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CONSUMER AWARENESS ON SUSTAINABLE AND GREEN PRODUCTS WITH SPECIAL REFERENCE TO SELECTED GREEN PRODUCT RETAIL OUTLETS IN TIRUNELVELI DISTRICT

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ABSTRACT

The global transition towards sustainable consumption has positioned green products at the forefront of consumer research, yet localised empirical evidence from Tier-II Indian retail markets remains limited. This study examines consumer awareness, satisfaction, and perceived challenges with respect to sustainable and green products available at selected retail outlets in Tirunelveli District, Tamil Nadu. A structured questionnaire survey was administered to 50 respondents selected through convenience sampling across key green product retail outlets in the district. Data were analysed using descriptive statistics, weighted average method, chi-square test, one-way ANOVA, and Pearson correlation. Findings reveal that the majority of consumers (80%) exhibit a moderate level of awareness of green products and their associated attributes, while 66% report high satisfaction with green product quality and retail experience. The most commonly purchased green product category was organic food and beverages (38%), followed by eco-friendly personal care products (30%). Perceived challenges were rated at a moderate-to-high level (50% moderate, 40% high), with premium pricing and limited product variety identified as the leading barriers. A statistically significant association was found between income level and overall green product satisfaction ($F = 2.73$, $p = 0.042$). Pearson correlation confirmed a significant positive relationship between consumer awareness level and willingness to pay a price premium ($r = 0.312$, $p = 0.027$). The study contributes original empirical evidence on green consumption patterns in Tirunelveli and provides actionable recommendations for retailers, policy-makers, and sustainability advocates.

Keywords: *Green products, Sustainable consumption, Consumer awareness, Green marketing, Tirunelveli, Retail outlets, Eco-friendly, Willingness to pay*

1. INTRODUCTION

The twenty-first century has witnessed a profound transformation in global consumer behaviour, driven by heightened environmental consciousness, scientific consensus on climate change, and the proliferation of sustainability-oriented public policy. Green products are defined as goods designed, manufactured, and packaged with minimal adverse environmental impact across their lifecycle have moved from niche specialty items to mainstream retail offerings in both developed and developing economies. In India, the green product market is experiencing rapid growth, catalysed by rising disposable incomes, increasing urban environmental awareness, and a supportive regulatory environment including the Bureau of Indian Standards' (BIS) EcoMark scheme, the Food Safety and Standards Authority of India (FSSAI) organic certification, and the government's National Action Plan on Climate Change (NAPCC).

Tamil Nadu, as one of India's most industrially and commercially dynamic states, has emerged as a significant market for sustainable consumer goods. Within Tamil Nadu, Tirunelveli District presents a distinctive and underexplored context for green product consumption research. Historically known for its commercial vitality centred on agriculture, small-scale industry, and a dense network of retail establishments in Tirunelveli has, in recent years, witnessed the emergence of dedicated green product retail outlets catering to health-conscious, environmentally aware consumers. However, the depth and quality of consumer awareness, the drivers of satisfaction, and the barriers to sustained green consumption in this market remain empirically uninvestigated.

Consumer awareness is a multidimensional construct in the green marketing literature, encompassing knowledge of eco-certifications, understanding of environmental benefits, recognition of green labels, and appreciation of the lifecycle impact of products. It is widely regarded as a critical antecedent of green purchase behaviour (Follows & Jobber, 2000; Chan, 2001). Understanding the awareness profile of consumers in Tirunelveli, its depth, gaps, and demographic determinants is therefore essential for designing effective communication strategies and retail environments that convert latent environmental values into active green purchasing behaviour.

1.1 Research Gap

While the national and international literature on green consumer behaviour is extensive, empirical studies specifically examining consumer awareness and satisfaction at green product retail outlets in non-metropolitan South Indian cities such as Tirunelveli are

conspicuously absent. Most Indian studies focus on metropolitan consumers in cities such as Chennai, Mumbai, or Bangalore, where retail infrastructure green is comparatively mature. Tirunelveli's unique socio-economic profile is characterised by diverse income levels, a mix of traditional and modern retail formats, and a growing educated middle class warrants dedicated empirical attention. This study bridges this gap by providing locally grounded, primary data-driven evidence on green consumer behaviour in Tirunelveli District.

2. LITERATURE REVIEW

The academic investigation of green consumer behaviour draws from a rich body of interdisciplinary scholarship spanning environmental psychology, marketing theory, and sustainability science. Follows & Jobber (2000) conducted a foundational study on environmentally responsible purchase behaviour, establishing that consumer values particularly altruism and ecological worldview are the deepest drivers of green product purchase, mediated by attitudes toward specific behaviours. Their structural model demonstrated that pro-environmental values translate into green purchase intent only when consumers possess sufficient product-specific knowledge, underscoring the primacy of awareness as an enabling condition.

Chan (2001) investigated the antecedents of green purchasing behaviour among Chinese consumers and found that ecological affect, ecological knowledge, and ecological value were the strongest predictors of purchasing intention, with ecological knowledge closely aligned with consumer awareness are playing a particularly instrumental role in converting attitude into behaviour. This finding has been replicated in multiple South Asian contexts, including India.

Jain & Kaur (2004) examined green marketing practices in India and found that while consumer awareness of environmental issues was growing, awareness of specific product-level eco-attributes and certifications remained limited. They argued that green product adoption in India required parallel investment in consumer education and transparent labelling systems in a conclusion highly pertinent to the Tirunelveli retail context.

Ottman et al. (2006) proposed the concept of 'green marketing myopia,' arguing that green products fail commercially when they emphasise environmental credentials over consumer benefits (functionality, quality, value). Their research indicated that consumers in developing markets particularly prioritise product performance and price before

environmental attributes suggesting that green retailers in Tirunelveli must balance sustainability messaging with value communication.

More recently, Mishra & Sharma (2010) surveyed Indian urban consumers and found that income level, education, and gender were significant moderators of green product purchase frequency and willingness to pay a premium. Higher-income and better-educated consumers were significantly more willing to absorb the price premium associated with certified organic and eco-friendly products findings that the present study tests in the specific Tirunelveli context.

Kumar & Ghodeswar (2015) examined the role of social norms, environmental concern, and perceived consumer effectiveness (PCE) in shaping green purchase behaviour among Indian consumers, finding that PCE, the belief that individual purchasing choices make a meaningful environmental difference was the single strongest predictor of green purchase intention. This aligns with the green marketing literature's broader emphasis on empowerment-oriented communication strategies.

At the retail level, D'Souza et al. (2007) found that in-store environmental cues, eco-label clarity, and knowledgeable retail staff significantly enhanced consumer confidence in green product claims, increasing both purchase rates and satisfaction. Their findings highlight the critical role of the retail environment, a dimension specifically examined in the present study's satisfaction analysis.

3. OBJECTIVES AND HYPOTHESES

3.1. Research Objectives

- To analyse the socio-demographic profile of consumers patronising green product retail outlets in Tirunelveli District.
- To identify the most commonly purchased green product categories among respondents.
- To measure the level of consumer awareness regarding sustainable and green products and their eco-attributes.
- To assess the level of consumer satisfaction with green product quality, retail experience, and pricing.
- To examine the nature and severity of challenges faced by consumers in purchasing green products.

- To statistically test the associations between demographic variables, awareness levels, satisfaction, and green product purchase behaviour.

3.2. Research Hypotheses

H_{10}: There is no significant association between gender and green product purchase pattern.

H_{11}: There is a significant association between gender and green product purchase pattern.

H_{20}: There is no significant difference in consumer satisfaction levels across monthly income groups.

H_{21}: There is a significant difference in consumer satisfaction levels across monthly income groups.

H_{30}: There is no significant association between educational qualification and level of green product awareness.

H_{31}: There is a significant association between educational qualification and level of green product awareness.

H_{40}: There is no significant relationship between consumer awareness level and willingness to pay a price premium for green products.

H_{41}: There is a significant positive relationship between consumer awareness level and willingness to pay a price premium for green products.

4. RESEARCH METHODOLOGY

4.1. Research Design

This study employs a descriptive and analytical research design. A structured, closed-ended questionnaire was developed drawing on validated green consumer behaviour scales from the literature (Chan, 2001; Kumar & Ghodeswar, 2015) and adapted to the local Tirunelveli retail context. The survey was administered in person at selected green product retail outlets including organic food stores, eco-friendly home products shops, and natural personal care retailers across key commercial localities in Tirunelveli District during October-December, 2020.

4.2. Sample and Sampling Method

A convenience sampling technique was employed to collect responses from 50 consumers visiting green product retail outlets in Tirunelveli District. The sample size, while modest, is appropriate for an exploratory retail consumer study with clear geographic

specificity (D'Souza et al., 2007; Jain & Kaur, 2004). Respondents were drawn from diverse demographic groups spanning age, income, education, and occupational categories.

4.3. Research Instrument

The questionnaire comprised four sections: (i) socio-demographic profile (gender, age, marital status, education, family size, occupation, monthly income); (ii) green product purchase patterns (categories purchased, frequency); (iii) awareness assessment, a 10-item Likert scale measuring awareness of eco-certifications, environmental benefits, product availability, pricing, government initiatives, carbon footprint concepts, health benefits, recycling facilities, sustainability ratings, and green labelling; (iv) satisfaction assessment, a 9-item Likert scale covering product quality, value for money, retail availability, staff knowledge, product variety, label clarity, certification trust, and overall shopping experience; and (v) challenges faced, a 10-item Likert scale covering price premium, limited availability, greenwashing confusion, product variety, authentication difficulty, awareness gaps, retail accessibility, payment options, shelf life, and customer support quality.

4.4. Weighted Average Method

The composite scores for awareness, satisfaction, and challenges were computed using the Weighted Average Method. Scores were classified into three levels: High (weighted average score ≥ 3.67), Moderate (weighted average score between 2.34 and 3.66), and Low (weighted average score ≤ 2.33). This classification method ensures sensitivity to response distribution and is widely used in consumer behaviour research with Likert-scale instruments.

4.5. Statistical Analysis

Data were processed and analysed using SPSS (v.25). The analytical techniques employed included: (a) descriptive statistics (frequencies, percentages); (b) weighted average analysis for composite awareness, satisfaction, and challenges scores; (c) chi-square test of independence for categorical associations; (d) one-way ANOVA for income-group mean comparisons of satisfaction; and (e) Pearson product-moment correlation for the awareness willingness-to-pay relationship. A significance threshold of $\alpha = 0.05$ was applied throughout.

5. ANALYSIS AND FINDINGS

5.1. Gender-wise Classification of Respondents

Table 4.1 presents the gender distribution of the 50 respondents. A substantial majority, 79.2% (n = 38), were male, while 20.8% (n = 12) were female. This distribution reflects the gender profile of consumers visiting commercial retail outlets in Tirunelveli

during the survey period and is consistent with the predominantly male retail participation patterns reported in comparable South Indian consumer studies.

Table 4.1: Gender-wise Classification of Respondents

Particulars	Frequency	Percentage (%)	Cumulative %
Male	38	76.0	76.0
Female	12	24.0	100.0
Total	**50**	**100.0**	

5.2. Age-wise Classification of Respondents

Table 4.2 shows the age distribution. The dominant age group was 20–30 years (54.0%, n = 27), followed by 30–40 years (24.0%, n = 12), below 20 years (12.0%, n = 6), 50–60 years (8.0%, n = 4), and above 60 years (2.0%, n = 1). The concentration of younger consumers (66% below age 40) is consistent with national patterns of green product adoption, where younger demographics tend to exhibit stronger pro-environmental attitudes and greater openness to sustainable consumption (Kumar & Ghodeswar, 2015).

Table 4.2: Age-wise Classification of Respondents

Age Group	Frequency	Percentage (%)	Cumulative %
Below 20	6	12.0	12.0
20–30	27	54.0	66.0
30–40	12	24.0	90.0
50–60	4	8.0	98.0
Above 60	1	2.0	100.0
Total	**50**	**100.0**	

5.3. Marital Status-wise Classification of Respondents

As shown in Table 4.3, the majority of respondents were unmarried (60.0%, n = 30), while 40.0% (n = 20) were married. No widowed or divorced respondents were recorded. The higher proportion of unmarried respondents is consistent with the youthful age profile of the sample, and indicates a consumer base where individual discretionary income and personal environmental values, rather than family-driven purchasing norms are the primary decision drivers.

Table 4.3: Marital Status-wise Classification of Respondents

Marital Status	Frequency	Percentage (%)	Cumulative %
Married	20	40.0	40.0
Unmarried	30	60.0	100.0
Total	**50**	**100.0**	

5.4. Educational Qualification-wise Classification of Respondents

Table 4.4 reveals that undergraduates constituted the largest group (54.0%, n = 27), followed by postgraduates (26.0%, n = 13), diploma holders (10.0%, n = 5), higher secondary (6.0%, n = 3), and Ph.D. holders (4.0%, n = 2). The majority being educated to graduate level or above (84%) indicates a consumer base with the educational capacity to process green product information, evaluate eco-certifications, and respond to sustainability messaging, an important contextual factor for interpreting the awareness findings in Section 5.7.

Table 4.4: Educational Qualification-wise Classification of Respondents

Educational Qualification	Frequency	Percentage (%)	Cumulative %
Higher Secondary	3	6.0	6.0
Diploma	5	10.0	16.0
Undergraduate	27	54.0	70.0
Postgraduate	13	26.0	96.0
Ph.D.	2	4.0	100.0
Total	**50**	**100.0**	

5.5. Family Size-wise Classification of Respondents

Table 4.5 shows that the majority of respondents (84.0%, n = 42) belong to nuclear families of 3–5 members, while 10.0% (n = 5) are from larger families of 5–7 members, and 6.0% (n = 3) from smaller households of below 3 members. Medium-sized families are well-suited for studying green product purchase decisions, as household-level consumption, particularly of food, cleaning products, and personal care items is more likely to incorporate sustainability considerations when family welfare is a primary concern.

Table 4.5: Family Size-wise Classification of Respondents

Family Size	Frequency	Percentage (%)	Cumulative %
Below 3 Members	3	6.0	6.0
3–5 Members	42	84.0	90.0
5–7 Members	5	10.0	100.0
Total	**50**	**100.0**	

Note: Source: Primary Data (2026).

5.6. Occupation-wise Classification of Respondents

Table 4.6 presents the occupational distribution. Business/self-employed individuals formed the largest group (36.0%, n = 18), followed by private employees (32.0%, n = 16), government employees (16.0%, n = 8), students (10.0%, n = 5), and homemakers (6.0%, n = 3). The significant proportion of self-employed and private sector respondents reflects

Tirunelveli's commercial and service-sector character, and suggests a consumer base with moderate-to-high discretionary income relevant for green product purchasing decisions.

Table 4.6: Occupation-wise Classification of Respondents

Occupation	Frequency	Percentage (%)	Cumulative %
Business / Self-Employed	18	36.0	36.0
Private Employee	16	32.0	68.0
Government Employee	8	16.0	84.0
Student	5	10.0	94.0
Homemaker	3	6.0	100.0
Total	**50**	**100.0**	

5.7. Monthly Income-wise Classification of Respondents

As shown in Table 4.7, the largest income group was those earning Rs. 50,000 and above (28.0%, n = 14), followed by Rs. 10,000–Rs.20,000 (22.0%, n = 11), below Rs.10,000 (20.0%, n = 10), Rs.20,000–Rs.30,000 (16.0%, n = 8), and Rs. 30,000–Rs.50,000 (14.0%, n = 7). The wide income distribution enables meaningful analysis of income's role in green product awareness and satisfaction, particularly given the established literature linkage between income and willingness to absorb green product price premiums (Mishra & Sharma, 2010).

Table 4.7: Monthly Income-wise Classification of Respondents

Monthly Income (Rs.)	Frequency	Percentage (%)	Cumulative %
Below Rs. 10,000	10	20.0	20.0
Rs. 10,000–Rs. 20,000	11	22.0	42.0
Rs. 20,000–Rs. 30,000	8	16.0	58.0
Rs. 30,000–Rs. 50,000	7	14.0	72.0
Rs. 50,000 and Above	14	28.0	100.0
Total	**50**	**100.0**	

5.8. Green Product Categories Purchased by Respondents

Table 4.8 identifies the primary green product categories purchased by respondents at the surveyed retail outlets. Organic food and beverages (38.0%, n = 19) was the most frequently purchased category, indicating that health-driven motivations closely intersect with environmental motivation in the Tirunelveli green consumer profile. Eco-friendly personal care and cosmetic products ranked second (30.0%, n = 15), followed by green household and cleaning products (22.0%, n = 11), and sustainable clothing and fashion (10.0%, n = 5). This distribution is consistent with national trends reported by Kumar &

Ghodeswar (2015), who found food and personal care to be the gateway categories for green consumption in Indian Tier-II markets.

Table 4.8: Green Product Categories Purchased by Respondents

Green Product Category	Frequency	Percentage (%)	Cumulative %
Organic Food & Beverages	19	38.0	38.0
Eco-Friendly Personal Care / Cosmetics	15	30.0	68.0
Green Household & Cleaning Products	11	22.0	90.0
Sustainable Clothing & Fashion	5	10.0	100.0
Total	**50**	**100.0**	

5.9. Level of Consumer Awareness of Green Products

The consumer awareness level was assessed using a 10-item Likert scale covering: (i) awareness of eco-certifications and labels; (ii) understanding of environmental benefits of green products; (iii) knowledge of green product availability in local retail outlets; (iv) awareness of price premiums; (v) knowledge of government green product incentives; (vi) understanding of carbon footprint reduction; (vii) awareness of health benefits; (viii) knowledge of recycling and disposal facilities; (ix) familiarity with sustainability ratings; and (x) ability to distinguish authentic from 'greenwashed' products. Composite scores were computed using the Weighted Average Method and classified into three levels (Table 4.9).

Table 4.9: Level of Consumer Awareness of Green Products (Weighted Average Method)

Awareness Level	No. of Respondents	Percentage (%)	Cumulative %
High	10	20.0	20.0
Moderate	40	80.0	100.0
Low	0	0.0	—
Total	**50**	**100.0**	

The results show that the majority of respondents (80.0%, n = 40) demonstrate a moderate level of green product awareness, while 20.0% (n = 10) exhibit a high level of awareness. Notably, no respondent scored at the low awareness level, indicating that the very act of visiting a dedicated green product retail outlet filters for consumers with at least a basic familiarity with sustainability concepts. The dominance of moderate awareness particularly with respect to eco-certification specifics, carbon footprint measurement, and government incentive schemes reveals a significant opportunity for targeted consumer education.

5.10. Level of Consumer Satisfaction with Green Products and Retail Outlets

Consumer satisfaction was measured across nine dimensions: product quality compared to conventional products; value for money; retail availability and accessibility; staff knowledge about green products; variety and range of products; eco-label clarity; trust in green certifications; return and exchange policies; and overall shopping experience. Composite scores were classified using the Weighted Average Method.

Table 4.10: Level of Consumer Satisfaction with Green Products (Weighted Average Method)

Satisfaction Level	No. of Respondents	Percentage (%)	Cumulative %
High	33	66.0	66.0
Moderate	11	22.0	88.0
Low	6	12.0	100.0
Total	**50**	**100.0**	

A strong majority of respondents (66.0%, n = 33) reported high satisfaction with green products and the retail outlet experience, while 22.0% (n = 11) were moderately satisfied and 12.0% (n = 6) reported low satisfaction (Table 4.10). The high satisfaction rate is encouraging for the green retail sector in Tirunelveli and suggests that once consumers are drawn into the green purchase ecosystem, their experience largely meets or exceeds expectations. The 12% low satisfaction segment warrants attention, as dissatisfied green consumers are more likely to revert to conventional product choices (D'Souza et al., 2007).

5.11. Level of Perceived Challenges in Green Product Purchasing

The challenge dimension was assessed across ten variables: high price premium; limited availability at local stores; confusion due to greenwashing claims; insufficient product variety; difficulty verifying product authenticity; lack of awareness about benefits; inconvenient retail location; limited payment options; short shelf life of organic products; and inadequate customer support. Composite scores were classified using the Weighted Average Method.

Table 4.11: Level of Perceived Challenges in Green Product Purchasing (Weighted Average Method)

Challenge Level	No. of Respondents	Percentage (%)	Cumulative %
High	20	40.0	40.0
Moderate	25	50.0	90.0
Low	5	10.0	100.0
Total	**50**	**100.0**	

The majority of respondents (50.0%, n = 25) perceived moderate challenges in green product purchasing, 40.0% (n = 20) reported high challenges, and only 10.0% (n = 5) experienced low challenges (Table 4.11). This pattern where a combined 90% face moderate to high challenges underscores that despite high satisfaction with the products themselves, structural barriers to green consumption remain significant. Premium pricing and greenwashing confusion were the most commonly cited specific challenges, consistent with findings by Ottman et al. (2006) and D'Souza et al. (2007).

5.12. Hypothesis Testing

5.12.1. Chi-Square Test: Gender and Green Product Purchase Pattern

Table 4.12: Chi-Square Test – Gender vs. Green Product Category Purchased

Test	Chi-Square (χ^2)	Degrees of Freedom	p-value	Decision
Gender vs. Purchase Pattern	5.843	3	0.119	H_{10} Retained

Since $p = 0.119 > 0.05$, H_{10} is retained (Table 4.12). There is no statistically significant association between gender and the type of green product purchased. Both male and female respondents exhibit broadly similar preferences across green product categories, suggesting that green product marketing in Tirunelveli need not be heavily gender-segmented a finding that aligns with recent evidence of converging gender roles in sustainable consumption (Kumar & Ghodeswar, 2015).

5.12.2. One-Way ANOVA: Monthly Income and Consumer Satisfaction Level

Table 4.13: One-Way ANOVA – Monthly Income vs. Consumer Satisfaction Level

Test	F-Statistic	Degrees of Freedom	p-value	Decision
Income vs. Satisfaction	2.730	4	0.042	H_{20} Rejected

Since $p = 0.042 < 0.05$, H_{20} is rejected (Table 4.13). There is a statistically significant difference in consumer satisfaction levels across monthly income groups. Higher-income respondents (Rs. 50,000 and above) tended to report higher satisfaction, possibly because their greater spending capacity allows them to access premium green products from better-stocked outlets and perceive the price premium as proportionate to the value received. This finding corroborates Mishra & Sharma (2010), who similarly found income to be a significant moderator of green product satisfaction in Indian urban markets.

5.12.3. Chi-Square Test: Educational Qualification and Green Product Awareness Level

Table 4.14: Chi-Square Test – Educational Qualification vs. Green Product Awareness Level

Test	Chi-Square (χ^2)	Degrees of Freedom	p-value	Decision
Education vs. Awareness	8.176	4	0.085	H_{30} Retained

Since $p = 0.085 > 0.05$, H_{30} is retained (Table 4.14). There is no statistically significant association between educational qualification and green product awareness level at the 0.05 significance threshold. However, the borderline p-value (0.085) suggests a marginal trend, wherein postgraduate and Ph.D. holders tended to score in the high awareness category while diploma and higher secondary respondents clustered in moderate awareness. This finding implies that while formal education broadly equips consumers with capacity for green product literacy, dedicated green product education channels regardless of academic level are needed to elevate awareness from moderate to high.

5.12.4. Pearson Correlation: Consumer Awareness Level and Willingness to Pay a Price Premium

Table 4.15: Pearson Correlation – Awareness Level vs. Willingness to Pay a Price Premium

Variables	Pearson r	n	p-value	Decision
Awareness ↔ Willingness to Pay Premium	0.312	50	0.027	H_{40} Rejected

The significant positive correlation ($r = 0.312$, $p = 0.027$) between consumer awareness level and willingness to pay a price premium for green products confirms H_{41} (Table 4.15). Consumers with higher green product awareness are significantly more willing to pay a premium, supporting the foundational argument in green marketing literature that informed consumers place higher value on sustainability attributes (Follows & Jobber, 2000; Chan, 2001). This finding has direct strategic implications: investment in consumer awareness programmes at the retail level is not merely an educational exercise but a commercial driver of willingness-to-pay.

6. DISCUSSION

The findings of this study generate several theoretically significant and practically actionable insights, extending and contextualising the extant green marketing and sustainable consumer behaviour literature.

The dominance of moderate awareness (80%) among respondents despite their self-selection as visitors to green product retail outlets reveals an important paradox in the Tirunelveli green consumer profile: consumers are sufficiently motivated to seek out green retail spaces, yet their product-specific knowledge, particularly regarding eco-certifications, carbon footprint metrics, and government sustainability incentives, remains incomplete. This mirrors the national pattern identified by Jain & Kaur (2004) and underscores the need for point-of-sale information systems that convert general environmental sympathy into product-specific literacy.

The high satisfaction rate (66%) is encouraging for green retail operators in Tirunelveli and suggests that the quality and retail experience dimensions of green products are meeting consumer expectations effectively. However, the 12% low-satisfaction segment concentrated in the lower-income groups as evidenced by the significant ANOVA result ($F = 2.73$, $p = 0.042$) highlights that price-quality trade-offs remain a source of friction, particularly for consumers who purchase green products despite constrained budgets. This finding aligns with Ottman et al.'s (2006) green marketing myopia framework: green products that fail to deliver perceived value proportionate to their premium are at persistent risk of consumer defection.

The category leadership of organic food and beverages (38%) reflects a global pattern in which health co-benefits reduced pesticide exposure, higher nutritional quality provide a tangible personal incentive that reinforces environmental motivation. The relatively low share of sustainable clothing (10%) suggests that the fashion supply chain's environmental narrative has not yet permeated Tirunelveli's consumer consciousness to the degree seen in metropolitan markets, pointing to an underserved category with significant awareness-building potential.

The significant positive correlation between awareness and willingness to pay ($r = 0.312$, $p = 0.027$) is perhaps the most commercially actionable finding of the study. It directly establishes that the awareness gap identified in Table 4.9 is not merely an informational deficit but a pricing constraint: closing this gap through targeted in-store education would plausibly elevate willingness-to-pay, enhancing the commercial viability of the green retail model in Tirunelveli.

The high-to-moderate challenge profile (90% combined) suggests that despite strong motivation and generally positive purchase experiences, structural barriers particularly premium pricing, greenwashing confusion, and limited product variety continue to constrain

the depth of green consumption. Addressing these barriers requires a coordinated response from retailers (transparent labelling, value communication), certification bodies (simpler, more visible eco-labels), and government (targeted subsidies, awareness campaigns).

7. SUGGESTIONS AND CONCLUSION

7.1. Suggestions

- Green product retailers in Tirunelveli should install interactive, bilingual (English/Tamil) eco-information displays at point of sale, explaining certifications, environmental benefits, and comparative lifecycle data for key products directly addressing the dominant moderate-awareness finding.
- Retailers and brands should develop tiered green product ranges including entry-level, affordably priced eco-friendly options to make sustainable consumption accessible to the 42% of respondents earning below Rs. 20,000 per month, for whom premium pricing is a significant barrier.
- Government agencies (TANSTIA, SIDCO, District Industries Centres) should collaborate with green retail outlets to organise regular consumer awareness workshops and eco-certification literacy drives, leveraging the strong linkage between awareness and willingness to pay demonstrated in the correlation analysis.
- Retail staff at green product outlets should be trained as sustainability advisors, equipped with product-specific environmental knowledge consistent with D'Souza et al.'s (2007) finding that knowledgeable staff significantly enhances consumer confidence and satisfaction.
- Certification bodies should introduce simplified, visually prominent, standardised eco-labels in Tamil to address greenwashing confusion, particularly for food, personal care, and household product categories.
- Expanding the range and availability of sustainable clothing and home products in Tirunelveli green retail outlets could diversify the consumer base and increase per-customer basket size, capitalising on the underserved demand in these categories.

7.2. Conclusion

This study provides the first empirically grounded examination of consumer awareness, satisfaction, and challenges with respect to sustainable and green products at retail outlets in Tirunelveli District. The findings reveal a consumer base that is young, reasonably educated, and largely moderately aware of green products, with high satisfaction once the

purchase is made yet constrained by premium pricing, greenwashing confusion, and informational gaps in eco-certification literacy. Income is a significant determinant of satisfaction, while awareness significantly and positively predicts willingness to pay a premium. Organic food and eco-friendly personal care lead category preferences. These findings collectively make the case for targeted, locally-grounded green marketing strategies that bridge the awareness-action gap and make sustainable consumption accessible and compelling across income segments in Tirunelveli.

7.3. Limitations and Future Research

The study is subject to limitations inherent in convenience sampling and a sample size of 50, which may restrict the generalisability of findings to the broader Tirunelveli consumer population. The cross-sectional design precludes causal inference and temporal tracking of awareness or behaviour change. Future research should employ stratified random sampling across a wider geography including rural and peri-urban areas of Tirunelveli District to capture the full spectrum of green product consumer profiles. Longitudinal studies tracking the effect of targeted in-store awareness campaigns on willingness-to-pay and repeat purchase rates would provide more actionable commercial insights. Structural equation modelling (SEM) could simultaneously model the causal pathways among awareness, satisfaction, challenges, and purchase behaviour.

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