



A STUDY ON ANTECEDENTS OF APPAREL DISPOSAL BEHAVIOR OF INDIAN CUSTOMERS IN DELHI NCR

¹Sivaganesh Babu, ²Dr.Sanjay Gupta, ¹Dean, ² Vice Chancellor ¹

AAFT School of Fashion and Design, India, ² World University of Design, Sonipet, India

Abstract

Apparel serves not only a basic functional need but also acts as a means of self-expression, social signaling, and emotional connection for many consumers. The emergence of fast fashion has intensified consumption patterns by promoting frequent purchases and reducing garment lifespans due to lower quality and affordability. Consumers typically engage with apparel through five stages: acquisition, usage, storing, maintenance, and disposal. Disposal becomes necessary due to factors such as changes in fashion trends, physical or psychological shifts, wardrobe management, poor fit, or garment deterioration. Common disposal methods include resale, reuse, donation, retailer take-back schemes, and discarding. This study investigates the antecedents influencing Apparel Disposal Behavior (ADB) among consumers in the Delhi National Capital Region (NCR). Using online data collection and a snowball sampling approach, the study analyzes responses through Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), and Structural Equation Modeling (SEM) using SPSS and AMOS. The findings validate the proposed SEM model and indicate that emotional attachment is the most influential antecedent, followed by subjective norms and impulse buying. Among disposal methods, donation emerges as the most preferred, followed by discarding. Notably, environmental apparel knowledge does not significantly predict sustainable disposal behavior in this context.

Keywords: Sustainable Apparel Disposal, Attitude, Behavior, Take-back, Impulsive Buying, Emotional Attachment

1.Introduction

Clothing is increasingly seen not just as a basic necessity but as a means of self-expression and identity across generations (Vlastelica et al., 2023; Harris et al., 2016). The generation born after India's economic liberalization has particularly grown up without any kind of consumer guilt, displaying distinct patterns in how they define needs versus luxuries, use of credit, and making purchase decisions (Roy et al., 2007). Fast fashion (FF), characterized by low prices and rapid turnover of styles, encourages more frequent purchases and shorter garment use cycles, thereby contributing to an increase in textile waste (Bianchi et al., 2012; Birtwistle et al., 2007). Typically, apparel consumption involves five stages—acquisition, usage, storage, maintenance, and disposal (Shim, 1995; Hiller, 2011). Disposal is a critical phase, influenced by factors such as changes in fashion, physical transformation, psychological shifts, wardrobe constraints, or poor garment condition (Zhang et al., 2020; Shim, 1995).

In high population countries like India, discarding or stockpiling unused clothing at home is common (Zhang et al., 2020). Many consumers who dispose of apparel in unsustainable ways are those who're without or low environmental awareness or high need for convenience (Yan et al., 2021). Although recycling is widely recognized as a viable solution for managing textile waste (Latif et al., 2018), its actual adoption remains limited (Kashyap, 2018). Factors such as garment type, perceived quality, and overall condition influence decisions around clothing retention or disposal (McNeill et al., 2020). While some consumers are driven by economic benefits to resell or reuse garments, others donate for altruistic reasons (Joung et al., 2013; Zhang et al., 2020).

Focusing solely on sustainability however may not be sufficient to alter consumer behavior, which is shaped by a complex mix of ethical concerns, emotional attachments, and convenience (Harris et al., 2016). Understanding the drivers of apparel disposal, especially in the Indian urban context, is essential for promoting sustainable practices. This study aims to investigate the antecedents of sustainable Apparel Disposal Behavior (ADB) among consumers

in Delhi NCR. It develops and tests a structural equation model (SEM) to examine the influence of emotional attachment, impulsive buying, subjective norms, and environmental apparel knowledge on attitudes and behaviors related to apparel disposal. The goal is to generate insights that can guide interventions for more sustainable consumer practices

2. Review of Literature

2.1 Apparel Disposal and its types

Disposal is the voluntary act of discarding something deemed no longer useful (Goudeau et al., 2021). In the context of apparel, disposal may occur when consumers no longer use garments regularly, typically defined as wearing them less than once a year, constituting a form of obsolescence (Weber et al., 2017). Obsolescence again can be categorized into two types: relative and absolute. Relative obsolescence refers to garments that remain wearable but are disposed for reasons such as style changes or personal preferences. Absolute obsolescence, on the other hand, refers to garments that are physically damaged or unusable (Weber et al., 2017).

The lifespan of clothing, defined as the average number of times an item is worn before it is discarded, depends on garment type, perceived quality, and condition (Zhang et al., 2020). Among the most cited reasons for apparel disposal are physical changes in the body that affect fit and comfort (Koch et al., 1999).

Apparel disposal is not singular. it encompasses a variety of strategies. Jacoby's taxonomy of disposition behavior classifies disposal into three categories: temporary disposal, permanent disposal, and retention (Wai Yee et al., 2016). Temporary disposal includes practices like lending or storing; permanent disposal involves discarding or donating; while retention refers to keeping the item without use. Understanding these distinctions is critical to mapping consumer behavior toward apparel disposal and developing effective interventions to encourage sustainable choices.

2.2 Common methods of Apparel Disposal Behavior (ADB)

Fast fashion brands introduce new styles at short intervals, often within two to three weeks, and at low prices, encouraging rapid turnover in consumer wardrobes (Kashyap, 2018). Consumers can be divided into two broad categories: fashion-oriented consumers, who purchase apparel frequently and discard it quickly, and non-fashion consumers, who purchase less often and retain clothing for longer periods (Weber et al., 2017). However, even among the non-fashionable ones, the sustainability of disposal methods remains uncertain.

The most common methods of apparel disposal include discarding, donating, storing, reusing, and reselling (Kashyap, 2018, Nanayakkara, 2019). Some consumers also pass clothing on to family and friends or repurpose old garments into household items like rags or dusters (Koch et al., 1999). An emerging but still underutilized method is retailer take-back schemes, where brands collect used garments for recycling or repurposing. However, consumers often consider this option late in the disposal decision process, if at all (Yan et al., 2021). This reflects both limited consumer awareness and a lack of accessible infrastructure for convenient apparel return.

Thus, while a range of disposal behaviors exists, the prevalence and sustainability of each method gets shaped by consumers' values, convenience, awareness, and perceived utility. Further investigation is required into what drives the choice of one method over another.

2.3 Factors Affecting Apparel Disposal Behavior (ADB)

The rise of fast fashion has fostered a "throwaway culture," encouraging consumers to discard garments long before the end of their functional lifecycle (Morgan et al., 2009). Despite growing discussion around sustainability, actual consumer behavior often reflects low environmental awareness, limited recycling habits, and a strong preference for convenience. Research shows that even environmentally conscious young consumers may not translate awareness into action, revealing a gap between knowledge and behavior (Morgan et al., 2009).

A major factor shaping disposal decisions is the convenience. When sustainable disposal methods are easy to access, consumers are more likely to adopt them (Koch et al., 1999). The availability of drop-off bins or donation centers significantly influences willingness to participate in eco-friendly behaviors (Joung et al., 2013; Ha-Brookshire et al., 2009). Conversely, when recycling infrastructure is perceived as limited or burdensome, participation declines (Latif et al., 2018). Jacoby et al. classify these factors into three broad categories - Psychological ones such as personal attitudes, values, and social conscience; Product-related ones such as quality, fit, price, and aesthetic appeal; and the Situational or external factors, like changing fashion trends, space constraints, or financial considerations (Weber et al., 2017).

These interconnected dimensions jointly shape how, why, and when consumers dispose of apparel. Recognizing these drivers is essential to designing interventions that move consumers toward more sustainable behaviors.

2.4 Antecedents to Apparel Disposal Behavior

Antecedents refer to the underlying factors or conditions that precede and influence a particular behavior. In the context of sustainable apparel disposal, prior studies have identified key variables influencing disposal behavior, such as environmental attitudes, social norms, personal motivations, and cognitive or emotional triggers (Hassan et al., 2022); environmental awareness, income levels, perceptions of recycling, and the desire to create space for new clothing (Ha-Brookshire et al., 2009; Zhang et al., 2020). However, these drivers are not uniformly influential across contexts or consumer segments.

Economic gain is a primary motive behind practice of resale and reuse, whereas charitable values often drive donation behavior. A positive attitude toward sustainable fashion disposal is linked to higher rates of reuse and donation (Goudeau et al., 2021). Yet, despite the availability of sustainable options, many consumers continue to discard apparel due to convenience, habit, or lack of viable alternatives.

Significantly, most of the literature lays emphasis on environmental awareness as a strong predictor of sustainable behavior. The emotional and impulsive dimensions of clothing consumption have received comparatively less attention, particularly in the Indian context. Emotional attachment to garments, or the spontaneous nature of impulse buying, may offer equally or more powerful explanations for disposal patterns.

This study therefore focuses on four key antecedents to sustainable Apparel Disposal Behavior (ADB) among Delhi NCR consumers - Environmental Apparel Knowledge (EAK), Emotional Attachment (EMA), Impulsive Buying (IB), and Subjective Norms (SN). These four antecedents are theorized to influence attitudes toward sustainable disposal, which in turn shape consumers' intentions and behaviors. By integrating both rational and emotional dimensions of consumer decision-making, this study attempts to provide a more comprehensive understanding of what drives sustainable apparel disposal in an urban Indian setting.

2.4.1 Environmental Apparel Knowledge (EAK) and Sustainable Apparel Disposal Attitude (ADA):

While two persons may exhibit similar behaviors, their underlying motivations can differ significantly. In the case of apparel disposal, knowledge about environmental impact plays a key role in shaping behavior, but its influence is often mediated by attitudes, values, and contextual factors (Shim, 1995). Environmental knowledge, environmental concern, and environmental attitude though interrelated are distinct parameters. Environmental concern reflects a broader emotional commitment to ecological issues, whereas environmental attitude denotes a person's evaluative stance toward specific environmental behaviors. In contrast, environmental apparel knowledge (EAK) refers to a consumer's awareness of the environmental consequences associated with the production, consumption, and disposal of clothing (Song et al., 2019).

Research has shown that awareness of how apparel production and waste contribute to environmental degradation can positively influence sustainable consumption and disposal behaviors (Ha-Brookshire et al., 2009). Moreover, factors such as perceived consumer effectiveness and eco-conscious product labels enhance sustainable decision-making (Tryphena et al., 2023). Women, in particular, have been found to display higher levels of concern and responsiveness to environmental messaging related to apparel (Koch et al., 1999).

Studies however suggest that knowledge may be a necessary but insufficient condition, especially when not accompanied by supportive infrastructure or social reinforcement (Morgan et al., 2009). This study investigates the extent to which environmental apparel knowledge influences consumer attitudes toward sustainable apparel disposal in Delhi NCR.

Hypothesis 1: Environmental Apparel Knowledge positively affects Sustainable Apparel Disposal Behavior.

2.4.2 Impulsive Buying and Sustainable Apparel Disposal Attitude:

Impulsive buying is unplanned purchases triggered by external stimuli such as discounts, store layout, or promotional displays, often driven by emotion rather than rational evaluation (Agbebo, 2020). These purchases tend to be reactive and spontaneous, lacking pre-purchase intention, and are frequently followed by regret or dissatisfaction. Scholars have identified different types of impulse buying, including pure impulsive, reminder-driven, fashion-oriented, and planned impulse purchases (Tinne, 2011). In the context of fashion consumption, impulse buying plays a significant role in accelerating disposal behavior. Garments acquired impulsively are often of lower quality, less frequently worn, and more quickly discarded (Harris et al., 2016; Zhang et al., 2020). Gen Y and Gen Z consumers, who spend more time and money on fashion, are particularly prone to such behavior. In many cases, the emotional gratification from the purchase fades quickly, prompting either premature discarding or indefinite storage as a form of guilt management (Agbebo, 2020).

Importantly, impulse buying often undermines sustainability. Consumers engaged in impulsive buying tend to deprioritize environmental concerns and are less likely to consider long-term consequences of their disposal choices (Kashyap, 2018). Impulsive acquisition thus leads to impulsive disposal, creating a cycle of consumption and waste that is difficult to break without structural or behavioral interventions. This study examines the negative

influence of impulse buying tendencies on attitudes toward sustainable apparel disposal among consumers in Delhi NCR

Hypothesis 2: Impulsive buying negatively affects attitude towards Sustainable apparel disposal.

2.4.3 Emotional Attachment and Sustainable Apparel Disposal Attitude:

Emotional attachment to clothing refers to the personal meaning or sentimental value a consumer associates with a garment, which often extends beyond its functional utility. This attachment can stem from memories, identity, relationships, or moments associated with the item, thereby increasing its perceived worth and psychological longevity (Niinimäki et al., 2013). Such garments are more likely to be retained and less likely to be discarded carelessly. In fact consumers seek ways to prolong the life of such items through mending, repurposing, or passing them on to others. Disposal can feel like a form of personal loss (Dommer et al., 2021). Conversely, garments with little or no emotional resonance are more easily let go, regardless of their physical condition or utility.

Emotional attachment therefore creates a moral or psychological barrier against wasteful behavior. It cultivates greater mindfulness in clothing-related decisions and promotes behaviors such as reuse, donation, or creative upcycling (Ha-Brookshire et al., 2009). From a design perspective, emotionally durable products are seen as a strategy to reduce fashion waste by extending product life through user engagement.

Hypothesis 3: Emotional Attachment positively affects the attitude toward sustainable apparel disposal.

2.4.4 Subjective norms and Sustainable Apparel Disposal Attitude:

Subjective norms are the perceived social pressures people experience regarding whether or not to engage in a particular behavior. These norms arise from an individual's internalization of the expectations of significant others such as family, friends, peers, or colleagues, and the motivation to comply with these perceived expectations (Ham et al., 2015).

Ajzen's Theory of Reasoned Action (TRA) identifies subjective norms as one of the key predictors of behavioral intention, alongside attitude and perceived behavioral control (Ajzen, 2002). Within this framework, descriptive norms (what others actually do) and injunctive norms (what others believe one ought to do) both influence behavior. Research suggests that people are more likely to adopt sustainable behaviors when they believe that doing so aligns with the expectations of their reference groups (Ham et al., 2015; Goudeau & Lee, 2022). In tightly knit communities or peer groups, practices such as donation, reuse, or participation in clothing drives can be socially reinforced, whereas hoarding or discarding may be subtly discouraged. Conversely, in environments where fast fashion and discarding are normalized, individuals may feel less inclined toward sustainable disposal.

This study evaluates whether subjective norms among consumers in Delhi NCR significantly shape their attitudes toward sustainable apparel disposal.

Hypothesis 4: Subjective norms positively influence Sustainable apparel disposal attitude

2.4.5 Sustainable Apparel Disposal Attitude and Sustainable Apparel Disposal Intention:

Within the Theory of Reasoned Action (TRA), an individual's behavior is shaped by their behavioral intention, which in turn is influenced by their attitude toward the behavior and the subjective norms surrounding it (Fishbein & Ajzen, 1975; Yadav et al., 2022). In the context of apparel disposal, attitude toward sustainable disposal reflects a consumer's overall evaluation of practices such as reuse, resale, donation, take-back, or discarding.

A positive attitude toward sustainable disposal increases the likelihood that consumers will choose eco-friendly methods such as donation or reuse over discarding (Leclercq-Machado et al., 2022). According to categorization theory, consumers mentally classify disposal methods into *sustainable* (e.g., reuse, donation, resell, take-back) and *unsustainable* (e.g., discard) categories, and their attitudes help determine which category they gravitate toward (Goudeau & Lee, 2022).

This study tests whether positive attitudes toward sustainable apparel disposal predict higher intention to reuse, donate, take back, or resell apparel—and inversely, whether they reduce the intention to discard.

Hypotheses 5a–5d: Sustainable Apparel Disposal Attitude positively influences intention to a) take-back, b) reuse, c) donate, and negatively influences intention to d) discard apparel.

2.4.6 Subjective norms and Sustainable Apparel Disposal Intention:

As highlighted in the TRA, subjective norms not only influence attitudes but also directly shape behavioral intentions, the precursors to actual behavior (Ajzen, 2002). In the context of apparel disposal, a consumer's intention to engage in sustainable practices such as donation, reuse, or take-back may be strongly influenced by perceived social expectations and group behaviors. Studies show that when social groups view sustainable disposal practices favorably, individuals are more likely to adopt these practices to align with group norms (Al-Suqri & Al-Kharusi, 2015). Social approval or the desire to avoid disapproval often reinforces pro-environmental behaviors,

especially when the behavior is visible or shared. In contrast, behaviors like discarding are often seen as private or low-visibility acts, and may not be equally influenced by normative pressure (Goudeau et al., 2021). Subjective norms are more likely to influence behaviors in the sustainable category, where social endorsement or shared values are more salient. Normative influence may thus be weaker for discard intentions, unless discarding is socially discouraged.

This study assesses whether subjective norms significantly influence consumers' intentions to adopt sustainable disposal practices and reduce intention to discard apparel.

Hypotheses 6a–6d: Subjective Norms positively influence intention to a) take-back, b) reuse, c) donate, and negatively influences intention to d) discard apparel.

2.4.7 Sustainable Apparel Disposal Intention and Sustainable Apparel Disposal Behavior

Behavioral intention are a reliable predictor of actual behavior, particularly in voluntary, low-barrier contexts like apparel disposal. According to the TRA, intentions reflect the degree of motivation an individual has to perform a behavior, and are influenced by both personal attitudes and perceived social expectations (Fishbein & Ajzen, 1975; Al-Suqri & Al-Kharusi, 2015). In the context of apparel disposal, intention refers to a consumer's stated likelihood of engaging in specific disposal practices such as donation, reuse, resale, take-back, or discarding. Multiple studies confirm a positive correlation between intention and action in sustainable consumption domains, including clothing disposal (Goudeau & Lee, 2022). Furthermore, the visibility and social framing of different disposal options also influence whether intentions translate into action. Behaviors like donation and reuse are often publicly acknowledged or socially praised, reinforcing follow-through. In contrast, discarding is typically a private act, which may weaken the intention-behavior link in this case (Goudeau et al., 2021).

This study evaluates whether consumers' stated intentions toward various apparel disposal methods are positively associated with their actual disposal behaviors.

Hypotheses 7a–7d: Sustainable Apparel Disposal Intention positively influences corresponding Sustainable Apparel Disposal Behavior for: a) take-back b) reuse, c) donate, and d) discard

3. Methodology:

3.1 Sample

The target population for this study comprises Gen Y and Gen Z consumers residing in Delhi NCR, who represent a significant segment of the fashion-conscious and fast-fashion consumer base. Prior literature suggests that women under the age of 35 are particularly responsive to trends and susceptible to impulse buying behavior, making them a relevant focus group for research on apparel disposal (Goudeau & Lee, 2022).

The sampling strategy employed was non-probability convenience sampling using an online survey distributed via social media and personal networks. This was appropriate for reaching a demographic active in digital consumption and fast fashion. A total of 515 responses were collected, of which 313 were deemed valid and usable after screening for completeness and relevance.

In line with structural equation modeling (SEM) guidelines, a sample size of 5–10 times the number of measurement items is considered acceptable (Molwus et al., 2013). Given the number of latent constructs in the model, the final sample size was adequate for both exploratory and confirmatory factor analyses.

3.2 Measurement Items

The survey instrument was structured into eight sections, each designed to measure one of the study's key latent variables: Emotional Attachment (EMA), Environmental Apparel Knowledge (EAK), Impulsive Buying (IB), Apparel Disposal Attitude (ADA), Subjective Norms (SN), Apparel Disposal Intention (ADI), Apparel Disposal Behavior (ADB), and Demographics (DE)

All items were measured using validated scales adapted from prior literature to ensure reliability and construct validity. Specifically, emotional attachment items were adapted from Niinimäki & Koskinen (2011); Impulsive buying behavior items were drawn from Tinne (2011); Environmental apparel knowledge, disposal attitude, subjective norms, and most disposal intention and behavior items were adapted from Goudeau & Lee (2021); and, Items related to retailer take-back programs were adapted from Clary (2020).

Each item was measured on a Likert-type scale, designed to capture agreement, frequency, or likelihood, depending on the construct.

4. Results

A total of 500 data points were collected, and 313 were useful. 79% of the respondents were female and 21% were male. 60% of the respondents were between the ages of 21 and 40. Most respondents were university graduates 80%, high school was the qualification of 7% of the respondents, and the remaining 13% was distributed between Ph.D, Diploma, and Secondary school education or less than that.

4.1 Data Analysis

Data analysis was conducted in three stages to examine the relationships among the constructs and test the proposed hypotheses. In the first stage Exploratory Factor Analysis (EFA) was used to assess the underlying structure of the measurement items and identify latent dimensions. Then Confirmatory Factor Analysis (CFA) was performed to evaluate the measurement model's reliability and validity. And, finally Structural Equation Modeling (SEM) was used to test the full hypothesized model and the relationships between antecedents, attitudes, intentions, and behaviors.

SPSS (version XXI) was used for EFA, while AMOS (version 18) was used for CFA and SEM.

4.1.1 Exploratory Factor Analysis (EFA)

EFA was conducted using maximum likelihood extraction with Promax rotation, which is appropriate when factors are expected to be correlated. The adequacy of the dataset for factor analysis was assessed using the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's Test of Sphericity.

- KMO = 0.712, indicating acceptable sampling adequacy (values >0.60 are considered adequate).
- Bartlett's Test of Sphericity was significant ($\chi^2 = 6723.730$, $df = 1081$, $p < .001$), confirming the suitability of the data for factor analysis.

A total of 14 factors emerged as expected, corresponding to the constructs in the conceptual model. Most items loaded cleanly onto their respective factors. However, four items - SN1, SN2, SN3, and IB6 exhibited cross-loadings or poor loadings and were removed to improve model clarity and validity.

The 14-factor solution explained approximately 69% of the total variance, indicating strong construct representation. Each factor demonstrated clear conceptual coherence with its corresponding latent variable.

4.1.2 Confirmatory Factor Analysis

Following EFA, Confirmatory Factor Analysis (CFA) was conducted using AMOS (v18) to validate the measurement model and assess its reliability, convergent validity, and discriminant validity. The graphical representation of CFA, the final calculated model, is shown in Figure 1. The CFA model showed acceptable fit indices:

- Chi-square (χ^2) = 1479.69, $df = 769$
- $\chi^2/df = 1.924$ (acceptable threshold: < 3.0)
- RMSEA = 0.054 (acceptable threshold: < 0.08)
- RMR = 0.054
- CFI = 0.874 (close to recommended threshold of > 0.90)
- GFI = 0.827 (moderately acceptable)



Together, these indicators suggest that the model demonstrates reasonable overall fit, though there is some scope for refinement.

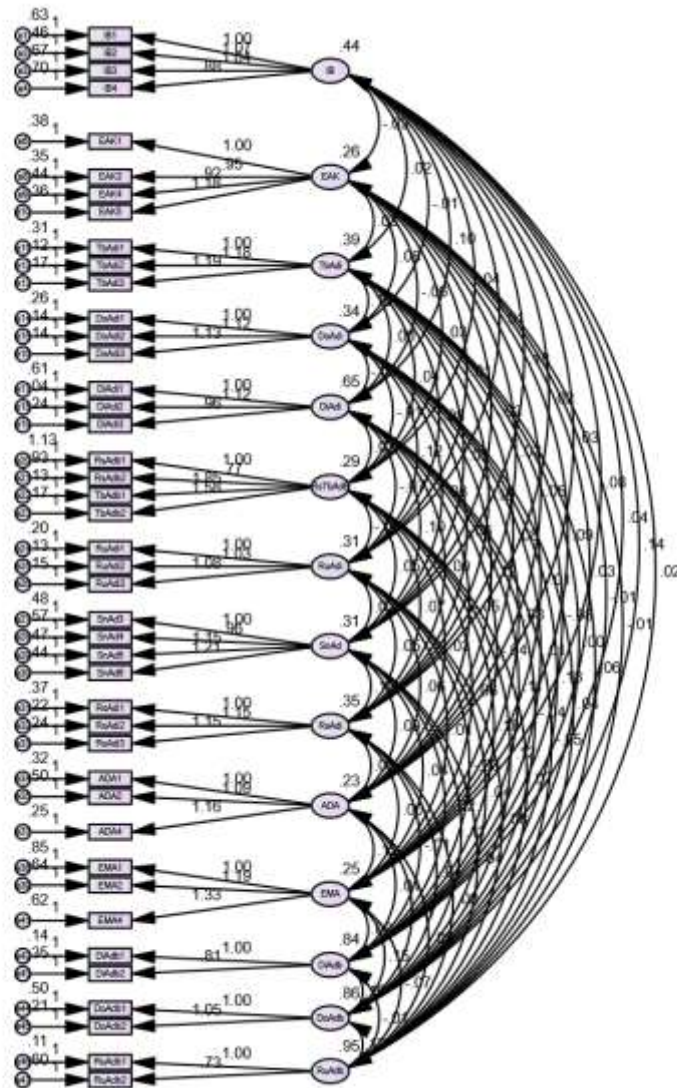
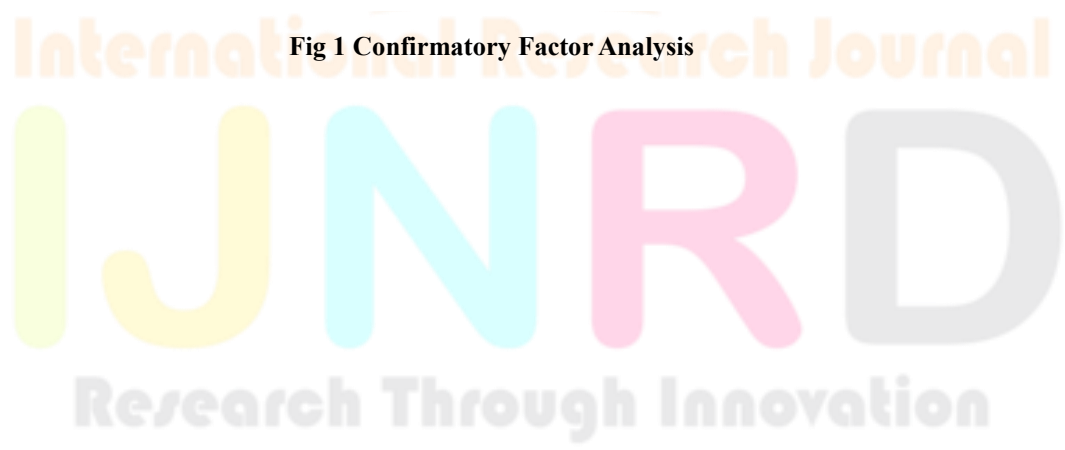


Fig 1 Confirmatory Factor Analysis



Theoretical model

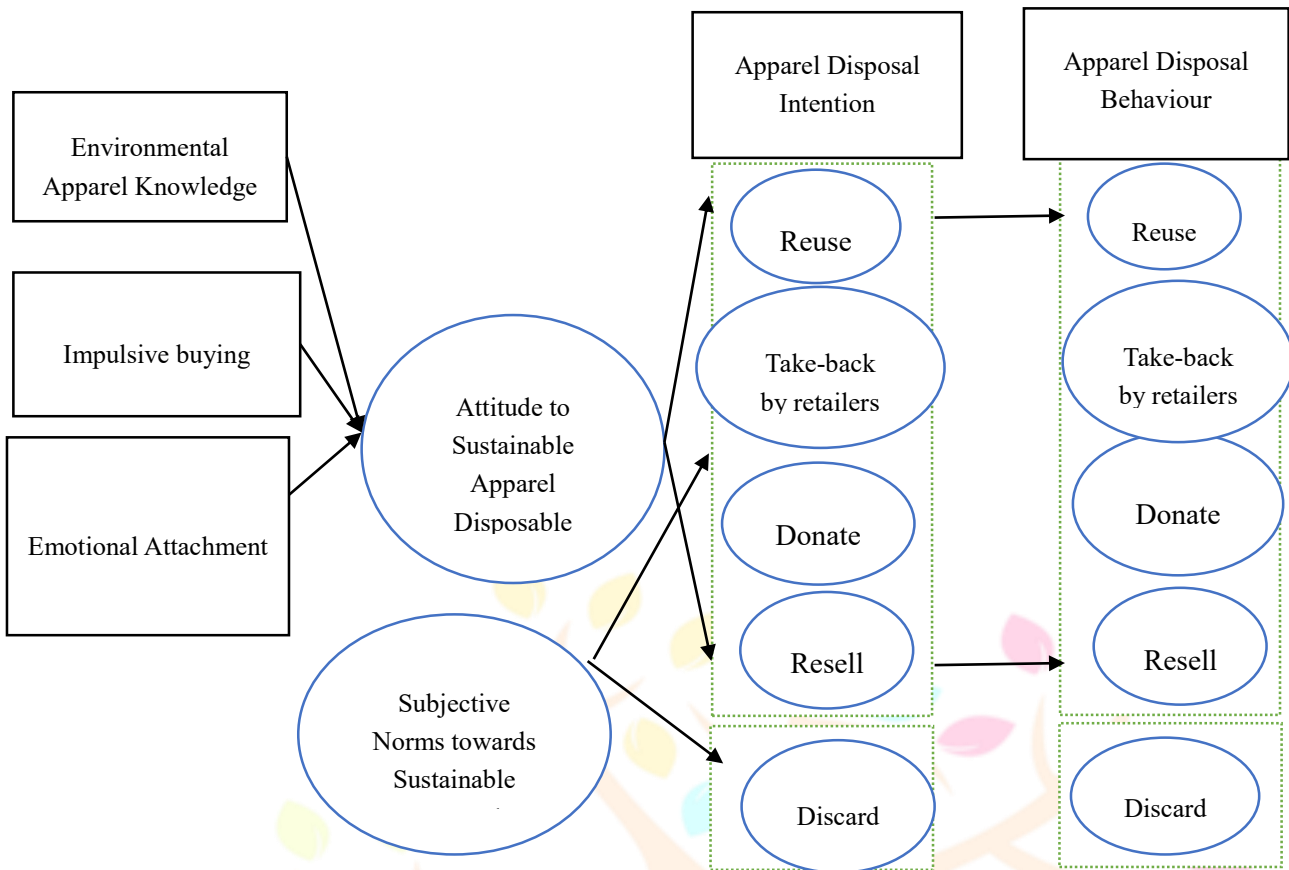


Figure 2 Theoretical Model

Table 2: Results of Measurement Model

Variable/Construct	Items	Standardized Factor Loading	Cronbach's Alpha	CR	AVE	MSV
EAK	EAK 1	0.683	.773	0.732	0.407	0.116
	EAK 2	0.619				
	EAK 3	0.62				
	EAK 4	0.61				
	EAK 5	0.651				
EMA	EMA 1	0.592	.628	0.594	0.331	0.237
	EMA 2	0.54				
	EMA 3	0.496				
	EMA 4	0.555				
IBAD	IB 1	0.618	.774	0.739	0.417	0.244
	IB2	0.675				
	IB3	0.668				
	IB4	0.626				
	IB5	0.599				
ADA	AdA 1	0.654	.691	0.700	0.439	0.237
	AdA 2	0.606				
	AdA 4	0.728				
SNAD	SnAd3	0.625	.774	0.745	0.424	0.244
	SnAd4	0.565				
	SnAd5	0.689				
	SnAd6	0.714				

			.774			
RSADI	RsAdI 1	0.696				
	RsAdI 2	0.824				
	RsAdI 3	0.81	.818	0.821	0.606	0.194
DOADI	DoAdI 1	0.757				
	DoAdI 2	0.867				
	DoAdI 3	0.872	.868	0.872	0.695	0.174
RUADI	RuAdI 1	0.778				
	RuAdI 2	0.852				
	RuAdI 3	0.84	.862	0.864	0.679	0.127
DIADI	DiAdI 1	0.717				
	DiAdI 2	0.978				
	DiAdI 3	0.843	.869	0.887	0.727	0.053
TBADI	TbAdI 1	0.745				
	TbAdI 2	0.906				
	TbAdI 3	0.877	.878	0.882	0.715	0.194
DOADB	DoAdB 1	0.793				
	DoAdB 2	0.907	.836	0.840	0.726	0.151
RUADB	RuAdB 1	0.857				
	RuAdB 2	0.75	.782	0.786	0.648	0.029
DIADB	DiAdB 1	0.934				
	DiAdB 2	0.775	.839	0.846	0.735	0.135
RsTBADB	RsAdB 1	0.449				
	RsAdB 2	0.394				
	TbAdB 1	0.941				
	TbAdB 2	0.896	.790	0.786	0.511	0.135
Model Fitness: $\chi^2 = 1479.69$, $df=769$, $\chi^2/df = 1.924$, $RMSEA =0.054$, $RMR =0.054$, $CFI =0.874$, $GFI =0.827$						

Convergent Validity and Reliability

Convergent validity was assessed through:

- Standardized factor loadings (target: > 0.60)
- Average Variance Extracted (AVE) (threshold: ≥ 0.50 ideal, ≥ 0.40 acceptable)
- Composite Reliability (CR) and Cronbach’s Alpha (threshold: ≥ 0.70)

Key results: Most constructs exceeded the reliability threshold (CR and Alpha > 0.70), except for Environmental Apparel Knowledge (EAK), Emotional Attachment (EMA), and Impulsive Buying (IBAD), where values were slightly below. These constructs were retained for theoretical relevance, and their Maximum Shared Variance (MSV) was found to be lower than AVE—indicating acceptable convergent validity.

	DoAdb	IB	EAK	TbAdi	DoAdi	DiAdi	RsTbAdB	RuAdi	SnAd	RsAdi	ADA	EMA	DiAdb	RuAdb
DoAdb	0.852													
IB	0.222	0.646												
EAK	-0.014	-0.103	0.638											
TbAdi	-0.003	0.046	0.087	0.845										
DoAdi	0.323	-0.014	0.265	0.267	0.834									
DiAdi	-0.052	0.197	-0.144	-0.009	-0.192	0.853								
RsTbAdB	0.248	0.122	0.094	0.114	-0.033	0.159	0.715							
RuAdi	0.084	0.024	0.048	0.241	0.357	-0.162	-0.142	0.824						
SnAd	0.211	0.494	-0.095	0.143	0.238	0.234	0.182	0.056	0.651					
RsAdi	0.071	0.063	0.051	0.440	0.179	-0.004	0.230	0.162	0.309	0.779				
ADA	0.384	0.081	0.216	0.284	0.431	-0.118	0.106	0.222	0.345	0.290	0.663			
EMA	0.314	0.232	0.340	-0.031	0.266	-0.104	0.213	0.027	0.162	0.005	0.487	0.575		
DiAdb	0.183	0.064	0.064	-0.133	0.017	0.143	0.367	-0.049	-0.034	-0.011	0.024	0.178	0.857	

RuAdb	0.128	0.032	-0.020	0.099	0.078	-0.063	0.047	0.148	0.074	0.047	0.175	-0.146	-0.014	0.824
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Table 3 Fornell & Larcker Criterion for discriminant validity

Note: Values in diagonal (bolded) are the square root of the average variance extracted. EAK = Environmental Apparel Knowledge, EMA = Emotional Attachment, IB = Impulsive Buying, ADA = Apparel Disposal Attitude, SnAd = Sustainable, DoAdb = Donation Apparel Disposal Behavior, DiAdb = Discard Apparel Disposal Behavior, RsAdb = Resell Apparel Disposal Behavior, RuAdb = Apparel Disposal Behavior, TbAdb = Takeback Apparel Disposal Behavior, DoAdi = Donation Apparel Disposal Intention, DiAdi=Discard Apparel Disposal Intention, RsADB = Resell Apparel Disposal Intention, RuADB = Reuse Apparel Disposal Intention. TbAdb = Take Back Apparel Disposal Intention

Discriminant Validity

Discriminant validity was tested using the Fornell–Larcker criterion: the square root of AVE for each construct (on the diagonal) should exceed its inter-construct correlations (off-diagonal). This condition was satisfied for all constructs, confirming adequate discriminant validity.

Model Refinements

Two items under Resell Apparel Disposal Behavior (RsAdb1 and RsAdb2) were dropped due to low factor loadings (< 0.50). The revised model retained conceptual integrity while improving fit.

4.3 Structural Model Analysis

To test the proposed hypotheses and evaluate the relationships among latent variables, Structural Equation Modeling (SEM) was conducted using AMOS, based on the factor scores derived from the validated CFA model. The structural model demonstrated acceptable fit:

The table below summarizes the path coefficients, significance levels, and R² values for key endogenous constructs:

Hypothesised Relationship	Estimates	Standardised Estimates	t-value	P Value	Decision	R ²
ADA ← IB	-0.158	-0.231	-2.384	0.017	Accepted	0.372
ADA ← EAK	0.119	0.137	1.619	0.105	Rejected	0.09
ADA ← EMA	0.37	0.417	3.635	***	Accepted	0.133
ADA ← SnAd	0.338	0.427	4.162	***	Accepted	0.28
TbAdi ← ADA	0.412	0.296	3.756	***	Accepted	0.101
RuAdi ← ADA	0.394	0.316	3.889	***	Accepted	0.013
DoAdi ← ADA	0.684	0.521	5.968	***	Accepted	0.107
DiAdi ← ADA	-0.517	-0.29	-3.75	***	Accepted	0.011
TbAdi ← SnAd	0.057	0.051	0.706	0.48	Rejected	0.014
RuAdi ← SnAd	-0.055	-0.055	-0.74	0.459	Rejected	0.242
DoAdi ← SnAd	0.021	0.021	0.294	0.769	Rejected	1.707
DiAdi ← SnAd	0.494	0.35	4.444	***	Accepted	0.939
TbAdB ← TbAdi	0.099	0.117	1.837	0.066	Accepted	0.552
RuAdb ← RuAdi	0.277	0.115	2.478	0.013	Accepted	0.259
DoAdb ← DoAdi	0.481	0.326	4.055	***	Accepted	2.027
DiAdb ← DiAdi	0.187	0.106	2.639	0.008	Accepted	0.393
Model Fitness: $\chi^2 = 1512.668$, $df=718$, $\chi^2/df = 2.107$, RMSEA =0.060, RMR =0.077, CFI =0.846 , GFI =0.804						

*** indicates $p < .001$

Table 4: Hypothesis testing Results

The results of the structural model analysis revealed a reasonably good model fit, with $\chi^2 = 1512.668$ ($df = 718$), $\chi^2/df = 2.107$, RMSEA = 0.060, RMR = 0.077, CFI = 0.846, and GFI = 0.804. While the CFI and GFI values were

slightly below the ideal threshold of 0.90, the overall indices indicated that the model was a satisfactory representation of the observed data.

In testing the antecedents of Sustainable Apparel Disposal Attitude (ADA), emotional attachment (EMA) emerged as the strongest positive predictor ($\beta = 0.417$, $t = 3.635$, $p < 0.001$), confirming that consumers who are emotionally invested in their garments are more likely to form favorable attitudes toward sustainable disposal practices. Subjective norms (SNAD) also had a significant positive influence on ADA ($\beta = 0.427$, $t = 4.162$, $p < 0.001$), indicating that social expectations and peer influence play a role in shaping consumers' pro-sustainability attitudes. Impulsive buying (IB) demonstrated a significant negative relationship with ADA ($\beta = -0.231$, $t = -2.384$, $p = 0.017$), suggesting that consumers with higher impulsivity are less likely to develop mindful or environmentally conscious disposal attitudes. In contrast, environmental apparel knowledge (EAK) did not have a statistically significant effect on ADA ($\beta = 0.137$, $t = 1.619$, $p = 0.105$), indicating that knowledge alone may not be sufficient to foster sustainable attitudes. This highlights a commonly observed gap between awareness and behavioral intent, particularly in the domain of fast fashion consumption.

In examining the influence of ADA on disposal intentions, all four hypothesized relationships were supported. ADA had a strong positive effect on intention to donate ($\beta = 0.521$, $t = 5.968$, $p < 0.001$), followed by reuse ($\beta = 0.316$, $t = 3.889$, $p < 0.001$) and take-back ($\beta = 0.296$, $t = 3.756$, $p < 0.001$). Conversely, ADA negatively predicted discard intention ($\beta = -0.290$, $t = -3.750$, $p < 0.001$), supporting the assumption that stronger sustainable attitudes reduce the tendency to discard apparel irresponsibly.

Unexpectedly, subjective norms showed a positive and statistically significant effect on discard intention ($\beta = 0.350$, $t = 4.444$, $p < 0.001$), suggesting that in the Delhi NCR context, discarding may be a socially normalized or accepted behavior. However, subjective norms did not significantly influence take-back ($p = 0.480$), reuse ($p = 0.459$), or donation intentions ($p = 0.769$), indicating limited normative pressure for sustainable behaviors in these domains.

Regarding the translation of intention into actual behavior, three of the four sustainable disposal pathways showed significant intention-behavior alignment. Donation intention had the strongest effect on actual donation behavior ($\beta = 0.326$, $t = 4.055$, $p < 0.001$), followed by reuse ($\beta = 0.115$, $t = 2.478$, $p = 0.013$), and discard ($\beta = 0.106$, $t = 2.639$, $p = 0.008$). Take-back intention showed only a marginally significant effect on take-back behavior ($\beta = 0.117$, $t = 1.837$, $p = 0.066$), suggesting that while consumers may be positively inclined toward take-back programs, actual engagement remains low—likely due to limited infrastructure, brand participation, or awareness. Overall the findings indicate that emotional and social influences (EMA and SNAD) are more predictive of sustainable attitudes than knowledge alone. Attitudes in turn strongly shape disposal intentions, especially for donation and reuse, while discard behavior remains resilient—possibly due to convenience, habit, or social acceptability. The intention-behavior gap is narrowest in the case of donation and widest in the case of take-back, reinforcing the role of systemic access in enabling sustainable consumer action.

5. Discussions

The results of this study provides important insights into the psychological and social factors influencing apparel disposal behavior among Indian consumers, particularly from the Gen Y and Gen Z segments in Delhi NCR. The findings clearly demonstrate how attitudes, norms, and underlying antecedents interact to shape sustainable apparel disposal intentions and behaviors.

One of the most consistent findings of the study is the central role of attitude toward sustainable apparel disposal (ADA) as a mediating variable. It significantly influenced all four disposal intentions—positively for take-back, reuse, and donation, and negatively for discard. This supports the TRA premise that attitudes are a direct antecedent of behavioral intentions. Among the three sustainable disposal methods studied, donation intention emerged as the most strongly influenced by ADA, which may reflect cultural tendencies toward charity, as well as the greater social visibility and ease of donation compared to reuse or take-back.

The negative association between ADA and discard intention further validates the idea that strong pro-sustainability attitudes reduce wasteful practices. This suggests that any campaign aiming to shift consumer attitudes could meaningfully reduce unsustainable disposal patterns.

Among the antecedents, emotional attachment (EMA) was the strongest positive predictor of ADA. This highlights the importance of affective connections with clothing—especially garments associated with memories, identity, or personal milestones. Emotionally attached consumers appear more inclined to prolong garment life through reuse or donation, rather than discarding. These findings echo prior research emphasizing the role of emotional durability in sustainable consumption (Niinimäki & Koskinen, 2011).

Subjective norms (SNAD) also positively influenced ADA, reaffirming that social influence matters, particularly in collectivist societies like India. However, the same construct showed an unexpected positive effect on discard intention, and no significant effect on intentions to take back, reuse, or donate. This duality suggests that sustainable apparel disposal norms may not yet be fully internalized or consistently practiced in the consumer's social circles.

It may also reflect a lack of social discouragement for discarding, especially in urban, convenience-oriented lifestyles. These findings align with recent literature noting that subjective norms can be behavior-specific and context-dependent (Ham et al., 2015).

As hypothesized, impulsive buying (IB) had a negative and significant effect on ADA. Consumers prone to unplanned, emotionally driven purchases were less likely to exhibit concern for sustainable disposal. This supports the notion that mindless acquisition disrupts mindful disposal, and that fashion impulsivity contributes to a cycle of disposability. These results reinforce the importance of addressing impulsive consumption patterns in sustainability messaging and fashion retailing practices.

Contrary to expectations, environmental apparel knowledge (EAK) had no significant impact on ADA. This finding points to a knowledge–attitude gap, where awareness of environmental consequences does not necessarily translate into favorable disposal attitudes. This could be due to information overload, low personal relevance, or the abstract nature of sustainability issues. It underscores the limitation of purely educational interventions and the need for emotionally and socially grounded engagement strategies.

The study affirms the predictive power of behavioral intention for actual apparel disposal behavior, with most intention–behavior relationships being significant. Donation behavior showed the strongest linkage, followed by reuse and discard. However, take-back behavior was only marginally predicted by intention, highlighting an intention–action gap, likely due to poor accessibility of take-back options or limited awareness of brand programs. The findings also suggest that while consumers may be motivated to act sustainably, behavior is often constrained by structural or contextual barriers. Interventions that improve convenience and accessibility, such as easily located drop-off bins or retailer-led return programs, could help close this gap, particularly for take-back.

6. Conclusion

This study set out to investigate the psychological and behavioral antecedents of apparel disposal among Indian fashion consumers, with a focus on understanding how emotional, cognitive, and social factors influence sustainable disposal attitudes, intentions, and behaviors. Keeping in mind the Theory of Reasoned Action (TRA) and the categorization theory, the study tested a comprehensive model using data collected from Gen Y and Gen Z consumers in Delhi NCR.

The findings confirmed that emotional attachment and subjective norms significantly shape consumers' attitudes toward sustainable apparel disposal. These attitudes, in turn, strongly influence intentions to donate, reuse, and return garments, while also discouraging discarding. The study also shows that impulsive buying negatively affects sustainability attitudes, while environmental knowledge alone is not a sufficient predictor, revealing a critical gap between awareness and behavior.

In examining the link between intention and behavior, the study validates that intentions are strong predictors of actual disposal behavior, particularly for donation and reuse. However, take-back programs suffer from low behavioral follow-through, likely due to infrastructural limitations. The unexpected finding that subjective norms positively predict discard intention points to cultural contradictions and the need for more consistent social reinforcement of sustainable behaviors.

There are theoretical implications also. The study contributes to the growing body of literature on sustainable fashion by demonstrating the value of extending the Theory of Reasoned Action with emotional and impulsive consumption constructs. By treating various disposal options (reuse, donation, take-back, discard) as distinct behavioral categories, it highlights the differentiated impact of attitudes and norms across behavior types. It also raises important questions about the limits of knowledge-driven interventions and the role of cultural norms in shaping sustainability behavior in the Indian context.

For fashion brands and retailers, the findings emphasize the importance of strengthening emotional connection with garments through storytelling, personalization, and aftercare services, which may indirectly promote more mindful disposal. Companies promoting take-back programs must also focus on building consumer trust and ease of access—through visibility, clear communication, and perhaps incentives. Public campaigns and policy initiatives aimed at promoting sustainable disposal should go beyond awareness generation and target social and emotional motivations, including social modeling, peer endorsements, and community-level reuse/donation drives. Educators, social-media influencers, and sustainability advocates can benefit from recognizing that younger consumers are not necessarily moved by information alone. Emotional resonance and alignment with identity and social belonging are more likely to activate real behavioral shifts.

With growing environmental concerns around textile waste, especially in fast fashion economies like India, this study provides a timely and nuanced understanding of what drives or what hinders sustainable apparel disposal.

7. Limitations and Recommendations

In spite of very valuable findings this study has many limitations. Firstly, the study relied on a non-probability convenience sample drawn primarily from Gen Y and Gen Z consumers in Delhi NCR. While this demographic is

highly relevant to fast fashion consumption, the findings may not be generalizable to other age groups, income segments, or geographic regions in India.

Secondly, self-reported data was used to measure both intentions and actual disposal behavior. This approach is subject to social desirability bias, where respondents may overstate sustainable actions or underreport unsustainable ones. Observational or experimental designs could offer more objective measures of disposal behavior.

Thirdly, the cross-sectional design of the study limits causal inference. Longitudinal studies could better capture how attitudes and behaviors evolve over time, especially as sustainability norms strengthen in society.

Fourthly, the study excluded certain potentially influential variables—such as price sensitivity, convenience, brand loyalty, or cultural norms around reuse and gifting—that could moderate or mediate the relationships studied.

And finally, the constructs of reuse, donation, and take-back were treated independently, but in practice, these behaviors may overlap or be influenced by shared underlying motivations.

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