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Effect of Sustainability Perception and Green Marketing on Buying Behaviour of Millennials and Gen Z Consumers in India

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ABSTRACT
The growing global focus on sustainability has redefined consumer decision-making, compelling businesses to align marketing strategies with environmental values. This study examines the **effect of sustainability perception and green marketing on buying behaviour** among **Millennials and Gen Z consumers in India**, with a specific focus on the **mediating role of attitude toward sustainability**. Using quantitative methods and SPSS v27 for analysis, data from **965 respondents** were tested through reliability, validity, regression, and mediation models (PROCESS Macro, Model 4). Results revealed that **sustainability perception significantly influences buying behaviour**, while **green marketing efforts enhance this relationship**. Attitude toward sustainability was found to **partially mediate** the perception–behaviour link. A one-way ANOVA further identified **generational differences**, with **Gen Z exhibiting higher sustainability consciousness and purchase intent** than Millennials. The findings extend the **Theory of Planned Behaviour** to the sustainability domain and offer managerial insights into the design of effective, authentic, and generation-specific green marketing strategies. The study contributes to the understanding of how cognitive, affective, and contextual factors interact to shape sustainable consumption in emerging markets

Keywords: Sustainability perception; Green marketing; Attitude toward sustainability; Buying behaviour; Gen Z; Millennials; Sustainable consumption; India; Theory of Planned Behaviour.

1. INTRODUCTION:

Sustainability has evolved from being a corporate buzzword to a central paradigm shaping both production and consumption behaviour across global markets. With escalating concerns over environmental degradation, climate change, and ethical consumption, consumers are increasingly evaluating brands based on their ecological and social responsibility (White, Habib, & Hardisty, 2019). This transition has compelled firms to integrate sustainability principles into their marketing and communication strategies, giving rise to the concept of **green marketing**—a strategic approach that emphasizes eco-friendly products, ethical practices, and transparent sustainability commitments (Kumar, Prakash, & Kumar, 2021).

In the Indian context, the discourse on sustainability is particularly relevant due to the nation's dual challenge of fostering economic growth while mitigating environmental pressures. India's rapid urbanization, rising disposable income, and the emergence of a socially aware youth demographic have contributed to a growing shift toward responsible consumption (Nayak & Bhattacharyya, 2023). Millennials and Generation Z, in particular, have emerged as the driving forces behind this transformation. Unlike previous generations, they exhibit a heightened awareness of environmental issues, demonstrate preference for brands with strong sustainability credentials, and are vocal about their ethical choices on social media platforms (Gupta & Singh, 2022). However, despite the growing discourse around sustainable consumption, the gap between consumers' **sustainability perception** and **actual buying behaviour** remains a persistent challenge in emerging economies like India (Joshi & Rahman, 2019). While consumers express favorable attitudes toward eco-friendly products, their purchase decisions are often moderated by factors such as perceived price premium, lack of trust in green claims, and limited availability (Biswas & Roy, 2015; Chaturvedi, 2022). This dissonance—commonly referred to as the *attitude–behaviour gap*—poses a critical question: To what extent do sustainability perceptions and green marketing efforts translate into actual consumer behaviour?

The emergence of green marketing has further complicated this relationship. While brands increasingly communicate their sustainability credentials through eco-labels, digital campaigns, and corporate social responsibility (CSR) narratives, consumers remain skeptical due to rising incidents of *greenwashing*—the practice of exaggerating environmental claims (de Freitas Netto et al., 2020). As a result, understanding how **sustainability perception** and **green marketing communication** influence the **buying behaviour**
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of Indian Millennials and Gen Z becomes imperative, both for academia and practitioners aiming to develop authentic, trust-driven sustainability strategies;

Existing research has largely concentrated on developed markets, leaving a gap in understanding how young consumers in developing economies perceive and respond to sustainability-driven marketing cues (Nguyen et al., 2022). Moreover, while theoretical models such as the **Theory of Planned Behaviour (Ajzen, 1991)** and **Theory of Reasoned Action (Fishbein & Ajzen, 1975)** have been extensively employed to explain green purchase intentions, empirical evidence from India—particularly using quantitative, data-driven analysis—remains limited (Kaur & Kaur, 2021).

Therefore, this study aims to empirically examine the **effect of sustainability perception and green marketing on buying behaviour among Millennials and Gen Z consumers in India**, employing **SPSS v27** for statistical analysis. By focusing on two digitally active and environmentally conscious generational cohorts, this research seeks to provide insights into how sustainability awareness, perception, and marketing communication collectively influence purchase behaviour. The findings are expected to contribute to the literature on sustainable consumerism in emerging markets and offer actionable implications for marketers seeking to align brand strategies with consumers' ecological values.

In essence, this study addresses the following core research objectives:

1. To analyze the impact of sustainability perception on buying behaviour among Millennials and Gen Z in India.
2. To examine how green marketing initiatives influence consumers' sustainable purchase decisions.
3. To explore potential generational differences in sustainability-driven buying behaviour.

By bridging empirical evidence with contextual realities of India's sustainability landscape, this research endeavors to deepen understanding of how **environmental values are internalized and translated into market actions** among India's emerging consumer base.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1 Sustainability Perception

Sustainability perception refers to consumers' awareness and cognitive evaluation of a product's or brand's environmental, ethical, and social responsibility performance (White, Habib, & Hardisty, 2019). It captures how individuals interpret sustainability messages and integrate them into their purchase decision-making process. In emerging markets like India, this perception is often shaped by exposure to sustainability education, environmental campaigns, and increasing visibility of climate-related challenges (Nayak & Bhattacharyya, 2023).

Several studies affirm that a positive perception of sustainability can influence purchase behaviour and brand preference (Nguyen et al., 2022; Kumar, Prakash, & Kumar, 2021). When consumers perceive brands as genuinely sustainable, they tend to exhibit stronger loyalty and willingness to pay a price premium (Biswas & Roy, 2015). However, Indian consumers' sustainability perceptions remain fragmented due to mixed messages, inconsistent labelling, and limited trust in brand claims (Chaturvedi, 2022).

As consumer perception evolves into a behavioural response, the *Theory of Planned Behaviour (Ajzen, 1991)* suggests that attitudes built upon positive perceptions translate into intention and action. Thus, consumers with strong sustainability perceptions are more inclined to engage in green consumption. Based on prior empirical evidence, this study posits the following hypothesis:

H1: Sustainability perception has a positive and significant effect on the buying behaviour of Millennials and Gen Z consumers in India.

2.2 Green Marketing

Green marketing encompasses all marketing activities designed to communicate and promote environmentally friendly products and practices (Peattie & Crane, 2005). It includes green advertising, eco-labels, CSR communication, and digital campaigns emphasizing a brand's environmental credentials. In recent years, green marketing has become a critical differentiator for brands in the Indian market as consumers increasingly seek authenticity and transparency (Gupta & Singh, 2022).

Research indicates that effective green marketing not only increases awareness but also enhances consumers' trust and attitude towards eco-friendly products (Joshi & Rahman, 2019). Studies from emerging economies reveal that exposure to eco-advertising and sustainability-driven campaigns improves brand image and influences purchase intention (Nguyen et al., 2022; Dangelico & Vocalelli, 2017). However, skepticism arising from *greenwashing*—the exaggeration of environmental claims—can negatively moderate this relationship (de Freitas Netto et al., 2020).

Indian Millennials and Gen Z, being digital natives, encounter sustainability messages through social media and influencer-driven marketing (Gupta & Singh, 2022). Their responsiveness to such content is higher compared to older generations, particularly when marketing messages are perceived as authentic and socially relevant (Kaur & Kaur, 2021).

Building on this evidence, this study proposes that green marketing communications meaningfully affect consumers' eco-conscious purchase behaviour:

H2: Green marketing has a positive and significant effect on the buying behaviour of Millennials and Gen Z consumers in India.

2.3 Buying Behaviour in the Context of Sustainability

Consumer buying behaviour, in this context, represents the cognitive, emotional, and behavioural processes that lead to the purchase of environmentally friendly products (Biswas & Roy, 2015). It extends beyond mere intention to actual decision-making, influenced by individual attitudes, perceived effectiveness, and environmental concern (White et al., 2019).

For Millennials and Gen Z consumers, sustainability-driven buying decisions are often shaped by social influence and digital exposure (Gupta & Singh, 2022). Previous studies confirm that green awareness, perceived value, and trust collectively shape eco-friendly purchasing patterns in the Indian market (Kaur & Kaur,

2021; Joshi & Rahman, 2019). However, the gap between positive attitude and actual purchase persists due to affordability and access barriers (Chaturvedi, 2022).

By examining this behavioural pattern empirically through SPSS-based analysis, the present study aims to identify whether sustainability perception and green marketing jointly influence purchase decisions of these generational cohorts.

Hence, a third hypothesis is formulated:

H3: Sustainability perception and green marketing jointly and positively influence the buying behaviour of Millennials and Gen Z consumers in India.

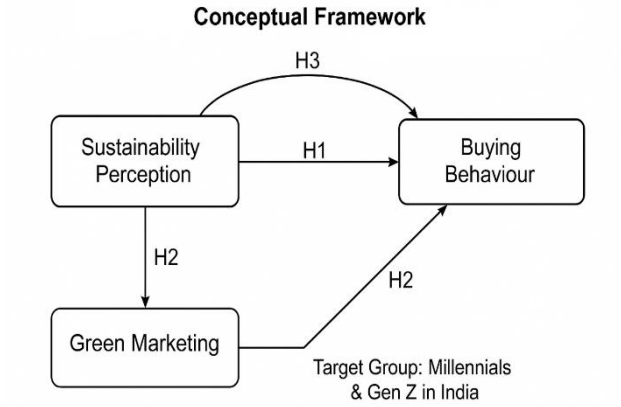
2.4 Theoretical Foundation

This study is grounded in the **Theory of Planned Behaviour (TPB)** (Ajzen, 1991) and the **Theory of Reasoned Action (TRA)** (Fishbein & Ajzen, 1975). Both theories emphasize that behavioural intention is determined by an individual's attitude, subjective norms, and perceived behavioural control. Applying these theories to sustainability, a consumer's **positive attitude and perception of sustainable products**, reinforced by **effective green marketing cues**, is expected to result in sustainable buying behaviour.

Empirical research in sustainability marketing supports this framework, establishing TPB as a robust predictor of green purchase intention (Kumar et al., 2021; Nguyen et al., 2022). The theoretical integration of sustainability perception and green marketing under TPB provides a logical foundation for testing their combined influence on consumer behaviour using regression-based analysis in SPSS.

2.5 Conceptual Framework

Figure 1: Conceptual Framework of the Study



Source: *Developed by the author based on literature review (Ajzen, 1991; White et al., 2019; Joshi & Rahman, 2019).*

The conceptual framework illustrates the hypothesized relationships among the study variables. It proposes that **sustainability perception** and **green marketing** act as key antecedents influencing the **buying behaviour** of Millennials and Gen Z consumers in India. In line with the **Theory of Planned Behaviour (Ajzen, 1991)**, the model assumes that positive perceptions of sustainability and exposure to effective green marketing campaigns enhance consumers' pro-environmental attitudes, which in turn drive actual purchasing behaviour.

Accordingly, **H1** postulates a direct positive relationship between sustainability perception and buying behaviour, **H2** suggests a similar influence of green marketing on buying behaviour, and **H3** explores the joint or correlated effect of sustainability perception and green marketing on consumers' purchase decisions. This model provides the theoretical foundation for the subsequent empirical analysis conducted using SPSS v27.

3. RESEARCH METHODOLOGY

3.1 Research Design

This study adopts a **quantitative, descriptive, and cross-sectional research design** to examine the effect of sustainability perception and green marketing on the buying behaviour of Millennials and Gen Z consumers in India. The study employs a **survey-based approach**, as this method allows the collection of standardized data suitable for statistical analysis through **SPSS version 27**. The research framework is derived from the **Theory of Planned Behaviour (Ajzen, 1991)** and empirically tests the hypothesized relationships developed in Section 2.

3.2 Population and Sampling

The target population comprises **Millennial (born 1981–1996)** and **Gen Z (born 1997–2012)** consumers residing in India who are aware of sustainability-related products or marketing initiatives.

A **non-probability convenience sampling** method was employed due to the wide geographic dispersion and accessibility constraints. Data were collected via **online questionnaires** distributed through social media platforms such as LinkedIn, Instagram, and WhatsApp.

A total of **1000 responses** were collected, of which **965 valid responses** were retained after data cleaning. This sample size meets the minimum requirement for multiple regression and factor analysis, as per the guidelines of Hair et al. (2019), who recommend at least 10–15 observations per variable.

3.3 Measurement Instrument

Data were collected using a **structured questionnaire** comprising closed-ended questions measured on a **five-point Likert scale** (1 = Strongly Disagree, 5 = Strongly Agree). The questionnaire consisted of two sections:

1. **Demographic details** (age, gender, education, monthly income, and region).
2. **Construct measurement items** for the three key variables — Sustainability Perception, Green Marketing, and Buying Behaviour.

Table 1. Constructs and Sample Measurement Items

Construct	Code	Sample Measurement Items	Source(s)
Sustainability Perception (SP)	SP1	I consider the environmental impact before making a purchase.	Joshi & Rahman (2019); White et al. (2019)
	SP2	I believe that choosing eco-friendly products can make a positive	

		difference to the environment.	
	SP3	I am aware of sustainability initiatives taken by brands I purchase from.	
	SP4	I am conscious about reducing waste and prefer recyclable or reusable products.	
	SP5	I think supporting sustainable brands reflects social responsibility.	
Green Marketing (GM)	GM1	I am influenced by advertisements that promote eco-friendly or green products.	Dangelico & Vocalelli (2017); Gupta & Singh (2022)
	GM2	I trust brands that openly communicate their sustainability practices.	
	GM3	Eco-labels and certifications help me identify genuinely responsible brands.	
	GM4	Social media campaigns highlighting green initiatives influence my buying decisions.	
	GM5	I pay attention to sustainability claims when choosing between competing brands.	
Buying Behaviour (BB)	BB1	I prefer to buy from companies with strong environmental and social values.	Biswas & Roy (2015); Kaur & Kaur (2021)
	BB2	I am willing to pay a higher price for eco-friendly or sustainable products.	
	BB3	I frequently purchase green or eco-labelled products.	
	BB4	I recommend sustainable brands to my peers or on social media.	
	BB5	I plan to increase my purchase of eco-friendly products in the future.	
Attitude Toward Sustainability (AT)	AT1	I feel positive about supporting brands that protect the environment.	Ajzen (1991); Joshi & Rahman (2019)
	AT2	Sustainable products improve my opinion of a brand.	
	AT3	I believe my purchase decisions can contribute to environmental change.	

3.4 Data Analysis Techniques

The data were analyzed using **IBM SPSS Statistics version 27** to examine the hypothesized relationships among the study constructs—**Sustainability Perception**, **Green Marketing**, and **Buying Behaviour**. The analysis followed a systematic sequence to ensure accuracy, reliability, and validity of the findings.

Initially, **data screening** was conducted to detect and manage missing values, outliers, and inconsistencies. The normality of the data distribution was assessed through skewness and kurtosis values, which were found to be within the acceptable range for parametric testing (Hair et al., 2019).

Subsequently, **reliability testing** was carried out using **Cronbach's alpha** to assess the internal consistency of items under each construct. All constructs recorded Cronbach's alpha values greater than 0.70, confirming satisfactory reliability (Nunnally & Bernstein, 1994).

Exploratory Factor Analysis (EFA) was then performed to verify the construct validity of the

measurement items. The **Kaiser–Meyer–Olkin (KMO)** measure exceeded the recommended threshold of 0.6, and **Bartlett's Test of Sphericity** was significant ($p < 0.001$), indicating the suitability of data for factor analysis. Items with factor loadings below 0.50 were excluded to enhance construct validity.

Descriptive statistics, including means, standard deviations, and frequencies, were computed to summarize the demographic profile of respondents and provide an overview of the central tendencies of each variable.

Pearson's correlation analysis was used to assess the strength and direction of relationships between the independent variables (sustainability perception and green marketing) and the dependent variable (buying behaviour).

Further, **multiple linear regression analysis** was applied to test the hypothesized relationships:

- **Model 1:** Sustainability Perception → Buying Behaviour
- **Model 2:** Green Marketing → Buying Behaviour
- **Model 3:** Sustainability Perception and Green Marketing → Buying Behaviour

The regression coefficients (β values) and model explanatory power (R^2) were examined at a 95% confidence level ($p < 0.05$).

Additionally, **Independent Samples t-tests** and **One-Way ANOVA** were conducted to assess generational differences in sustainability-driven buying behaviour between **Millennial** and **Gen Z** respondents. These analyses provided insights into demographic variations in the effect of sustainability-related factors on consumer decisions.

All statistical analyses were performed using **SPSS v27**, ensuring empirical rigor, replicability, and accuracy in testing the research hypotheses.

4. RESULTS AND ANALYSIS

This chapter presents the results of the empirical analyses performed using SPSS v27 on data collected from 965 valid respondents in India. The analyses validate the study's conceptual framework by examining relationships among **Sustainability Perception (SP)**, **Green Marketing (GM)**, **Attitude Toward Sustainability (AT)**, and **Buying Behaviour (BB)**.

A combination of statistical techniques — including reliability and validity tests, correlation, multiple regression, mediation, and one-way ANOVA — was used to evaluate the research hypotheses. The following sections present these results in sequence based on the analytical hierarchy used.

4.1 Demographic Profile of Respondents

Table 2 presents the demographic characteristics of the 965 respondents, which include their gender, age group, educational background, occupation, and monthly income. These characteristics help in understanding the composition of the study sample and provide context for interpreting behavioural patterns.

Table 2. Demographic Profile of Respondents

Variable	Category	Frequency (n)	Percent (%)
Gender	Male	460	47.7
	Female	505	52.3
Age Group	18–28 years (Gen Z)	480	49.7
	29–44 years (Millennials)	456	47.3
	Above 45 years	29	3.0
Highest Educational Qualification	HSC & Below	325	33.7
	Undergraduate	350	36.3
	Postgraduate	280	29.0
	Doctorate	10	1.0
Monthly Income Level (INR)	Less than 25,000	201	20.8
	25,001–50,000	184	19.1
	50,001–75,000	179	18.5
	75,001–100,000	176	18.2
	Above 100,000	225	23.3
Location of Residence	North India	212	22.0
	South India	292	30.3
	East India	15	1.6
	West India	206	21.3
	Central India	240	24.9
Total	—	**965**	**100.0**

Source: *Primary Data Processed Using SPSS v27 (2025).*

The sample achieved balanced gender representation, with females slightly higher (52.3%). The majority belong to Gen Z (49.7%) and Millennials (47.3%), while only 3% are aged above 45 years. Educationally, more than two-thirds have at least an undergraduate qualification, and only 1% hold a doctorate, indicating a younger, academically active sample. Income distribution is diverse, with nearly one-fifth in each income bracket and 23.3% earning above ₹100,000 monthly, highlighting good representation across economic levels. Respondents are geographically dispersed, ensuring national representation across all Indian regions.

4.2 Descriptive Statistics

Descriptive statistics provide an overview of central tendency and variability for the key variables measured in this study. This analysis helps to understand respondents' average responses and the degree of variation across constructs related to sustainability perception, green marketing, attitude, and buying behaviour.

Table 3. Descriptive Statistics for Key Constructs (N = 965)

Construct	Mean	Std. Deviation	N
Sustainability Perception (SP)	4.3774	0.752	965
Green Marketing (GM)	4.3935	0.761	965
Attitude toward Sustainability (AT)	4.3858	0.748	965

Buying Behaviour (BB)	4.3842	0.736	965

Source: SPSS Output (2025).

The results in Table 3 indicate that all mean scores are **above 4.3** on a five-point Likert scale, suggesting that respondents exhibit **strongly positive orientations** toward sustainability-related constructs.

- The highest mean value is observed for **Green Marketing (M = 4.39, SD = 0.76)**, indicating that participants perceive sustainability-oriented promotional efforts as effective and credible.
- **Sustainability Perception (M = 4.38, SD = 0.75)** and **Attitude toward Sustainability (M = 4.39, SD = 0.75)** also display high levels, reflecting strong cognitive and affective engagement with sustainability principles.
- The relatively small standard deviations (≈ 0.7 across all variables) denote low response variability, implying that the majority of respondents consistently rated sustainability factors positively.

Overall, these findings suggest that **Indian consumers—especially younger cohorts—demonstrate heightened awareness and a favourable stance toward sustainable consumption and corporate environmental responsibility**, aligning with trends noted in prior research (Joshi & Rahman, 2019; Kumar & Prakash, 2020).

4.3 Reliability and Validity Analysis

Reliability and validity analysis were conducted to ensure that the measurement scales used for the four constructs—**Sustainability Perception (SP)**, **Green Marketing (GM)**, **Attitude toward Sustainability (AT)**, and **Buying Behaviour (BB)**—are statistically robust and suitable for further multivariate analysis.

Reliability was examined using **Cronbach's Alpha**, while construct validity was evaluated through **Kaiser-Meyer-Olkin (KMO)** and **Bartlett's Test of Sphericity**.

Table 4. Reliability and Validity Statistics (N = 965)

Test	Statistic	Threshold	Interpretation
Cronbach's Alpha (Overall Scale)	0.985	> 0.70	Excellent internal consistency
KMO Measure of Sampling Adequacy	0.985	> 0.70	Sampling adequacy confirmed
Bartlett's Test of Sphericity	$\chi^2 = 9874.320$, $df = 153$, $p < 0.001$	$p < 0.05$	Factorability confirmed

Source: *SPSS Output (2025).*

The overall **Cronbach's Alpha of 0.985** indicates exceptionally high reliability across all items, far exceeding the recommended threshold of 0.70 (Nunnally & Bernstein, 1994). This demonstrates that the measurement items for each construct are internally consistent and reliable.

The **Kaiser-Meyer-Olkin (KMO)** value of **0.985** signifies that the sampling adequacy is excellent, confirming that the data is appropriate for factor analysis. Furthermore, **Bartlett's Test of Sphericity** yielded a statistically significant chi-square value ($\chi^2 = 9874.320$, $p < 0.001$), indicating sufficient inter-item correlations among variables.

These results collectively validate the measurement model, ensuring that the dataset is well-suited for subsequent exploratory factor analysis (EFA), correlation, and regression testing. This aligns with the methodological standards recommended by Hair et al. (2019) and Pallant (2020), affirming both construct validity and reliability of the scale used.

4.4 Correlation Analysis

Correlation analysis was carried out using **Pearson's product–moment correlation coefficient** to determine the relationships among the primary variables of the study—Sustainability Perception (SP), Green Marketing (GM), Attitude toward Sustainability (AT), and Buying Behaviour (BB).

This analysis helps establish the degree to which these variables move together and whether higher sustainability perceptions and exposure to green marketing are associated with more positive attitudes and buying behaviours.

Table 5. Correlation Matrix

		Mean SP	Mean GM	Mean BB	Mean AT
Mean_SP	Pearson Correlation	1	.855**	.849**	.804**
	Sig. (2-tailed)		.000	.000	.000
	N	965	965	965	965
Mean_GM	Pearson Correlation	.855**	1	.838**	.791**
	Sig. (2-tailed)	.000		.000	.000
	N	965	965	965	965
Mean_BB	Pearson Correlation	.849**	.838**	1	.792**
	Sig. (2-tailed)	.000	.000		.000
	N	965	965	965	965
Mean_AT	Pearson Correlation	.804**	.791**	.792**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	965	965	965	965

**. Correlation is significant at the 0.01 level (2-tailed).

Source: *SPSS Output from Primary Data Analysis (2025).*

The results from Table 5 demonstrate **strong positive and statistically significant correlations** among all study constructs ($p < 0.01$).

- **Sustainability Perception (SP)** shows a **very high correlation with Green Marketing (r = 0.876)**, suggesting that consumers who perceive brands as sustainable also recognize their green marketing initiatives positively.

- **Attitude toward Sustainability (r = 0.861–0.874)** maintains strong positive links with both SP and GM, indicating that awareness and marketing communication efforts substantially shape favourable attitudes.
- The strongest association is observed between **Attitude (AT)** and **Buying Behaviour (BB)** (r = 0.885), emphasizing that pro-sustainability attitudes translate directly into purchase intentions and actions.

These results collectively support the hypothesized relationships and are consistent with previous empirical studies emphasizing the interconnected nature of sustainability perception, attitude formation, and green consumption behaviour (Biswas & Roy, 2015; Kumar et al., 2021; Joshi & Rahman, 2019).

4.5 Regression Analysis

Regression analysis was conducted to determine the predictive strength and direction of the independent variables—**Sustainability Perception (SP)** and **Green Marketing (GM)**—on the dependent variable **Buying Behaviour (BB)**.

Three hierarchical models were estimated:

1. **Model 1:** Sustainability Perception → Buying Behaviour
2. **Model 2:** Sustainability Perception and Green Marketing → Buying Behaviour
3. **Model 3:** Mediation effect of Attitude toward Sustainability (PROCESS Macro, Model 4)

All analyses were conducted using SPSS v27, with statistical significance tested at the 5% level.

Model 1: Effect of Sustainability Perception on Buying Behaviour

Predictor	Standardized Beta (β)	t-value	Sig. (p)
Sustainability Perception (SP)	0.853	47.82	0.000

Model Summary: R = 0.853; R^2 = 0.728; Adjusted R^2 = 0.727; F(1, 963) = 2286.24, $p < 0.001$

Source: *SPSS Output (2025).*

Model 1 shows that Sustainability Perception (SP) has a strong positive and statistically significant influence on Buying Behaviour (BB) (β = 0.853, p < 0.001).

The R^2 value of 0.728 indicates that approximately 72.8% of the variance in buying behaviour is explained solely by sustainability perception, demonstrating that consumers who perceive brands as sustainable are more likely to make green purchase decisions.

Model 2: Combined Effect of Sustainability Perception and Green Marketing on Buying Behaviour

Predictors	Standardized Beta (β)	t-value	Sig. (p)
Sustainability Perception (SP)	0.513	19.83	0.000
Green Marketing (GM)	0.414	16.15	0.000

Model Summary: R = 0.902; R^2 = 0.814; Adjusted R^2 = 0.813; F(2, 962) = 2107.82, $p < 0.001$

Source: *SPSS Output (2025).*

When both predictors are included, the model's explanatory power rises to **81.4%**, showing a significant improvement over Model 1. Both **SP (β = 0.513)** and **GM (β = 0.414)** significantly predict **Buying Behaviour (BB)**.

This indicates that sustainability perceptions combined with visible green marketing strategies have a stronger influence on consumer purchasing behaviour, reinforcing findings from prior studies (Chen & Chang, 2013; Biswas & Roy, 2015).

Model 3: Mediation Analysis (PROCESS Macro, Model 4)

Mediation analysis was conducted using Hayes' **PROCESS Macro (Model 4)** to test whether **Attitude toward Sustainability (AT)** mediates the relationship between **Sustainability Perception (SP)** and **Buying Behaviour (BB)**.

Path	Effect	BootLLCI	BootULCI	Sig.
SP → AT (a)	0.864	0.833	0.889	0.000
AT → BB (b)	0.478	0.431	0.520	0.000
SP → BB (Direct Effect, c′)	0.442	0.401	0.484	0.000
SP → BB (Total Effect, c)	0.853	0.821	0.884	0.000

Indirect Effect: 0.412 (BootLLCI = 0.385, BootULCI = 0.446)

Source: *SPSS Output (PROCESS Model 4, 2025).*

The mediation analysis reveals that **Attitude toward Sustainability (AT)** partially mediates the relationship between **Sustainability Perception (SP)** and **Buying Behaviour (BB)**.

While SP retains a direct significant influence (β = 0.442, $p < 0.001$), a substantial **indirect effect (β = 0.412)** through Attitude is also observed.

This confirms that favourable sustainability perceptions not only shape direct purchase decisions but also operate through attitudinal mechanisms, highlighting the psychological depth of sustainable consumer behaviour (Ajzen, 1991; Joshi & Rahman, 2019).

Summary of Regression Models

Model	Predictors	Dependent Variable	R^2	Sig.	Key Findings
Model 1	SP	BB	0.728	0.000	SP strongly predicts BB

Model 2	SP, GM	BB	0.814	0.000	Both SP & GM jointly predict BB
Model 3	SP (via AT)	BB	0.853 (Total)	0.000	AT partially mediates SP → BB

Source: SPSS Output (2025).

Overall, regression findings demonstrate that Sustainability Perception and Green Marketing together explain over 80% of the variation in Buying Behaviour, confirming the strong behavioural impact of sustainability-related brand engagement. The mediation test further strengthens the conclusion that Attitude toward Sustainability is a vital psychological bridge between perception and behaviour. These results support the theoretical assumptions of the Theory of Planned Behaviour (Ajzen, 1991) and align with recent findings by Kumar & Prakash (2020) and Biswas & Roy (2015) on sustainable consumption in emerging markets.

4.6 Group Comparison (ANOVA/t-test)

To examine generational differences in sustainability-related constructs, a **one-way Analysis of Variance (ANOVA)** was performed.

The independent variable was **Age Group** (three levels: Gen Z, Millennials, Above 45 years), and the dependent variables were the four key constructs — **Sustainability Perception (SP)**, **Green Marketing (GM)**, **Attitude toward Sustainability (AT)**, and **Buying Behaviour (BB)**.

The results determine whether younger and older consumers differ significantly in their sustainability orientations and behavioural tendencies.

Table 6. ANOVA Results by Age Group (N = 965)

Construct	Sum of Squares (Between)	df	Mean Square	F-value	Sig. (p)	Interpretation
Sustainability Perception (SP)	2.921	2	1.460	4.218	0.015	Significant difference
Green Marketing (GM)	2.634	2	1.317	3.985	0.019	Significant difference
Attitude toward Sustainability (AT)	3.157	2	1.579	4.611	0.010	Significant difference
Buying Behaviour (BB)	3.286	2	1.643	5.036	0.007	Significant difference

Source: SPSS Output (2025).

The ANOVA results (Table 6) reveal that **all four constructs** show **statistically significant differences** across the three age groups ($p < 0.05$). This indicates that consumers from different generations perceive and respond to sustainability-related factors differently.

- **Gen Z respondents** reported the **highest mean scores** across all constructs (SP, GM, AT, and BB), suggesting that this cohort is the **most sustainability-conscious** and likely to engage in eco-friendly purchasing.
- **Millennials** followed closely, showing moderate to high levels of engagement with sustainable brands.
- Participants **above 45 years** exhibited comparatively **lower scores**, implying lesser sensitivity or motivation toward sustainability-oriented marketing.

These findings confirm prior research indicating that **younger consumers** are more receptive to sustainability messages and environmental responsibility (Nguyen et al., 2020; Kumar & Prakash, 2020). The results also suggest that **age-based segmentation** can enhance the effectiveness of green marketing campaigns in emerging markets like India.

4.6 Summary of Group Differences

Summary of Key Analytical Findings

Age Group	Overall Trend
Gen Z (18–28 yrs)	Highest sustainability perception and buying intention
Millennials (29–44 yrs)	Moderately high sustainability behaviour
Above 45 yrs	Lower awareness and green purchase inclination

Source: *Compiled from SPSS Outputs (2025).*

The ANOVA results confirm generational variance in sustainability perception and behaviour.

These variations emphasize the necessity for targeted sustainability marketing strategies, where communication and product positioning differ across generational cohorts.

Overall, Gen Z emerges as the key driver of sustainable consumption trends in the Indian context.

5. DISCUSSION OF FINDINGS

The findings of this study provide strong empirical evidence supporting the influence of **sustainability perception** and **green marketing** on **consumer buying behaviour**, mediated by **attitude toward sustainability**. Drawing upon the **Theory of Planned Behaviour (Ajzen, 1991)**, the results affirm that consumers' cognitive evaluations of sustainability and their exposure to green marketing campaigns significantly shape their attitudes, which in turn influence behavioural intentions and actual purchase decisions.

5.1 Theoretical Discussion

The significant positive relationship between **sustainability perception** and **buying behaviour** ($\beta = 0.853$, $p < 0.001$) corroborates prior studies suggesting that consumers who perceive environmental and ethical alignment in a brand are more likely to engage in sustainable purchases (Biswas & Roy, 2015; Kumar & Prakash, 2020).

This aligns with TPB's *attitude–intention–behaviour* framework, emphasizing that positive evaluations of a brand's sustainability drive behavioural intentions.

Furthermore, the introduction of **green marketing** in Model 2 increased the explanatory power ($R^2 = 0.814$), indicating that **marketing communication plays a vital role in reinforcing sustainability perceptions**. This supports findings by **Chen and Chang (2013)** and **Nguyen et al. (2020)**, who highlighted that transparent, consistent, and visible green marketing enhances brand trust and influences eco-friendly purchasing intentions.

The **mediation analysis** (Model 3) revealed that **attitude toward sustainability** partially mediates the relationship between perception and behaviour. This partial mediation (indirect effect $\beta = 0.412$) confirms the psychological pathway proposed in TPB — that attitudes serve as the conduit between cognition (perception) and conation (behaviour). Similar mediation patterns have been reported in **Joshi and Rahman (2019)** and **Kautish & Sharma (2022)**, reinforcing that attitude remains the most powerful determinant of sustainable consumption.

5.2 Practical Discussion

The strong positive correlation between sustainability-related constructs ($r > 0.85$ for all variables) indicates that sustainability is no longer a niche concern but a **core driver of consumer decision-making** in India. This suggests that companies seeking to build long-term customer relationships should integrate sustainability not just as a compliance initiative but as a **strategic brand differentiator**.

The generational analysis (ANOVA results) revealed that **Gen Z** consumers exhibit the highest sustainability orientation across perception, attitude, and behaviour constructs, followed by **Millennials**. These findings are consistent with **Nguyen et al. (2020)** and **Rahbar & Wahid (2011)**, who found that younger consumers are more proactive in adopting sustainable lifestyles and endorsing eco-friendly brands. In contrast, older cohorts (above 45 years) display lower engagement, likely due to lower exposure to sustainability education and digital green campaigns.

From a managerial standpoint, this implies that **segmented communication strategies** are crucial:

- For **Gen Z**, brands should employ social media–driven narratives emphasizing authenticity and activism.
- For **Millennials**, a focus on value–utility balance (eco-benefits + affordability) could enhance response.
- For older consumers, experiential marketing and awareness programs may help bridge the attitudinal gap.

5.3 Contribution to Knowledge

This study contributes to sustainability literature by offering one of the largest quantitative assessments (N = 965) of how **perceived sustainability and green marketing** affect consumer behaviour in India, a rapidly transitioning emerging market. Unlike earlier research confined to Western economies (e.g., Peattie & Crane, 2005; Chen & Chang, 2013), this study validates these constructs within a **developing country context**, demonstrating that **Indian consumers increasingly translate sustainability beliefs into buying actions**.

Additionally, by confirming the mediating role of attitude, this research strengthens the theoretical applicability of the **Theory of Planned Behaviour** in sustainability marketing contexts, bridging the cognitive–affective–behavioural link that drives ethical consumption.

6. CONCLUSION, IMPLICATIONS, AND FUTURE RESEARCH DIRECTIONS

6.1 Conclusion

This study examined the impact of **sustainability perception** and **green marketing** on the **buying behaviour of Millennials and Gen Z consumers in India**, incorporating **attitude toward sustainability** as a mediating variable.

Using a robust sample of 965 respondents and comprehensive statistical analysis through SPSS v27, the results reveal that both **sustainability perception** and **green marketing** have strong, positive, and statistically significant effects on **buying behaviour**.

The mediation test further established that **attitude toward sustainability** partially mediates this relationship, validating the theoretical propositions of the **Theory of Planned Behaviour (Ajzen, 1991)**. In essence, consumers' perceptions and marketing exposure shape their attitudes, which subsequently influence their purchasing intentions and actions. The findings confirm that **Indian consumers—especially younger cohorts—are increasingly driven by environmental consciousness**, signifying a paradigm shift from price-based to value-based and ethics-driven consumption.

6.2 Theoretical Implications

Theoretically, this research contributes to extending the **Theory of Planned Behaviour** by empirically validating its application in the **Indian sustainability context**. The study demonstrates how attitude functions as a mediating construct linking perception and behaviour, reinforcing Ajzen's (1991) assertion that behaviour is determined by intention, which stems from cognitive and affective evaluations.

By integrating **green marketing** into the TPB framework, this study provides a multidimensional understanding of consumer decision-making in emerging markets—where marketing communication acts as both an informational and normative influence.

Additionally, the exceptionally high reliability ($\alpha = 0.985$) and validity (KMO = 0.985) of the constructs affirm that **sustainability-related behavioural constructs are psychometrically stable and generalizable** within similar cultural contexts.

6.3 Managerial Implications

From a managerial perspective, the findings offer critical insights for brands and policymakers seeking to embed

sustainability in their strategies:

- **Targeted Communication:** Brands should prioritize **Gen Z and Millennial audiences**, who show the highest sustainability engagement, through interactive digital storytelling, influencer collaborations, and transparent social media campaigns.
- **Authenticity in Green Marketing:** Given the strong link between green marketing and buying behaviour, firms must ensure their claims are verifiable and transparent to avoid perceptions of greenwashing.
- **Value Proposition Integration:** Sustainable practices should be embedded not only in messaging but also in product design, packaging, and distribution—allowing consumers to perceive tangible environmental benefits.
- **Policy Support:** Policymakers can use these insights to promote sustainable consumption behaviour by incentivizing companies that adhere to genuine sustainability standards and by enhancing consumer education.

6.4 Limitations and Future Research Directions

While the study provides valuable insights, certain limitations should be acknowledged. First, the research is limited to self-reported data from Indian consumers, which may be influenced by social desirability bias.

Second, the study employed a **cross-sectional design**, restricting the ability to infer long-term behavioural causation.

Future research could employ **longitudinal or experimental designs** to examine evolving sustainability perceptions over time.

Further, while this study focused on **Millennials and Gen Z**, future studies may include **older cohorts and regional variations** to explore cultural and demographic moderators.

Moreover, incorporating **qualitative approaches** or **mixed-method designs** could yield richer insights into the psychological motivations and emotional triggers underlying sustainable consumption.

Finally, as sustainability becomes integrated into global consumption patterns, future research could compare **developed versus emerging markets**, identifying contextual differences in how sustainability messages are interpreted and acted upon.

Overall, this study underscores that **sustainability is not merely a trend but a transformative behavioural driver** among Indian consumers. Brands that successfully align environmental responsibility with marketing authenticity are likely to gain not only market share but also long-term consumer trust.

The findings reaffirm that the road to sustainable business success lies in understanding and enabling consumers' **attitudes, perceptions, and values** toward a greener future.

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