



Green Washing and Consumer Purchase Intentions: Navigating The Impact of Sustainability Claims in Personal Care Products

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To Cite this Article

Neha Goyal & Sonhal Mehta (2025). Green Washing and Consumer Purchase Intentions: Navigating the Impact of Sustainability Claims in Personal Care Products. *Indian Journal of Social Economics*, 1: 2, pp. 85-100.

Abstract: The modern business environment has witnessed an increase in misleading marketing practices such as green washing, where organizations inaccurately represent their products as eco-friendly, causing significant worries regarding consumer confidence and corporate responsibility. Practices that mislead consumers frequently involve presenting exaggerated or false claims regarding sustainability. This study examines the perception of green washing and its role in influencing buying intentions of young consumers in Chandigarh. The study checks the impact of key elements like environmental awareness, knowledge about green products, and sustainable initiatives taken by consumers on their buying practices. The study employs a questionnaire survey distributed to 106 respondents to gather primary data to analyse the extent to which green washing practices influence consumer awareness and their impact on purchasing behavior specifically in case of personal care products. The study employs regression analysis to check the relationship between perceived green washing and consumer purchase intentions. The study also examines the implications of misleading environmental marketing and delivering essential knowledge for businesses, policymakers, and consumers. It enhances the understanding of how transparency and authentic sustainability initiatives influence consumer decision-making regarding green washing in a market that is becoming more eco-aware.

Keywords: green washing, green purchase intention, consumer scepticism, green scepticism, personal care products

Introduction

Green washing and Consumer Behavior

Green washing tactics by companies involves making false or misleading environmental claims to seem more sustainable than they are. Many companies employ deceptive marketing and eco-certifications to attract environmentally conscious consumers, raising questions about the actual environmental impact of their products. The phenomenon of green washing has led to scepticism among consumers concerning the accuracy of such claims, raising doubts about whether actually these products represent genuine environmental responsibility, or they are merely used as marketing tactics (Y.S. Chen & Chang, 2013; Tarabieh, 2021). As companies are becoming more involved in green washing, consumers face “green confusion”, making it difficult for them to understand product-related information and prevents them from making informed purchasing decisions.

Mitchell & Papavassiliou (1999) identified three factors contributing to green confusion: (1) the wide availability of both eco-friendly and conventional products, (2) the similarity between the two, and (3) the way information is presented to consumers. This confusion makes it difficult to identify genuinely sustainable products from those making mere deceptive claims. As a result, consumers hesitate to purchase even truly eco-friendly products, questioning their legitimacy due to prevailing scepticism (Putri & Hayu, 2024).

Short-Term Gains and Long-Term Risks of Green washing

While green washing may offer short-term financial benefits by capturing the attention of eco-conscious consumers, the practice often backfires. Misleading claims promote scepticism and influence purchase intentions among consumers (Zhang et al., 2018; Sun & Zhang, 2019). Consumers feel deceived and lose trust in a firm when they come to know that about its false or misleading environmental claims, and they start looking for its competitors having more transparent sustainability practices. Over time, this loss of credibility makes it difficult even for genuinely sustainable companies to attract customers, further diminishing consumer trust in green marketing as a whole.

The continued use of false environmental claims draws criticism from activists, regulatory organizations, and the general public, which degrades the firms’ goodwill (Marquis et al., 2011; Parguel et al., 2011). As a result, companies that focus on

seeking profits by using false tactics, without actually aligning with genuine sustainability efforts often face long-term consequences. It may lead to decreased consumer loyalty and regulatory issues. Thus, businesses must adopt sincere and transparent sustainability initiatives to survive and thrive in an increasingly eco-conscious market.

Role of Social Media and Eco-Advertising in Green washing

Social media platforms have features as a powerful tool for companies to promote environmental messaging, but they are often used to disseminate selective or misleading green claims. Through curated posts, influencer collaborations, and emotionally driven campaigns, businesses can shape public opinion to create a deceptive image of environmental accountability (Topal et al., 2019). While eco-friendly branding is prevalent with the growing demand for sustainable products, many companies still overstate their initiatives to gain a competitive edge over others in the market (Martínez et al., 2020).

Martínez et al. (2020) highlight that eco-friendly advertising is different from that of companies' actual practices and therefore creates a gap between false green claims and actual reality. Torelli et al. (2020) emphasize that these discrepancies result from intentionally misleading statements that overemphasize minor environmental efforts while concealing harmful practices. Social media amplifies these deceptive tactics, further complicating consumers' ability to differentiate between authentic sustainable products and those engaged in green washing. The increasing reliance on misleading green marketing heightens consumer mistrust and reinforces the need for stricter regulations and better consumer education.

Consumer Awareness and Market Trends

In developed countries, consumers exhibit a heightened awareness of sustainability practices, closely monitoring companies' actions to identify inconsistencies in environmental claims (Yu et al., 2020). These markets feature informed buyers who rely on certifications, third-party reviews, and transparency reports to evaluate the authenticity of green claims. As a result, businesses operating in such regions are under greater pressure to align their practices with environmental commitments to avoid reputational risks and maintain competitiveness.

Many researchers have contributed to the literature on green washing and purchasing behavior among consumers. Suprihartini et al. (2022) suggested that

awareness of green washing influences consumer behavior, while Wiranto & Adialita (2020) stated that knowledge of green products may not significantly affect purchase intentions. Although the market for environmentally friendly products is still expanding, practices of green washing prevent the consumers from making informed choices by fostering uncertainty and scepticism. According to Putri & Hayu (2024), even when a product is genuinely sustainable, green confusion can lead to hesitation, causing consumers to avoid purchasing it altogether. According to Putri & Hayu (2024), consumers may refrain from purchasing a product altogether due to green confusion, even if it is truly sustainable.

This increasing scepticism underscores the importance of transparency and accountability in corporate environmental messaging. Companies must focus on delivering verifiable sustainability claims to restore trust and build long-term relationships with consumers. Genuine efforts toward sustainability are no longer optional but essential for aligning with shifting consumer expectations and ethical standards (Wang & Sarkis, 2017; Testa et al., 2015).

Research Objective

This paper provides a framework for analyzing the correlation between consumers' purchasing intentions in the personal care product segment and their perception of green washing. The research aims to examine the effect of green washing practices on consumers' purchase decisions. It also looks into whether it increases their scepticism or diminishes their confidence in green claims. It also studies the impact of knowledge about green products and practices on these perceptions. The research aims to determine the extent to which youthful consumers are influenced by green washing practices and their propensity to purchase sustainable personal care products.

Research Methods

The study employed a quantitative method. A structured questionnaire was used for collecting the data which was further validated for reliability. A total of 106 young respondents, aged 15 to 30, were selected through convenient sampling from diverse and accessible groups. The scale for the study was adopted from Liu et al. (2020) and Chen & Chang (2012). The first section collected demographic data, while the second and third sections evaluated the study's primary variables: purchase intention (dependent variable) and green washing (independent variable). Green

washing was assessed using five statements, while purchase intention was assessed using six statements and measured on a five-point Likert scale, with 1 representing Strongly Disagree and 5 representing Strongly Agree.

Google Forms was used for collecting the data for the survey. The questionnaire link was circulated on social media platforms such as WhatsApp, Instagram, and Facebook in order to attract potential respondents. The participants were consumers who had previously purchased personal care products. Consent for data collection was obtained from all respondents. The data was then analyzed to check correlations between the above variables and provide inferences from the collected data. This analysis will assist businesses in establishing trust and transparency in the personal care market.

Data Analysis and Interpretation

The analysis was conducted on a data collected from 106 respondents. Descriptive statistics, including percentages, means, and standard deviations, were used to summarise the data and capture insights into user traits and their principal factors. The measurement instruments' consistency and reliability were verified through Cronbach's alpha reliability testing. In the subsequent phase, regression analysis was implemented to investigate the correlation between green washing and purchase intention, thereby determining the extent to which consumer behavior in the personal care product segment is influenced by green washing practices.

The dataset was found to be normally distributed, and the primary assumptions for linearity, normality, homoscedasticity, and independence were satisfied to validate the results. These statistical tests show that the regression model is fit for application and deriving results.

The analysis is provided as follows.

Table 1: Details of the Respondents

<i>Gender/Age</i>	<i>15-19</i>	<i>20-24</i>	<i>25-29</i>	<i>Total</i>
Female	22	28	22	72
Male	8	9	17	34
Total	30	37	39	106

A total of 106 respondents willingly participated as a sample. The sample consisted of 32.1% male and 67.9% female participants. The respondents were

categorized into three age groups: 28.3% (30 respondents) were aged 15-19 years, 34.9% (37 respondents) were in the 20-24 years age group, and 36.8% (39 respondents) belonged to the 25-29 years age group. This diverse distribution ensures a well-represented sample of young consumers, providing meaningful insights into their perceptions of green washing and its influence on their purchase intentions regarding personal care products.

Table 2: Descriptive Statistics

Descriptive Statistics

	<i>N</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>		<i>Std. Deviation</i>
	<i>Statistic</i>	<i>Statistic</i>	<i>Statistic</i>	<i>Statistic</i>	<i>Std. Error</i>	<i>Statistic</i>
Personal care products mislead with words in its environmental features	106	1	5	3.38	.102	1.046
Personal care product misleads with visuals or graphics in its environmental features	106	1	5	3.49	.101	1.035
Personal care products possess a green claim that is vague or seemingly un-provable	106	1	5	3.29	.102	1.051
Personal care products overstate or exaggerate how its green functionality actually is	106	1	5	3.56	.101	1.043
Personal care products leave out or mask important information, making the green claim sound better than it is	106	1	5	3.46	.098	1.006
You expect to buy environmentally friendly and sustainable personal care products.	106	1	5	3.77	.108	1.115
You tend to buy personal care products that are recyclable or that have a clear way to dispose of them at the end of their use	106	1	5	3.65	.092	.947
When purchasing a personal care product, you will consider whether the production of the product is harmful to animals and plants.	106	1	5	3.52	.111	1.140
For ecological reasons, you may consider switching to a greener brand.	106	1	5	3.74	.101	1.045
You plan to switch to a green personal care product.	106	1	5	3.70	.105	1.079
In future consumption, you want to increase the purchase/use of green personal care products for yourself.	106	1	5	3.76	.103	1.056
Valid N (listwise)	106					

Reliability Test

Cronbach's alpha which is a measure of internal consistency was used to check the reliability of the variables. Standard benchmarks state that a Cronbach's alpha value near 1 indicates high reliability, while a value near 0 indicates low reliability. In particular, a value of 0.9 or higher indicates high reliability, 0.8 or higher indicates good reliability, 0.7 or higher indicates acceptable reliability, 0.6 or lower suggests low reliability, and 0.5 or higher indicates unacceptable reliability. The data was reliable, as evidenced by the Cronbach's alpha value of 0.811 in this study. Therefore, the variables in the research are deemed to be consistent and reliable for further investigation.

Green washing Items

On a five-point Likert scale, the mean scores for items associated with green washing ranged from 3.29 to 3.77. The statement which received the greatest mean score (3.77) was, "You expect to buy environmentally friendly and sustainable personal care products," reflecting overall agreement among participants. Conversely, the lowest mean score (3.29) was noted for the statement, "Personal care products possess a green claim that is vague or seemingly unprovable," indicating a more balanced position on this matter.

Purchase Intention Items

The purchase intention items exhibited mean scores between 3.52 and 3.76, reflecting a moderate tendency for acquiring green personal care goods. The statement, "In future consumption, you want to increase the purchase/use of green personal care products for yourself," had the highest mean score of 3.76, indicating a favorable future intention for sustainable purchasing behavior.

Standard Deviations

The standard deviations for all items varied between 0.947 and 1.140, indicating significant variability in responses. A notably higher standard deviation (1.140) was seen for the statement, "When purchasing a personal care product, you will consider whether the production of the product is harmful to animals and plants," signifying a greater diversity of perspectives on this issue.

Standard Error of Mean

The accuracy of the sample means is indicated by the standard error of the mean, which ranges from 0.092 to 0.108. These numbers show that the sample means

offer reasonably accurate approximations of the population means for each item, considering the sample size of 106.

Table 3: Correlation analysis between Green washing and Purchase Intention

Correlations

		<i>green washing_score</i>	<i>purchase intention_score</i>
green washing_score	Pearson Correlation	1	.560**
	Sig. (2-tailed)		.000
	N	106	106
Purchaseintention_score	Pearson Correlation	.560**	1
	Sig. (2-tailed)	.000	
	N	106	106
**. Correlation is significant at the 0.01 level (2-tailed).			

Table 3 shows correlation between green washing and purchase intention. A moderate positive relationship can be seen between green washing and purchase intention ($r = 0.560$, $p < 0.01$). This shows that the intentions to buy green personal care products increases as the perceptions for green washing increase. With a p-value of 0.000, the relationship among both variables is statistically significant.

Table 4: Regression analysis between Green washing and Purchase Intention

<i>Model</i>	<i>R</i>	<i>R Square</i>	<i>Adjusted R Square</i>	<i>Std. Error of the Estimate</i>
1	.560 ^a	.314	.307	.76363
a. Predictors: (Constant), green washing_score				

Table 4 displays the regression outcomes, indicating R , R^2 , and adjusted R^2 values of 0.560, 0.314, and 0.307, correspondingly. Taking R^2 as 0.314, it shows that perceptions of green washing reflect 31.4% variance in purchase intention. This implies that although green washing significantly affects purchase intention, but a considerable percentage of the variance i.e. 68.6% is explained by the other factors that are not present in this study.

Taking into account the sample size, a value of 0.307 is considered for Adjusted R^2 . This verifies that the model has a satisfactory fit, even after accounting for the amount of predictors included. The results indicate that while green washing significantly impacts customers' purchasing intentions, additional factors also contribute in the field of personal care items.

Table 5: ANOVA

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	27.712	1	27.712	47.522	.000 ^b
	Residual	60.646	104	.583		
	Total	88.358	105			
a. Dependent Variable: purchaseintention_score						
b. Predictors: (Constant), green_washing_score						

The results presented in Table 5 show a statistically significant regression model, characterized by F-value of 47.522 and p-value of 0.000 ($F(1, 104) = 47.522, p < 0.01$). This suggests that perceptions of green washing have a crucial role in predicting purchase intention. The low p-value gives substantial evidence in rejecting the null hypothesis, showing how important the green washing perceptions are in influencing consumer behavior.

- H_{00} : Green washing perceptions do not have a significant impact on consumers purchase intentions in personal care products.
- H_{01} : Green washing perceptions have a significant impact on consumers purchase intentions in personal care products.

Table 6: Coefficients

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.658	.304		5.452	.000
	green_washing_score	.592	.086	.560	6.894	.000
a. Dependent Variable: purchaseintention_score						

Table 6 presents the regression analysis between green washing and purchase intention, as indicated by the equation:

$$\text{Purchase Intention} = 1.658 + 0.592 \times \text{Green washing}$$

The constant (1.658) in this equation represents the expected purchase intention when the green washing score is at zero. The unstandardized coefficient (B) for green washing is 0.592, indicating that a 1-unit increase in green washing score corresponds to an increase of 0.592 units in purchase intention, provided that other variables are held constant.

The variables have a moderately positive association, as indicated by the standardized coefficient (Beta) of 0.560. With a t-value of 6.894 and a significance level of $p = 0.000$, green washing clearly plays a significant role in the model. The standardized coefficient (Beta) of 0.560 indicates a moderate positive relationship between the variables. The t-value for green washing is 6.894, and the significance level is $p = 0.000$, indicating a substantial contribution of green washing to the model. This highlights the significance of perceptions regarding green washing in shaping consumers' purchasing decisions.

- H_{02} : There is no significant relationship between perceptions of green washing for male and female in personal care products.
- H_{03} : There is significant relationship between perceptions of green washing for male and female in personal care products.

Table 7: Applying Chi-Square Test on Gender and Green washing

Chi-Square Tests			
	<i>Value</i>	<i>df</i>	<i>Asymp. Sig. (2-sided)</i>
Pearson Chi-Square	5.868 ^a	4	.209
Likelihood Ratio	5.941	4	.204
Linear-by-Linear Association	5.337	1	.021
N of Valid Cases	106		

a. 4 cells (40.0%) have expected count less than 5. The minimum expected count is .32.

Table 8: Crosstabulation between Gender and Green washing gender of the respondent* Recoded_GW Crosstabulation

Count		Recoded_GW					Total
		1.00	2.00	3.00	4.00	5.00	
gender of the respondent	male	4	7	14	9	0	34
	female	2	10	29	30	1	72
Total		6	17	43	39	1	106

The crosstabulation analysis of gender and perceptions of green washing among 106 respondents indicated no significant correlation between the two variables. Both males and females mainly categorized their perception of green washing as moderate to high. The Pearson Chi-Square test results ($\chi^2 = 5.868$, $p = 0.209$) indicated no significant correlation, as p-value exceeds the 0.05 level. The data supports the null hypothesis, indicating that gender has no major impact on green washing perceptions

for the sample. Data accepts the null hypothesis and indicate that gender does not significantly influence perceptions of green washing within this sample.

- H_{04} : There is no significant relationship between age and perceptions of green washing in personal care products.
- H_{05} : There is significant relationship between age and perceptions of green washing in personal care products.

Table 9: Applying Chi-Square Test on Age and Green washing

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.832 ^a	8	.555
Likelihood Ratio	7.013	8	.535
Linear-by-Linear Association	.170	1	.680
N of Valid Cases	106		

a. 7 cells (46.7%) have expected count less than 5. The minimum expected count is .28.

**Table 10: Crosstabulation between Age and Green washing age of the respondent*
Recoded_GW Crosstabulation**

Count		Recoded_GW					Total
		1.00	2.00	3.00	4.00	5.00	
age of the respondent	15-19	2	3	14	11	0	30
	20-24	2	4	17	14	0	37
	25-29	2	10	12	14	1	39
Total		6	17	43	39	1	106

The analysis reveals no significant correlation between age and the perception of green washing. Crosstabulation results show that the most of respondents, especially within the 15-19 and 20-24 age demographics show moderate perception of green washing (category 3). The 25-29 age cohort exhibits a slightly higher perception, with a greater number of individuals in category 4. The Pearson Chi-Square test results ($\chi^2 = 6.832$, $p = 0.555$) show the absence of a meaningful correlation, as the p-value surpasses 0.05. Null hypothesis is accepted. Therefore, age has no significant impact on perceptions of green washing in this study.

- H_{06} : There is no significant relationship between age and purchase intention in personal care products.
- H_{07} : There is significant relationship between age and purchase intention in personal care products.

Table 11: Applying Chi-Square Test on Age and Purchase Intention

Chi-Square Tests			
	<i>Value</i>	<i>df</i>	<i>Asymp. Sig. (2-sided)</i>
Pearson Chi-Square	5.484 ^a	8	.705
Likelihood Ratio	5.828	8	.667
Linear-by-Linear Association	.138	1	.710
N of Valid Cases	106		

a. 9 cells (60.0%) have expected count less than 5. The minimum expected count is 1.42.

**Table 12: Crosstabulation between age and Purchase Intention age of the respondent*
Recoded_PI Crosstabulation**

Count		<i>Recoded_PI</i>					<i>Total</i>
		<i>1.00</i>	<i>2.00</i>	<i>3.00</i>	<i>4.00</i>	<i>5.00</i>	
age of the respondent	15-19	1	2	15	9	3	30
	20-24	2	1	20	13	1	37
	25-29	2	5	15	14	3	39
Total		5	8	50	36	7	106

The analysis reveals no significant correlation between age and purchase intention. Despite minor variances among age groups, the 25-29 group demonstrates somewhat higher purchase intentions; still these discrepancies lack statistical significance. Since the p-value is more than 0.05, the results do not confirm the relationship. Therefore, Null hypothesis is accepted. It indicates that age does not substantially affect purchasing intentions in this study.

- H_{08} : There is no significant relationship between purchase intention for male and female in personal care products.
- H_{09} : There is significant relationship between purchase intention for male and female in personal care products.

Table 13: Applying Chi-Square Test on Gender and Purchase Intention

Chi-Square Tests			
	<i>Value</i>	<i>df</i>	<i>Asymp. Sig. (2-sided)</i>
Pearson Chi-Square	9.670 ^a	4	.046
Likelihood Ratio	9.342	4	.053
Linear-by-Linear Association	4.739	1	.029
N of Valid Cases	106		

a. 5 cells (50.0%) have expected count less than 5. The minimum expected count is 1.60.

**Table 14: Crosstabulation between Gender and Purchase Intention gender of the respondent*
Recoded_PI Crosstabulation**

Count		Recoded_PI					Total
		1.00	2.00	3.00	4.00	5.00	
gender of the respondent	male	2	6	17	7	2	34
	female	3	2	33	29	5	72
Total		5	8	50	36	7	106

The findings demonstrate that gender significantly impacts purchasing intentions for personal care products. Most females display higher purchasing intentions, with most of them categorized as moderate to high. On the other hand, males demonstrate moderate purchasing intentions, a smaller proportion attains higher levels in comparison to females. Since, the p-value is less than 0.05, ($\chi^2 = 9.670$, $p = 0.046$) show that there is a statistically significant correlation between gender and purchase intention. It rejects the null hypothesis and shows that gender significantly influences consumers' purchasing intentions.

Findings of The Study

The mean scores for perceptions of green washing ranged from 3.29 to 3.77 on a 5-point Likert scale. The greatest score (3.77) corresponded to participants' anticipation of purchasing ecologically friendly and sustainable personal care items, whilst the lowest score (3.29) pertained to ambiguous or unverifiable green promises, reflecting divergent opinions of green marketing.

Purchase intention scores varied between 3.52 and 3.76, with the highest mean score of 3.76 indicating a tendency to make future purchases of green personal care goods, signifying a positive inclination towards sustainability.

The correlation study revealed a moderate positive relationship between greenwashing perceptions and purchasing intentions ($r = 0.560$, $p < 0.01$). This suggests that increased perceptions of green washing lead to an increase in buying intentions. The regression model also showed 31.4% of the variance in purchase intentions.

Cross tabulation revealed no significant relation between gender and perceptions of green washing ($\chi^2 = 5.868$, $p = 0.209$); however, females demonstrated greater purchase intentions ($\chi^2 = 9.670$, $p = 0.046$). The findings highlight the substantial influence of green washing perceptions on purchase decisions, which were mostly driven by gender, but age did not significantly affect these results.

Conclusion

This study reflects the significant effect of green washing perceptions on consumers' purchasing intentions for personal care category. Despite increasing mistrust over ambiguous or inflated environmental claims, customers still show a favorable inclination towards sustainable products. The results also suggest that although deceptive green marketing may generate immediate attention, it affects customer confidence and brand reputation in the long run. To bring in loyalty, firms have to go beyond superficial green activities and concentrate more on executing authentic and verified sustainability practices. Clear communication on environmental initiatives is essential, as consumers are continuously looking for authenticity in the products they use. Despite some consumers' awareness of fraudulent methods, the overall demand for eco-friendly items continues to exist.

The research indicates that demographic factors, including gender, have an impact on purchase intentions, which makes it important for businesses to create inclusive marketing strategies that appeal to a variety of consumer segments. As environmental consciousness expands, firms must prioritize establishing trust by connecting their activities with their sustainability claims. Ultimately, adopting genuine sustainable practices will enable organizations to cultivate consumer trust, satisfy changing expectations, and maintain competitiveness in the growing green market.

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