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Analyzing the Impact of Multidimensional Attitudes and Subjective Norms on Green Consumption Intention and Behavior towards Organic Cosmetics in Bangladesh

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This study investigates the psychological and social determinants of green consumption behavior in Bangladesh's organic cosmetics market by extending the Theory of Planned Behavior (TPB). Using a structured questionnaire, data were collected from 383 urban consumers and analyzed using SPSS. The research highlights that attitudes towards the environment, green consumption, and organic cosmetics, along with subjective norms, significantly and positively influence green consumption intention. In turn, intention strongly predicts actual green consumption behavior, explaining 43.4% of its variance. These results confirm the mediating role of intention and highlight the effectiveness of multidimensional attitudes in predicting sustainable consumer actions. Regression model revealed that most of the hypothesized relationships were supported: attitudes towards the environment and green consumption, as well as subjective norms, significantly predicted green consumption intention, and intention strongly predicted green consumption behavior (while attitude towards organic cosmetics did not have a significant effect). The study demonstrated that the multidimensional approach to attitudes—dividing general environmental concern, green lifestyle attitudes, and product-specific attitudes—provides a nuanced understanding of intention formation. While environmental and green lifestyle attitudes significantly influenced intention, product-specific attitudes did not, supporting the view that broader values may be more predictive than individual product perceptions in low-trust markets. The findings contribute to bridging the attitude–behavior gap and offer practical implications for marketers and policymakers aiming to promote environmentally responsible consumption in emerging markets in Bangladesh.

Keywords: attitude–behavior gap, green consumption, organic cosmetics, sustainable marketing, subjective norms, Theory of Planned Behavior

Introduction

Environmental degradation and climate change have become one of the most pressing problems facing the world in the 21st century, leading to global transitions towards sustainability in many industries and consumer

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markets. Increasing awareness of the above environmental issues has spurred the emergence of green consumerism, which refers to consumption choices that mitigate negative environmental consequences and conserve resources for future generations (Tavakol & Dennick, 2011). The growing awareness of environmental issues among consumers has resulted in heightened demand for products that align with eco-conscious values and sustainability practices.

The global green products market has expanded significantly; consumers are quickly ready to pay premium prices for environmentally friendly alternatives in product categories. According to recent market analysis, the Global Green Technology and Sustainability Market has increased from $ 13.76 billion to $ 51.09 billion, reflecting a compound annual growth rate (CAGR) of 20.6% (Hossain, Neger, & Chowdhury, 2019). In Bangladesh, the market for organic and natural products is still emerging, but growing steadily. The Bangladesh Face Wash market alone is expected to increase by $ 4.75 million in 2025, representing compound annual growth rate (CAGR) at 11.60% (Mordor Intelligence, 2025). In 2025 the market size of overall herbal cosmetic items is 53.12 billion[1]. The growing internet penetration among the youth population in Bangladesh and social media use has promoted awareness of organic products, especially the demand for driving in urban areas (Mordor Intelligence, 2025).

The demographic profile of these consumers shows that individuals between the ages of 18-35 are ahead of this change. Studies indicate that this age group shows a high trend against green consumption, influenced by factors such as environmental responsibility and self-efficiency (Haque, Mamun, Shahabuddin, Rahman, & Sharif, 2024). In addition, the spread of internet access and social media platforms has increased awareness and access to organic products, especially in city canters such as Dhaka.

Corporate Social Responsibility (CSR) Initiative of companies also plays an important role in the design of a consumer approach to green products. When consumers are informed of the CSR efforts of a company, their environmental approach and green purchasing behavior (Rahman & Noor 2022) have a significant positive effect.

Government policies and regulations also play a crucial role in either facilitating or hindering the growth of green consumerism. Supportive policies, such as subsidies for organic farming and stringent regulations against counterfeit products, can significantly bolster the market. Conversely, a lack of regulatory oversight may allow substandard products to proliferate, damaging overall consumer trust. Understanding the psychological and social drivers behind green consumption in Bangladesh is essential for sustaining market development.

Recent studies emphasize that young consumers in Bangladesh are gradually becoming key drivers of the green market, especially in the personal care segment. This demographic group shows increasing interest in environmentally friendly products, influenced by education, peer behavior, and exposure to global sustainability trends (Nguyen & Hoang, 2023). However, while awareness is growing, actual market engagement remains limited due to price sensitivity and scepticism regarding product authenticity. These insights indicate the need to explore the nuanced motivations behind green cosmetic consumption in Bangladesh's youth segment to inform strategic marketing and sustainable product positioning.

Problem Statement

Despite increasing environmental awareness and positive attitude towards green products globally, research continuously identifies the "attitude behavior difference" in green consumption. The phenomenon

[1] https://thedailystar.net, October 19, 2025.

describes disconnects among consumers expressing a positive attitude to environmentally friendly products and their actual buying behavior (Venciute, Kazukauskaite, Correia, Kuslys, & Vaiciukynas, 2023). Although consumers can express the desire to buy green products to reduce environmental decline, these positive attitudes are often unable to translate into concrete actions (Venciute et al., 2023). This inconsistency represents an important challenge for green marketing and sustainability initiatives.

The attitude–behaviour gap is specifically clarified in development economies such as Bangladesh, where the market is still developing for green products, including organic cosmetics. While studies have shown this difference in Western contexts, extensive research has been investigated that different behaviours and social norms affecting green consumption in Bangladesh are limited. As noted (Hossain, Yahya, & Alam, 2021), despite having an ideal agricultural climate area for organic production in Bangladesh, the consumption of organic products is not widespread among Bangladeshis, and biological production is still relatively recent development.

Current research lacks a multidimensional approach to understanding the green consumption behavior in the context of Bangladesh. Most studies have focused on isolated factors instead of examining complex differences between different approaches (environment, consumption-oriented and product-specific), subjective criteria, intentions and real behavior. This fragmented approach is unable to provide a broad understanding of psychological and social systems that run green consumption.

Moreover, the rise of social media platforms and digital marketing in Bangladesh has reshaped consumer interaction with green products, especially among younger demographics. Exposure to online influencers and environmental advocacy content has encouraged more people to express pro-environmental attitudes, yet the gap between these attitudes and actual purchasing remains stark (Haque, Mamun, Shahabuddin, Rahman, & Sharif, 2024). Eco-friendly products awareness mentions to the ability of consumers to identify the product with green recognition and recall (Hossain et al., 2019).

In addition, the organic cosmetics in Bangladesh present unique challenges and opportunities that require targeted research. With the increase in consumers' concern for chemical ingredients in personal care products, it becomes important for the development of the market to understand specific drivers for the consumption of organic cosmetics.

Objectives of the Study

The main objective of the study is to investigate how multidimensional attitude and subjective norms influence green consumption behavior, with green consumption intention as a mediating factor, in the context of Bangladesh's organic cosmetics market. The specific objectives of this study are: firstly, to empirically examine how attitudes towards the environment, green consumption, and organic cosmetics, along with subjective norms, affect green consumption behavior; secondly, to explore the influence of multidimensional attitudes and subjective norms on green consumption intention within Bangladesh's socio-cultural context.

Literature Review & Hypothesis Development

Relevant Literature Review

Green consumerism has gained significant global traction due to rising environmental awareness and sustainability imperatives. However, despite widespread positive environmental attitudes, a persistent gap remains between what consumers say and what they actually do—a phenomenon widely documented across consumer behavior literature (Nguyen & Hoang, 2023).

In Bangladesh, the organic cosmetics market is still in its developmental stages, yet it is showing signs of rapid growth, especially among young, urban consumers who are increasingly exposed to global sustainability trends via digital platforms (Chowdhury, Roy, Kabir, & Haque, 2024). However, the history of use of these herbal cosmetics products is not new. Several years ago, natural items were used for beautification. Today's varied cosmetics are the result of scientific processing of natural (Mohammad & Neger, 2009).

In Bangladesh and similar emerging economies, the attitude–behavior gap is particularly noticeable. While awareness of environmental issues has risen, actual green purchasing behavior lags due to social, economic, and infrastructural limitations (Haque et al., 2024). The attitude of consumer towards any product or service is the vital influencer in buying behavior (Neger, 2018).

Some studies have consistently shown that environmental attitudes are significant predictors of pro-environmental behavior, including green purchasing. For instance, Ahmad and Zhang (2022) found that consumers who held strong environmental values demonstrated a higher intention to purchase eco-labelled products, even at premium prices. Similarly, Rahman, Das, Hossen, and Hossain (2024) concluded that environmental concern directly influences behavioural intention in sustainable consumption contexts.

Green consumption attitudes are often influenced by perceived product benefits, environmental values, and knowledge about sustainability. A recent study by Kim and Chung (2022) found that positive attitudes towards green consumption were highly predictive of consumers' intention to buy green household items in South Korea, particularly when consumers perceived the environmental benefit as high. Similarly, Neger, Rahid, and Akter 2025) showed that concerns about skin irritation, allergies, and other adverse effects have made consumers about their purchasing decisions.

Empirical Review

Attitude towards the environment. Attitude towards the environment refers to an individual's favourable or unfavourable evaluation of environmental issues and the perceived importance of ecological conservation (Liobikienė & Poškus, 2019). It encompasses beliefs, emotional responses, and behavioural tendencies towards environmental protection, pollution control, resource preservation, and climate change (Luu, 2023).

Empirical studies have consistently shown that environmental attitudes are significant predictors of pro-environmental behavior, including green purchasing (Nguyen, Lobo, & Greenland, 2015). For instance, Ahmad and Zhang (2022) found that consumers who held strong environmental values demonstrated a higher intention to purchase eco-labelled products, even at premium prices. Similarly, Rahman et al. (2024) concluded that environmental concern directly influences behavioural intention in sustainable consumption contexts. In the context of Bangladesh, Paul, Modi, and Patel (2016) reported that young urban consumers, particularly university students, expressed strong environmental concerns and a desire to make eco-conscious decisions. However, this attitude often fails to translate into behavior due to structural and informational barriers. Given this construct, we propose the H1.

H1: Attitudes towards the environment have a positive effect on green consumption intention.

Attitude towards green consumption. Attitude towards green consumption refers to an individual's evaluation and predisposition towards purchasing and using products that are environmentally friendly throughout their life cycle. Unlike general environmental attitudes, which reflect concern for the natural world, green consumption attitudes specifically relate to behavior such as buying eco-labelled goods, reducing plastic use, or supporting sustainable brands (Chen & Chan, 2022).

Green consumption attitudes are often influenced by perceived product benefits, environmental values, and knowledge about sustainability. A recent study by Lee, Yoon, and Kim (2022) found that positive attitudes towards green consumption were highly predictive of consumers' intention to buy green household items in South Korea, particularly when consumers perceived the environmental benefit as high. Similarly, Wu, Zheng, and Chen (2023) showed that attitude towards green product use directly influenced intention and behavior, even after controlling for price sensitivity and availability.

In the South Asian context, several studies have emphasized the growing relevance of green consumption. For example, M. I. Hossain and M. M. Hossain (2023) explored the attitudes of young Bangladeshi consumers towards buying green products and reported that environmental concern, product trust, and health consciousness were key drivers of green consumption attitudes. However, they also observed that despite positive attitudes, actual buying behavior remained low due to price barriers and limited product availability—a common expression of the attitude-behavior markets where regulations on green marketing claims are weak (Yang, Li, & Zhang, 2022). If consumers doubt the authenticity of green labels or fear greenwashing, their favourable attitudes may not develop into purchase intentions (Nguyen & Hoang, 2023). Given this construct, we propose the H2.

H2: Attitudes towards green consumption have a positive effect on green consumption intention.

Attitude towards organic cosmetics. Attitude towards organic cosmetics is a product-specific psychological construct that reflects consumers' evaluation of cosmetics made from natural, chemical-free, or organically grown ingredients. These attitudes encompass beliefs about product safety, health benefits, environmental impact, perceived quality, and ethical value (Khan & Rahman, 2022).

Organic cosmetics have gained popularity globally due to rising consumer concerns over skin safety, allergies, and the environmental effects of synthetic ingredients. This has made product-specific attitudes a critical determinant of green product adoption (Zhang, Wang, & Zhou, 2023). According to Luu (2023), when consumers view organic personal care items as effective and aligned with their lifestyle values, they are more likely to intend to purchase them, even at premium prices. In Bangladesh, the organic cosmetics market is emerging but expanding rapidly, especially in urban areas. Haque et al. (2024) found that female university students in Dhaka were increasingly aware of organic cosmetic brands and held favourable attitudes due to perceived health and environmental benefits.

Moreover, social media and influencer marketing have started shaping product-specific attitudes in Bangladesh. Chowdhury et al. (2024) emphasized that attitudes towards organic beauty products are influenced not only by personal beliefs but also by exposure to green advertising and peer recommendations, particularly among younger demographics. Given this construct, we propose the H3.

H3: Attitudes towards organic cosmetics have a positive effect on green consumption intention.

Subjective norms of green consumption. Subjective norms refer to the perceived social pressure to perform or not perform a particular behavior. Within the Theory of Planned Behavior, they represent the influence of others—family, friends, colleagues, or society at large—on an individual's behavioural decisions (Ajzen, 1991).

Research consistently finds that subjective norms play a significant role in shaping green purchasing intentions, especially in collectivist cultures like Bangladesh, where social conformity is highly valued. Nguyen and Hoang (2023) reported that social influence from peers, online communities, and family significantly impacted the green buying intentions of Vietnamese consumers. Similarly, Alam, Lin, Ahmad, Omar, and Ali

(2022) found that in South Asia, individuals who perceived positive attitudes towards green consumption among their social circles were more likely to exhibit pro-environmental intentions.

In Bangladesh, where interpersonal relationships and familial influence hold considerable weight, studies have shown that subjective norms strongly affect both intention and behavior. Haque et al. (2024) demonstrated that young women in Dhaka were more likely to consider purchasing organic cosmetics when their peers or influencers supported such practices. This indicates that social environments can either strengthen or weaken the translation of attitude into behavior.

Moreover, with the rise of digital platforms, subjective norms are no longer confined to family or friends but include online influencers, eco-conscious communities, and content creators who shape the values and behavior of modern consumers. Chowdhury et al. (2024) found that perceived support for eco-friendly behavior from online sources significantly enhanced green consumption intention in urban Bangladesh. Given this construct, we propose the H4.

H4: Subjective norms of green consumption have a positive effect on green consumption intention.

Green consumption intention. Green consumption intention refers to an individual's conscious plan or willingness to purchase environmentally friendly products. It represents the motivational factor that precedes actual behavior, and in TPB, it is the strongest predictor of action (Ajzen, 1991). Intention acts as the psychological link between attitudes, subjective norms, and actual green consumption behavior. Numerous studies support this mediating role. For example, Rahman et al. (2024) concluded that intention successfully mediates the relationship between environmental attitude and green behavior in their meta-analysis of TPB-based research. Luu (2023) added that intention is influenced not only by cognitive beliefs but also by emotional attachment to sustainability.

In Bangladesh, green consumption intention has emerged as a strong indicator of future eco-friendly purchasing. According to Paul et al. (2016). Bangladeshi youth express strong green consumption intentions, especially for personal care products, but cite price and trust issues as limiting factors in behavior. Given this construct, we propose the H5.

H5: Green consumption intention has a positive effect on green consumption behavior.

Theoretical Background and Conceptual Framework

Theory of Planned Behavior (TPB). The Theory of Planned Behavior (TPB), developed by Ajzen (1991), is one of the most widely adopted theories in consumer behavior research. TPB expands on the Theory of Reasoned Action (TRA) by including a third key construct: Perceived Behavioural Control (PBC), which reflects an individual's perceived ease or difficulty in performing a behavior. The TPB consists of three core antecedents of intention:

1. Attitudes towards the behavior—personal evaluation of performing the behavior.

2. Subjective Norms—perceived social pressure from important others to perform or not perform the behavior.

3. Perceived Behavioural Control—the perceived capability to perform the behavior similar to self-efficacy.

In the green consumption domain, TPB has been used to explore why consumers adopt or reject environmentally friendly behavior such as purchasing organic products, recycling, or reducing plastic use (Neger, 2018; Rahman et al. 2024). For instance, Kim and Chung (2022) found that attitudes and PBC

significantly predicted Korean consumers' intention to purchase organic products, while subjective norms were significant only under strong social conformity settings. However, critics argue that TPB often fails to fully predict actual behavior, particularly in green consumption, where the attitude–behavior gap is well-documented. This limitation stems from TPB's assumption that intention always leads to action, which is often not the case in sustainable behavior due to external constraints (e.g., price, availability) or weak volitional control (Nguyen & Hoang, 2023; Sharma & Foropon, 2023).

Conceptual framework. This study adopts a conceptual framework grounded in the Theory of Planned Behavior (Ajzen, 1991) and its extensions, specifically targeting green consumption behavior in the organic cosmetics market in Bangladesh. The framework identifies multidimensional attitudes—attitudes towards the environment, green consumption, and organic cosmetics—as well as subjective norms as critical antecedents to green consumption intention, which subsequently leads to green consumption behavior. This structure reflects the dynamic interplay between psychological determinants and behavioural outcomes in sustainable consumption contexts. Figure 1 shows the framework of the study.

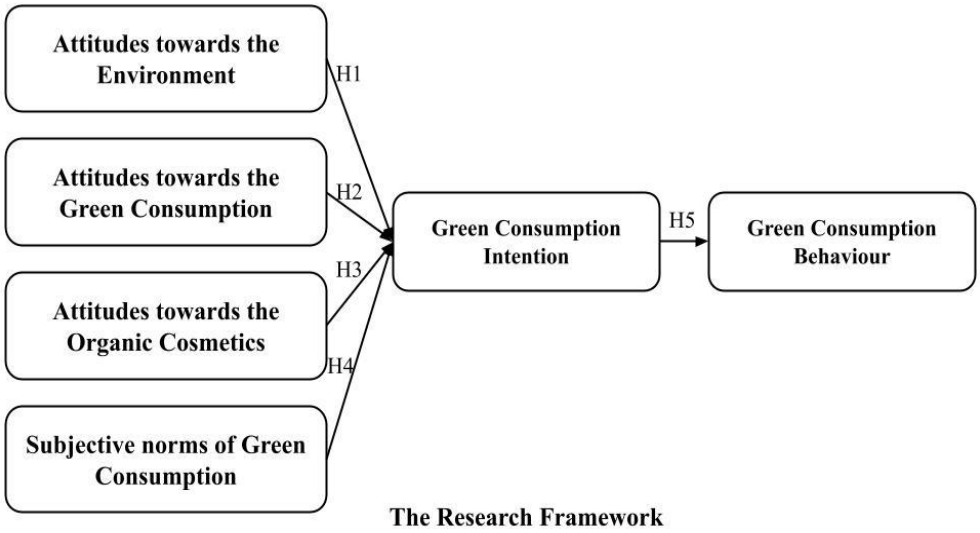


Figure 1. Framework of the study.

Research Methods

Research Design

This study adopts an explanatory research design to investigate the causal relationships among multidimensional attitudes, subjective norms, green consumption intention, and green consumption behavior in the context of Bangladesh's organic cosmetics market. An explanatory approach is appropriate when the objective is to examine cause-effect relationships among variables and to test predefined hypotheses derived from existing theories (Rahman & Sultana, 2023).

Target Population

The target population of this research is urban consumers in Bangladesh—specifically those living in Dhaka, Chittagong, Cumilla, Rajshahi, Sylhet, and other key cities where organic cosmetics are available. These urban centres have higher retail availability of organic beauty products and a greater concentration of environmentally aware consumers.

Sampling Technique

A simple random sampling (SRS) procedure is used to select survey respondents. In simple random sampling, every member of the target population has an equal probability of being chosen. This reduces selection bias and supports the representativeness of the sample. This method is justified because it ensures objectivity and is straightforward to implement across the identified cities.

Sample Size Determination

In this study, the probability sampling technique (Simple Random Sampling) has been used on the basis of gender and profession of the customers. The desired sample size can be calculated on the basis of the following:

$$n_{srs} = \frac{z^2 pq}{d^2} = \frac{(1.96)^2 \times 0.53 \times 0.47}{(0.05)^2} = 383$$

Where, n_{srs} refers sample size of simple random sampling.

Here, n = required sample size;

z = standard value of 1.96 at 95% confidence level;

p = estimated proportion of target population;

d = margin of error at 5% (standard value of 0.05).

So required simple size = 383.

Construct Operationalization

A structured, closed-ended questionnaire was developed to measure the key constructs of this study: Attitudes towards the Environment, Attitudes towards Green Consumption, Attitudes towards Organic Cosmetics, Subjective Norms towards Green Consumption, Green Consumption Intention, and Green Consumption Behavior (see Table 1). Respondents indicated their level of agreement with each item on a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The items for Attitudes towards Organic Cosmetics were adapted from Kim and Chung (2022), who studied organic cosmetic consumption based on an extended Theory of Planned Behavior model.

Table 1

Constructs' Items and Sources

Items	Constructs	Sources
ATE1–ATE5	Attitudes towards the Environment	Field (2022)
ATG1–ATG3	Attitudes towards Green Consumption	Tavakol & Dennick (2011)
ATO1–ATO4	Attitudes towards Organic Cosmetics	Chen & Chan (2022)
SNG1–SNG5	Subjective Norms towards Green Consumption	Rahman et al. (2024)
GCI1–GCI6	Green Consumption Intention	Rahman et al. (2024)
GCB1–GCB4	Green Consumption Behavior	Rahman et al. (2024)

Note. Source: Adapted from previous studies.

Data Analysis Techniques

The quantitative data are analyzed using Statistical Package for the Social Sciences (SPSS) version 25.0. SPSS is widely used for empirical research involving hypothesis testing, especially when dealing with survey data measured through Likert scales (Hair, Black, Babin, & Anderson, 2009). Next, internal consistency reliability of each construct is evaluated using Cronbach's alpha, with a threshold of 0.70 deemed acceptable

(Nunnally & Bernstein, 1994). Descriptive statistics has been applied to summarize the demographic profile and provide an overview of responses to individual items. Pearson correlation analysis will explore the strength and direction of relationships among key variables (Cronbach, 1951). Following this, multiple regression analysis has been determined how independent variables like attitudes and subjective norms predict green consumption intention, while regression assessed the link between green consumption intention and actual green consumption behavior.

Results

Respondents' Profile

The sample's demographic profile (see Table 2) is summarized as follows. Gender was nearly balanced: 51.44% male and 48.56% female respondents. The age distribution was skewed towards younger adults, with 45.95% aged 20-25. A majority 54.57% were single. In terms of education, 33.94% were undergraduates. Professionally, the largest group were students accounting for 41.25%. Monthly income varied 41.51% less than Tk. 15,000. These demographics suggest the sample is relatively young and educated, with a slightly higher proportion of females. Such profiles are typical of organic cosmetics consumers, who often tend to be younger and more educated.

Table 2

Demography of the Respondents

Demographics	Category	Frequency	Percent (%)
Gender	Male	197	51.44
	Female	186	48.56
Age	20-25	176	45.95
	26-30	169	44.13
	31 and above	38	9.92
Marital status	Single	209	54.57
	Married	174	45.43
Education level	HSC	108	28.20
	Undergraduate	130	33.94
	Graduate	100	26.11
	Post-graduate	45	11.75
Profession	Student	158	41.25
	Business	153	39.95
	Others	72	18.80
Monthly income	Less than Tk. 15,000	159	41.51
	Tk.15,001-Tk. 20,000	128	33.42
	Above Tk. 30,000	96	25.07

Note. Source: SPSS output from primary data.

Reliability Test

Scale reliability was evaluated using Cronbach's alpha and composite reliability (CR) (see Table 3). Cronbach's alpha [introduced by Cronbach (1951) as a measure of internal consistency] ranged from 0.714 to 0.896 across constructs. All alpha values met or exceeded 0.70, the conventional threshold for acceptable

reliability (Cohen, 1988; Saunders, Lewis, & Thornhill, 2019). For instance, Attitudes towards Green Consumption had α = 0.896, Green Consumption Behavior α = 0.850, and Subjective Norms α = 0.714.

Composite reliability (CR) was also computed; CR is a more general indicator of scale reliability that accounts for factor loadings (Fornell & Larcker, 1981). CR values ≥ 0.70 denote good reliability. In the data, CR values ranged from 0.650 to 0.770. Notably, Green Consumption Intention had CR = 0.770, above the 0.70 benchmark. Some constructs were slightly below 0.70 (e.g. Attitudes towards Green Consumption CR = 0.650; Subjective Norms CR = 0.674), though all CRs exceeded 0.60 (Field, 2022), CR above 0.60 can still be considered adequate if AVE criteria are roughly met. Overall, the reliability analysis indicates that all scales have acceptable internal consistency.

Table 3
Measurement Properties of Constructs

Variables	Items	Loadings	Cronbach alpha	Composite reliability	Average Variance Extracted (AVE)
Attitudes towards the Environment	ATE1	.410	.754	.749	.389
	ATE2	.542			
	ATE3	.593			
	ATE4	.713			
	ATE5	.470			
Attitudes towards the Green Consumption	ATG1	.742	.896	.650	.398
	ATG2	.707			
	ATG3	.382			
Attitudes towards Organic Cosmetics	ATO1	.704	.766	.701	.375
	ATO2	.673			
	ATO3	.570			
	ATO4	.478			
Subjective Norms of Green Consumption	SNG1	.543	.714	.674	.297
	SNG2	.543			
	SNG3	.606			
	SNG4	.406			
	SNG5	.603			
Green Consumption Intention	GCI1	.568	.742	.770	.366
	GCI2	.448			
	GCI3	.545			
	GCI4	.786			
	GCI5	.524			
	GCI6	.698			
Green Consumption Behaviour	GCB1	.620	.850	.675	.343
	GCB2	.620			
	GCB3	.540			
	GCB4	.560			

Note. Source: SPSS output from primary data.

Convergent Validity

Convergent validity was assessed via the Average Variance Extracted (AVE) for each construct (see Table 3). Field (2022) recommended AVE ≥ 0.50, meaning a construct explains at least half the variance of its indicators. In this study, all AVE values fell below 0.50 (ranging from 0.297 for Subjective Norms to 0.398 for

Attitudes towards the Green Consumption). For example, Attitudes towards the Environment had AVE = 0.389, Attitudes towards Green Consumption 0.398, Intention 0.366. These results suggest that less than 50% of indicator variance is captured by the latent construct in each case. By strict criteria, this indicates weak convergent validity. However, Fornell and Larcker (1981) noted that an AVE slightly below 0.50 may be acceptable if the composite reliability is sufficiently high. In the data, most CRs exceed 0.60, and some exceed 0.65. For instance, Green Consumption Intention had AVE = 0.366 with CR = 0.770, and Subjective Norms AVE = 0.297 with CR = 0.674. According to the rule of thumb, these CR values mitigate concerns about the lower AVEs (Field, 2022). Nevertheless, the consistently sub-0.50 AVE indicates that convergent validity is not fully achieved, and future scale refinement (e.g. dropping poorly loading items) might improve construct validity.

Regression and ANOVA Results

Table 4 summarizes the regression models tested. Model 1 regressed Green Consumption Intention (GCI) on four predictors: Attitudes towards the Environment (ATE), Attitudes towards Green Consumption (ATG), Attitudes towards Organic Cosmetics (ATO), and Subjective Norms (SNG). The model was statistically significant: $F(4,196) = 73.721$, $p < .001$. The coefficient of determination was $R^2 = 0.601$ (adjusted $R^2 = 0.593$), indicating that 60.1% of the variance in GCI is explained by these predictors. This is a substantial effect size in behavioural research (Chowdhury et al., 2024).

Table 4

Summary of Regression and ANOVA Results for Hypothesis Testing

Model	Dependent variable	Predictors	R^2	Adj. R^2	F	Sig. (p)
Model 1	Green Consumption Intention	Environment, Green Consumption, Organic Cosmetics, Subjective Norms	0.601	0.593	73.721	0.000
Model 2	Green Consumption Behavior	Intention	0.434	0.431	152.471	0.000

Note. Source: SPSS output from primary data.

Model 2 regressed Green Consumption Behavior (GCB) on GCI alone. This model was also significant [$F(1,199) = 152.471$, $p < .001$] with $R^2 = 0.434$ (adjusted $R^2 = 0.431$), so intention explains 43.4% of the variance in behavior. In summary, both regression models are highly significant, demonstrating that (a) attitudes and norms jointly explain a large portion of the variance in green consumption intention, and (b) intention robustly predicts actual green consumption behavior. These findings are in line with the Theory of Planned Behavior (TPB), which posits that attitudes and norms drive intentions and that intentions, in turn, drive behavior (Ajzen, 1991).

Regression—Model 1

Descriptive Statistics

	Mean	Std. Deviation	N
Intention	4.1476	.63883	201
Environment	4.1443	.69633	201
GreenConsumption	3.9270	.88455	201
OrganicCosmetics	3.9925	.70883	201
SNormsG	4.0736	.66374	201

Correlations

		Intention	Environment	GreenConsumption	OrganicCosmetics	SNormsG
Pearson Correlation	Intention	1.000	.602	.580	.546	.721
	Environment	.602	1.000	.551	.619	.568
	GreenConsumption	.580	.551	1.000	.488	.566
	OrganicCosmetics	.546	.619	.488	1.000	.526
	SNormsG	.721	.568	.566	.526	1.000
Sig. (1-tailed)	Intention	.	.000	.000	.000	.000
	Environment	.000	.	.000	.000	.000
	GreenConsumption	.000	.000	.	.000	.000
	OrganicCosmetics	.000	.000	.000	.	.000
	SNormsG	.000	.000	.000	.000	.
N	Intention	201	201	201	201	201
	Environment	201	201	201	201	201
	GreenConsumption	201	201	201	201	201
	OrganicCosmetics	201	201	201	201	201
	SNormsG	201	201	201	201	201

Model Summary[b]

					Change Statistics					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.775[a]	.601	.593	.40777	.601	73.721	4	196	.000	2.100

a. Predictors: (Constant), SNormsG, OrganicCosmetics, GreenConsumption, Environment

b. Dependent Variable: Intention

Coefficients[a]

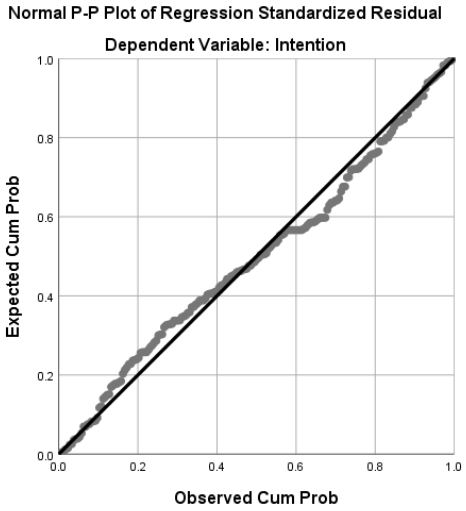
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	.771	.205		3.771	.000
	Environment	.164	.058	.178	2.804	.006
	GreenConsumption	.117	.042	.162	2.758	.006
	OrganicCosmetics	.098	.054	.108	1.798	.074
	SNormsG	.454	.058	.471	7.819	.000

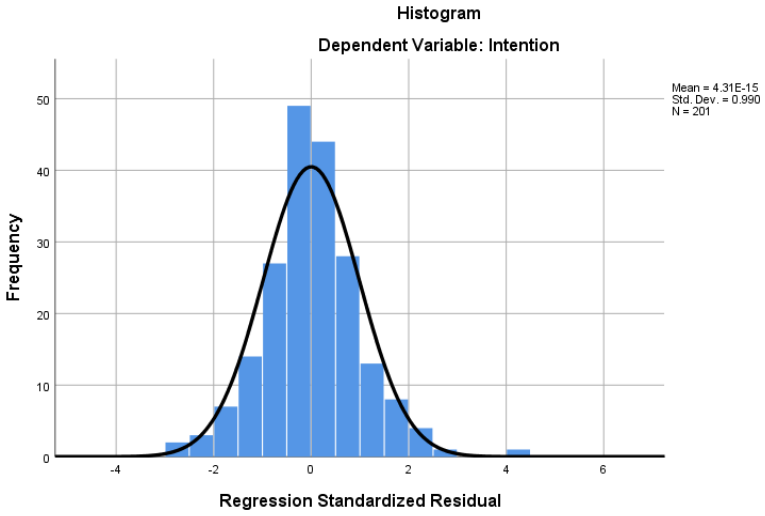
a. Dependent Variable: Intention

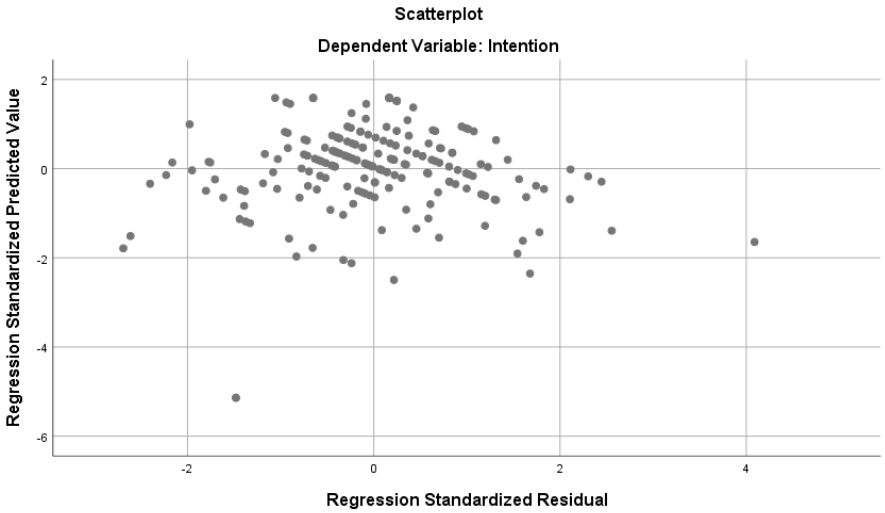
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.6034	4.9320	4.1476	.49513	201
Residual	-1.09662	1.66680	.00000	.40367	201
Std. Predicted Value	-5.138	1.584	.000	1.000	201
Std. Residual	-2.689	4.088	.000	.990	201

a. Dependent Variable: Intention


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Intention
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Histogram
Dependent Variable: Intention
Mean = 4.31E-15
Std. Dev. = 0.990
N = 201
Frequency
Regression Standardized Residual
0
10
20
30
40
50
-4
-2
0
2
4
6


Scatterplot
Dependent Variable: Intention
Regression Standardized Predicted Value
Regression Standardized Residual
2
0
-2
-4
-6
-2
0
2
4

Regression—Model 2

Correlations

		Behaviour	Intention
Pearson Correlation	Behaviour	1.000	.659
	Intention	.659	1.000
Sig. (1-tailed)	Behaviour	.	.000
	Intention	.000	.
N	Behaviour	201	201
	Intention	201	201

Descriptive Statistics

	Mean	Std. Deviation	N
Behaviour	4.0933	.65931	201
Intention	4.1476	.63883	201

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Intention[b]	.	Enter

a. Dependent Variable: Behaviour

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.659[a]	.434	.431	.49735	.434	152.471	1	199	.000	2.194

a. Predictors: (Constant), Intention

b. Dependent Variable: Behaviour

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	37.715	1	37.715	152.471	.000[b]
	Residual	49.224	199	.247		
	Total	86.938	200			

a. Dependent Variable: Behaviour

b. Predictors: (Constant), Intention

Coefficients[a]

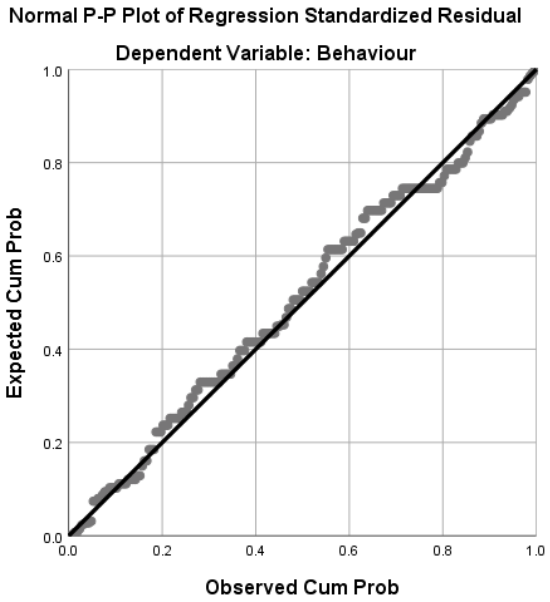
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.274	.231		5.515	.000
	Intention	.680	.055	.659	12.348	.000

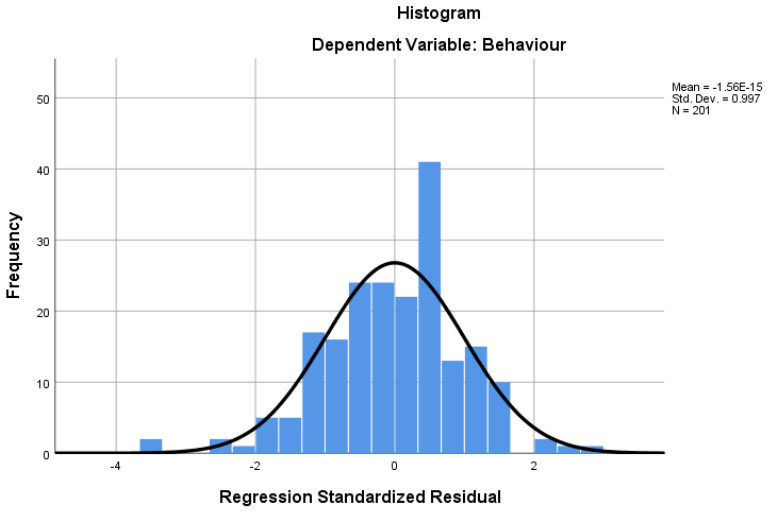
a. Dependent Variable: Behaviour

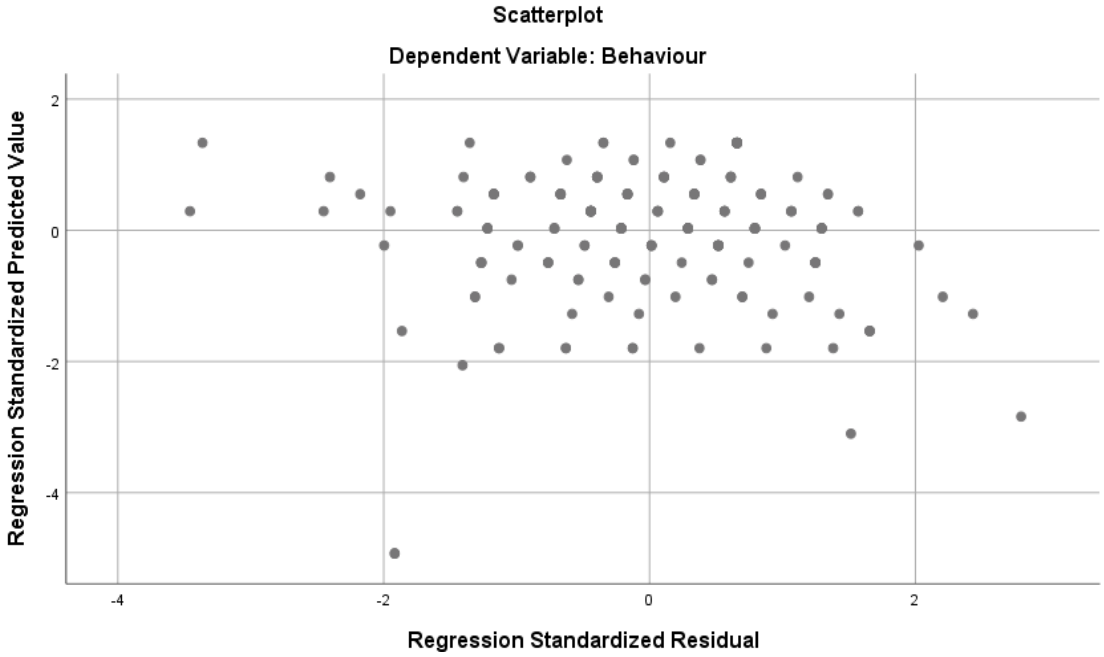
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.9537	4.6727	4.0933	.43425	201
Residual	-1.71954	1.38997	.00000	.49610	201
Std. Predicted Value	-4.927	1.334	.000	1.000	201
Std. Residual	-3.457	2.795	.000	.997	201

a. Dependent Variable: Behaviour







Structural Model Assessment for Hypothesis Testing

Table 4 presents the standardized path estimates for the hypothesized model. The results for each hypothesis are H1: Attitudes towards the Environment → Green Consumption Intention. The path coefficient was β = 0.178 (SE = 0.058), t = 2.804, p = .006. This positive effect is statistically significant (p < .01), supporting H1. H2: Attitudes towards Green Consumption → Green Consumption Intention. β = 0.162 (SE = 0.042), t = 2.758, p = .006. This effect is also significant (p < .01), supporting H2. H3: Attitudes towards Organic Cosmetics → Green Consumption Intention. β = 0.108 (SE = 0.054), t = 1.798, p = .074. This effect is not statistically significant (p > .05), so H3 is not supported. H4: Subjective Norms → Green Consumption Intention. β = 0.471 (SE = 0.058), t = 7.819, p < .001. This strong positive effect is highly significant, supporting H4. H5: Green Consumption Intention → Green Consumption Behavior. β = 0.659 (SE = 0.055), t = 12.340, p < .001. This effect is very significant, supporting H5.

Table 4

The Structural Estimates

Hypothesised path	Hypothesis	Beta coefficients	Standard error	T value	P value	Level of significance
ATE ➞ GCI	H1	0.178	0.058	2.804	.006	***
ATG ➞ GCI	H2	0.162	0.042	2.758	.006	***
ATO ➞ GCI	H3	0.108	0.054	1.798	.074	-
SNG ➞ GCI	H4	0.471	0.058	7.819	.000	***
GCI ➞ GCB	H5	0.659	0.055	12.340	.000	***

Notes. ** P < 0.05; *** P < 0.01. Source: SPSS output from primary data.

In sum, attitudes towards the environment and towards green consumption, as well as subjective norms, had significant positive effects on intention, whereas attitudes towards organic cosmetics did not. Intention in turn had a strong positive effect on behavior. These findings generally confirm the TPB framework: favourable attitudes (especially environmental and general green attitudes) and strong subjective norms increase a person's intention to act, and higher intention leads to increased actual behavior (Ajzen, 1991).

Hypothesis Testing Results

Table 5 summarizes hypothesis tests: H1, H2, H4, and H5 are accepted; only H3 is rejected. Attitudes towards the environment (H1) and attitudes towards green consumption (H2) both had significant positive effects on intention, supporting these hypotheses. Attitudes towards organic cosmetics (H3) did not have a significant effect (hypothesis is rejected). Subjective norms (H4) had a strong positive effect on intention. Intention predicted behavior (H5) with a large standardized coefficient ($\beta = 0.659$, $p < .001$). These outcomes largely support the TPB: attitudes and norms influence intention, which in turn drives behavior (Ajzen, 1991).

Table 5

Summary of Hypotheses Testing Findings

Hypotheses	Description	Comments
H1	Attitudes towards the environment have a positive effect on green consumption intention.	Accepted
H2	Attitudes towards green consumption have a positive effect on green consumption intention.	Accepted
H3	Attitudes towards organic cosmetics have a positive effect on green consumption intention.	Rejected
H4	Subjective norms of green consumption have a positive effect on green consumption intention.	Accepted
H5	Green consumption intention has a positive effect on green consumption behavior.	Accepted

Note. Source: SPSS output from primary data.

Recommendations & Future Research Direction

Marketers should emphasize collective environmental responsibility and leverage peer influence in campaigns. Positioning organic cosmetics as lifestyle enablers rather than mere personal care products can help tap into consumers' green values. Collaboration with influencers, eco-conscious celebrities, and social media communities can also amplify subjective norms. Future studies should employ longitudinal or experimental designs to assess the stability and causality of green behaviours over time. Exploring the role of perceived behavioural control—a core TPB component omitted here—may offer further insights. Researchers should also examine the impact of trust in labelling, eco-brand credibility, and perceived product efficacy. Comparative studies across different green product categories or cultural regions in Bangladesh would also be valuable.

Conclusions

This study examined how multidimensional attitudes and subjective norms influence green consumption intention and behavior in Bangladesh's organic cosmetics market. The results supported the Theory of Planned Behavior, with environmental attitudes, green lifestyle values, and subjective norms predicting intention, which in turn influenced behavior. However, product-specific attitudes were not significant predictors, highlighting the need for stronger certification and consumer trust. Overall, the findings offer theoretical contributions and actionable guidance for marketers, policymakers, and educators aiming to promote sustainable consumption in Bangladesh.

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