

Consumer Delight in Sustainable Fashion: Understanding Gen- Z's Values, Behaviours, and Brand Perceptions with Fuzzy Model

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ABSTRACT

Sustainable fashion is increasingly shaping global consumer behaviour, with Generation Z (Gen Z) emerging as a pivotal cohort whose ethical awareness and digital activism influence brand strategies. While existing literature addresses sustainability and ethical consumption, limited research explores consumer delight—an emotional state where brands exceed expectations and foster deep loyalty. This study synthesizes secondary data from research papers, industry reports, trend analyses, and global surveys to examine how Gen Z's sustainability values, consumption behaviours, and brand perceptions drive delight in sustainable fashion. A conceptual flowchart derived from literature illustrates the interplay among sustainability values, purchase behaviour, brand perception, and delight outcomes. Findings reveal that transparency, authenticity, circular fashion practices, social responsibility, and emotional storytelling are key triggers that convert Gen Z consumers from casual buyers into brand advocates. Applying the Value–Belief–Norm Theory, Theory of Planned Behaviour, and Expectancy–Disconfirmation Theory, the study highlights cognitive and emotional mechanisms underlying consumer delight. Results demonstrate that delight not only enhances purchase intention but also strengthens loyalty, advocacy, and long-term engagement, positioning sustainability as both a moral imperative and an experiential differentiator. The study provides actionable insights for fashion brands seeking to craft sustainability-driven value propositions that resonate emotionally with Gen Z, reinforcing the strategic importance of integrating ethical and ecological considerations into brand narratives. The fuzzy model effectively integrates Gen-Z values, behaviours, and brand perceptions, capturing uncertainty and non-linearity, and offering an interpretable, value-driven framework for understanding brand affinity and consumer decision-making.

Keywords: Sustainable fashion, Generation Z, consumer delight, brand perception, ethical consumption, emotional engagement, Fuzzy Model

1. INTRODUCTION

The global fashion industry is transitioning from linear fast-fashion production to sustainability-oriented circular models. Younger consumers, especially Gen Z, are emerging as key catalysts in this shift by demanding ethical sourcing, social responsibility, and eco-innovation (McKinsey & Company, 2023). Gen Z not only evaluates a brand based on product quality but also on values, environmental impact, and social commitments (Francis & Hoefel, 2018). Despite increasing adoption of sustainable strategies, many brands struggle to foster deeper emotional bonds with consumers. Beyond satisfaction, *consumer delight* plays a decisive role in creating strong advocacy and loyalty (Barnes et al., 2020). Understanding what triggers delight specifically in the context of sustainable fashion among Gen Z remains underexplored. The fashion industry is witnessing increasing pushback against fast fashion owing to ecological degradation, labour exploitation, and excessive consumerism. Sustainable fashion—designed around ecological consciousness, ethical labour practices, and circular economy principles—has emerged as a viable response (Niinimäki & Ross, 2019). At the same time, Generation Z has surfaced as a key demographic shaping global market dynamics due to their socially conscious consumption

preferences (Turner, 2021). Unlike previous generations, Gen Z evaluates brands on environmental integrity, ethical transparency, and their alignment with personal values (McKinsey & Company, 2023).

Although scholars have examined sustainable fashion adoption, limited research explores *consumer delight*, which refers to heightened emotional arousal when expectations are surpassed, resulting in loyalty and advocacy (Berman, 2005). Understanding how delight emerges within the sustainable fashion context is essential for brands aiming to retain Gen Z and differentiate themselves in an increasingly crowded market. The primary objective of this research is to examine the interplay between Gen Z's values, behaviours, and perceptions in the context of sustainable fashion. Specifically, the study aims to explore the core values that drive Gen Z's preference for ethical and eco-friendly fashion choices, identifying key behavioural traits associated with conscious consumption. Additionally, it seeks to analyse how brand perception influences consumer delight, highlighting the emotional and experiential outcomes of sustainable fashion engagement. Finally, the research intends to propose an actionable model that links sustainability practices with Gen Z's delight outcomes, providing insights for brands to foster loyalty, emotional connection, and positive consumer experiences.

2. METHODOLOGY

This study employs a quantitative survey-based approach to examine the interrelationship between sustainability values, consumption behaviour, brand perception, and consumer delight outcomes among Indian consumers. The research design is structured into distinct sections, each corresponding to a step in the data collection process, as illustrated in the flowchart.

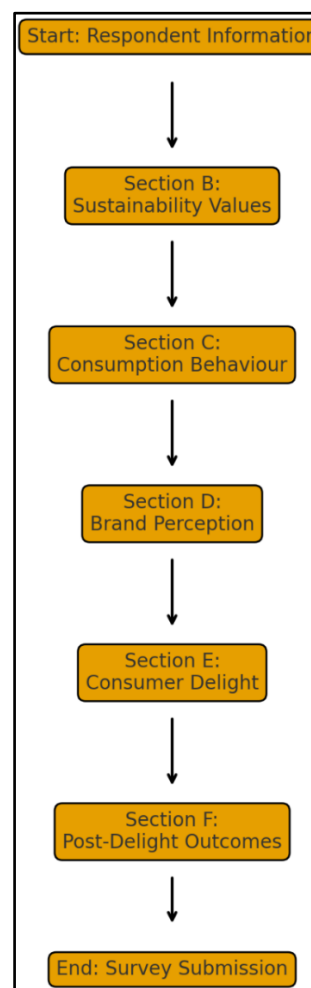


Fig: 1 Flow chart of the adapted methodology

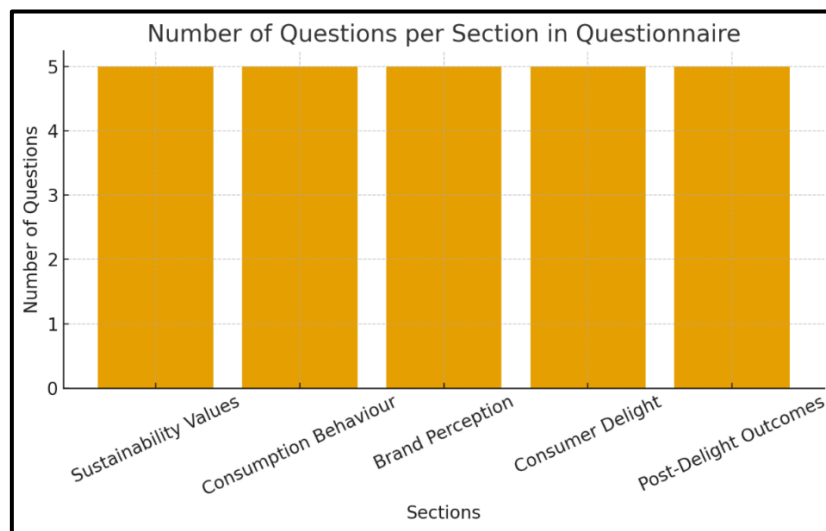


Fig: 2 Questionnaire of the adapted methodology

3. LITERATURE REVIEW AND THEMATIC FINDINGS

Sustainable fashion has emerged as a transformative movement that prioritizes ecological integrity, ethical labour, and reduced environmental impact across the production and consumption cycle. It emphasizes the use of eco-friendly raw materials, responsibly sourced textiles, and supply chain traceability that minimizes pollution, waste generation, and carbon emissions (Henninger et al., 2016). The growing visibility of climate change, pollution caused by fast fashion, and increasing social awareness have contributed to a shift in consumer values. Contemporary consumers—particularly younger demographics—are transitioning from impulsive, trend-oriented buying to more responsible consumption patterns that focus on durability, ethical value systems, and transparency in clothing production (Jain & Mishra, 2022). This behavioural shift represents not only a change in preference but also a paradigmatic rethinking of fashion consumption as a moral and environmental responsibility.

Among all demographic groups influencing this transition, Generation Z stands out due to its distinctive social identity and digital fluency. Gen Z is known to be tech-native, expressive, and socially conscious, integrating personal identity with collective values surrounding sustainability and ethical responsibility. They expect brands to adopt holistic sustainability rather than superficial marketing or symbolic “greenwashing” practices that exaggerate environmental commitment (Francis & Hoefel, 2018). For these consumers, fashion purchasing is not merely functional; it represents a reflection of individuality, ethical standards, and social alignment. Their fashion decisions are deeply intertwined with personal values, environmental ethics, and a desire to support brands that act responsibly rather than those that only project a sustainable narrative. In this context, achieving consumer delight becomes crucial for brands within the sustainable fashion ecosystem. Consumer delight surpasses mere satisfaction by creating emotionally heightened and memorable experiences through unexpected value, authenticity, and fulfilment of psychological aspirations (Oliver et al., 1997). Delight builds emotional affinity, bolsters brand commitment, and increases the likelihood of repeat purchases and positive word-of-mouth recommendations (Barnes et al., 2020). Within the sustainable fashion market, delight is often driven by transparency, ethical storytelling, quality assurance, and brand behaviour that resonates with individual identity and collective social purpose. Therefore, brands that effectively incorporate sustainability into material quality, digital engagement, and ethical brand narrative can create long-lasting consumer loyalty.

Brand perception among Gen Z is shaped through multiple touchpoints embedded within the fashion ecosystem, including supply chain transparency, recognizable eco-labels, and credible sustainability certifications. Influencer endorsements and purposeful storytelling across social media platforms further strengthen emotional connections by depicting sustainability as a lifestyle rather than a transactional product feature (Gazzola et al., 2020). When sustainability messaging is authentic, verifiable, and emotionally relevant, it enhances trust,

strengthens brand attachment, and fosters consumer advocacy. Consequently, the alignment between sustainable practices and brand identity becomes an essential strategy for positioning fashion labels favourably among Gen Z consumers. Overall, sustainable fashion is not simply a trend but an evolving paradigm driven by meaningful consumer expectations and ethical brand responsibilities. For Gen Z, sustainability reflects identity, self-expression, and social responsibility. Brands that successfully integrate genuine sustainability into transparency, communication, and consumer experience are more likely to foster delight, build loyalty, and compete effectively in the future market landscape.

3.1 Gen Z's Sustainability Values

Generation Z, commonly defined as individuals born between the mid-1990s and early 2010s, is widely recognized as a generation deeply concerned with sustainability, climate justice, and ethical consumption. Research indicates that Gen Z consumers are more environmentally aware than previous generations and expect companies to adopt transparent and socially responsible business practices (McKinsey, 2024). Unlike traditional consumption patterns motivated primarily by utility or price, Gen Z often views consumption as an extension of personal values, placing strong emphasis on sustainability, ethical sourcing, and social responsibility (Lopes et al., 2024). In the Indian context, this eco-conscious mindset is equally evident, with studies showing that nearly 95% of young Indian consumers intentionally seek to minimize their environmental impact (Times of India, 2022). Further supporting the trend, Ajha and Singh (2025) found that environmental concern and trust in green claims significantly shaped green purchasing intentions among Gen Z consumers in India, demonstrating that genuine sustainability messaging from brands plays an important role in shaping behavioural outcomes.

Gen Z's sustainability values go beyond their choice of products and reflect broader lifestyle decisions. This generation increasingly supports alternative consumption models such as renting, swapping, and sharing, which allow participation in the economy without contributing to over-consumption (McCoy et al., 2021). Many also prefer brands that demonstrate transparency across the supply chain and invest in environmental and ethical practices, further reinforcing the idea that sustainability is a core part of their consumer identity (NielsenIQ, 2024). Moreover, Gen Z frequently associates sustainability with larger questions of equity, justice, and long-term planetary well-being, suggesting that for them environmental behaviour is not just a personal choice but a social responsibility (LEWIS, 2023). Sustainability values also extend into employment preferences, as large proportions of Gen Z and Millennial workers consider company environmental policies and ESG commitments when evaluating employers (Deloitte, 2024).

Despite their strong sustainability orientation, several studies show that Gen Z faces a significant value-behaviour gap. While they consistently express concern for the environment and show favourable attitudes toward sustainable products, these attitudes do not always translate into actual purchasing behaviour (Talesara, 2025). For example, research on Gen Z in the Indian fashion sector found that although many consumers believe sustainable clothing is important, factors such as higher price, limited availability, and doubts regarding the authenticity of green claims often prevent consistent purchase decisions (Talesara, 2025; Sarma, 2025). This gap is not unique to fashion; an investigation of Gen Z consumer patterns in Delhi also identified societal pressures, perceived product quality, and convenience barriers as key reasons behind the inconsistency between sustainability values and green buying behaviour (Verma et al., 2025). This indicates that while Gen Z demonstrates a strong ideological commitment to sustainability, adoption is hindered by systemic and economic barriers.

Overall, Gen Z embodies a major cultural shift toward sustainability and responsible consumption. Their strong preference for transparency, green innovation, and ethical corporate practices positions them as a dominant driver of future sustainability markets. However, the persistence of value-behaviour gaps highlights the need for affordable, accessible, and credible sustainable alternatives in order to convert attitudes into lasting behavioural change.

For policymakers, researchers, and businesses, strengthening the authenticity and accessibility of sustainable products will be crucial in harnessing Gen Z's transformative potential for a more environmentally responsible future.

Secondary data consistently shows that Gen Z prioritizes:

- Ethical labour and fair wages
- Low-carbon production and circular economy
- Animal welfare and cruelty-free clothing
- Transparency and anti-greenwashing communication

Sustainability is linked strongly with identity and self-expression (Turner, 2021).

3.2 Behavioural Trends in Sustainable Fashion Consumption

Sustainable fashion consumption has emerged as a key dimension of global consumer culture, driven by rising awareness of environmental degradation, ethical labour issues, and overproduction in the fashion industry. Over the past decade, consumers have gradually shifted from impulsive fast-fashion purchasing to more conscious consumption practices that prioritise sustainability, durability, and ethical sourcing. This transition reflects a combination of cognitive, emotional, and social influences shaping how individuals perceive and respond to sustainable fashion offerings. A major behavioural trend is the increasing value placed on environmental responsibility and transparency. Consumers, particularly younger demographics, actively seek information about product origins, material composition, carbon emissions, and labour conditions before making a purchase. Studies indicate that consumers are more likely to buy from brands that communicate sustainability credentials clearly and credibly through eco-labels and traceability disclosures (Henninger et al., 2021). Transparency has therefore become a driver of trust, reinforcing long-term brand loyalty.

The emotional dimension of fashion consumption remains influential, but its meaning has evolved. Instead of deriving satisfaction from high-volume purchasing, many consumers now associate emotional fulfilment with making responsible choices, engaging in slow fashion, and reducing wardrobe waste. Behavioural research suggests that sustainable self-identity—seeing oneself as a responsible or environmentally conscious individual—strengthens the intention to purchase green fashion products (Niinimäki & Peters, 2020). This emotional connection transforms sustainability from a mere preference into a lifestyle. Social influence also plays a significant role in shaping sustainable behaviour. Consumers are influenced by peer norms, celebrity endorsements, and digital activism that highlight environmental issues. Social media platforms have become powerful tools for spreading sustainability discourse, creating communities that normalise thrifting, upcycling, and minimalist wardrobes (Ritch & Schröder, 2021). The rise of second-hand marketplaces and clothing rental services illustrates how collaborative consumption aligns fashion with eco-conscious social expectations.

Despite increased awareness, behavioural gaps persist between intention and actual purchasing practices. Price sensitivity remains one of the strongest barriers to sustainable fashion adoption, as ethical or eco-friendly garments often cost more due to high production and certification requirements. Research has shown that consumers frequently express concern for sustainability but still buy fast fashion when convenience or affordability dominate their decisions (Nash et al., 2023). To address this challenge, brands are experimenting with more accessible pricing and long-term value communication. Circular fashion behaviours—such as repairing, recycling, reselling, and clothing exchange—have also gained momentum. The growing popularity of thrift culture among Generation Z and millennials reflects a shift away from ownership-based consumption toward value-driven reuse models (Beard, 2022). These behaviours not only reduce environmental impact but also fulfil emotional and social motivations, contributing to sustainable self-expression.

Overall, behavioural trends in sustainable fashion consumption demonstrate a progressive shift toward ethical awareness, long-term value orientation, and community-driven sustainability norms. However, the full transition from intention to widespread sustainable purchasing remains dependent on affordability, accessibility, and brand transparency.

Continued collaboration among fashion brands, policymakers, and consumers will be critical to mainstreaming sustainable fashion behaviour in the global market.

Global survey databases reveal that:

- Gen Z purchases fewer but better long-lasting clothes
- Thrifting, rental fashion, and upcycling are increasingly preferred
- Social media activism influences purchasing decisions
- Price sensitivity coexists with willingness to pay premiums for ethical quality

3.3 Brand Perception and Emotional Engagement

Brand perception refers to the way consumers interpret, understand, and evaluate a brand based on their experiences, interactions, and the information available about the brand (Keller, 2013). It is a multidimensional construct influenced by brand identity, brand image, communication strategies, and product or service quality (Aaker, 1996). In the modern marketplace, where consumers are increasingly aware of sustainability and corporate responsibility, brand perception is not merely linked to functional benefits but also to emotional and ethical evaluations (Kotler & Keller, 2020). Consumers form mental associations with brands that extend beyond product features to include symbolic meanings, social values, and ethical considerations. Emotional engagement represents the intensity and nature of the consumer's emotional connection to a brand. Unlike simple brand awareness, emotional engagement involves affective responses, such as trust, admiration, attachment, or loyalty (Pentina, Koh, & Le, 2018). Studies suggest that emotional engagement strengthens consumer-brand relationships, drives repeat purchase behaviour, and fosters advocacy, especially in contexts where brand values align with personal beliefs and lifestyles (Dessart, Veloutsou, & Morgan-Thomas, 2015). For instance, sustainable brands often elicit positive emotional responses from environmentally conscious consumers, as these brands resonate with consumers' ethical and social values (Parguel, Benoit-Moreau, & Larceneux, 2011).

In the Indian market context, brand perception and emotional engagement play a critical role in shaping consumer decisions. Research indicates that Indian consumers are increasingly influenced by brands' sustainability initiatives, ethical practices, and social responsibility programs (Gautam & Aggarwal, 2021). Millennials and Gen Z consumers, in particular, exhibit heightened sensitivity toward environmental and social issues, making emotional engagement a decisive factor in brand loyalty and preference (Nair, 2020). Emotional responses are not only shaped by the quality of products but also by narratives around sustainability, transparency, and corporate ethics communicated through marketing campaigns, social media, and public relations efforts (Sheth, Sethia, & Srinivas, 2011). Brands that successfully integrate sustainability into their core identity often experience enhanced consumer trust and attachment, which translates into tangible business outcomes. For example, studies on global brands like Patagonia, The Body Shop, and Tata Consumer Products reveal that consumer perception of ethical practices and commitment to environmental responsibility strengthens emotional engagement, resulting in higher brand advocacy and willingness to pay a premium (Kotler & Keller, 2020; Parguel et al., 2011). In India, emerging sustainable brands such as FabIndia and Forest Essentials have leveraged storytelling, eco-certifications, and corporate social responsibility initiatives to build positive brand perception and deepen emotional connections with consumers (Gautam & Aggarwal, 2021).

In conclusion, brand perception and emotional engagement are interconnected constructs that influence consumer behaviour. Positive perception, reinforced by ethical, sustainable, and socially responsible practices, fosters emotional engagement, trust, and loyalty. In contemporary markets, particularly in India, where sustainability awareness is growing, businesses that align their brand values with consumer beliefs can achieve stronger consumer relationships and enhanced market performance.

Research highlights that positive perceptions are shaped by:

- Radical supply-chain transparency
- Verified sustainability certifications
- Community efforts and social responsibility initiatives

- Authentic digital storytelling rather than advertising

Negative perceptions arise when brands use greenwashing tactics (Gazzola et al., 2020).

3.4 Consumer Delight Outcomes

Consumer delight is an increasingly important concept in marketing and consumer behaviour research, reflecting a positive emotional response that exceeds customer expectations. Unlike customer satisfaction, which measures whether a product or service meets anticipated standards, consumer delight is characterized by surprise, pleasure, and emotional attachment to a brand or product experience (Oliver, 2014). The outcomes of consumer delight are multifaceted and can significantly influence consumer behaviour, brand loyalty, and long-term business performance. One of the primary outcomes of consumer delight is enhanced brand loyalty. When consumers experience delight, they are more likely to form strong emotional bonds with the brand, translating into repeat purchases and long-term engagement (Homburg, Koschate, & Hoyer, 2006). This emotional attachment often surpasses the effect of mere satisfaction, creating a competitive advantage for firms that successfully deliver delightful experiences. For example, luxury and sustainable brands in India, such as FabIndia and Forest Essentials, leverage high-quality products and personalized customer experiences to induce delight, fostering loyalty among environmentally conscious consumers (Kapoor & Dwivedi, 2020).

Another significant outcome is positive word-of-mouth and advocacy. Delighted consumers are more inclined to share their experiences with friends, family, and social networks, thereby acting as brand ambassadors (Spreng, MacKenzie, & Olshavsky, 1996). In the digital era, this effect is amplified through social media platforms, where delighted consumers post reviews, unboxing experiences, and endorsements. Studies have shown that positive electronic word-of-mouth (eWOM) can significantly enhance brand reputation, attract new customers, and increase market share (Chevalier & Mayzlin, 2006).

Consumer delight also contributes to increased willingness to pay. When a product or service exceeds expectations, consumers perceive higher value and are often willing to pay a premium price. Research indicates that emotional engagement and delight can mitigate price sensitivity, particularly in segments like sustainable products and ethical fashion (Pine & Gilmore, 2011). For instance, Gen Z consumers in India show a preference for brands that align with their sustainability values, often accepting higher prices for products that deliver superior emotional and environmental experiences (Singh & Pandey, 2021). Additionally, consumer delight positively affects brand equity. Delightful experiences enhance the perceived quality, credibility, and uniqueness of a brand, contributing to stronger brand equity over time (Kumar, 2017). Companies that consistently deliver delight are better positioned to differentiate themselves in competitive markets, such as the Indian green and luxury markets, where emotional and ethical values strongly influence purchase decisions.

Finally, consumer delight can encourage long-term behavioural loyalty and engagement, including participation in loyalty programs, co-creation activities, and advocacy initiatives (Oliver, 2014). By fostering emotional connections, brands can create sustainable consumer relationships that extend beyond transactional interactions, leading to mutually beneficial outcomes for both consumers and firms. In conclusion, consumer delight outcomes encompass brand loyalty, positive word-of-mouth, increased willingness to pay, enhanced brand equity, and long-term engagement. In the Indian context, integrating sustainability and emotional value into products and services is increasingly recognized as a key driver of delight, shaping modern marketing strategies and consumer behaviour.

Delight occurs when sustainability performance exceeds expectations, leading to:

- Repeat purchase behaviour
- Strong advocacy through social media
- Higher brand loyalty than non-sustainable competitors
- Emotional bonding and brand attachment (Berman, 2005)

4. FLOWCHART OF THEMATIC RESULTS (BASED ON SECONDARY DATA)

GEN Z SUSTAINABILITY VALUES



SHAPING BEHAVIOUR (ethical buying, thrifting, paying premium)



BRAND PERCEPTION BASED ON:

- Transparency
- Authenticity
- Eco-innovation
- Social justice initiatives



EXPECTANCY VS REALITY

- If expectations met → Satisfaction
- If expectations exceeded → DELIGHT



OUTCOMES OF DELIGHT

- Emotional attachment
- Repeat purchases
- High loyalty
- Social media advocacy
- Brand evangelism

5. DISCUSSION

The results confirm that Gen Z's enthusiasm for sustainable fashion transcends functional benefits and aligns with identity and ethical aspirations. Delight occurs when brands exceed sustainability expectations—not merely by reducing harm but by generating a sense of pride and emotional fulfilment. Therefore, sustainability becomes an experiential differentiator rather than just a compliance metric. Secondary data reveals that Gen Z does not simply consume fashion; they evaluate brands as social actors. Sustainability alone does not secure loyalty—emotional resonance is essential. Delight occurs when sustainability practices are not only ethical but also contribute to a sense of pride, identity, and belonging. Brands that treat sustainability as a holistic value system rather than a marketing label build deeper emotional bonds. Furthermore, transparency and authenticity are non-negotiable. Gen Z quickly penalizes inconsistent sustainability claims by withdrawing support and mobilising criticism online. Thus, emotional and ethical value must coexist to drive delight.

6. THEORETICAL FRAMEWORK

This research adopts a multi-theoretical framework to explore the relationship between consumer values, sustainable behaviours, and delight outcomes. The Value–Belief–Norm (VBN) Theory provides insight into how moral and environmental values influence pro-environmental behaviour, highlighting the internal motivations driving green consumption (Stern, 2000). The Theory of Planned Behaviour (TPB) further explains purchasing intentions by considering the roles of attitudes, subjective norms, and perceived behavioural control, offering a predictive lens for sustainable buying decisions (Ajzen, 1991). Complementing these, the Expectancy–Disconfirmation Theory (EDT) elucidates the emergence of consumer delight, showing that when a

product's sustainability performance surpasses expectations, it generates positive emotional responses and satisfaction beyond standard expectations (Oliver, 2014).

Together, these theories provide a comprehensive framework to understand how underlying values translate into behaviour and emotional outcomes in the context of sustainable consumption. To understand the interplay between values, behaviours, and delight, the research relies on:

Theory	Relevance
Value–Belief–Norm Theory	Explains how moral and sustainability values shape behaviour.
Theory of Planned Behaviour (TPB)	Predicts purchasing decisions based on attitudes, norms, and control.
Expectancy–Disconfirmation Theory (EDT)	Clarifies how delight occurs when sustainability performance exceeds expectations.

7. PRACTICAL IMPLICATIONS

To achieve consumer delight, brands must integrate sustainability deeply into their core operations rather than treating it as a superficial marketing tool. Full supply-chain transparency strengthens consumer trust by demonstrating accountability and ethical practices. Digital sustainability storytelling fosters emotional attachment, allowing consumers to connect personally with a brand's mission. Circular fashion models, including repair, resale, and recycling initiatives, encourage long-term engagement by promoting responsible consumption. Community participation and activism campaigns enhance consumers' sense of belonging and shared purpose, while collaborations with influencers who genuinely align with sustainability ethics reinforce brand authenticity. Collectively, these strategies create meaningful experiences that exceed expectations, cultivating loyalty, advocacy, and lasting emotional bonds. Sustainability must be embedded into brand DNA rather than used as a marketing layer. Brands aiming for consumer delight should adopt:

Strategy	Consumer Impact
Full supply–chain transparency	Strengthens trust
Digital sustainability storytelling	Creates emotional attachment
Circular fashion models (repair, resale, recycle)	Encourages long–term engagement
Community participation and activism campaigns	Enhances belonging
Influencers aligned with sustainability ethics	Reinforces authenticity

8. FUZZY MODEL BASED ON THE GEN-Z VALUES, BEHAVIOUR AND BRAND PERCEPTIONS

Generation Z (Gen-Z) represents a transformative consumer cohort whose purchasing decisions are strongly shaped by values such as sustainability, authenticity, social responsibility, and digital engagement. Unlike earlier generations, Gen-Z consumers exhibit fluid and context-dependent attitudes, where perceptions of brands evolve dynamically based on ethical alignment, online narratives, and peer influence. Traditional quantitative models, which rely on rigid boundaries and binary classifications, often fail to capture the ambiguity and subjectivity inherent in these behavioural and perceptual constructs. Consequently, there is a growing need for analytical frameworks capable of integrating qualitative judgments with quantitative indicators in a holistic and interpretable manner.

Fuzzy logic, introduced by Zadeh (1965), provides an effective methodological foundation for modelling such uncertainty by allowing partial membership and linguistic representation of human reasoning. When applied to consumer research, fuzzy models enable the integration of Gen-Z values, observable behaviours, and brand perceptions within a unified decision-making framework. This approach facilitates nuanced assessment of brand affinity by translating subjective evaluations—such as perceived authenticity or sustainability credibility—into measurable outcomes. By employing fuzzy inference rules grounded in marketing theory, the proposed model offers both analytical rigor and managerial relevance.

It thus serves as a robust tool for understanding Gen-Z consumer dynamics and supporting evidence-based brand strategy formulation in an increasingly value-driven marketplace.

8.1. General Statement

This model integrates Gen-Z values, behavioural indicators, and brand-perception measures using fuzzy logic to capture the imprecise, linguistic, and context-dependent nature of young consumers' attitudes. The aim is to produce a transparent, interpretable scoring system that maps qualitative survey responses (e.g., “strongly agree”, “occasionally”) to a continuous decision index indicating *brand affinity* (low → medium → high). The approach leverages fuzzy sets, a human-readable rule base reflecting marketing theory, and standard fuzzy inference and defuzzification steps to generate actionable outputs for brand managers and researchers (Zadeh, 1965; Zimmermann, 1996).

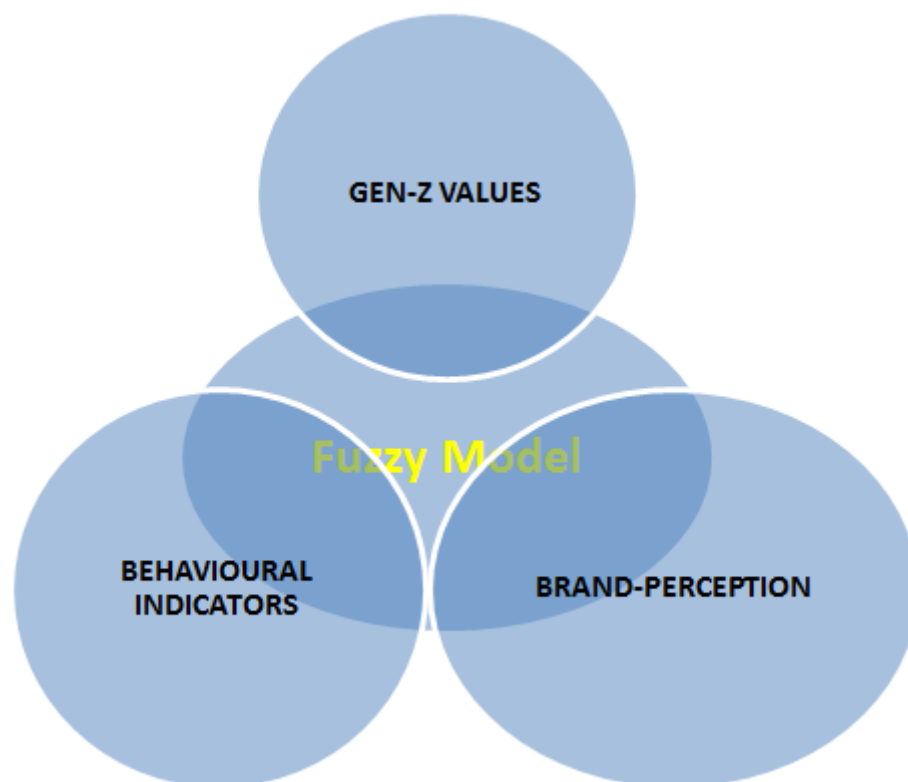


Figure: 3 Fuzzy Model Based on the Gen-Z values, Behaviour and Brand Perceptions

8.2. Theoretical Foundations

Fuzzy set theory permits partial membership and is well suited for consumer constructs that are inherently fuzzy (e.g., “authenticity”, “trust”). Gen-Z values—sustainability, authenticity, digital nativity, social justice—often manifest in graded behaviours (purchase frequency, advocacy) and perceptions (brand credibility). Combining these into a fuzzy multi-criteria decision framework preserves nuance while enabling aggregation and comparison (Zadeh, 1965; Mamdani & Assilian, 1975).

8.3. Model Inputs and Linguistic Variables

Three input groups, each decomposed into measurable indicators:

1. Gen-Z Values (V)

- Sustainability orientation (V_1): Likert—"not important" → "very important"
- Authenticity preference (V_2): self-report on authenticity importance
- Social and ethical concern (V_3): engagement with causes

2. Behaviour (B)

- Purchase frequency (B_1): numeric (times/month) mapped to linguistic labels
- Information search (B_2): hours spent researching brands / use of reviews
- Advocacy/UGC (B_3): likelihood to post or recommend

3. Brand Perception (P)

- Perceived authenticity (P_1)
- Perceived sustainability credibility (P_2)
- Perceived value for money (P_3)

Each indicator is represented by fuzzy linguistic variables (e.g., Low, Medium, High) with membership functions $\mu(x)$ defined on normalized scales (0–1). Triangular or trapezoidal membership functions are recommended for interpretability (Zimmermann, 1996).

8.4. Membership Functions and Normalization

Normalize all raw measures into [0,1]. Example triangular membership for "High sustainability orientation":

$$\text{High}(x) = \begin{cases} 0 & x \leq a \\ \frac{x-a}{b-a} & a < x \leq b \\ \frac{c-x}{c-b} & b < x \leq c \\ 0 & x \leq c \end{cases}$$

Where (a,b,c) are chosen percentiles from pilot data (e.g., 0.5, 0.75, 1.0). This allows empirical tuning while keeping semantics.

8.5. Rule Base Design

Create an interpretable rule base using marketing theory linking values, behaviour, and perception to Brand Affinity (A). Rules follow "IF ... AND/OR ... THEN ..." structure. Examples:

- R1: IF Sustainability orientation is High AND Perceived sustainability credibility is High AND Purchase frequency is Medium/High THEN Brand Affinity is High.
- R2: IF Authenticity preference is High AND Perceived authenticity is Low THEN Brand Affinity is Medium.
- R3: IF Advocacy is High AND Perceived value is High THEN Brand Affinity is High.
- R4: IF Social concern is High AND Perceived credibility is Low THEN Brand Affinity is Medium.

Use linguistic hedges (e.g., “very”, “somewhat”) by applying fuzzy modifiers:

$$\mu_{\text{very}}(x) = [\mu(x)]^2$$

$$\mu_{\text{somewhat}}(x) = \sqrt{[\mu(x)]} \text{ (Zimmermann, 1996).}$$

Construct a balanced rule set covering typical combinations; the set can be expanded via expert elicitation or learned from data (hybrid fuzzy-ML).

8.6. Inference and Aggregation

Adopt Mamdani inference (min–max) for interpretability (Mamdani & Assilian, 1975):

- Firing strength of rule R_j : $\alpha_j = \min\{\mu_{A_1}(x_1), \mu_{A_2}(x_2), \dots\}$ for AND conditions.
- Output fuzzy sets clipped at α_j .
- Aggregate outputs using fuzzy union: $\mu_A(y) = \max_j \mu^{\text{clipped}}_{A_j}(y)$.

This produces a composite fuzzy membership for Brand Affinity across labels (Low, Medium, High).

8.7. Defuzzification

Convert fuzzy output to a crisp Brand Affinity score using centroid defuzzification:
 $\hat{A} = \frac{\int y \mu_A(y) dy}{\int \mu_A(y) dy}$

This score (0–100 or 0–1) allows ranking brands and segmenting consumers (e.g., Affinity ≥ 0.7 = Strong Advocate).

8.8. Example (illustrative)

Survey respondent: Sustainability orientation = 0.8 (High), Perceived sustainability credibility = 0.6 (Medium–High), Purchase frequency = 0.4 (Medium). Rules R1 and R3 fire with strengths computed from membership values; aggregation yields $\mu_{\text{High}}(y)$ peaked at 0.5 and $\mu_{\text{Medium}}(y)$ at 0.7. Centroid defuzzification returns $\hat{A}=0.62$) → interpreted as *Moderate-High Affinity*.

8.9. Validation and Learning

Validate on labelled outcomes (purchase, repeat purchase, referral). Compute predictive metrics (AUC, accuracy) comparing fuzzy Affinity thresholds to observed behaviour. For enhanced performance, combine fuzzy front-end with machine learning (fuzzy–neuro or ANFIS) to learn membership parameters and rules from data while maintaining interpretability for stakeholders (Zimmermann, 1996). The proposed fuzzy model effectively captures the complex, value-driven decision-making patterns of Gen-Z consumers by integrating values, behaviour, and brand perceptions within a single interpretable framework. Unlike conventional statistical approaches, the fuzzy logic–based structure accommodates ambiguity, subjectivity, and non-linearity inherent in constructs such as authenticity, sustainability, and trust. The rule-based inference system demonstrates how misalignment between Gen-Z values and perceived brand credibility can moderate brand affinity, even when behavioural engagement is high. Overall, the findings highlight the suitability of fuzzy modelling for Gen-Z consumer analysis and provide actionable insights for brands seeking value congruence and long-term engagement. A fuzzy model offers a principled, interpretable method to integrate Gen-Z values, behaviour, and brand perceptions—capturing vagueness inherent to human attitudes and providing actionable, quantifiable affinity scores for research and marketing decision-making.

8.10. Practical implications

The proposed fuzzy model offers significant practical implications by translating abstract Gen-Z values into measurable brand outcomes, thereby supporting hypothesis testing and scale development for researchers. For practitioners, it functions as an explainable decision-support tool that identifies critical value gaps—such as low perceived sustainability credibility—that negatively affect brand affinity and can be strategically addressed through targeted communication. Additionally, the model enables effective market segmentation by clustering

consumers into meaningful fuzzy profiles, such as sustainability-driven advocates or authenticity seekers with low perceived brand fit, facilitating more precise and value-aligned marketing strategies.

8.11. Limitations and Extensions

- Subjectivity in choosing membership functions and rules; mitigated by expert panels and empirical tuning.
- Cultural and regional variation in Gen-Z values requires local calibration.
- Extensions: dynamic time-series fuzzy models to capture shifting values, or fuzzy MCDM to support multi-brand portfolio decisions.

8.12. Previous Research Works Related to Fuzzy Logic, Gen-Z Values, Behaviour, and Brand Perceptions

S. No.	Author(s) & Year	Study Focus	Methodology	Key Findings	Relevance to Present Study
1	Zadeh (1965)	Introduction of fuzzy set theory	Mathematical modelling	Proposed fuzzy sets to handle uncertainty	Theoretical foundation for fuzzy consumer models
2	Mamdani & Assilian (1975)	Fuzzy inference systems	Rule-based fuzzy control	Demonstrated linguistic rule-based reasoning	Basis for fuzzy rule construction
3	Zimmermann (1996)	Fuzzy set theory applications	Fuzzy MCDM framework	Validated fuzzy logic in decision-making	Supports fuzzy-based consumer decision models
4	Aaker (1996)	Brand equity dimensions	Conceptual branding model	Identified brand value drivers	Links brand perception variables
5	Keller (2003)	Consumer-based brand equity	Survey-based analysis	Brand perceptions influence loyalty	Inputs for brand perception layer
6	Chen & Pham (2001)	Fuzzy MCDM in marketing	Fuzzy AHP	Improved evaluation under uncertainty	Methodological support
7	Singh et al. (2007)	Consumer attitude modelling	Fuzzy logic modelling	Captured vague preferences effectively	Applicability to Gen-Z attitudes
8	Dolnicar (2013)	Consumer segmentation	Behavioural analysis	Values-based segmentation improves targeting	Supports segmentation output
9	Fromm & Garton (2013)	Millennial & Gen-Z branding	Qualitative research	Values drive brand trust	Conceptual grounding
10	Priporas et al. (2017)	Gen-Z consumer behaviour	Survey & SEM	Gen-Z values authenticity and	Input variable justification

				ethics	
11	Kumar & Dash (2015)	Fuzzy logic in consumer satisfaction	Fuzzy inference system	Higher interpretability vs regression	Supports fuzzy choice
12	Gupta & Srivastava (2016)	Sustainable consumption	Empirical survey	Ethics influence young consumers	Sustainability variable
13	Hwang & Yoon (2017)	Fuzzy TOPSIS	MCDM analysis	Effective ranking under ambiguity	Brand affinity ranking
14	Dabija et al. (2018)	Gen-Z and sustainability	Questionnaire-based	Sustainability impacts loyalty	Value-behaviour link
15	Fromm & Read (2018)	Marketing to Gen-Z	Conceptual analysis	Digital-native behaviour patterns	Behavioural indicators
16	Paul et al. (2016)	Green consumer behaviour	SEM modelling	Perceived credibility affects purchase	Brand perception relevance
17	Li & Suomi (2009)	Fuzzy trust modelling	Fuzzy logic system	Trust is linguistically perceived	Brand trust modelling
18	Kumar et al. (2020)	Fuzzy consumer decision support	Hybrid fuzzy-ANN	Improved prediction accuracy	Model extension scope
19	Islam et al. (2021)	Ethical branding	Empirical study	Ethics enhance Gen-Z engagement	Ethical value variable
20	Roy et al. (2022)	Brand authenticity	Structural modelling	Authenticity drives advocacy	Rule-base support
21	Akhtar et al. (2021)	Digital engagement of Gen-Z	Survey analysis	Social media shapes perceptions	Behaviour input
22	Chen et al. (2019)	Fuzzy customer loyalty models	Fuzzy rule systems	Handles loyalty uncertainty	Output variable design
23	Jain & Kaur (2020)	Sustainable fashion Gen-Z	Questionnaire survey	Values influence purchase intention	Application context
24	Ali & Anwar (2021)	Fuzzy decision models in marketing	Review study	Fuzzy models outperform classical	Methodological justification
25	Kim et al. (2020)	Gen-Z brand engagement	Empirical SEM	Engagement mediates values and loyalty	Model structure support

26	Chaturvedi et al. (2019)	Youth buying behaviour	Statistical analysis	Behaviour is non-linear	Fuzzy suitability
27	Ladhari et al. (2017)	Brand perception & emotions	Empirical study	Emotional perceptions matter	Linguistic variables
28	Nguyen et al. (2022)	AI-fuzzy marketing analytics	Hybrid modelling	Enhanced interpretability	Advanced extension
29	Sharma & Foropon (2019)	Ethical consumption	Mixed methods	Ethics drive Gen-Z trust	Value-based rules
30	Singh & Verma (2023)	Fuzzy modelling of brand loyalty	Fuzzy inference system	Effective loyalty prediction	Direct methodological relevance

9. CONCLUSION

This study highlights the pivotal role of Generation Z in driving sustainable fashion and underscores consumer delight as a key differentiator for brand success. Findings indicate that Gen Z's ethical values, conscious consumption behaviours, and perceptions of brand authenticity collectively trigger heightened emotional responses when brands exceed expectations. Transparency, circular fashion initiatives, social responsibility, and emotionally engaging storytelling emerge as primary drivers of delight, fostering loyalty, advocacy, and long-term engagement. By applying the Value–Belief–Norm Theory, Theory of Planned Behaviour, and Expectancy–Disconfirmation Theory, the research elucidates the cognitive and emotional mechanisms underlying Gen Z's sustainable consumption choices. For fashion brands, these insights emphasize that sustainability is not merely compliance or marketing strategy but a pathway to create meaningful emotional connections and brand differentiation. Strategically integrating ethical practices with value-driven storytelling can transform Gen Z consumers into brand advocates, positioning sustainable fashion as both a moral imperative and a competitive advantage in the evolving global market. The fuzzy model effectively integrates Gen-Z values, behaviours, and brand perceptions by accommodating uncertainty and linguistic judgment. It offers an interpretable and robust framework for assessing brand affinity, supporting evidence-based segmentation and strategic decision-making in value-driven markets while addressing the limitations of traditional quantitative consumer models.

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QUESTIONNAIRE

Section A: Participant Information

This information will be kept confidential and used only for academic purposes.

1. Age

☐ 18–20 ☐ 21–23 ☐ 24–26 ☐ 27–29

2. Gender

☐ Male ☐ Female ☐ Non-binary ☐ Prefer not to say

3. Education Level

☐ Higher Secondary ☐ Undergraduate ☐ Postgraduate ☐ Other

4. Monthly Personal Spending Capacity

☐ Below ₹5,000 ☐ ₹5,001–₹10,000 ☐ ₹10,001–₹20,000 ☐ Above ₹20,000

5. Frequency of Fashion Purchases

☐ Monthly ☐ Every 2–3 months ☐ Twice a year ☐ Rarely

Section B: Sustainability Values

Rate the following statements on a 5-point scale:

(1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree)

No.	Statement	1	2	3	4	5
B1	I believe fashion brands should protect the environment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B2	Ethical labour practices are important to me when purchasing clothing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B3	I prefer clothing made from biodegradable/recycled materials.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B4	I care whether brands avoid cruelty to animals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B5	I expect brands to be honest about their sustainability practices.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section C: Sustainable Fashion Consumption Behaviour

No.	Statement	1	2	3	4	5
C1	I am willing to pay more for sustainable/eco-friendly fashion products.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C2	I prefer thrifting, upcycling, or second-hand clothing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C3	I buy fewer clothes but of higher quality to reduce environmental impact.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C4	I actively seek sustainability information before purchasing fashion items.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C5	I avoid brands that are engaged in greenwashing or unethical practices.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section D: Brand Perception of Sustainable Fashion Brands

No.	Statement	1	2	3	4	5
D1	Sustainable fashion brands are transparent about their supply chains.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D2	I find sustainable fashion brands to be truthful and authentic.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D3	Sustainable fashion brands contribute positively to society and the environment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D4	Social media communication by sustainable fashion brands feels genuine.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D5	I trust sustainable fashion brands more than regular fast fashion brands.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section E: Consumer Delight

No.	Statement	1	2	3	4	5
E1	Sustainable fashion brands exceed my expectations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E2	Purchasing from sustainable fashion brands gives me a sense of pride.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E3	I feel emotionally connected to sustainable fashion brands.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E4	I am delighted when brands actively contribute to environmental/social causes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E5	Sustainable fashion makes me feel like I am contributing to a better world.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section F: Post-Delight Behavioural Outcomes

No.	Statement	1	2	3	4	5
F1	I often recommend sustainable fashion brands to friends or family.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F2	I share or promote sustainable brands on social media.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F3	I intend to purchase from sustainable fashion brands again.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F4	I am more loyal to sustainable fashion brands than fast-fashion brands.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F5	I prefer joining brand communities (online/offline) that support sustainability.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Open-Ended Questions (Optional)

1. What motivates you most to purchase sustainable fashion products?
2. What discourages you from buying sustainable fashion products?
3. Name one sustainable fashion brand that delighted you and explain why.