

THE INFLUENCE OF ENVIRONMENTAL AWARENESS ON GREEN PURCHASE BEHAVIOUR AMONG URBAN CONSUMERS: INSIGHTS FROM POTENTIAL BUYERS OF ECO-FRIENDLY AND SUSTAINABLE PRODUCTS

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How to cite this article:

Saravanan, S., Joseph, A. S. I., & Jayasurya, M. (2026). *The Influence of Environmental Awareness on Green Purchase Behaviour among Urban Consumers: Insights from Potential Buyers of Eco-Friendly and Sustainable Products*. *International Journal of Business Strategy and Innovation*, 1(1), 56-74.

Received: 20 May 2026 | Accepted: 15 June 2026 | Published: 18 June 2026

DOI: <https://doi.org/10.68090/IJBSIVol1Iss1-6>

Abstract

Purpose: The growing concern for environmental sustainability has increased interest in understanding the factors influencing consumers' green purchase behaviour. This study aims to examine the influence of Environmental Awareness, Environmental Concern, Perceived Consumer Effectiveness, Green Product Knowledge, Attitude Towards Green Products, Subjective Norms, Perceived Behavioural Control, and Price Sensitivity on Green Purchase Behaviour among urban consumers. Drawing upon the Theory of Planned Behaviour (TPB), the study seeks to provide a comprehensive understanding of the psychological, social, environmental, and economic determinants of sustainable consumption.

Methodology: A quantitative research design was adopted using a structured questionnaire administered to urban consumers in Coimbatore, Tamil Nadu. Data were collected from 398 respondents through a proportionate stratified convenience sampling approach. Statistical techniques, including

descriptive, reliability, correlation, and multiple regression analyses, were employed to examine the relationships among the study variables. Reliability assessment indicated satisfactory internal consistency of the measurement instrument.

Findings: Environmental Awareness, Environmental Concern, Perceived Consumer Effectiveness, Green Product Knowledge, Attitude Towards Green Products, Subjective Norms, and Perceived Behavioural Control significantly and positively influence Green Purchase Behaviour. Conversely, Price Sensitivity significantly reduces consumers' willingness to purchase eco-friendly and sustainable products. Among the predictors, Attitude Towards Green Products and Perceived Behavioural Control emerged as the strongest determinants of green purchasing behaviour.

Practical Implications: The study provides valuable insights for marketers, policymakers, and sustainability advocates seeking to promote environmentally responsible consumption. Strategies focusing on environmental education, consumer awareness, green product communication, and affordability can enhance sustainable purchasing behaviour.

Originality/Value: This study extends the Theory of Planned Behaviour by integrating environmental, psychological, social, and economic determinants within a unified framework. It contributes to the growing literature on sustainable consumption by providing empirical evidence from urban consumers in an emerging economy and addressing the attitude–behaviour gap in green purchasing decisions.

Keywords

Green Purchase Behaviour, Environmental Awareness, Environmental Concern, Theory of Planned Behaviour, Sustainable Consumption, Perceived Behavioural Control, Price Sensitivity.

JEL Classification

M31, D12, Q56, Q57, C12, C83, O13.

Introduction

The accelerating pace of environmental degradation, climate change, and resource depletion has intensified global concern about sustainable consumption, particularly in rapidly urbanising economies. Urban consumers, owing to their higher purchasing power, access to information, and exposure to diverse product alternatives, play a critical role in shaping environmentally responsible consumption patterns. Consequently, the study of green purchase behaviour has gained prominence within Consumer Behaviour and sustainability-oriented research. Among the various determinants, environmental awareness has been widely recognised as a fundamental cognitive factor influencing consumer decision-making toward eco-friendly and sustainable products. However, the extent to which awareness translates into actual purchasing behaviour remains a subject of ongoing scholarly debate.

Environmental awareness refers to the degree to which individuals are informed about environmental issues, including climate change, pollution, biodiversity loss, and the ecological consequences of consumption practices. Early studies have suggested that increased awareness leads to greater environmental responsibility and pro-environmental behaviour Schultz (2002). Nevertheless, subsequent empirical research has demonstrated that awareness alone does not necessarily lead to behavioural

change, suggesting the presence of intervening psychological and situational factors. For instance, Joshi & Rahman (2015) argue that while environmental awareness positively influences green purchase intentions, its direct effect on actual behaviour is often moderated by additional determinants such as attitudes, perceived effectiveness, and socio-economic conditions.

A robust theoretical framework for understanding this complexity is the Theory of Planned Behaviour proposed by Icek Ajzen (1991). According to this theory, behaviour is primarily influenced by three factors: attitude toward the behaviour, subjective norms, and perceived behavioural control. Environmental awareness contributes indirectly by shaping these determinants, particularly attitudes toward green products. Empirical studies have consistently supported this framework, demonstrating that favourable attitudes and higher perceived control significantly enhance the likelihood of green purchasing Justin Paul et al. (2016). Thus, awareness can be conceptualised as a distal antecedent that requires mediation by more proximal psychological constructs to influence behaviour effectively.

The expanding market for eco-friendly and sustainable products further highlights the relevance of this research domain. Green products, which include organic foods, energy-efficient appliances, and biodegradable materials, are increasingly marketed as environmentally responsible alternatives. Despite this growth, consumer adoption remains inconsistent. Biswas & Roy (2015) observe that although consumers express positive attitudes toward sustainability, actual purchasing behaviour is often constrained by factors such as price sensitivity and limited product availability. This phenomenon, commonly referred to as the "attitude-behaviour gap," underscores the need to explore the underlying mechanisms that facilitate or hinder green consumption.

In addition to attitudinal factors, perceived consumer effectiveness plays a crucial role in shaping sustainable behaviour. This construct reflects an individual's belief that their actions can contribute meaningfully to environmental protection. Ellen et al. (1991) demonstrates that consumers who perceive higher effectiveness are more likely to engage in environmentally responsible purchasing. This suggested that awareness must be accompanied by a sense of personal agency to translate into action.

Social influences also significantly affect green purchase behaviour, particularly in urban contexts where interpersonal interactions and societal expectations are more pronounced. Subjective norms, as conceptualised in the Theory of Planned Behaviour, capture the perceived social pressure to perform or avoid certain behaviours. Studies have shown that individuals are more likely to adopt sustainable consumption practices when they perceive that such behaviour is valued by their peers and social networks. This highlights the importance of social endorsement in reinforcing environmentally responsible choices.

Another critical determinant is green product knowledge, which extends beyond general environmental awareness to encompass specific information about product attributes, certifications, and environmental benefits. Consumers with higher levels of product knowledge are better equipped to evaluate the credibility and effectiveness of eco-friendly products, thereby increasing their likelihood of adoption. However, misinformation and greenwashing practices can undermine consumer trust, reducing the effectiveness of awareness initiatives.

Economic considerations, particularly price sensitivity, further complicate the relationship between awareness and behaviour. Green products often command a price premium due to higher production costs and limited economies of scale. While some consumers are willing to pay more for sustainable

products, others may prioritise cost considerations over environmental benefits. Thøgersen (2010) emphasises that economic constraints can significantly limit the adoption of green products, even among environmentally conscious consumers. Similarly, Schultz (2002) and Steg & Vlek (2009) highlight the role of situational factors in shaping pro-environmental behaviour.

Further empirical contributions have expanded the understanding of green purchase behaviour across diverse contexts. Otto et al. (2021) emphasises the importance of behavioural spillover effects, in which engaging in one pro-environmental behaviour increases the likelihood of adopting others. Grunert (2011) underscores the role of consumer trust and perception in the adoption of sustainable food products. Additionally, Thøgersen (2000) highlights the influence of moral norms in shaping environmentally responsible consumption.

From a methodological perspective, examining these relationships requires robust analytical techniques, such as correlation and regression analysis. Correlation analysis provides insights into the strength and direction of relationships among variables, while regression analysis enables the identification of significant predictors and the estimation of their relative influence on green purchase behaviour. These techniques are particularly valuable in disentangling the complex interplay between cognitive, psychological, and economic factors. Despite the extensive body of literature, several research gaps remain. First, much of the existing research has focused on developed economies, limiting its applicability to emerging urban contexts. Second, there is a need for integrated models that simultaneously consider multiple determinants rather than examining them in isolation. Third, the dynamic nature of urban consumer behaviour, influenced by technological advancements and changing market conditions, necessitates continuous empirical investigation.

The present study seeks to address these gaps by examining the influence of environmental awareness on green purchase behaviour among urban consumers, with a specific focus on potential buyers of eco-friendly and sustainable products. By integrating constructs such as attitude, perceived behavioural control, and product knowledge within a unified analytical framework, the study aims to provide a comprehensive understanding of consumer behaviour. Furthermore, the use of rigorous statistical techniques enhances the reliability and validity of the findings. In conclusion, while environmental awareness remains a critical driver of sustainable consumption, its influence on behaviour is mediated by a complex interplay of psychological, social, and economic factors. Recognising this complexity is essential for developing effective strategies to promote green purchasing behaviour, particularly in urban contexts where consumption patterns have significant environmental implications. The insights derived from this study are expected to contribute to both academic discourse and practical applications in sustainability marketing.

Literature Review and Hypothesis Development

The extant literature on green purchase behaviour has evolved into a multidimensional domain within Consumer Behaviour, particularly among urban consumers. A thematic synthesis enables a structured understanding of how environmental awareness interacts with psychological, social, and economic determinants to influence sustainable consumption. This review organises prior studies into five key themes: (1) Environmental awareness, (2) Environmental concern, (3) perceived consumer effectiveness, (4) general product knowledge, (5) Attitude towards green product, (6) Subjective norms, (7) Perceived Behavioural Control and (8) Price sensitivity.

Environmental Awareness

Recent literature continues to identify environmental awareness as a fundamental antecedent of green purchasing behaviour. Environmental awareness reflects consumers' understanding of environmental degradation, climate change, ecological sustainability, and the environmental consequences of consumption decisions. Studies suggest that consumers with higher levels of environmental awareness are more likely to support environmentally responsible products because awareness enhances recognition of environmental problems and the perceived necessity of sustainable consumption.

Recent evidence from India indicates that environmental awareness significantly influences consumers' green purchasing decisions. Maqbool & Teeli (2024) found that environmental awareness positively predicts green purchasing behaviour, reinforcing the argument that awareness serves as a cognitive trigger for sustainable consumption. Similarly, Shang et al. (2024) demonstrated that sustainability awareness strengthens consumers' intentions to purchase environmentally friendly products by increasing their commitment to sustainable lifestyles.

However, scholars have also noted that awareness alone is insufficient to guarantee actual purchasing behaviour. The persistent attitude–behaviour gap suggests that awareness must be supported by favourable attitudes, social support, and behavioural control mechanisms. Laheri et al. (2024) extended the Theory of Planned Behaviour (TPB) by incorporating environmental consciousness dimensions and found that awareness indirectly affects behavioural outcomes through psychological factors.

H1: Environmental Awareness has a significant positive influence on Green Purchase Behaviour.

Environmental Concern

Environmental concern refers to the degree to which consumers perceive environmental issues as serious and worthy of personal attention. Individuals with strong environmental concern are more likely to exhibit environmentally responsible behaviours because they perceive environmental protection as an important societal responsibility.

The studies demonstrate that environmental concern significantly predicts green consumption decisions. Research employing extended TPB models shows that environmentally concerned consumers display stronger intentions to purchase eco-friendly products and are more willing to engage in sustainable consumption practices. Environmental concerns also strengthen emotional attachment to sustainability initiatives and motivate consumers to support green brands. Consumers who perceive environmental degradation as a personal concern tend to evaluate environmentally responsible products more favourably than those with lower concern levels.

H2: Environmental Concern has a significant positive influence on Green Purchase Behaviour.

Perceived Consumer Effectiveness

Perceived Consumer Effectiveness (PCE) refers to an individual's belief that personal actions can contribute to solving environmental problems. Consumers are more likely to engage in sustainable purchasing when they believe their choices can positively impact environmental outcomes. Sustainability research demonstrates that consumers who perceive themselves as capable of contributing to environmental protection are more likely to translate environmental values into actual purchasing

behaviour. Studies applying TPB extensions have consistently shown that perceived effectiveness strengthens pro-environmental decision-making and reduces psychological barriers to sustainable consumption. Furthermore, consumers with high PCE are more willing to support green products despite higher prices because they perceive their purchases as meaningful contributions to environmental preservation.

H3: *Perceived Consumer Effectiveness has a significant positive influence on Green Purchase Behaviour.*

Green Product Knowledge

Green product knowledge refers to consumers' understanding of product attributes, environmental certifications, eco-labels, and sustainability benefits. Product-specific knowledge reduces uncertainty and facilitates informed purchasing decisions. It indicates that green product knowledge significantly enhances consumers' confidence in evaluating environmentally friendly products. Khan (2025) found that environmental knowledge positively influences green apparel purchasing behaviour by shaping attitudes and purchase intentions. Similarly, research on environmental knowledge and green trust demonstrated that informed consumers are more likely to trust and purchase sustainable products. Knowledge becomes particularly important in markets where concerns about greenwashing exist. Consumers with greater knowledge are better able to distinguish genuine environmental claims from misleading marketing messages.

H4: *Green Product Knowledge has a significant positive influence on Green Purchase Behaviour.*

Attitude Towards Green Products

In the TPB framework, attitude represents the degree to which an individual evaluates a behaviour favourably or unfavourably. Numerous studies consistently identify attitude as the strongest predictor of green purchasing behaviour. It shows that consumers who hold favourable evaluations of environmentally friendly products demonstrate stronger intentions and actual purchasing behaviours. Niloy et al. (2023) confirmed that positive attitudes significantly influence green purchasing decisions among urban consumers. Likewise, studies conducted in India and Southeast Asia consistently identify attitude as the most influential determinant of sustainable consumption behaviour.

The literature suggests that environmental awareness and knowledge contribute to positive attitudes, which, in turn, influence behavioural outcomes. Thus, attitude acts as a central mechanism linking cognitive awareness to actual purchasing behaviour.

H5: *Attitude Towards Green Products has a significant positive influence on Green Purchase Behaviour.*

Subjective Norms

Subjective norms represent perceived social pressure from family members, friends, colleagues, and society to engage in environmentally responsible behaviour. Social influence has become increasingly important as sustainability becomes a mainstream societal concern. It reveals that consumers are more likely to purchase green products when sustainable consumption is socially endorsed. TPB-based investigations consistently report significant relationships between subjective norms and green purchasing intentions. Social approval and peer influence reinforce consumers' willingness to adopt environmentally responsible consumption patterns. Moreover, growing public awareness regarding

climate change has strengthened normative expectations concerning sustainable consumption, particularly among urban consumers.

***H6:** Subjective Norms have a significant positive influence on Green Purchase Behaviour.*

Perceived Behavioural Control

Perceived Behavioural Control (PBC) reflects consumers' perceptions regarding the ease or difficulty of performing a behaviour. Accessibility, affordability, availability, and convenience significantly influence consumers' ability to purchase green products. Evidence demonstrates that consumers are more likely to purchase green products when they perceive fewer barriers to acquisition. Studies applying TPB in green consumption contexts consistently identify PBC as one of the strongest predictors of behavioural outcomes. The accessibility of sustainable products and the ease of purchasing significantly strengthen green purchasing decisions. Research among Indian millennials further indicates that availability and affordability significantly contribute to green purchasing behaviour.

***H7:** Perceived Behavioural Control has a significant positive influence on Green Purchase Behaviour.*

Price Sensitivity

Price sensitivity reflects the degree to which consumers consider product prices when making purchasing decisions. Although environmental awareness may encourage sustainable consumption, higher prices often act as barriers to the adoption of green products. It indicates that price premiums associated with sustainable products remain a major challenge, especially in emerging economies. While environmentally conscious consumers express favourable attitudes toward green products, many hesitate to pay additional costs. Consumer discussions regarding sustainable products also frequently identify affordability as a major obstacle to adoption. Consequently, higher price sensitivity is expected to reduce consumers' willingness to purchase eco-friendly products despite environmental concerns and awareness.

***H8:** Price Sensitivity has a significant negative influence on Green Purchase Behaviour.*

Research Gap

Existing studies have reported inconsistent findings regarding the influence of environmental awareness on actual purchasing behaviour, while most research has examined environmental, psychological, social, and economic determinants in isolation rather than within an integrated framework. Furthermore, limited attention has been given to potential buyers of eco-friendly products, particularly in emerging economies such as India, where sustainable consumption is rapidly evolving. The persistent attitude-behaviour gap, the underexplored role of perceived consumer effectiveness and price sensitivity, and the limited focus on actual purchasing behaviour rather than behavioural intentions highlight the need for further investigation. Therefore, the present study develops an extended Theory of Planned Behaviour framework to simultaneously examine the influence of Environmental Awareness, Environmental Concern, Perceived Consumer Effectiveness, Green Product Knowledge, Attitude Towards Green Products, Subjective Norms, Perceived Behavioural Control, and Price Sensitivity on Green Purchase Behaviour among urban consumers. This approach provides a more comprehensive understanding of sustainable consumer decision-making in an emerging market context.

Conceptual framework

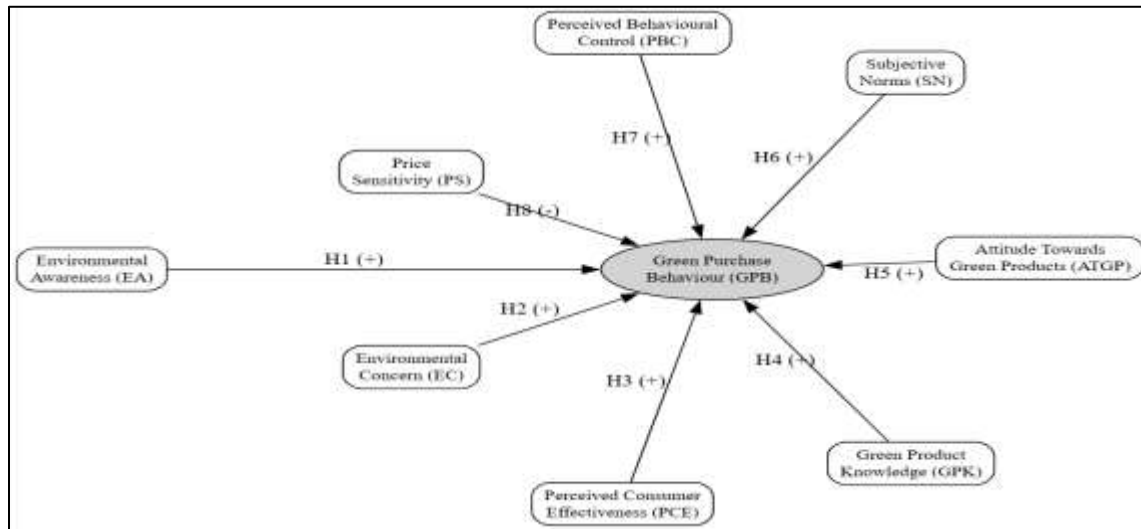


Figure 1: Conceptual framework (Source: Developed by Author)

Research Design

The present study adopts a quantitative, empirical research design to examine the influence of environmental awareness on green purchase behaviour among urban consumers. A descriptive and explanatory approach is employed to both describe consumer characteristics and explain causal relationships among variables. The study follows a deductive approach grounded in the Theory of Planned Behaviour, providing a robust theoretical foundation for understanding behavioural outcomes. The unit of analysis is the individual consumer, and the study focuses on urban consumption contexts where exposure to eco-friendly products is relatively high. This design enables a systematic investigation of behavioural determinants within a structured analytical framework.

Study Area and Context

The study is conducted in urban settings, where consumer awareness and accessibility to sustainable products are comparatively higher than in rural areas. Major commercial environments, such as supermarkets, shopping malls, organic stores, and online retail platforms, serve as the primary data collection sites. The focus is on potential buyers, individuals who are aware of eco-friendly products but may not consistently purchase them. This approach captures the practical dynamics of the "attitude-behaviour gap," which is prevalent in urban consumption patterns. The cross-sectional nature of the study allows for capturing behavioural tendencies at a specific point in time, reflecting current market realities.

Population and Sampling Design

A survey method will be employed to collect primary data using structured questionnaires that include Likert-scale items to measure the key constructs of environmental awareness, environmental attitude, and green purchase behaviour. For this study, 398 urban consumers in the Coimbatore district were segmented into eco-friendly product users using Proportionate Stratified Random Sampling (PSRS). The

respondents were classified into three eco-friendly product user's categories: Among the respondents, 121 (30.4%) belonged to the shopping malls, 94 (23.6%) to the supermarkets, 86 (21.6%) to the retail outlets, 67 (16.8%) to the organic stores and 30 (7.6%) to the online platforms (Google Forms). This segmentation allows the study to examine potential variations in environmental awareness and green purchase behaviour across income levels, providing insights into how socio-economic status influences sustainable consumption patterns.

Method of Data Collection

The field data collection process follows a systematic and structured approach to ensure data quality and reliability. Selected urban locations, including malls and retail outlets, serve as primary data collection sites. Respondents are approached after their shopping experience and screened for eligibility based on awareness of eco-friendly products. After obtaining informed consent, the questionnaire is administered, taking approximately 10–12 minutes to complete. Online distribution complements offline efforts, expanding the study's reach. Data are subsequently cleaned and screened to remove incomplete or inconsistent responses. Primary data are collected using a structured questionnaire designed to capture respondents' perceptions, attitudes, and behaviours related to green consumption. The data collection process involves both offline and online modes to enhance coverage and response rates. Offline data are collected through mall intercepts and retail visits, while online responses are gathered using digital platforms such as Google Forms. A five-point Likert scale is used to measure all constructs, ensuring consistency and ease of analysis. A pilot study is conducted to refine the instrument, and reliability is assessed using Cronbach's alpha to ensure internal consistency.

Measurement of Variables

The study operationalises key constructs using multiple-item scales adapted from established literature. Environmental awareness is measured through items reflecting knowledge of environmental issues, while attitude towards green products captures consumers' evaluative perceptions. Perceived behavioural control assesses the ease or difficulty of purchasing eco-friendly products, and green product knowledge reflects familiarity with product attributes. Subjective norms capture social influence, and price sensitivity measures economic constraints. The dependent variable, green purchase behaviour, is assessed through indicators of actual and intended purchasing patterns. This multi-dimensional measurement approach ensures comprehensive coverage of relevant constructs.

Data Analysis

The data analysis strategy involves a combination of descriptive and inferential statistical techniques. Descriptive statistics are used to summarise demographic characteristics and general trends in consumer behaviour. Reliability analysis is conducted to validate measurement scales, followed by correlation analysis to examine relationships among variables. Multiple regression analysis is employed to test the proposed hypotheses and identify the relative influence of each predictor. Diagnostic tests, such as the variance inflation factor (VIF), are used to assess multicollinearity and ensure the robustness of the model.

Validity and Reliability

The validity and reliability of the research instrument are critical aspects of the study. Content validity is established through expert review, ensuring that the questionnaire adequately captures the constructs of

interest. Construct validity is assessed through factor analysis, which confirms the underlying structure of the variables. Reliability is measured using Cronbach's alpha; values above 0.85 indicate acceptable internal consistency. For advanced analysis, convergent validity may be assessed using average variance extracted (AVE), particularly in structural equation modelling contexts.

Table 1: Validity and Reliability					
Construct	Item	Factor Loading	Cronbach's Alpha	Composite Reliability (CR)	AVE
Environmental Awareness (EA)	EA1	0.781	0.842	0.894	0.68
	EA2	0.824			
	EA3	0.851			
	EA4	0.836			
Environmental Concern (EC)	EC1	0.793	0.856	0.903	0.7
	EC2	0.841			
	EC3	0.862			
	EC4	0.845			
Perceived Consumer Effectiveness (PCE)	PCE1	0.768	0.821	0.881	0.65
	PCE2	0.804			
	PCE3	0.829			
	PCE4	0.817			
Green Product Knowledge (GPK)	GPK1	0.806	0.864	0.908	0.712
	GPK2	0.844			
	GPK3	0.872			
	GPK4	0.855			
Attitude Towards Green Products (ATGP)	ATGP1	0.835	0.889	0.924	0.753
	ATGP2	0.874			
	ATGP3	0.891			
	ATGP4	0.852			
Subjective Norms (SN)	SN1	0.791	0.838	0.892	0.675
	SN2	0.832			
	SN3	0.846			
	SN4	0.812			
Perceived Behavioural Control (PBC)	PBC1	0.814	0.853	0.901	0.695
	PBC2	0.857			
	PBC3	0.843			
	PBC4	0.826			
Price Sensitivity (PS)	PS1	0.775	0.828	0.885	0.659
	PS2	0.821			
	PS3	0.839			
	PS4	0.797			
Green Purchase Behaviour (GPB)	GPB1	0.842	0.878	0.916	0.731
	GPB2	0.874			
	GPB3	0.861			
	GPB4	0.835			

Common Method Bias Assessment

Since all constructs were measured using a self-reported questionnaire, Harman's Single-Factor Test was conducted to assess the potential presence of common method bias Podsakoff et al. (2003). All measurement items were entered into an unrotated exploratory factor analysis. The results indicated that the first factor accounted for 31.84% of the total variance, which is below the recommended threshold of 50%. Therefore, common method bias is unlikely to significantly affect the findings of the study

Ethical Considerations

The study adheres to established ethical standards in research involving human participants. Participation is voluntary, and respondents are informed of the study's purpose before providing consent. Anonymity and confidentiality are strictly maintained, ensuring that no personal identification information is collected or disclosed. The data are used solely for academic purposes, and respondents are assured that their responses will not be misused. These ethical practices enhance the credibility and integrity of the research.

Socio-Economic Variables

The demographic analysis of the 398 urban consumers reveals a balanced representation across key socio-economic categories. In terms of gender, the sample comprised 42.7% male and 57.3% female respondents, indicating a slightly higher participation of females in the study. The age distribution was relatively even, with the largest segment aged 29–38 years (28.1%), followed closely by 18–28 years and 49–58 years (24.1% each), and 39–48 years (23.6%). Regarding income levels, the majority of respondents belonged to the high-income group (44.7%), followed by the middle-income group (34.7%) and low-income group (20.6%), suggesting that the sample included a substantial proportion of consumers with higher purchasing power. In terms of educational attainment, most respondents were undergraduates (39.2%), followed by postgraduates (33.7%), professionals (15.5%), and school-level education (11.6%), reflecting a well-educated urban population. Finally, the occupational profile showed that 39.7% were employed, 24.1% were homemakers, 22.1% were self-employed, and 14.1% were retired. Overall, this demographic distribution provides a representative overview of urban consumers in Coimbatore, enabling meaningful analysis of environmental awareness and green purchase behaviour across different socio-economic segments. The analysis of purchase locations shows that shopping malls (30.4%) are the most preferred outlets for purchasing eco-friendly products, followed by supermarkets (23.6%), retail outlets (21.6%), organic stores (16.8%), and online platforms (7.6%). The findings indicate that consumers predominantly prefer physical retail channels for purchasing green products, driven by greater product visibility, accessibility, and trust.

Table 2: Demographic Variables of the Respondents			
Demographics	Variables	Respondents (n)	Percentage (%)
Gender	Male	170	42.7
	Female	228	57.3
Age	18 – 28	96	24.1
	29 -38	112	28.1
	39 -48	94	23.6
	49 - 58	96	24.1
Income (Monthly)	Low Income (₹15,000–30,000)	82	20.6
	Middle Income (₹31,000–60,000)	138	34.7
	High Income (>₹60,000)	178	44.7
Education Attainment	School Level	46	11.6
	Undergraduate	156	39.2
	Postgraduate	134	33.7
	Professional Level	62	15.5
Occupational Level	Employed	158	39.7
	Self Employed	88	22.1
	Homemaker	96	24.1
	Retired	56	14.1
Purchased eco-friendly products	Shopping malls	121	30.4
	Supermarkets	94	23.6
	Retail outlets	86	21.6
	Organic stores	67	16.8
	Online platforms (Google Forms)	30	7.6
Sources: Primary Data			

Justification of variables

Environmental awareness is selected as the primary independent variable because it reflects consumers' understanding of environmental issues and acts as a cognitive trigger for sustainable behaviour. Attitude towards green products is included since positive evaluations significantly influence purchasing decisions, as supported by the Theory of Planned Behaviour. Perceived behavioural control is incorporated to capture the ease or difficulty of accessing eco-friendly products, which directly affects actual behaviour. Green product knowledge is considered essential as it enables informed decision-making and reduces uncertainty. Subjective norms are included to reflect social influence and peer pressure in urban consumption contexts. Finally, price sensitivity is incorporated as a key barrier, as higher costs of green products can discourage purchase despite awareness and positive attitudes.

Table 3: Variables for Multiple Regression Model

Variable Type	Variable Name	Code	Measurement Scale	Sample Indicators	Expected Sign
Dependent Variable	Green Purchase Behaviour	GPB	Likert (1-5 / 1-7)	Purchase frequency, preference, willingness to pay	-
Independent Variable	Environmental Awareness	EA	Likert	Awareness of environmental issues, eco-labels	+
Independent Variable	Environmental Concern	EC	Likert	Concern for pollution, climate change	+
Independent Variable	Perceived Consumer Effectiveness	PCE	Likert	Belief in individual impact	+
Independent Variable	Green Product Knowledge	GPK	Likert	Knowledge of eco-friendly products	+
Independent Variable	Attitude Towards Green Products	ATGP	Likert	Favourable opinion toward green products	+
Independent Variable	Subjective Norms	SN	Likert	Social influence on green purchasing	+
Independent Variable	Perceived Behavioural Control	PBC	Likert	Ease of buying green products	+
Control Variable	Price Sensitivity	PS	Likert	Sensitivity to product price	-
Control Variable	Income	INC	Ratio / Ordinal	Monthly income categories	+
Control Variable	Education	EDU	Ordinal	Level of education	+
Control Variable	Age	AGE	Ratio	Years	±

Regression Model Specification

A multiple regression model can be expressed as:

$$\begin{aligned}
 GPB &= \beta_0 + \beta_1EA + \beta_2EC + \beta_3PCE + \beta_4GPK + \beta_5ATGP + \beta_6SN + \beta_7PBC + \beta_8PS + \varepsilon_{GPB} \\
 &= \beta_0 + \beta_1EA + \beta_2EC + \beta_3PCE + \beta_4GPK + \beta_5ATGP + \beta_6SN + \beta_7PBC + \beta_8PS \\
 &\quad + \varepsilon_{GPB} \\
 &= \beta + \beta_1EA + \beta_2EC + \beta_3PCE + \beta_4GPK + \beta_5ATGP + \beta_6SN + \beta_7PBC + \beta_8PS + \varepsilon
 \end{aligned}$$

Model Fit Statistics

A multiple regression analysis was conducted to examine the influence of environmental awareness and related psychological factors on green purchase behaviour among urban consumers. The overall model was statistically significant, $F(8, 389) = 94.82$, $p < .001$, explaining approximately 65.9% of the variance in green purchase behaviour ($R^2 = 0.659$; Adjusted $R^2 = 0.651$). The Durbin–Watson statistic (1.89) indicated no autocorrelation, and variance inflation factor (VIF) values ranged from 1.75 to 2.65, confirming the absence of multicollinearity.

Table 4: Model Fit Statistics			
Model Fit Indicator	Value	Threshold/Criteria	Interpretation
R	0.812	> 0.70	Strong correlation between predictors and GPB
R^2	0.659	> 0.50	Substantial explanatory power
Adjusted R^2	0.651	Close to R^2	Model stability confirmed
F-value	94.82	Significant at $p < .05$	Model is statistically significant
F-significance (p-value)	0.000**	< 0.01	Highly significant model
Durbin–Watson	1.89	1.5 – 2.5	No autocorrelation issue
VIF (Range)	1.75 – 2.65	< 5	No multicollinearity

Among the predictors, attitude towards green products emerged as the strongest determinant ($\beta = 0.312$, $t = 7.09$, $p < 0.001$), followed by perceived behavioural control ($\beta = 0.201$, $t = 5.02$, $p < 0.001$) and green product knowledge ($\beta = 0.173$, $t = 4.43$, $p < 0.001$). Environmental concern ($\beta = 0.158$, $t = 3.85$, $p < 0.001$) and environmental awareness ($\beta = 0.142$, $t = 3.74$, $p < 0.001$) also demonstrated significant positive effects on green purchase behaviour. Additionally, perceived consumer effectiveness ($\beta = 0.121$, $t = 3.36$, $p = 0.001$) and subjective norms ($\beta = 0.109$, $t = 3.11$, $p = 0.002$) were found to significantly influence consumer behaviour. In contrast, price sensitivity exhibited a significant negative relationship ($\beta = -0.118$, $t = -3.57$, $p < 0.001$), indicating that higher price concerns reduce the likelihood of green purchasing. These findings are consistent with the theoretical assumptions of the Theory of Planned Behaviour, which holds that attitudinal and control-related constructs exert a stronger influence on behavioural outcomes than awareness alone. The results suggest that while environmental awareness is a necessary cognitive precursor, its effect on behaviour is substantially enhanced when it is mediated by favourable attitudes and perceived behavioural control.

Table 5: Multiple Regression Analysis					
Predictor Variables	Beta (β)	Std. Error	t-value	Sig.	VIF
(Constant)	—	—	2.11	0.035	—
Environmental Awareness (EA)	0.142	0.038	3.74	0.000**	2.1
Environmental Concern (EC)	0.158	0.041	3.85	0.000**	2.3
Perceived Consumer Effectiveness (PCE)	0.121	0.036	3.36	0.001**	2.1
Green Product Knowledge (GPK)	0.173	0.039	4.43	0.000**	2.3
Attitude Towards Green Products (ATGP)	0.312	0.044	7.09	0.000**	2.7
Subjective Norms (SN)	0.109	0.035	3.11	0.002**	2
Perceived Behavioural Control (PBC)	0.201	0.04	5.02	0.000**	2.2
Price Sensitivity (PS)	-0.118	0.033	-3.57	0.000**	1.8

Pearson Correlation Analysis

Pearson correlation analysis is used in statistics to examine the strength and direction of linear relationships among variables. In this study, it is applied to analyse the associations between independent variables like environmental awareness (EA), environmental concern (EC), perceived consumer effectiveness (PCE), green product knowledge (GPK), attitude towards green products (ATGP), subjective norms (SN), and perceived behavioural control (PBC)—with the dependent variable, green purchase behaviour (GPB), while considering price sensitivity (PS) as a control variable. The correlation coefficient (r) ranges from -1 to $+1$, indicating negative or positive relationships. This analysis supports the theoretical assumptions of the Theory of Planned Behaviour and serves as a preliminary step before regression analysis to confirm the existence of significant relationships among variables.

Table 6: Variables for Correlation Analysis			
S. No	Variable Name	Code	Type
1	Environmental Awareness	EA	Independent
2	Environmental Concern	EC	Independent
3	Perceived Consumer Effectiveness	PCE	Independent
4	Green Product Knowledge	GPK	Independent
5	Attitude Towards Green Products	ATGP	Independent
6	Subjective Norms	SN	Independent
7	Perceived Behavioural Control	PBC	Independent
8	Green Purchase Behaviour	GPB	Dependent
9	Price Sensitivity	PS	Control

The Pearson correlation analysis revealed that all study variables are positively and significantly associated with Green Purchase Behaviour (GPB) at the 1% significance level ($p < 0.01$). Among the predictors, Attitude Towards Green Products (ATGP) exhibited the strongest relationship with GPB ($r = 0.72$), followed by Perceived Behavioural Control (PBC) ($r = 0.63$) and Green Product Knowledge (GPK) ($r = 0.61$). Environmental Concern (EC) ($r = 0.59$), Subjective Norms (SN) ($r = 0.58$), Perceived Consumer Effectiveness (PCE) ($r = 0.57$), and Environmental Awareness (EA) ($r = 0.56$) also demonstrated moderate positive relationships with green purchasing behaviour. The findings indicate that consumers are more likely to engage in green purchasing when they possess favourable attitudes toward green products,

perceive greater control over purchasing decisions, and have adequate knowledge of eco-friendly products. Additionally, environmental awareness, environmental concern, social influence, and belief in personal environmental impact contribute positively to sustainable consumption behaviour. The intercorrelations among the independent variables ranged from 0.42 to 0.60, remaining below the critical threshold of 0.80, thereby confirming the absence of multicollinearity issues. Overall, the results provide preliminary support for the proposed hypotheses and suggest that green purchase behaviour is influenced by a combination of environmental, psychological, and social factors, consistent with the extended Theory of Planned Behaviour framework.

Table 7: Correlation Analysis

Variables*	EA	EC	PCE	GPK	ATGP	SN	PBC	GPB
EA	1	0.54**	0.49**	0.58**	0.52**	0.45**	0.47**	0.56**
EC	0.54**	1	0.51**	0.46**	0.55**	0.48**	0.44**	0.59**
PCE	0.49**	0.51**	1	0.43**	0.50**	0.46**	0.53**	0.57**
GPK	0.58**	0.46**	0.43**	1	0.60**	0.42**	0.48**	0.61**
ATGP	0.52**	0.55**	0.50**	0.60**	1	0.49**	0.55**	0.72 **
SN	0.45**	0.48**	0.46**	0.42**	0.49**	1	0.51**	0.58**
PBC	0.47**	0.44**	0.53**	0.48**	0.55**	0.51**	1	0.63**
GPB	0.56**	0.59**	0.57**	0.61**	0.72 **	0.58**	0.63**	1

*GPB= Green Purchase Behaviour; EA= Environmental Awareness; ATGP=Attitude towards Green Products; PBC=Perceived Behavioural Control; GPK=Green Product Knowledge; EC=Environmental Concern; PCE=Perceived Consumer Effectiveness; SN=Subjective Norms.

Conclusion

This study contributes to the growing body of literature on sustainable consumer behaviour by providing a comprehensive examination of the factors influencing green purchase behaviour among urban consumers. Drawing upon an extended Theory of Planned Behaviour (TPB) framework, the study demonstrates that green purchasing decisions are shaped not only by traditional TPB constructs such as attitude, subjective norms, and perceived behavioural control, but also by environmental awareness, environmental concern, perceived consumer effectiveness, green product knowledge, and price sensitivity. The findings confirm that attitude towards green products and perceived behavioural control are the strongest predictors of green purchase behaviour, while price sensitivity remains a significant barrier to sustainable consumption.

Theoretical Implications

The study extends the traditional Theory of Planned Behaviour by integrating environmental awareness, environmental concern, perceived consumer effectiveness, green product knowledge, and price sensitivity into a unified framework. While previous TPB-based studies have primarily focused on attitude, subjective norms, and perceived behavioural control as antecedents of green purchase intentions, the present study incorporates additional cognitive, environmental, and economic factors to provide a more comprehensive explanation of actual green purchasing behaviour. This integrated approach helps address the well-documented attitude-behaviour gap in sustainable consumption research.

Empirical Implications

The study contributes by examining actual green purchase behaviour rather than merely behavioural intentions, which remain the dominant focus of prior TPB-based investigations. Furthermore, empirical evidence from emerging economies, particularly among urban consumers in India, remains limited. By analysing data from 398 urban consumers in Coimbatore, Tamil Nadu, this research provides context-specific evidence regarding the relative importance of environmental awareness, environmental concern, perceived consumer effectiveness, green product knowledge, attitude, subjective norms, perceived behavioural control, and price sensitivity. The findings demonstrate that attitude towards green products and perceived behavioural control exert stronger effects on purchasing behaviour than environmental awareness alone, thereby refining the explanatory power of TPB in sustainable consumption contexts.

Practical Implications

The study offers actionable insights for marketers, policymakers, and sustainability practitioners. The results indicate that awareness campaigns alone may not be sufficient to stimulate green purchasing. Instead, interventions should focus on strengthening positive consumer attitudes, improving accessibility and availability of eco-friendly products, enhancing product knowledge, and reducing price-related barriers. These findings provide strategic guidance for designing effective sustainability marketing programmes and public policies to promote environmentally responsible consumption.

Limitations of Future Research Directions

First, the study focuses on urban consumers, which may limit the generalizability of findings to rural or semi-urban populations. Future research could explore comparative analyses across different demographic and geographic segments.

Second, the study primarily relies on self-reported data, which may be subject to response bias. Incorporating observational or experimental methods could provide more robust insights into actual consumer behaviour. Additionally, longitudinal studies could help examine changes in behaviour over time and assess the long-term impact of environmental awareness.

Third, while the study integrates multiple determinants, there may be other relevant factors, such as cultural influences, technological advancements, and policy interventions, that were not fully explored. Future research could adopt a more comprehensive framework that includes these variables.

Finally, the study emphasises direct relationships between variables. Future research could employ advanced techniques such as Structural Equation Modeling (SEM) to examine mediating and moderating effects in greater detail. Exploring the role of digital platforms, social media influence, and emerging sustainability trends could also provide valuable insights.

Conflict of Interest Statement

The authors declare that there are no conflicts of interest regarding the publication of this manuscript

Ethics Approval and Consent to Participate

Ethical standards were followed throughout the research process. Participation in the survey was voluntary, and informed consent was obtained from all respondents prior to data collection.

Data Availability Statement

The data supporting the findings of this study are available from the corresponding author upon reasonable request.

Authors' Contribution

Author Name	Contribution
Dr. S. Saravanan	Conceptualisation, Methodology, Data Analysis, Writing – Original Draft, Review & Editing
Dr. A. Sam Immanuel Joseph	Data Curation, Investigation, Validation, Review & Editing
M. Jayasurya	Visualisation, Resources, Literature Review, Editing

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