancy Theory Components

In this section, the questions are about your personal impressions and attitudes toward the ***HALANI take-back program*** *you just read about.*

There are no right or wrong answers - please answer honestly and share your genuine opinions based on the knowledge you have from the survey.

Please indicate how much you agree or disagree with each statement.

Expectancy

The take-back program makes it easy for me to participate.

I feel capable of completing the required steps to participate in the take-back program.

Successfully participating in the take-back program feels realistic to me.

Instrumentality

If I return my clothes through the take-back program, they will actually be recycled, reused, or donated.

My participation in the take-back program will contribute to sustainability as promised.

The take-back program will achieve the environmental goals it describes.

SOV

Participating in the take-back program is valuable to me because it contributes to sustainability.

Participating in the take-back program would be worthwhile as it supports sustainability.

I would feel good about participating in the take-back program because it helps the environment.

PBV

Participating in the take-back program is valuable to me because it provides personal benefits.

Participating in the take-back program would be worthwhile for me personally.

I would feel good about participating in the take-back program because it offers something beneficial to me.

A7. Brand Trust

In this section, the questions are about your personal impressions and attitudes toward the ***HALANI brand****.*

There are no right or wrong answers - please answer honestly and share your genuine opinions based on the knowledge you have from the survey.

Please indicate how much you agree or disagree with each statement.

I trust HALANI.

HALANI is reliable.

HALANI is honest with its customers.

I believe HALANI will keep its promises.

A8. General Attitudes and Perceptions

In this section, the questions are about your personal impressions and attitudes toward more ***general topics****.*

There are no right or wrong answers - please answer honestly and share your genuine opinions based on the knowledge you have from the survey.

Please indicate how much you agree or disagree with each statement.

Intrinsic Motivation

I feel pleasure in improving the quality of the environment.

I like the feeling when doing things for the environment.

I feel pleasure in contributing to the environment.

Environmental Concern

It is important to me that the products I use do not harm the environment.

I consider the potential environmental impact of my actions when making many of my decisions.

My purchase habits are affected by my concern for our environment.

I am concerned about wasting the resources of our planet.

I would describe myself as environmentally responsible.

I am willing to be inconvenienced in order to take actions that are more environmentally friendly.

Perceived Greenwashing

HALANI presents mixed messages about its environmental behavior.

HALANI gives information about its environmental achievements without clear proof.

HALANI provides an exaggerated message about its environmental performance.

Perceived Corporate Hypocrisy

In my opinion, what HALANI says and does are two different things.

In my opinion, HALANI pretends to be something that it is not.

In my opinion, HALANI does exactly what it says.

A9. Past Behavior

*In this section, the questions are about your **past behavior & experiences.***

There are no right or wrong answers - please answer honestly and share your genuine opinions based on the knowledge you have from the survey.

Please indicate how much you agree or disagree with each statement.

Past Fast-Fashion Shopping Frequency

How often do you buy from fast fashion brands?

- ○ Never
- ○ Rarely (once a year)
- ○ Sometimes (a few times a year)
- ○ Often (monthly)
- ○ Very often (weekly)

Past Participation in Take-Back Programs

Have you ever participated in a clothing take-back or recycling program before?

- ○ Never (0 times)
- ○ Once (1 time)
- ○ A few times (2-5 times)
- ○ Many times (6+ times)

A10. Attention Check

To show you are paying attention, please select 'Somewhat disagree' for this question.

- ○ Strongly disagree
- ○ Somewhat disagree
- ○ Neither agree nor disagree
- ○ Somewhat agree
- ○ Strongly agree

A11. Demographics

Age

How old are you?

(open text)

Gender

What gender do you identify with?

- ○ Female
- ○ Male
- ○ Non-Binary
- ○ Other:
- ○ Prefer not to say

City Size

How would you best describe the area where you currently live?

- ○ A large city (more than 500,000 inhabitants)
- ○ A medium-sized city (100,000-500,000 inhabitants)
- ○ A small city or town (fewer than 100,000 inhabitants)
- ○ A rural area (village or countryside - fewer than 10,000 inhabitants)

Occupational Status

What is your current main activity?

- ○ I am a full-time student
- ○ I am working full-time
- ○ I am working part-time
- ○ I am currently looking for a job
- ○ I am self-employed or freelance
- ○ I am not currently working or studying
- ○ Other:

Education

What is your highest level of education?

- ○ Less than a high school diploma
- ○ High school diploma or equivalent
- ○ Bachelor's / Associate's degree
- ○ Master's degree
- ○ Doctorate
- ○ Other (please specify):

Income

What is your approximate annual gross income (before taxes)?

- ○ Less than 100,000 SEK
- ○ 100,000 – 249,999 SEK
- ○ 250,000 – 399,999 SEK
- ○ 400,000 – 549,999 SEK
- ○ 550,000 – 749,999 SEK
- ○ 750,000 SEK or more
- ○ Prefer not to say

Appendix B: Multiple Linear Regression for Covariate Selection

Predictor	**Unstandardized B**	**Std. Error**	**Beta**	***t***	***p*-value**
(Constant)	4.29	.47		9.17	<.001
Past Shopping Frequency Fast Fashion	.328	.051	.214	6.46	<.001
Intrinsic Motivation	.417	.054	.362	7.77	<.001
Perceived Corporate Hypocrisy	–.397	.057	–.321	–7.00	<.001
Past Participation in Take-Back Program	.103	.041	.081	2.49	.013
Income	–.056	.025	–.072	–2.27	.023
Environmental Concern	–.058	.053	–.051	–1.09	.275
Occupational Status	–.018	.027	–.026	–.66	.511
Gender	.053	.086	.021	.61	.542
Perceived Greenwashing	–.030	.056	–.024	–.54	.591
City Size	–.015	.037	–.013	–.40	.688
Education	.005	.023	.007	.22	.830
Age	–.002	.003	–.028	–.68	.499

Note. $R^2 = .342$, Adjusted $R^2 = .331$, $F(12, 707) = 30.69$, $p < .001$. The experimental condition was included in the model (b = -.219, p = .011).

Appendix C: Detailed Sample Characteristics and Randomization Check by Experimental Condition

Variable	Category	Total Sample (N=720)	Monetary Condition (n=426)	Convenience Condition (n=294)	Test Statistic	p-value
Gender	Female	371 (51.5%)	228 (53.5%)	143 (48.6%)	$\chi2(4) = 3.84$	.428
	Male	343 (47.6%)	195 (45.8%)	148 (50.3%)		
	Other/Prefer not to say	6 (0.8%)	3 (0.7%)	3 (1.0%)		
Age (Years)	Mean (SD)	46.55 (17.17)	46.64 (16.96)	46.41 (17.49)	$t(718) = 0.18$	.860
Education	High Shool or less	292 (40.6%)	168 (39.4%)	124 (42.2%)	$\chi2(5) = 4.20$	.521
	Bachelor's/Associate	225 (31.3%)	133 (31.2%)	92 (31.3%)		
	Master's/Doctorate	191 (26.5%)	116 (27.2%)	75 (25.5%)		
	Other	12 (1.7%)	9 (2.1%)	3 (1.0%)		
Annual Income (SEK)	Low (< 250k)	142 (19.7%)	83 (19.5%)	59 (20.1%)	$\chi2(6) = 6.36$	.384
	Middle (250k-550k)	286 (39.7%)	167 (39.2%)	119 (40.5%)		
	High (> 550k)	183 (25.4%)	107 (25.1%)	76 (25.9%)		
	Prefer not to say	109 (15.1%)	69 (16.2%)	40 (13.6%)		
City Size	Rural Area	156 (21.7%)	84 (19.7%)	72 (24.5%)	$\chi2(3) = 3.28$	.351
	Small City (< 100k)	173 (24.0%)	110 (25.8%)	63 (21.4%)		
	Medium City	150 (20.8%)	88 (20.7%)	62 (21.1%)		
	Large City (> 500k)	241 (33.5%)	144 (33.8%)	72 (24.5%)		
Occupational Status	Working full-time	376 (52.2%)	215 (50.5%)	161 (54.8%)	$\chi2(6) = 5.98$	.425
	Student	83 (11.5%)	54 (12.7%)	29 (9.9%)		
	Not working/studying	89 (12.4%)	48 (11.3%)	41 (13.9%)		
	Other	80 (11.1%)	50 (11.7%)	30 (10.2%)		
	Working part-time	48 (6.7%)	33 (7.7%)	15 (5.1%)		
	Self-employed	28 (3.9%)	15 (3.5%)	13 (4.4%)		
	Looking for a job	16 (2.2%)	11 (2.6%)	5 (1.7%)		

Note. All p-values > .05 indicate no significant differences between groups, confirming successful randomization. The test statistic for Age corresponds to an Independent Samples t-test; all other variables were tested using Pearson Chi-Square tests.

Appendix D: Exploratory Moderation by City Size

Moderator (W)	Interaction Term (Program Design x W)	*p*-value	Finding
City Size	b = –.132	.065	Marginal: The negative coefficient indicates the monetary incentive becomes more effective as City Size increases (i.e., in rural areas, coded as 4).

Note. Model controlled for standard covariates.

Appendix E: Robustness Check Analysis Full Sample

Appendix E1: Randomization Check for N = 1172 Sample

Characteristic	Test Statistic	*p*-value	Result
Gender	$\chi 2(4) = 7.91$	.100	No significant difference
Education	$\chi 2(5) = 5.58$	.349	No significant difference
Income	$\chi 2(6) = 5.18$	.521	No significant difference
Age	$t(1166) = 0.48$	.631	No significant difference
Environmental Concern	$t(1170) = 1.64$	.101	No significant difference

Note. Group sizes: Monetary n=593, Convenience n=579

Appendix E2: Hypothesis Testing Results for N = 1172 Sample

Hypothesis	Path / Test	Coefficient/Value	*p*-value/CI	Outcome (N=1172)
H1: Main Effect	Program Design -> Intention	$M_{Monetary} > M_{Convenience}$ (5.12 vs. 4.91)	.007	Supported
H2: Path A				
H2a	Program Design -> Expectancy	b = -.035	.585	Not Supported
H2b	Program Design -> Instrumentality	b = -.054	.386	Not Supported
H2c	Program Design -> PBV	b = -.125	.055	Not Supported (Marginal)
H2d	Program Design -> SOV	b = -.065	.295	Not Supported

H3: Indirect Effects (Mediation)				
	via Expectancy	Ind = –.022	[–.102, .057]	Not Supported
	via Instrumentality	Ind = –.027	[–.087, .033]	Not Supported
	via PBV	Ind = –.070	[–.141, .001]	Not Supported
	via SOV	Ind = –.042	[–.119, .038]	Not Supported
Program Design x Brand Trust -> ET Components (H4)				
	Program Design x Brand Trust -> Expectancy	b = .051	.416	Not Supported
	Program Design x Brand Trust -> Instrumentality	b = .058	.298	Not Supported
	Program Design x Brand Trust -> PBV	b = .083	.158	Not Supported
	Program Design x Brand Trust -> SOV	b = -.040	.501	Not Supported
ET Component x Trust -> Intention (H5)				
	Expectancy x Brand Trust -> Intention	b = .012	.488	Not Supported
	Instrumentality x Brand Trust -> Intention	b = -.002	.918	Not Supported
	PBV x Brand Trust -> Intention	b = -.044	.011	Supported (Opposite Direction)
	SOV x Brand Trust -> Intention	b = .017	.256	Not Supported

Note. All regression models controlled for standard covariates. P-values are reported for direct effects and interactions; 95% Confidence Intervals (CI) are reported for bootstrapped indirect effects where p-values are not available.

Appendix F: AI Usage Report

Throughout the development of this thesis, generative AI tools were used in a limited, transparent, and controlled manner. All AI-generated suggestions were carefully reviewed, critically evaluated, and only incorporated when they aligned with our intended meaning and analytical approach. No new conceptual ideas or theoretical contributions were introduced by AI.

ChatGPT (GPT-5.1)

ChatGPT (GPT-5.1) was used in several limited and clearly defined ways. First, it supported improvements in flow and clarity by helping refine transitions and strengthen the coherence of arguments, without introducing any new ideas; all edits were purely stylistic. It was also used to rephrase existing text, offering alternative formulations for sentences we had already drafted, which we then individually assessed for accuracy and appropriateness. In addition, the model assisted in generating natural and realistic wording for the scenario descriptions, strictly following our predefined manipulations. Finally, ChatGPT contributed to general language refinement by enhancing clarity and readability, with every suggestion being manually checked to ensure that the intended meaning remained fully intact.

Examples of ChatGPT Interactions

1. Flow and clarity improvement (stylistic only) prompt example: *"Can you improve the flow of the following paragraph without adding any new ideas? Keep all content intact but make transitions smoother: [inserted paragraph]."*
2. Rephrasing existing text prompt example: *"Please provide two alternative phrasings for this sentence while maintaining the exact meaning: 'Participation is driven less by convenience and environmental benefit than by the feeling of receiving something personally valuable in return.'"*
3. Scenario wording (based strictly on predefined manipulations) prompt example: *"This survey requires two scenario descriptions. Scenario A should describe a home-pickup service with no reward. Scenario B should describe an in-store drop-off with a 10% voucher. Please write both scenarios in neutral, consumer-friendly wording that feels realistic for an actual fashion brand. Do not add any additional elements beyond the described manipulations."*
4. General language refinement prompt example: *"Please check this paragraph for clarity and readability. Do not change the meaning and do not introduce any new conceptual elements."*

Google Gemini

Google Gemini Google Gemini was used to double-check data analysis steps. It helped verify descriptive calculations and coding logic to ensure that no analytic mistakes had been made. All final statistical analyses, interpretations, and decisions were performed independently by the authors.

Example of Gemini Interaction

1. Prompt example (Verification of analysis interpretation): *"Here is our analysis section with the reported numerical results and the SPSS output. Did we interpret the numbers correctly?*

Grammarly

Grammarly was used solely for grammar, spelling, and punctuation review. It provided mechanical corrections and did not contribute to content, structure, or analysis.

Example of Grammarly Interaction

Original: *"The finding also suggest that consumers evaluate recycling options differently."*

Grammarly suggestion: *"The findings also suggest that consumers evaluate recycling options differently."*