

Customers' Purchase Intention of Green Cosmetics in India : Empirical Validations Using an Extended Theory of Planned Behavior (TPB)

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Abstract

Purpose : The motive behind the present research was to examine the variables that influence consumers' intentions to purchase green cosmetics. Additionally, this research aimed to visualize the significance of green cosmetics in the thoughts of contemporary customers and examine current developments in the cosmetics sector.

Design/Methodology/Approach : The proposed research framework was based on the theory of planned behavior, which is extended by introducing "Environmental Concern" and "Environmental Knowledge" as the predictors of attitude toward the purchase intentions of green cosmetics. The empirical validations were achieved through multiple linear regression. A total of 286 responses were instrumented for the study.

Findings : The findings of the study demonstrated that consumers' intentions to purchase green cosmetics are highly influenced by their attitudes about green cosmetics, perceived behavioral control, trust in green cosmetics, and social influence. Nevertheless, even when both variables had a considerable impact on customers' attitudes toward green cosmetics, environmental concern and environmental knowledge did not significantly affect consumers' intentions to purchase green cosmetics.

Originality/Value : The study enriched the existing literature related to consumer purchase behavior of green cosmetics by picturing a holistic view of the existing academic literature available and also provided a scale for the purchase intention in the Indian context.

Limitations : Though 286 responses were collected for the study, more responses could have altered the results. The sample size is the study's limitation.

Keywords : green cosmetics, sustainable consumption, sustainable development goals, green consumption, green consumer purchase intentions, theory of planned behavior, green-buying, nature-friendly cosmetics, organic cosmetics

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Consumer shopping patterns greatly impact the environment; when natural resources are depleted, humanity must move toward green items because these purchases will help both the environment and people in the long run (Bhattacharya, 2012; White et al., 2019). The topic of "Responsible Consumption and Production," the 12th Sustainable Development Goal of the United Nations, is exclusive. Natural resources are the foundation of the global economy, and excessive greed for growth has led to the development of many

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companies that are hazardous to natural resources (Panda et al., 2020). The main contributors to global pollution include energy, agriculture, fashion, retail food, transportation, building, technology, and forestry. Retailers have put pressure on manufacturers and middlemen to switch to green products and marketing because they are worried about the gases emitted during the creation of different products (Bhatti & Negi, 2018).

The beauty and wellness sector has changed these days and has moved back to its roots in terms of ingredients, and a lot of cosmetics companies are encouraging green production. Green cosmetics help save the environment by preventing people from overusing hazardous chemicals. According to Lin and Niu (2018), “green cosmetics” is a multi-dimensional concept that promotes animal welfare and the preservation of species by optimally utilizing and not wasting natural resources without compromising the environment. According to Statista Research Department (2023), the market value of “natural cosmetics and personal care” goods will increase from almost 35 billion dollars in 2018 to over 55 billion dollars in 2027. The two main reasons why consumers have shifted toward green cosmetics are that they now understand the importance of living a sustainable lifestyle and that they want their cosmetics to be healthier (Indriani et al., 2019). The beauty business has modified its manufacturing strategy by gradually switching from chemicals to natural resources (Adestia, 2022). Many researchers over the past have focused on studying the factors and roadblocks of green purchases by extending the theory of planned behavior (TPB) (Kumari et al., 2022; Laheri, 2020; Premi et al., 2021; Zaman et al., 2024). It is evident through the research on eco-friendly cosmetics that customers have changed the way they purchase their cosmetics (Singhal & Malik, 2021).

The success of green cosmetics and the obstacles to their use should be thoroughly examined in light of sustainable consumption patterns and contemporary consumer values. The current effort closes a knowledge gap in Asian settings that exists at the moment. The TPB in this study is expanded to include two variables that influence customers' perceptions of ecologically friendly cosmetics. Empirical validations give the researchers access to a paradigm that they otherwise would not have in the field of green cosmetics.

Hence, this study attempts to study the following research questions:

- 🔗 **RQ1 :** What are the enablers and roadblocks of green cosmetics in the market?
- 🔗 **RQ2 :** What are the underlying factors that contribute to the consumers' attitudes toward the consumption of green cosmetics?
- 🔗 **RQ3 :** What would be the impact if TPB is extended through the inclusion of these new factors in the context of studying the purchase intention of consumers toward green cosmetics?

The study addresses the aforementioned research questions in an effort to provide a theoretical foundation for future researchers and suggests a possible course of action for managers to guarantee the economic success of eco-friendly cosmetics.

Literature Review

Consumers have acquired a sense of belonging to the environment and are willing to adapt and support companies that care about society (Park et al., 2023). The purchasing behavior of consumers is highly influenced by the easier availability of products and detailed information about the products (Adrita, 2020), although customers want to purchase sustainable goods, it is possible that their final decisions do not always align with their desires. Green trust, social norms, and environmental concerns are found to be critical factors in determining customers' intent to make sustainable purchase decisions (Rashid & Lone, 2023). Demographic variables of the population are also correlated highly with green purchase choices (Ghose & Chandra, 2018). Similarly, trust and happiness of customers (Lee et al., 2023) are also responsible for the final consumer purchase decision in addition to the

re-purchase decisions made by consumers related to green purchases (Pasricha & Jain, 2019). Conditional, functional, and epistemic values all have a favorable effect on how attitudes are formed, while social values show little effect (Sharma et al., 2023). The most significant factors that could influence consumers' decision to buy are their perceptions of the predicted utility and benefits of the product, their experiences using it, and their feelings about the parent company (Amin & Tarun, 2021).

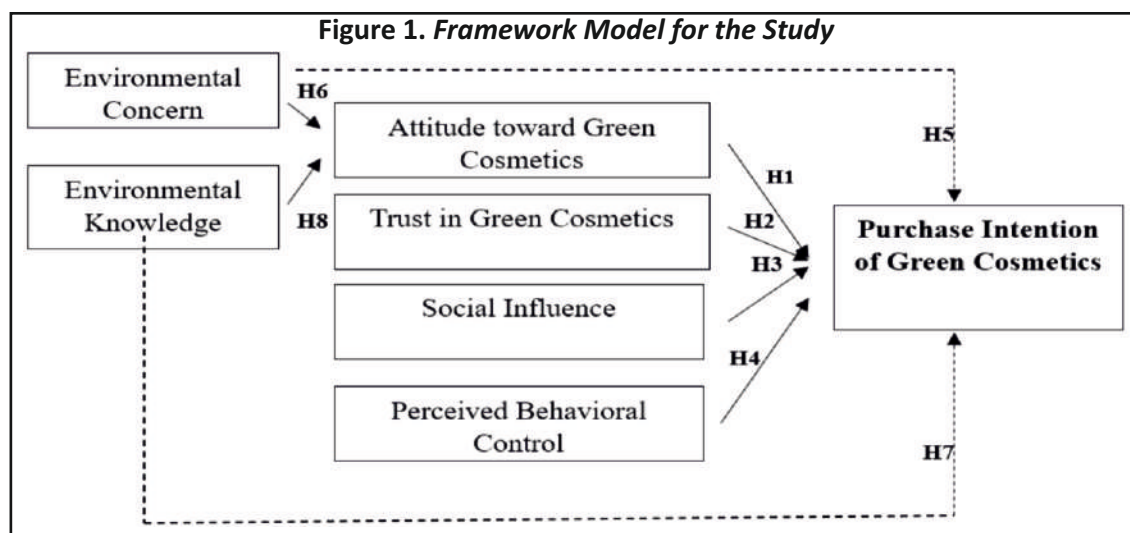
As found from the previously mentioned literature evaluation, consumers' attitudes toward green products influence their intentions to purchase them, which is why the researchers have chosen to focus on attitude as well. Additionally, they found that the two factors that most influence green consumers' purchase intentions are social influence and product trust. The model was extended to incorporate environmental concerns and information in order to forecast the evolution of attitudes regarding eco-friendly cosmetics.

Theoretical Framework - “Theory of Planned Behavior”

This study's foundation is the TPB, a psychological theory that explains how consumer behavior and beliefs are related. Ajzen (1991) identified three key dimensions as the main determinants of consumer purchasing intention: “attitude, subjective norms, and perceived behavioral control.” TPB also advocates that the intentions of consumers related to purchases are not always translated to the actual behavior of the consumers. Many studies in the past have validated the TPB as a valid theoretical model framework to predict the behavior of consumers toward green products in the Asian market, such as household solar products (Kansal et al., 2017; Kumar et al., 2019; Srivastava & Mahendar, 2018), skincare products (Hsu et al., 2017), and general green products. For the present study, we have proposed the model framework to predict the purchase intentions of consumers of green cosmetics, and this is in tune with the recent research work by Mathur et al. (2024), which condensed TPB with KAM theory to predict the behavior of cosmetics consumers.

Model of Analysis and Hypotheses Development

The model has been completed in accordance with the TPB theoretical framework, as shown in Figure 1. Ajzen (1991) asserted that it is simple to modify or expand the TPB model. Contextual constructs were added to the model in numerous research, which increased its ability to describe a person's behavioral goal (Almrafee & Akaileh, 2024; Armutcu et al., 2024; Duong et al., 2022; Yadav et al., 2022). The researchers included



“environmental concerns” and “environmental knowledge” as the other factors in the framework of TPB, as both factors are considered frequently to help explain environment-friendly behaviors (Santos et al., 2021). Based on the previously provided support from the literature, we have declared that the aforementioned theory is enough to construct and explain consumers' buying intentions for green cosmetics. The study's framework can be seen in Figure 1.

Consumers' Attitude Toward Green Cosmetics

The consumer's attitude predicts the intentions of consumers for buying any product or service, and hence, evaluation of behavior is generally carried out by gauging the attitude of consumers. A more optimistic outlook would suggest a greater inclination for consumers to make a purchase, according to Ajzen (1991). A significant impact of green attitude on the green purchase intention of customers has been found (Ahammad et al., 2023). Attitude has been established as the major predictor for studying the purchase behavior of consumers (Armutcu et al., 2024). Chaudhary and Bisai (2018) found that the millennials' attitudes have a substantial impact on their purchasing intentions after studying the green purchase behavior of millennials in India.

Keeping the literature in view, we have framed the first hypothesis as follows:

↪ **H1** : Attitude toward green cosmetics has a significant impact on purchase intention.

Trust in Green Cosmetics

Trust has been ascertained to be an antecedent of attitudes toward purchasing behavior when the TPB was employed as the theoretical framework (Ricci et al., 2018). It has been validated that trust in green products plays a critical role in the formation of purchasing intentions for green products. In the past, numerous research has included trust as the extended construct in the TPB (Hasan et al., 2022; Hossain et al., 2022; Latip et al., 2021). In light of the literature, we have formulated the second hypothesis for this investigation as follows:

↪ **H2** : Trust in green cosmetics has a significant impact on purchase intentions.

Social Influence

Previous studies have validated the impact of social groupings, cultural factors, and social norms on people's intentions to make green purchases. Consumers adhere to societal norms to gain acceptability in their communities and to prevent losses due to poor choices. A significant factor in selecting eco-friendly or high-quality goods is gaining status, and there have been numerous research works that have validated the importance of social influence as one of the most prominent factors leading to green consumer purchase intentions (Almrafee & Akaileh, 2024; Gungaphul & Heeroo, 2022; Kumar & Mohan, 2021; Qi & Ploeger, 2021; Wang et al., 2021). Hence, the third hypothesis of the study is as follows:

↪ **H3** : Social influence significantly impacts the purchase intentions of green cosmetics.

Perceived Behavioral Control

Perceived behavioral control (PBC) is defined as a person's perception of how challenging it is to carry out a certain behavior (Ajzen, 1991). This component was included in the model to take into consideration circumstances in which people lack total intentional control over their behavior (Ajzen, 1991). PBC was determined to be the most important predictor of green product purchase intention by Yadav et al. (2022).

Additional studies have confirmed the validity of using PBC to assess purchase intentions (Kumar & Mohan, 2021; Qi & Ploeger, 2021). To ascertain the validity of the inclusion of PBC in the framework, the fourth hypothesis of the study is as follows:

✦ **H4**: PBC has a significant impact on purchase intentions of green cosmetics.

Environmental Concern

The degree of an individual's emotional involvement in environmental issues is indicative of their level of environmental care. Studies have predicted customer intentions to purchase eco-friendly products (Jaiswal & Kant, 2018; Jaiswal & Singh, 2018) using environmental concerns. Recent research found a favorable correlation between environmental concerns and the purchasing behavior of electric vehicles in Turkey (Yeğin & Ikram, 2022). The attitude toward green products perceived behavioral control, and green purchasing intention were all found to be significantly impacted by environmental concerns in a study done by Duong et al. (2022). Hence, this knowledge advances the study to have the following hypotheses:

✦ **H5**: Environmental concerns significantly impact the purchase intentions of green cosmetics.

✦ **H6**: Environmental concern significantly impacts the attitude toward green cosmetics.

Environmental Knowledge

Environmental knowledge is the capacity to comprehend and assess how an ecosystem affects society and the depth of one's understanding of environmental concerns (Aini et al., 2007). Customer attitudes toward green products and their purchase behaviors were studied in empirical studies (Jaiswal & Kant, 2018) to determine the effect of environmental awareness. This study uses environmental information as the extended element for the model because the literature suggests that it has a significant impact on buying behavior in real time. Previous researchers have also proposed a similar extension (Santos et al., 2021). Hence, the two hypotheses of this study related to this factor are as follows:

✦ **H7**: Environmental knowledge significantly impacts the purchase intentions of green cosmetics.

✦ **H8**: Environmental knowledge significantly impacts the attitude toward green cosmetics.

Research Methods and Methodology

The present research study is quantitative and focuses greatly on providing reliability and objectivity through the use of a quantitative method for research (Saunders et al., 2020). For this study, we have only used quantitative methodologies because there have not been many empirical studies done on green cosmetics in the Indian context. The study was completed using an exploratory research design in order to locate the literature that already existed for the constructs and a conclusive design in which the hypotheses were experimentally validated. The research was completed in 2021–2022.

Collection of Data and the Sampling Design

A structured survey questionnaire was instrumented through Google Forms for this study. The judgment sampling method was employed at the beginning of the research, and those respondents were contacted, who were known to the researchers as green cosmetic buyers. The approach of snowball sampling was then applied to get additional

responses. There were 25 items in all, and six questions were asked to get the respondents' demographic data. According to Hair Jr. et al. (2014), every variable in the study needs to have at least five observations. A total of 286 responses were instrumented for this investigation following the first screening of the 294 responses that were gathered and the trimming or removal of the outliers.

Measurement Instrument (Scale Items)

The constructs were taken after the literature review, as defined under the TPB, and the scale adapted for measuring these constructs was also taken through the literature. The responses were measured on the 5-point Likert scale.

Data Analysis

The software used to analyze the data was IBM SPSS Statistics version 22. A detailed description of the demographic information is shared in Table 1.

Table 1. The Demographic Description of the Population

		Frequency	Percentage
Gender	Male	152	53.1
	Female	128	44.8
	Prefer not to say	6	2.1
Profession	Student	47	16.4
	Not Working Presently	21	7.3
	Working in Private Sector	193	67.7
	Working in Government Sector	4	1.4
Age Group	Working in Own/Family Business	21	7.3
	Under 20	6	4.7
	20–29	157	51.9
	30–39	81	27.5
	40–49	31	12.4
	50–59	10	3.7
	60 and Above	1	0.3
Highest Qualification	12th Pass	8	2.8
	Diploma	1	0.3
	Graduate	131	45.8
	Postgraduate	102	35.7
	Professional Education	20	7
	Doctorate	23	8
	Others	1	0.3
Monthly Personal Income	Not Earning Presently	57	19.9
	Below 25,000	21	7.3
	25,001–50,000	60	21
	50,001–75,000	50	17.5

Monthly Family Income	75,001–1,00,000	47	16.4
	100,001 and Above	51	17.8
	Below 50,000	37	12.9
	50,001–100,000	75	26.2
	100,001–150,000	42	14.7
	150,001–200,000	41	14.3
	200,001–250,000	59	20.6
	250,001 and Above	32	11.2

Analysis and Results

Scale Validation

Exploratory factor analysis using principal component analysis should be performed to ascertain whether all variables are unidimensional and to extract a set of underlying components (Sarstedt & Mooi, 2014). Before continuing with the analysis, it is necessary to assess both the Bartlett test of sphericity and the Kaiser–Meyer–Olkin (KMO) measure of sample adequacy. The KMO measure of sampling adequacy should have a value between 0.7 and 0.9, and the Bartlett test of sphericity must be less than 0.05 (Kaiser, 1974). In this research study, both values were found to be in the acceptable range. The values of the same have been reported in Table 2.

The scale reliability of the scale was ensured by estimating the value of Cronbach's alpha (α). As per Hair Jr. et al. (2014), the acceptable value of Cronbach's alpha should be more than 0.70. Table 3 demonstrates the values of the scale items, all the values are falling in the acceptable norm.

Table 2. Scale Validation : KMO and Bartlett's Test Results

Construct	Scale Items	KMO	Bartlett's Test	Percentage Variance
Environmental Concern	EC1, EC2, EC3, EC4	0.733	0.000	53.456
Environmental Knowledge	EK1, EK2, EK3	0.732	0.000	63.032
Attitude toward Green Cosmetics	ATT1, ATT2, ATT3, ATT4	0.798	0.000	70.555
Trust in Green Cosmetics	GT1, GT2, GT3	0.781	0.000	68.281
Social Influence	SI1, SI2, SI3, SI4	0.806	0.000	82.109
Perceived Behavioral Control	PBC1, PBC2, PBC3, PBC4	0.729	0.000	60.916
Purchase Intentions	PI1, PI2, PI3	0.74	0.000	74.531

Table 3. Factor Loadings and Cronbach's Alpha (α) Values for the Constructs

Construct	Number of Items	Scale Items	Factor Loading	Cronbach's Alpha (α)	Adopted Through Literature
Environmental Concern	4	Humans must live in harmony with nature to survive.	0.605	0.693	Singhal & Malik (2021)
		Mankind is severely abusing the environment.	0.784		
		If nature is interfered with by humans, it often produces disastrous consequences.	0.796		

		I am extremely worried about the state of the world's environment and what it will mean for my future.	0.723		
Environmental Knowledge	3	I know the expansion of the cosmetics industry is causing environmental issues.	0.691	0.706	Uddin et al. (2023)
		I am updated with the knowledge about green cosmetics.	0.847		
		I understand the symbols used on packages of green cosmetics.	0.834		
Attitude Toward Green Cosmetics	4	I am familiar with green cosmetics.	0.717	0.852	Chaudhary & Bisai (2018)
		I like the idea of purchasing green cosmetics.	0.875		
		Buying green cosmetics is pleasant for me.	0.9		Qi & Ploeger (2021)
		Purchasing green cosmetics is favorable to me.	0.855		Hasan et al. (2022)
Trust in Green Cosmetics	3	I feel that the environmental reputation of green cosmetics is generally reliable.	0.842	0.766	Tarabieh (2021)
		I feel that the environmental performance of green cosmetics is generally dependable.	0.778		
		I feel that the environmental claims of green cosmetics are generally trustworthy.	0.857		
Social Influence	4	My friends often recommend green cosmetics to me.	0.875	0.927	Varshneya et al. (2017)
		My friends often go shopping for green cosmetics with me.	0.909		
		My friends often share their knowledge of green cosmetics with me.	0.937		
		My friends often share their experiences with green cosmetics with me.	0.902		
Perceived Behavioral Control	4	I have the resources to buy green cosmetics.	0.831	0.786	Wang et al. (2021),
		I have the opportunity to buy green cosmetics.	0.801		Kumari et al. (2022)
		I am confident that if I want to, I can buy green cosmetics in place of conventional non-green cosmetics.	0.794		
		Whether or not I buy green cosmetics at the place of conventional non-green cosmetics is completely up to me.	0.689		
Purchase Intention of Green Cosmetics	3	I am willing to purchase green cosmetics in the future.	0.896	0.823	Sun & Wang (2020)
		From now on, I plan to purchase green cosmetics only instead of non-green cosmetics.	0.896		
		The probability that I would buy green cosmetics instead of non-green cosmetics is higher.	0.794		Ajzen (1991)

Consumers' Intention to Purchase Green Cosmetics

The first multi-regression model (MLR1) denotes the relationship between purchase intentions for green cosmetics as the dependent variable, while environmental concern, environmental knowledge, attitude toward green cosmetics, perceived behavioral control, trust in green cosmetics, and social influence are the independent variables. The computed *R*-value denotes the correlation between the dependent and independent variables, which is calculated to be found as 0.745 (within the permissible criteria). The value of the *R*-square depicting the total variation for the dependent variable that the independent variables could explain is found to be 0.556, which is good, too. In this case, the value of the adjusted *R*-square is 0.546, which is not very far from 0.556, so it is again

Table 4. MLR1 Model Summary

Model Summary										
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	0.745 ^a	0.556	0.546	0.44039	0.556	57.704	6	277	0.000	2.060

Note. ^a Predictors: (Constant), *EK*, *EC*, *SI*, *PBC*, *GT*, and *ATT*.

^b Dependent variable: *PI*.

Table 5. ANOVA Table for MLR1

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	67.148	6	11.191	57.704	0.000 ^b
	Residual	53.723	277	0.194		
	Total	120.871	283			

Note. ^a Dependent Variable: *PI*.

^b Predictors: (Constant), *EK*, *EC*, *SI*, *PBC*, *GT*, and *ATT*.

positive and acceptable. The Durbin–Watson statistic is a test for autocorrelation in the residuals from a statistical model or regression analysis. The computed value of the test statistic is 2.060, which negates the possibility of first-order autocorrelation. The summary of the results achieved is given in Table 4.

The validity of the model used to determine the outcome is reported in the following table, which is the ANOVA table. The ANOVA table for MLR1 is provided in Table 5, where the significant *p*-value is 0.000. In the ANOVA table, the *F*-ratio represents an improvement in the prediction of the variable by fitting the model after considering the inaccuracy present in the model. In Table 4, the value is 57.704, which is more than 1, and hence, it provides the suitability of the model.

The coefficients in Table 6 are listed in MLR1. However, environmental concern and environmental

Table 6. Coefficients for MLR1^a

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.622	0.222		2.800	0.005
	<i>ATT</i>	0.217	0.063	0.223	3.438	0.000
	<i>PBC</i>	0.279	0.061	0.271	4.569	0.000
	<i>GT</i>	0.154	0.064	0.147	2.407	0.000
	<i>SI</i>	0.154	0.035	0.230	4.376	0.000
	<i>EC</i>	0.082	0.050	0.074	1.636	0.103
	<i>EK</i>	−0.017	0.048	−0.019	−0.354	0.724

Note. ^a Dependent variable: *PI*.

^b Predictors: (Constant), *EK*, *EC*, *SI*, *PBC*, *GT*, and *ATT*.

knowledge are not found to have a positive influence as the p -value (significance) is found to be greater than 0.05 ; so, hypotheses H5 and H7 cannot be accepted. Based on this model fit, it is concluded that attitude toward green cosmetics, perceived behavioral control, trust in green cosmetics, and social influence are all significantly related to the purchase intentions of the consumers of green cosmetics.

Consumers' Attitude to Purchase Green Cosmetics

The second multi-regression model (MLR2) denotes the relationship between the attitude toward green cosmetics as the dependent variable, while the independent variables here are environmental concern and environmental knowledge. The computed R -value is 0.649, where the value of R square is found to be 0.521. The adjusted R -square value is 0.517. Therefore, the model summary table is satisfactory to proceed with the next step. The computed value of the Durbin–Watson test statistic is 2.000, which negates the possibility of first-order autocorrelation. The summary of the results achieved is given in Table 7.

Table 8 displays the ANOVA table, which is the subsequent table. The p -value is calculated to be 0.000 in this table. Therefore, the result is significant. In Table 8, the value of the F -ratio is 102.831, which is more than 1 and hence, is acceptable.

Table 9, or the table for coefficients, is the last table for MLR2. According to this model fit, customers' attitudes toward green cosmetics are strongly correlated with environmental concern and environmental knowledge, supporting hypotheses H6 and H8.

Table 10 summarizes the data and gives an understanding of the numerous hypotheses based on the analysis that was previously stated and discussed.

Table 7. MLR2 Model Summary

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				Durbin–Watson
					R Square Change	F Change	$df1$	$df2$	
1	0.649 ^a	0.521	0.517	0.51488	0.526	102.831	2	283	0.000

Note. ^a Dependent Variable: *ATT*.

^b Predictors: (Constant), *EK*, *EC*.

Table 8. ANOVA Table for MLR2

ANOVA ^a						
	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	54.522	2	27.261	102.831	0.000 ^b
	Residual	75.025	283	0.265		
	Total	129.547	285			

Note. ^a Dependent Variable: *ATT*.

^b Predictors: (Constant), *EK*, *EC*.

Table 9. Table of Coefficients for MLR2

		Coefficients ^a			T	Sig.
Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta		
1	(Constant)	1.272	0.238		5.343	0.000
	EC	0.168	0.055	0.146	3.031	0.000
	EK	0.534	0.044	0.585	12.185	0.000

Note. ^a. Dependent Variable: ATT.

^b. Predictors: (Constant), EK, EC.

Table 10. Summary of the Results of the Hypotheses Test

Hypotheses	Beta	p-value	Hypotheses Supported
H1: ATT → PI	0.223	0.000	Yes
H2: PBC → PI	0.271	0.000	Yes
H3: GT → PI	0.147	0.000	Yes
H4: SI → PI	0.23	0.000	Yes
H5: EC → PI	0.074	0.103	No
H6: EC → ATT	0.146	0.000	Yes
H7: EK → PI	0.019	0.724	No
H8: EK → ATT	0.585	0.000	Yes

Discussion

The empirical validation computed through this research adds to the existing body of research that TPB is appropriate and sufficient for examining the customers' purchase intentions for green cosmetics. This study supports the notion that attitude is a key determinant of consumers' intentions to buy green cosmetics. This outcome is in tune with the validity of the framework of green cosmetics and is consistent with the traditional attitude-behavior link of the TPB model (Ajzen, 1991). Additionally, this result is consistent with earlier studies that showed that consumer attitudes had a favorable, substantial, and relatively powerful impact on the intention to purchase organic and environmentally friendly products (Ghazali et al., 2017). The validations of this study are also in sync with the conclusion that consumers' attitudes toward green cosmetics are positively impacted by their awareness of the environment (Yue et al., 2020). PBC is seen as a component of the TPB since it influences conduct both directly and indirectly through intentions. The idea that PBC has motivational impacts on behavioral intentions is the foundation of the indirect effect of PBC. The findings of this study are in sync with the conclusion of a research study done by Qi and Ploeger (2021), which presented that attitude and PBC have the most significant impact on purchase behavior. The present research also echoes similar results as interpreted by Tan et al. (2023), where the research validates that Generation Z consumers' purchase behavior for recyclable products is highly influenced by all of the TPB's structural but subjective norms.

However, the research discovered that neither environmental awareness nor concern had a substantial influence on consumers' intentions to buy green cosmetics. Both, however, affected people's attitudes toward green cosmetics, highlighting the role of consumer attitudes as catalysts and predictors for personal intentions.

The two hypotheses in this respect were disproven, which is consistent with a recent study (Santos et al., 2021). A more common conclusion in earlier studies was also indicative of similar findings that perceived environmental knowledge did not affect green consumer purchase behavior (Jaiswal & Kant, 2018).

Implications

Theoretical Implications

This study provides a theoretical framework to study consumer purchase intentions of green cosmetics by extending the TPB theory. TPB has received extensive adoption by numerous researchers over the decades, primarily to explain why people or individuals want to adopt, buy, or use environmentally friendly products even though such products are sold at a higher price compared to their non-green counterparts. This study provides a framework for the predictors, factors, and antecedents of green cosmetics and the extension of TPB through the inclusion of two other factors, environmental change and environmental knowledge; neither of these two, however, is concluded to have a substantial influence on consumers' intentions to buy green cosmetics. Both, however, affected people's attitudes toward green cosmetics, highlighting the role of consumer attitudes as catalysts and predictors for personal intentions. The application of regression validates the theoretical framework empirically.

Managerial Implications

The current study offers various recommendations for marketing managers. First, this research validates that behavioral control, social influence, attitude toward green cosmetics, and trust in green cosmetics — all favorably influence the desire to purchase green cosmetics. As a result, marketers may employ marketing communication through a variety of platforms, such as social media, electronic media, print media, or the internet, to disseminate product information and messaging and further influence customers' attitudes towards green cosmetics. To disseminate knowledge about green cosmetics and its advantages through customer testimonials, it is crucial to encourage good word-of-mouth or viral marketing campaigns among customers. This would increase the number of customers who use cosmetics but are not as knowledgeable about the advantages of green cosmetics to buy them, thus increasing the sales of green cosmetics.

Additionally, perceived behavior control provides a significant contribution to explaining the desire to purchase green cosmetics; hence, marketers must ensure the timely availability of green cosmetics in the market to promote the sales of these green cosmetics. Marketers need to make sure that their items are accessible both online and offline because consumers are more likely to purchase products online these days than they are to do so offline for a variety of reasons, including availability and convenience. According to this survey, the chemicals in green cosmetics are driving consumer preference for them. Hence, marketing practitioners and manufacturers should focus on the quality of ingredients used and provide the audience with a wholesome message conveying the efforts and motivations behind these products. This would increase the confidence of consumers about these products, and repurchase of these items would also increase.

Conclusion

Statista Research Department (2023) stated that the global market value for green cosmetics is anticipated to grow positively, estimated at around 54.5 billion dollars for the year 2027. Worldwide, people are shifting toward the consumption of green cosmetics. This article discovers pertinent information on consumer intentions to buy green

cosmetics, in particular, by examining the attitudes toward these green cosmetics. There are several studies examining responsible consumerism; however, there is a shortage of empirical studies. This article confirms the significant impact of the most important constructs of the TPB, which are attitude toward green cosmetics, trust in green cosmetics, perceived behavioral control, and social influence on the purchase intentions of the consumers of green cosmetics through the empirical validation of 286 Indian consumers. However, this article could not provide evidence to ascertain the significant impact of the extended constructs over purchase intentions, although the empirical pieces of evidence suggest a significant impact of these additional constructs on the attitude of these consumers toward green cosmetics. Such findings are also in sync with the findings of Santos et al. (2021), where they had similar kind of findings while investigating consumer purchase intentions for organic food in sustainable packaging in Portugal.

By validation of the theory, this research implies managerial implications for the practitioners and the manufacturers of green cosmetics; one such important recommendation has evolved by the empirical validation of the significant impact of PBC over the purchase intentions of the consumers of green cosmetics. This study advocates that the message behind the manufacturing and the marketing of green cosmetics should be disseminated to the prospects in a manner that the consumers are convinced to buy these products; additionally, this study also validates that social influence also significantly impacts the purchase intentions of the consumers, and hence, the marketers are advised to engage their consumers in the feedback, referrals, and testimonials. The opinions of people would significantly impact the choices made by their friends and known people. Companies will undoubtedly need to create clear communication plans that are intended to educate customers about how using green cosmetics can benefit the environment overall and further the sustainable development goals. This is perhaps even more crucial than simply informing consumers about the benefits of using green cosmetics.

Limitations of the Study and the Way Forward

Despite efforts by us to ensure the accuracy and precision of this study, there are still certain issues that could be resolved with more research. The first is the selection of a limited sample; for holistic results, the sample size could have been increased. People with different cultural and social backgrounds may potentially have exceptional effects on the variables, and hence, efforts should be made to choose different countries and ethnicities for a holistic picture. There can be many more factors that could have been included in the theoretical framework, like premium pricing, personal norms, the impact of demographics, etc. These additions would have been more beneficial as well. Since the majority of this research study's attention was on the empirical validations of a small number of components, other constructs may be added by future researchers to further develop the theory. Additional research might be done on the effect of demography. In the future, researchers might also attempt to include a wider range of cultures and races in their sample to offer a more comprehensive validation of the occurrence.

Authors' Contribution

Abhilasha Singh Upadhyaya conceived the idea and expressed her interest in studying the factors contributing to the purchase of green cosmetics. Dr. Charu Sijoria then gave the idea of completing the research by extending the TPB by adding two more factors. Abhilasha Singh Upadhyaya then retrieved related literature and reviewed the papers with utmost diligence. The final draft was edited and corrected by Dr. Charu Sijoria.

Conflict of Interest

The authors certify that they have no affiliations with or involvement in any organization or entity with any financial interest or non-financial interest in the subject matter or materials discussed in this manuscript.

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