

Exploring Structural Relationships among Attitudinal and Market Predictors of Green Personal Care Product Purchase Intention

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Abstract

The growing concern about potential health and environmental consequences associated with conventional personal care products has encouraged a shift in consumers' focus towards green or natural alternatives. The study seeks to examine the impact of attitudinal and market-oriented factors on the purchase intention for green personal care products among young consumers. Based on the Theory of Planned Behaviour (TPB), along with market-related constructs such as product availability, price consciousness, and product promotion, the study examines these variables to provide a comprehensive understanding of consumer purchase intention for green personal care products. Data were collected from respondents aged 18 to 35 via Google Forms and further analysed using Smart PLS-SEM 4. The analysis reveals that perceived behavioural control and price consciousness significantly influence consumers' attitudes towards green personal care products. Further, the findings have practical implications for marketers and green product manufacturers seeking to develop an effective strategy to encourage sustainable green consumption behaviour.

Keywords: green personal care products, purchase intention, consumer attitude, subjective norms, perceived behavioural control, product availability, product promotion, price consciousness.

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1. Introduction

The present study focused on identifying factors from attitudinal and market perspectives that affect purchase intention for green personal care products. Personal care products are generally used daily, regardless of gender or income background (Setiawan et al., 2024). Personal care items are defined as substances that people use to maintain hygiene and enhance appearance, ultimately contributing to better health and quality of life (Shaaban & Alhajri, 2020). Further, these products are considered to enhance external appeal and support hygiene, based on their individual wholesomeness and health (Shaaban & Alhajri, 2020). The emerging concern about the toxic effects of conventional products has driven conscious consumption in choosing personal care products. Chemical-based personal care products that contain harmful substances tend to have an unfavourable effect on the person who uses them, viz., skin allergies, throat and nose-related infections, eye irritation, and even cancer in some cases (Shaaban & Alhajri, 2020). So consumers have started focusing on green products made from natural ingredients. Green products, or products manufactured from natural ingredients, are considered environmentally friendly and Healthwise friendly, as they are produced from harmless substances. Green personal care products have been in the spotlight over time because they prioritise the health of individuals and the environment, making them a favourable choice for consumers (Techavachara et al., 2025). The category of personal care products includes oral care, hair care, skin care, feminine hygiene products, deodorants, cosmetics, and toiletries (Ghazali et al., 2017; Zollo et al., 2021). (Haider et al., 2022). Customers now prefer products that are natural, protect health, and contain non-chemical ingredients (Kapoor et al., 2019). Since research on natural personal care products is scarce, the present study focuses on the attitudinal and market-oriented factors influencing purchase intention for such products. In the emerging-market context, despite rising environmental awareness and the harmful effects of non-green products, the adoption of green personal care products remains inconsistent. The studies focusing on marketing-related factors (Kaur et al., 2022) and attitudinal focus studies are scattered.

The present study integrates both attitudinal and market-oriented variables to provide a more holistic understanding of green personal care product purchase behaviour. Few empirical studies integrate attitudinal and market-oriented variables into a unified model to explain purchase intention for green personal care products. The study aims to determine the following objectives:

- a. To examine the influence of attitudinal variables on the green personal care product purchase intention.
- b. To determine the influence of market-oriented variables on the green personal care product purchase intention.

2. Literature Review and Formulation of Hypothesis

2.1. Product availability

Product availability is the most important for selling a particular product. For instance, the consumer would gradually develop a negative perception of the product if it is consistently seen as unavailable when they attempt to access it. From a conventional perspective, it significantly enhances interest in a product, thereby leading to purchase intention as well (Zaichowsky, 1986; Goldsmith, 2002; Sawyer & Howard 1991). The ease of product accessibility plays a significant role in enhancing consumer awareness and facilitating the acquisition of product knowledge (Shaari et al., 2020). When making a purchase, one of the most important considerations is the product's availability. The consumer's decision-making process would be adversely affected by the product's unavailability. (Kamaruzzaman, 2008; Aziz, 2010) emphasised that product availability is a primary factor motivating Muslim customers to buy halal cosmetics and personal care items. (Shaari et al., 2020) explained that increased availability of the product will increase the awareness of that particular product. Hence, the hypothesis is framed as:

H1 – Product availability positively influences purchase intention for green personal care products.

2.2. Price Consciousness

Price significantly affects consumers' purchase decisions. Past research also focused on price

consciousness and its impact on consumers' purchase behaviour. A price-conscious consumer is someone who is unwilling or unable to spend much on a product, and whose primary concern is the product's price when making a purchase decision. Those consumers are considered as 'price sensitive', 'value oriented', 'price conscious', 'value conscious', and 'price oriented'. (Alford and Biswas, 2002; Behe et al., 2014; Han et al., 2001; Lichtenstein et al., 1990; Sinha I and Batra R, 1999; Sproles, 1985). Price is considered a motivating factor for consuming or not consuming a particular product (Chandon et al., 2000; Aschemann-Witzel, J., and Zielke, S., 2017; Magnusson et al., 2001). Consumers in developing markets are more inclined to pay close attention to the quality and price of the product than those in developed markets (Boobalan & Nachimuthu, 2020).

H2: Price consciousness positively influences purchase intention for green personal care products.

2.3. Product promotion

Product promotion and its elements can significantly affect the evaluation and final purchase of the product, since these elements can trigger consumption and communication about the product (Gardner, 1985). The promotion targeted at the sale of a product is considered a tool to stimulate consumer product purchasing (Rong-Da Liang et al., 2017). The product promotion will aim to gain attention and recognition, leading customers to purchase the product. For instance, Gorji & Siami (2020) researched sales promotion displays where the physical element and informative elements gain the customer's attention and give them the needed data on purchasing a product, and the research concluded that sales promotion displays have a positive effect on triggering purchase intention of the consumer.

H3: Product promotion positively influences green personal care product purchase intention

2.4. Subjective norms

Subjective norms refer to the norms and the need to follow them that are formed by the surrounding society and followed by individuals, where an individual's buying behaviour is influenced and shaped

by these societal norms to fit into that particular group or society. These norms are generally formed, and the pressure to follow these norms originates generally from the individual's family, friends, the surrounding society, and colleagues) (Ajzen and Fishbein, 1980; Ekoyudho, 2021; Derahman et al., 2017; Widyanto and Sitohang, 2021). If purchasing a particular product is perceived as societally accepted behaviour, it means an individual is more inclined to purchase that product in a collectivistic culture like India (Minton et al., 2018). Within the context of eco-friendly green product purchase behaviour, subjective norms influence the intention to buy an eco-friendly green product, indicating that individuals are encouraged to do so by societal expectations (Han & Kim, 2010).

H4: Subjective norms positively influence green personal care product purchase intention

2.5. Perceived behavioural control

Perceived behavioural control is an individual's discernment of the possibility or difficulties in executing a particular behaviour. Previous studies emphasise that perceived behavioural control is an important element that affects the individual's behavioural outcome and the exact behaviour (De Leeuw et al., 2015; Botetzagias et al., 2015; Lizin et al., 2017). The individual's stronger control over their capability to perform a particular action will lead to a well-built intention to fulfill the action (Webb et al., 2013). The perceived behavioural control is proven to be a crucial element in consuming green products by consumers (Xu et al., 2020; Xu et al., 2019) since it considers the many factors such as financial aspect, time, related information and individual ability to execute such behaviour and also both possibilities and hurdles while purchasing the green product (Ajzen, 1991).

H5: Perceived behavioural control positively influences green personal care product purchase intention

2.6. Attitude

Attitude plays a vital part in affecting consumers' intention towards purchasing green products (Qi & Ploeger, 2021; D'Oca et al., 2018; Paul et al., 2016).

In the context of understanding consumer behaviour towards green consumption, attitude refers to the overall evaluation of a specific behaviour, based on the consumer's anticipated value of the behaviour's outcome (Ajzen, 1991). If they have strong positive discernment regarding purchasing behaviour and its outcomes, their attitude towards purchasing the product also tends to be positive (Wang et al., 2016). Attitude is studied as an indicator of consumers' intentions towards green consumption (Aslan, 2023).

H6: Attitude positively influences green personal care product purchase intention

H7 - Attitude mediates the relationship between product availability and Green personal care product purchase intention

H8 - Attitude mediates the relationship between price consciousness and Green personal care product purchase intention

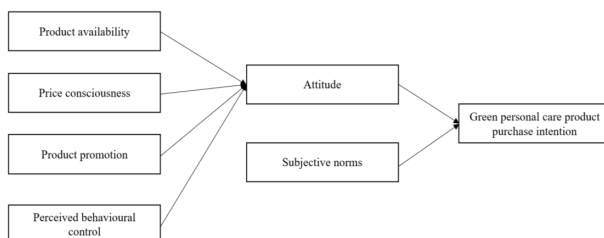
2.7. Green personal care product purchase intention

Purchase intention is when a consumer has a solid idea and plan about a particular product that the consumer wishes to consume in the future (Lu et al., 2014; Schiffman & Kanuk, 2007). The purchase is considered an important aspect stimulating the purchase behaviour (Rana & Paul, 2017; Teck Weng and Cyrilde Run, 2013). Purchase intention is a customer's firm intention to purchase a particular product.

3. Conceptual Framework of the Study

Figure 1

Conceptual Framework



Source: Author's own compilation

4. Research Methodology

4.1. Data Collection

The target population of the present study comprised young consumers aged 18 to 35 during the period from November 2025 to January 2026. The sampling frame consisted of undergraduate students, postgraduate students, research scholars, and young working professionals who were accessible via educational institutions and reached through Google Forms and other digital platforms in and around Coimbatore City, Tamil Nadu. The young age group has been selected for the study because young consumers are considered more aware of and willing to adopt sustainable consumption practices and green products (Bilos et al., 2021; Dabija et al., 2020; Ordun, 2015). This research study used convenience sampling, as it focused on young consumers who are active users of online platforms and enabled efficient access to the target respondents through educational institutions during the study period. The study followed an inclusion criterion of respondents aged 18-35 years in and around the city of Coimbatore, who are familiar with green personal care products and willing to participate voluntarily. Respondents below 18 years of age or above 35 years of age, incomplete questionnaires, and duplicate responses are excluded from further analysis. The questionnaire comprises two parts. The first part focuses on the respondents' demographics, and the second part presents the questionnaire on green personal care products, including product availability, price consciousness, product promotion, subjective norms, perceived behavioural control, attitude, and purchase intention. The five-point Likert scale, ranging from strongly agree to strongly disagree, has been used to elicit the respondent's opinion. The total number of responses received is approximately 260. After applying the inclusion and exclusion criteria, we filtered out incomplete responses. After filtering, 248 data points have been uploaded to SPSS and used in Smart PLS-SEM 4 for further analysis.

4.2. Measures

The survey constructs were derived from earlier research studies, with slight modifications. The six items of the product availability variable have been

derived from (Kapoor et al., 2019; Dubuc, 2022), and the six items related to price consciousness have been adopted from (Dubuc, 2022). Then, six items for product promotion were adopted from Kaur et al. (2022), whereas items for subjective norms and perceived behavioural control were derived from Promotosh & Sajedul (2011), Al Mamun et al. (2018), and Ghazali et al. (2017), respectively. And the constructs for the final part of the survey, namely attitude and green personal care product purchase intention, have been taken from Shimul et al., 2022; Kim & Seock, 2009; Soler et al., 2002; Chryssohoidis, 2000; Long et al., 2024; and Nguyen, 2024.

4.3. Demographic Characteristics

Table 1

Demographic details of the respondents.

Demographics	No. of respondents (N=248)	(%)
Gender		
Male	157	64
Female	89	36
Age		
18-25	247	99.6
26-35	1	.4
Marital Status		
Single	244	98.4
Married	4	1.6
Education qualification		
Undergraduate	188	75.8
Postgraduate	54	21.8
PhD Scholar	6	2.4
Monthly Income		
Below 30,000	141	56.9
31,000-60,000	57	23
61,000-90,000	24	9.7
Above 91,000	26	10.5
Total	248	100

From Table 1, it is clear that the majority of respondents are female (64%). Most of the respondents are between 25 and 35 years old (99%). For marital status, the majority of respondents are single, 244 (98.4 %). It is found that a large proportion of the respondents have an undergraduate education, 188 (75.8%). In terms of monthly income, the majority of respondents earn below 30,000.

4.4. Data analysis and the outcome

Partial least squares structural equation modelling (PLS-SEM) was conducted using SmartPLS-SEM software 4. There is a need to confirm the reliability and validity of the measures that are used to evaluate the hypothetical model. The measures are evaluated using Confirmatory Factor Analysis (CFA), which is embedded in the PLS-SEM framework. The adequacy of model calibration can be assessed using the standardised root mean square residual (SRMR) (Hu & Bentler, 1998) and the normed fit index (NFI) (Bentler & Bonett, 1980). An SRMR below 0.08 indicates an appropriate fit (Hu & Bentler, 1998), and an NFI above 0.9 is reasonable (Jaini et al., 2019). Based on the analysis, the SRMR value is 0.072, indicating an acceptable fit. The NFI value is 0.605. Though the NFI value falls below the threshold, the SRMR value of .072 is within the acceptable range (Hu and Bentler, 1998), suggesting the model demonstrates an overall reasonable fit.

4.5. Construct reliability

Reliability analysis is the evaluation of comprehensive consistency for each item used in the scale. The evaluation of items based on correlations among the components of the scale contributes to the development of the scale. The reliability coefficients, which range from 0.00 (no reliability) to 1.00 (high reliability), indicate the reliability of the items used in the scale (Premi et al., 2019). The threshold value for reliability is considered .50 (Fornell & Larcker, 1981). The reliability analysis outcome of this research study comes above 0.70, which is generally an acceptable range of Cronbach's Alpha (Nunnally, 1978; Nunnally and Bernstein, 1994). The constructs employed in this research have attained adequate internal consistency.

4.6. Convergent validity

The analysis of convergent validity is conducted by examining the CA and the average variance extracted (AVE) values. The composite reliability of the construct falls within the commonly acceptable range of 0.70 or higher. The AVE is observed to be above the recommended level of 0.50. Based on the observations, all the constructs have appropriate convergent validity.

Table 2*Measurement model outcomes*

Construct	Items	Loadings	Average Variance Extraction	Cronbach's Alpha (α)	Composite reliability (rho _c)
PA	PA1	0.689	0.512	0.737	0.820
	PA2	0.626			
	PA3	0.691			
	PA4	0.626			
	PA5	0.675			
	PA6	0.635			
PC	PC1	0.600	0.523	0.745	0.824
	PC2	0.631			
	PC3	0.665			
	PC4	0.726			
	PC5	0.692			
	PC6	0.651			
PP	PP1	0.600	0.508	0.763	0.834
	PP2	0.631			
	PP3	0.665			
	PP4	0.726			
	PP5	0.692			
	PP6	0.651			
SN	SN1	0.731	0.517	0.768	0.838
	SN2	0.720			
	SN3	0.704			
	SN4	0.698			
	SN5	0.584			
	SN6	0.641			
PBC	PBC1	0.636	0.509	0.807	0.861
	PBC2	0.678			
	PBC3	0.738			
	PBC4	0.747			
	PBC5	0.745			
	PBC6	0.730			
ATT	ATT1	0.671	0.516	0.812	0.865
	ATT2	0.779			
	ATT3	0.725			
	ATT4	0.677			
	ATT5	0.733			
	ATT6	0.721			
GPCPI	GPCPI1	0.634	0.521	0.784	0.848
	GPCPI2	0.655			
	GPCPI3	0.763			
	GPCPI4	0.705			
	GPCPI5	0.726			
	GPCPI6	0.676			

4.7. Discriminant validity

Discriminant validity has been evaluated to assess the average variance shared between constructs and to confirm that the items of each construct are greater than the variance shared with other constructs (Fornell & Larcker, 1981). The present research study has employed the Heterotrait-Monotrait (HTMT) ratio of correlations, developed by Henseler et al. (2015). The majority of pairs have exhibited acceptable discriminant

validity, with a recommended HTMT threshold of 0.90. But the Attitude and GCPI (HTMT = .993), PBC and Attitude (HTMT = .964), and SN and PP (HTMT = .961) expressed potential overlap.

Table 3

Discriminant Validity

	ATT	GCPI	PA	PBC	PC	PP	SN
ATT							
GCPI	0.875						
PA	0.678	0.663					
PBC	0.864	0.849	0.763				
PC	0.792	0.760	0.699	0.748			
PP	0.854	0.825	0.819	0.888	0.891		
SN	0.841	0.885	0.693	0.899	0.816	0.881	

4.8. Testing of Hypothesis – Structural model

The proposed structural model was evaluated by determining the collinearity problem with the help of the variance inflation factor (VIF), the model's explanatory power (R^2), effect size (F^2), predictive relevance (Q^2), and the significance of the path coefficient also needs to be evaluated (Hair et al., 2014). To estimate the path coefficients, significance levels, and corresponding t-values, the PLS algorithm was executed, followed by bootstrapping with 5,000 subsamples. The potential collinearity issue needs to be addressed by examining correlations among the constructs. Collinearity was assessed using the Variance Inflation Factor (VIF). The observed VIF values were below the recommended threshold of 5.0, indicating no multicollinearity concern among the predictor constructs. It is evident that the structural model estimates are not biased due to collinearity. With the coefficient of determination, i.e., R^2 , the explanatory power of the equations that explain the endogenous constructs is determined. The structural model results demonstrated substantial explanatory power for GCPI ($R^2 = 0.683$) and ATT ($R^2 = 0.633$), indicating that the exogenous variables account for a major proportion of the variance in the endogenous variables. The mediation analysis was also conducted to determine the indirect effects of major influencing factors of GCPI via ATT. The findings exhibit significant indirect effects from PBC ($\beta = 0.351$, $t = 7.847$, $P < 0.001$) and PC ($\beta = 0.114$, $t = 3.064$, $P < 0.002$). Furthermore, the effect sizes of the individual exogenous constructs on the endogenous variable were examined. The findings indicated that ATT has a large effect on GCPI ($f^2 = 0.643$), indicating strong explanatory power. Similarly, PBC exhibits the major effect on ATT ($f^2 = 0.432$), SN demonstrates a moderate effect ($f^2 = 0.141$) for GCPI, and PC shows a small effect on ATT ($f^2 = 0.051$). Further, the model predictive strength is examined with the PLS predict procedure with 10-fold cross-validation and 10 repetitions. The Q^2 values for ATT (0.638) and GCPI (0.548) are above zero, indicating strong predictive relevance for both constructs. It is confirmed that the predictors accurately predict out-of-sample data.

The sign and absolute size of the path coefficients were then evaluated. If the independent variable is raised by one while the other independent variables remain the same, the change in the dependent variable is read as the effect of the independent variable (Henseler, 2017). The path coefficient indicated that PBC ($\beta = 0.577$, $t = 9.353$, $p < 0.000$) has a significant positive effect on ATT. So, the H4 is supported. On the other hand, the PA and PP did not derive any particular effect on ATT; Therefore, H1 and H3 are not supported. Whereas PC ($\beta = 0.188$, $t = 3.141$, $p < 0.002$) has a significant effect on ATT. So H2 is supported. SN ($\beta = 0.285$, $t = 4.731$, p

< 0.000) and ATT ($\beta = 0.608$, $t = 13.390$, $p < 0.000$) both have a significant effect on GCPI; thus, H5 and H6 are supported. For the final two hypotheses, the indirect effect was bootstrapped using the method of Preacher and Hayes (2004, 2008) to test the mediation impact of PEB and PN. The findings of the indirect effect utilising a two-tailed test and a bootstrapping process with 5,000 subsamples showed that the ATT mediates the relationship between PBC and GCPI ($\beta = 0.351$, $t=7.847$, $p<0.000$, LL:0.261, UL:0.437) and between PC and GCPI ($\beta = 0.114$, $t = 3.064$, LL: 0.046, UL: 0.191).

Table 4

Hypothesis testing

Hypothesis	Relationship	β	SE	$t - value$	Decision	BC 2.5% LL	BC 97.5% LL
H1	PA $\rightarrow$ ATT	0.011	0.064	0.168	Not supported	-0.108	0.145
H2	PC $\rightarrow$ ATT	0.188	0.060	3.141	Supported	0.076	0.306
H3	PP $\rightarrow$ ATT	0.128	0.073	1.750	Not supported	-0.014	0.273
H4	PBC $\rightarrow$ ATT	0.577	0.062	9.353	Supported	0.443	0.686
H5	ATT $\rightarrow$ GCPI	0.608	0.045	13.390	Supported	0.522	0.696
H6	SN $\rightarrow$ GCPI	0.285	0.060	4.731	Supported	0.162	0.398
H7	PBC $\rightarrow$ ATT $\rightarrow$ GCPI	0.351	0.045	7.847	Supported	0.261	0.437
H8	PC $\rightarrow$ ATT $\rightarrow$ GCPI	0.114	0.037	3.064	Supported	0.046	0.191

5. Conclusion

The main aim of this research study was to determine the attitudinal and market-related factors influencing the green personal care purchase intention. The research is followed by the TPB framework to further investigate the context of green personal care product purchase intention. The analysis shows that attitude is a crucial factor affecting purchase intention for green personal care products among younger generations. The findings are aligned with previous research (Kumar et al., 2017; Sun et al., 2019; Carrión Bósquez et al., 2023). The Higher the favourable attitude towards eco-friendly products, the higher the purchase intention towards eco-friendly products (Yadav & Pathak, 2017; Taufique & Vaithiniathan, 2018; Sreen et al., 2018). Subsequently, from the H5 and H6, it is clear that both attitude and subjective norms significantly impact the purchase intention of green personal care products, which aligns with the previous research (AL-Swidi et al., 2014; Sreen et al., 2018; Magnusson et al., 2001; Ricci et al., 2018; Carrión Bósquez et al., 2023). This empirical investigation found that product availability has no significant effect on attitude. This finding aligns with (Singh & Verma, 2017; Sharaf & Perumal, 2018; Carrión Bósquez et al., 2023) ensure that availability of the eco-friendly product does not affect the attitude toward purchase intention of the same also it contradict with the study which state that the consumer those shows involvement in purchasing the eco-friendly product but find difficult to obtain the product (Witsel & Aagaard, 2014; Biswas, 2016). Therefore, the results indicate that product availability and promotion do not serve as determining factors for green personal care purchase intention among young consumers in this study. Price consciousness and perceived behavioural control exhibit a significant effect on attitude. This aligns with Rinandiyana et al. (2022), which show that price consciousness plays a vital role in shaping the attitude towards the purchase intention for green personal care products. The two-mediation effect of perceived behavioural control on the relationship between attitude and green personal care product purchase intention was significant. The further mediation effect of green personal care product purchase intention between price consciousness and attitude also underscores its significance.

6. Limitation

The study primarily focused on younger generations, which may limit the generalizability of the findings to older age groups or diverse demographic segments. Although the target population included young consumers aged 18-35 years, the final sample was predominantly composed of respondents aged 18-25 years. This is because most participants were recruited through higher education institutions, where most individuals fall within this age category, since permission was granted to recruit respondents from the UG and PG student population. Concerning that, the sample may not be fully representative of the entire 18-35-year-old target population, which may limit the generalizability of the findings. Attitudinal and behavioural patterns may differ significantly across age groups, income levels, and cultural backgrounds. The study focused on a specific demographic (likely younger consumers), which may limit the applicability of the findings to broader populations. Future research should consider more diverse samples to enhance external validity. Although price consciousness (PC) and perceived behavioural control (PBC) significantly influenced attitude and purchase intention, other relevant market-related constructs, such as perceived value, trust in certification, or product efficacy, were not included. Their omission may have constrained a more holistic understanding of consumer decision-making. Future research may include these variables in its study.

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