

The Role of Startups in Promoting Sustainable Consumption: A Student Perspective

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Abstract- The escalating urgency of sustainable development, coupled with the exponential growth of entrepreneurial startups in India, creates a powerful opportunity to reshape consumer behaviour among students. This study systematically investigates the role of startups in promoting sustainable consumption from the perspective of 150 student respondents enrolled across undergraduate, postgraduate, and doctoral programmes in Tamil Nadu, India. Employing a descriptive and analytical research design, the study gathered primary data through a structured, five-point Likert scale questionnaire and analysed it using Percentage Analysis, Weighted Average Score (WAS), Weighted Mean, Chi-Square Test (χ^2), and One-Way ANOVA. The findings reveal that students demonstrate moderately high awareness of sustainable startups (WM = 3.63), largely mediated by social media exposure, while institutional channels remain significantly underutilised. Student perceptions are broadly positive (WM = 3.80), with startups viewed as innovative and environmentally committed; however, greenwashing scepticism constitutes a persistent trust barrier. Purchase behaviour is conditional on price parity (WAS = 3.89), and the affordability gap, confirmed as the dominant barrier (WAS = 3.96) continues to obstruct consistent sustainable consumption. Hypothesis testing confirms statistically significant relationships between social media exposure and awareness, peer influence and consumption adoption, pricing and purchase frequency, and perception and recommendation intent. The study advances a multi-stakeholder framework of recommendations for sustainable startups, educational institutions, and policymakers, contributing original empirical evidence on eco-entrepreneurship and student consumer behaviour in the Indian context.

Keywords: Sustainable consumption; eco-startups; student consumer behaviour; green marketing; India.

I. Introduction

The twenty-first century presents an unprecedented confluence of two transformative forces: the exponential rise of entrepreneurial startups and the global imperative for sustainable development. The conventional linear 'take-make-dispose' economic model has proven ecologically untenable, demanding a fundamental paradigm shift in consumption patterns. The United Nations Environment Programme defines sustainable consumption as the use of goods and services that meet basic needs while minimising natural resource use, toxic materials, and waste emissions, thereby safeguarding future generations (UNEP, 2021). Within this landscape, startups have emerged as uniquely positioned agents of change, unlike large corporations constrained by legacy systems and institutional inertia; they possess native agility and purpose-driven orientation, embedding sustainability as a core strategic commitment rather than a compliance obligation. India exemplifies this shift, having ascended to become the third-largest startup ecosystem globally, hosting over 90,000 registered startups and more than 100 unicorns as of 2024, with sustainability-focused ventures among the fastest-growing segments (DPIIT, 2023).

Students enrolled in higher education institutions represent a particularly critical demographic in this transition. Simultaneously among the most environmentally informed, digitally connected, and socially influential segments of society, students are both the consumers of today and the entrepreneurs and policymakers of tomorrow. Research consistently demonstrates that pro-environmental consumption habits formed during early adulthood tend to persist throughout adult life (Peattie, 2010). Nevertheless, the extent to which sustainability-focused startups effectively shape student attitudes and purchasing behaviour remains inadequately examined a gap this study directly addresses

II. Statement Of The Problem

Despite growing global awareness of sustainability imperatives—formalised through the United Nations Sustainable Development Goal 12, which mandates responsible consumption and production—consumer behaviour continues to fall significantly short of environmentally responsible standards. Startups have been identified as key catalysts of change through the introduction of eco-friendly products, sustainable services, and socially responsible business models. Students represent a receptive and influential target demographic, yet the effectiveness of startup-led sustainability initiatives in shaping their actual consumption behaviours has not been adequately examined.

Existing literature lacks a focused inquiry into the student perspective on startups as agents of sustainable consumption. Compounding this gap are intervening variables price sensitivity, brand perception, peer influence, and greenwashing scepticism that may moderate student preferences. This study therefore investigates the role of startups in promoting sustainable consumption among students, analysing their awareness, perceptions, and behavioural responses to startup-led sustainability initiatives.

III. Objectives Of The Study

- (i) To examine the level of awareness and perception of students towards startups promoting sustainable consumption and eco-friendly products and services.
- (ii) To analyse the purchase behaviour and consumption patterns of students with respect to sustainability-focused startups.
- (iii) To identify the key challenges and barriers faced by students in adopting sustainable consumption behaviours as influenced by startups.
- (iv) To suggest recommendations for sustainable startups, educational institutions, and policymakers to strengthen student engagement with sustainable consumption.

IV. Research Methodology

The study adopts a descriptive and analytical cross-sectional research design grounded in a quantitative approach. Primary data were collected from 150 student respondents enrolled in undergraduate, postgraduate, and doctoral programmes across colleges and universities in India, with a primary focus on Tamil Nadu, using a structured questionnaire incorporating a five-point Likert scale. Convenience sampling was employed given the practical constraints of time and geographic spread. Secondary data were drawn from peer-reviewed journals, government reports, and institutional publications.

The following statistical tools were applied: (i) Percentage Analysis for demographic profiling; (ii) Weighted Average Score ($WAS = \Sigma(f \times w) / \Sigma f$) for Likert-scale ranking; (iii) Weighted Mean ($\bar{X}_w = \Sigma(w_i \times x_i) / \Sigma w_i$) for consolidated section-wise scores; (iv) Chi-Square Test ($\chi^2 = \Sigma[(O-E)^2/E]$) for association between categorical variables; and (v) One-Way ANOVA ($F = MSB/MSW$) for mean difference testing across demographic groups. All hypothesis tests were conducted at the 5% level of significance ($p < 0.05$). Computations were performed using Microsoft Excel and SPSS.

V. Scope Of The Study

The study is confined to student respondents enrolled across various colleges and universities in India, with primary emphasis on Tamil Nadu. It covers six dimensions: awareness, perception, purchase behaviour, lifestyle influence, challenges and barriers, and future expectations. The study is restricted to startups operating in the domain of sustainable consumption, including eco-friendly products, green services, zero-waste solutions, and circular economy ventures. The cross-sectional design captures a contemporary snapshot during the academic year 2025–2026. Findings are primarily applicable to sustainable startups, educational institutions, and policymakers operating in the Indian context.

VI. Review Of Literature

The literature on sustainable consumption and green marketing provides a rich theoretical foundation. Jaiswal and Kant (2018) demonstrated that green trust and environmental concern significantly and positively influence consumers' eco-friendly purchase intentions, urging transparent green communication. Prakash and Pathak (2017) found that among young Indian consumers, environmental concern and social norms are the most significant predictors of green purchase intention, while price sensitivity constitutes a notable barrier. Kumar and Ghodeswar (2015) confirmed that higher levels of environmental awareness and personal responsibility correlate with greater green buying behaviour, highlighting the importance of consumer education.

Yadav and Pathak (2016), applying the Theory of Planned Behaviour, found that positive attitudes toward organic food are constrained by price perceptions, limited availability, and inadequate product information—barriers particularly relevant to the student segment. Paul, Modi, and Patel (2016) similarly established that attitude toward green products and environmental concern are the strongest predictors of green consumption behaviour, with

social influence also playing a role. Perera, Auger, and Klein (2018) reported that millennials are motivated by environmental concern and peer influence but are impeded by price sensitivity and greenwashing scepticism, directly informing the present study's hypotheses.

Young et al. (2010) identified four structural barriers to sustainable consumption among self-identified green consumers: high prices, low availability, lack of information, and habits of convenience findings corroborated across multiple cultural contexts (Liobikienė et al., 2016; Carrete et al., 2012). Gleim et al. (2013) confirmed that price premium and performance scepticism are the most significant deterrents to green purchase. Bridges and Wilhelm (2008) and Bhattacharya and Sen (2004) respectively highlighted that credible sustainability commitments enhance brand loyalty, particularly among younger, educated consumers. Peattie (2010) argued that sustainable businesses must adopt consumer-centric approaches moving beyond incremental product improvements toward systemic transformation. Collectively, the literature identifies a persistent attitude behaviour gap, the primacy of price and availability as barriers, and the underexamined role of startups as distinct agents of sustainable consumption from a student perspective the gap this study addresses.

VII. Results

7.1 Demographic Profile

The sample comprised female students (49.33%), male students (48.00%), and 2.67% who preferred not to disclose gender, ensuring near-equal gender distribution. The dominant age group was 20–22 years (42.00%), consistent with the undergraduate majority (54.67%). Commerce and Management students constituted 36.00% of the sample, followed by Science and Technology (28.00%). Urban respondents formed the largest residential group (45.33%), with the ₹25,001–₹50,000 monthly family income bracket most prevalent (34.67%), situating most respondents within the middle-income stratum.

7.2 Awareness of Sustainable Startups

The consolidated Weighted Mean for awareness was 3.63 (High). The highest WAS of 3.94 was recorded for general awareness of eco-friendly startups' existence. Social media exposure yielded a WAS of 3.83, confirming digital platforms as the dominant awareness channel. Institutional/college-level exposure recorded the lowest WAS of 3.35, indicating a significant gap in formal educational channels. ANOVA confirmed significant differences in awareness scores across educational levels ($F = 4.823$, $p = 0.009$), with postgraduate and doctoral students demonstrating higher awareness than undergraduates.

7.3 Perception of Sustainable Startups

Overall student perception was positive, with a consolidated Weighted Mean of 3.80. Sustainable startups were most strongly perceived as innovative and forward-thinking ($WAS = 3.97$), followed by genuine environmental commitment ($WAS = 3.82$). Greenwashing concern yielded a notable WAS of 3.80, indicating a persistent undercurrent of scepticism. Chi-Square analysis established a highly significant relationship between overall positive perception and willingness to recommend ($\chi^2 = 25.412$, $p = 0.000$). ANOVA revealed significantly more favourable perceptions among urban students compared to semi-urban and rural counterparts ($F = 3.491$, $p = 0.033$).

7.4 Purchase Behaviour

The consolidated Weighted Mean for purchase behaviour was 3.69. Price parity emerged as the strongest purchase driver ($WAS = 3.89$): students overwhelmingly prefer sustainable products when there is no significant price difference. Price discouragement scored $WAS = 3.78$, confirming the premium pricing barrier. Conscious eco-label checking was endorsed at $WAS = 3.63$, while online platforms were the preferred purchase channel ($WAS = 3.67$). Chi-Square tests confirmed significant associations between purchase behaviour and gender ($\chi^2 = 6.142$, $p = 0.047$), age ($\chi^2 = 15.327$, $p = 0.018$), and educational level ($\chi^2 = 9.854$, $p = 0.043$), but not field of study ($p = 0.080$). ANOVA confirmed higher purchase frequency among students from higher income brackets ($F = 5.317$, $p = 0.002$).

7.5 Lifestyle Influence and Challenges

Sustainable startups achieved a Weighted Mean of 3.59 for lifestyle influence. The highest lifestyle score was eco-conscious mindset motivation ($WAS = 3.81$); however, deeper behavioural changes such as waste segregation ($WAS = 3.47$) and sustainability sharing on social media ($WAS = 3.44$) remained limited. ANOVA found no significant difference in lifestyle influence across academic disciplines ($F = 2.512$, $p = 0.061$), suggesting uniform

appeal across fields. The dominant barrier was price (WAS = 3.96), followed by limited geographic availability (WAS = 3.81) and greenwashing scepticism (WAS = 3.73). Chi-Square confirmed highly significant associations between price sensitivity and purchase frequency ($\chi^2 = 28.543$, $p = 0.000$) and product accessibility and purchase behaviour ($\chi^2 = 21.876$, $p = 0.000$).

7.6 Future Expectations and Hypothesis Summary

Future expectations recorded the highest Weighted Mean of 3.91. Price reduction expectations crossed the 4.00 threshold (WAS = 4.05), followed by geographic expansion (WAS = 3.97), government subsidies (WAS = 3.94), and transparency in communication (WAS = 3.91). Across hypothesis testing: H₁ (social media and awareness) was rejected ($p = 0.000$); H₂ (demographics and purchase behaviour) was partially rejected; H₃ (peer influence and adoption) was rejected ($p = 0.001$); H₄ (perception and recommendation) was rejected ($p = 0.000$); and H₅ (pricing and consumption) was rejected ($p = 0.000$).

VIII. Discussion

The findings reveal a central tension between attitudinal readiness and behavioural realisation, mirroring the attitude-behaviour gap documented in prior literature (Yadav & Pathak, 2016; Young et al., 2010). While students demonstrate positive awareness and perception of sustainable startups, consistent purchase behaviour remains constrained by price sensitivity, confirmed as the most powerful determinant ($\chi^2 = 28.543$, $p = 0.000$) and compounded by income constraints ($F = 5.317$, $p = 0.002$) alongside limited geographic availability. Social media is the dominant awareness driver (WAS = 3.83; $\chi^2 = 24.816$, $p = 0.000$), whereas institutional channels remain significantly underutilised (WAS = 3.35). Peer influence meaningfully shapes adoption ($\chi^2 = 19.432$, $p = 0.001$), suggesting campus sustainability communities can serve as behavioural change multipliers when activated through startup partnerships (Prakash & Pathak, 2017). Greenwashing concern (WAS = 3.80), though a trust barrier, does not deter advocacy among students who perceive startups as credible (H₄ rejected, $p = 0.000$), implying that transparency investment yields recommendation dividends. Finally, urban students hold significantly more favourable perceptions than semi-urban and rural peers ($F = 3.491$, $p = 0.033$), reinforcing the need for expanded digital outreach and tier-2/3 city distribution.

IX. Implications To Society

The study yields actionable implications across three stakeholder dimensions. Sustainable startups should prioritise tiered student-accessible pricing, platform-specific digital content, peer advocacy programmes, transparent anti-greenwashing disclosures with third-party certifications, and expanded distribution to tier-2/3 cities complemented by campus retail touchpoints and startup-college MoU partnerships to broaden student consumer reach. Educational institutions must urgently integrate sustainable entrepreneurship into formal curricula, particularly at the undergraduate level, where institutional exposure scored lowest (WAS = 3.35), and establish student-run sustainability clubs and startup-academia collaboration programmes to normalise eco-friendly consumption within campus environments. For policymakers, the empirical evidence strongly supports direct consumer subsidies or GST reductions on certified sustainable products, mandatory anti-greenwashing regulation, an enhanced dedicated category for sustainable startups within the Startup India framework, and government-funded incubators in tier-2 and tier-3 cities. A National Sustainable Consumption Literacy Campaign leveraging India's 40-million-strong student population through digital and institutional channels could serve as a systemic catalyst for mainstreaming sustainable consumption across Indian society.

X. Conclusion

This study has generated a rigorous, empirically grounded assessment of the role of startups in promoting sustainable consumption from the student perspective in India. The central finding is simultaneously encouraging and cautionary: students demonstrate the attitudinal capital awareness, positive perception, and aspirational expectations required to become a powerful sustainable consumer cohort, yet consistent behavioural realisation is impeded by the affordability gap, geographic inequity, and greenwashing scepticism.

Statistical testing confirms that social media exposure, peer influence, positive startup perception, and pricing strategies are significant determinants of sustainable consumption awareness, adoption, and advocacy among students. The study's multi-stakeholder recommendations for commercially intelligent startup strategies,

institutionally embedded educational interventions, and systemic policy frameworks provide a practical roadmap for closing the gap between aspiration and action.

Sustainable startups, with their agility, purpose-driven orientation, and proximity to digitally engaged young consumers, occupy a uniquely powerful position in India's sustainability transition. The student community stands ready in awareness and aspiration; the task ahead lies in removing the structural and economic barriers that currently separate readiness from habitual, sustainable behaviour. Achieving this will require the urgent, collaborative, and evidence-informed action of startups, educational institutions, and policymakers alike.

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