

Cosmetic Choices in the Green Era: Evaluating Sustainable and Green Practices' Influence on Consumers

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Abstract

The study aims to assess the awareness level of consumers regarding the adoption of environmentally friendly practices by the cosmetic industry, their propensity to buy eco-friendly cosmetics and to determine the potential obstacles to and driving forces behind the adoption of eco-friendly cosmetics by consumers. The study employs a quantitative research approach to evaluate consumer awareness, purchase intent, and factors influencing the adoption of sustainable cosmetics. Through online survey using Convenience and snowball sampling, data collection were done. Regression analysis, percentage analysis and descriptive statistics were all performed using SPSS to test hypotheses. According to the results, 44.5% of respondents had just a partial understanding of green cosmetic procedures, whilst 25.5% were fully aware of them. Nonetheless, 8.2% were ignorant and 21.8% were unsure, highlighting the need for more education. Natural ingredients, eco-friendly packaging and cruelty-free claims are what drive consumers' demand for eco-friendly skincare and hair care products. Low awareness levels are confirmed by hypothesis testing; however, awareness and purchase intent are positively correlated. To encourage the use of sustainable cosmetics, issues including increased prices, scepticism and restricted availability must be resolved. The study adds to the body of existing literature by assessing the awareness level of consumers regarding the adoption of environmentally friendly practices by the cosmetic industry, their propensity to buy eco-friendly cosmetics and to determine the potential obstacles to and driving forces behind the adoption of eco-friendly cosmetics by consumers. The study uses a structured questionnaire which may limit the depth of responses, which could lower the quality of the insights. Furthermore, because it is cross-sectional, it only records a single moment in time and ignores changing patterns. This study advances sustainability research in the cosmetic industry. It helps firms target environmentally sensitive consumers, enhance marketing tactics, and solve issues with accessibility and cost. The results can be used by policymakers to support green policies, making the beauty business more competitive and sustainable.

Keywords: Sustainable Practices, Consumer Behaviour, Green Cosmetics industry, Consumer Awareness, Eco-friendly

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Introduction:

Increase in the concept of sustainability has significantly increased in recent years due to growing worries about environmental degradation (Chua et al., 2020; Quoquab et al., 2019). There is a pressing need to address sustainability in modern society (Garetti and Taisch, 2012), with an emphasis on innovation and sustainability transitions (Flores and Jansson, 2022). The awareness of current environmental problems has elevated sustainable development to the fore of scholarly and commercial debates (Wang and Wu, 2016; Q.

Zhang et al., 2020). Importantly, worries about environmental degradation and the need for sustainable living have profoundly changed consumer behaviour, making it both a critical necessity and an opportunity for businesses and consumers. Consumers and other stakeholders are becoming more interested in sustainable businesses as a result of international organisations realising the need to reevaluate unsustainable production and consumption methods (*de Oliveira et al., 2018*).

Number of businesses are focusing more and more to sustainability as a means of achieving alignment with various stakeholders in response to these demands (*Marcon et al., 2017*). When referring to the development of novel strategies to address environmental issues, the terms "green innovation," "environmentally sustainable innovation," "eco-innovation," "environmentally friendly innovation," and "environmental innovation" have been used synonymously but accurately (*Medeiros et al., 2022*). The impending dangers of climate change, global warming, and environmental problems have motivated this paradigm shift towards "green" thinking (*Santos F Bruno, 2015*).

The beauty and cosmetics sector has seen a remarkable transition in its ever-changing environment. The transition to a more environmentally responsible and sustainable way of doing things has given rise to what is now known as the "Green Cosmetic Industry" (*Singh, 2023*). Because of its rapid global expansion and high natural resource consumption, the cosmetics industry is one of the most important sectors with a long-term perspective to manage sustainability (*Rocca et al., 2022*). This demand has significantly impacted the cosmetics industry due to its significance and global expansion (*Secchi et al., 2016*). (*Bom et al., 2019; Liobikien and Bernatoniene, 2017*).

As cited by *Jaini et al., (2020)*, cosmetic products are any substance or mixture of natural and/or synthetic ingredients intended to be applied to different parts of the human body or teeth to clean, perfume, enhancing, or changing the appearance of consumers to maintain them in good condition, according to the Health Science Authority (2017). Sustainability research is becoming more common in both academia and the day-to-day operations of cosmetics firms (*Kolling et al., 2022*). But, the literature lacks factual and comprehensive research on sustainability in this sector, and cosmetics companies struggle to fully adopt sustainability (*Kolling et al., 2022*).

Environmental product innovations frequently work well to match businesses with customers who care about the environment (*Zhang et al., 2021*). As cited by (*Martins and Marto, 2023*) the consumer is one of the factors driving businesses' increased interest in the sustainability of their products. Due to growing consumer awareness of the social and environmental implications of the things they buy, the market for sustainable products is booming. According to data from the Institute for Business Value in 2020, 60% of consumers were willing to change their shopping habits to reduce the impact of their actions on the environment, and 80% of consumers said sustainability was important to them. Customers in this final group, for the most part, said they would be prepared to pay more for sustainable and environmentally conscientious brands (*Haller et al., 2020*). Therefore, the Evidence from the past suggests that businesses' environmental product developments influence customers' buying intentions favourably (*Long and Liao, 2021*).

Businesses with sustainability included into their strategy goals typically outperform their competitors in the long run and have customer satisfaction, brand recognition, cost savings through resource efficiency, and

waste reduction (*Eccles et al., 2012, Haanaes et al., 2011, Isaac et al., 2017*). Environmental product innovations have the potential to improve a company's capabilities, efficiency, brand value, and profitability (*Lozano and Collazzo, 2021*). Environmental product improvements, according to studies undertaken over the previous two decades, can contribute to competitive benefits. However, the advantages of these sustainability programmes are not always evident and may differ between empirical investigations (*Mustonen et al., 2016*).

This study attempts to evaluate the degree of consumer awareness in light of these developments regarding sustainable practices adopted by the cosmetic industry, consumer purchasing intent for sustainable cosmetic products, and the potential obstacles to and driving forces behind consumer adoption of eco-friendly cosmetics. Four cosmetic product categories are considered for the present study: skincare, haircare, colour cosmetics (makeup), and fragrances. And among all the sustainable practices, this study considered the impact of 4 practices, which are: sustainable ingredients, sustainable packaging, Energy manufacturing, research, & innovation.

For this purpose, the study is organized as follows: A literature review is presented in Section 2, Section 3 discusses the methodology used in the study, followed by data analysis and interpretation, which are discussed in Section 4, the conclusion is presented in Section 5 and the future direction of the study is presented in Section 6.

Review Of Literature

According to a benchmarking business survey (*Herich, 2022*), customers' perceptions of sustainability's significance for beauty and personal care products have significantly increased over the past three years. Natural cosmetics sales are more prone to come from customers who care about the environment and their health, but they will still base the size of their purchase on knowledge and experience (*Amberg and Fogarassy, 2019*). Cultural, personal, political, psychological, and ethical values all have an impact on green consumer behaviour in addition to attitude (*Sharma et al., 2023*); Similar results that working women are more conscious of sustainable products than nonworking women by the study conducted in Saudi Arabia (*Khan & Salim, 2021*). Personal conventions, views, environmental concerns, and readiness to pay all have a big impact on not only customer behaviour but also buying intention towards eco-friendly packaging (*Prakash & Pathak, 2017*). According to a study, consumer promotion centred around eco-labelled products has a negative moderating effect on the relationship between green advertising and purchase intention, while green advertising itself has a positive effect on the intention to purchase eco-labelled products (*Sun et al., 2021*). As per (*Rahman, 2017*), The kind of environmental product under investigation, as well as the underlying nature and level of engagement associated with the product category, have a significant impact on consumers' behavioural intentions. Research indicates that the perceived value of a brand is not directly impacted by environmental product developments. Additionally, the same study highlights the significance of ethical issues in shaping customer perceptions and the necessity for organisations to prioritise ethical practices to enhance perceived brand value. (*Donato et.al,2023*). Not only do customers care about sustainability, but many cosmetic firms do as well. Several of them have already integrated sustainability practices into their products, especially in the environmental space (*Martins and Marto,2023*) a clear correlation between green consumer purchasing behaviour and celebrity endorsements, marketing campaigns, product packaging, and brand image. It was discovered that there is a partial mediation between

green customer purchase behaviour and celebrity endorsement (*Kapoor, et.al, 2019*). So, this study aims to assess the consumers' awareness level regarding sustainable practices to analyse the consumer purchasing intent for sustainable cosmetic products, so that the potential obstacles to and driving forces behind consumer adoption of eco-friendly cosmetics can be determined.

Methodology

Objectives:

- To assess the awareness level of consumer towards the adoption of environmentally friendly practices by the cosmetic industry.
- To analyse consumer purchasing intent for sustainable cosmetic products.
- To determine the potential obstacles to and driving forces behind the adoption of eco-friendly cosmetics by consumers.

Hypothesis of the study:

Hypothesis 1: H0- There is a higher level of awareness for sustainable cosmetic products among consumers.

H1- There is less level of awareness for sustainable cosmetic products among consumers.

Hypothesis 2: H0- There is no correlation between consumers' awareness of and intention to buy green products.

H1- There is an association between awareness and purchasing intent towards green products among consumers.

Population and Sample:

The study includes respondents from the Delhi NCR region. Using convenience sampling in combination with snowball sampling technique, the data was collected.

Procedure:

The data collection process was done by the online survey. A Google form was created that consisted of different sections.

Data Analysis:

By using percentage method, the data was analysed. Also Descriptive Statistics and Regression analyses were used to test the hypothesis.

Results And Discussion

Objective 1:

To assess the awareness level of consumers regarding the adoption of environment-friendly practices by the

Table1.1 : Level of consumers Awareness in Percentage

Level of Awareness	Percentage of Respondents
Fully Aware	25.5%
Aware	44.5%
Neutral	21.8%
Not Aware	8.2%

Levels of awareness for environmentally friendly practices used by the cosmetic industry were asked from the respondents and the Intriguing findings from the study shown in Table 1.1 include the fact that 25.5% of respondents are fully aware, which indicates a promising level of awareness. Furthermore, 44.5% of people show awareness, showing that a sizeable section of the populace is aware of environmentally friendly cosmetic procedures. The study also identifies areas for worry because 21.8% of respondents had no opinion, indicating the need for more specialised instruction and information sharing. Worryingly, 8.2% of participants are completely unaware, indicating a serious information gap that needs to be addressed right away.

Table 1.2 : Level of consumers Awareness regarding Green Practices of the Company in Percentage

Green Practices of the Company	Level of awareness	Results
Sustainable Ingredients	Fully aware	Around 25% of respondents
	aware	Around 49% of respondents
	Neither aware nor unaware	Around 18% of respondents
	unaware	Around 8% of respondents
Sustainable Packaging	Fully aware	Around 23% of respondents
	aware	Around 45% of respondents
	Neither aware nor unaware	Around 26% of respondents
	unaware	Around 6% of respondents
Energy-efficient manufacturing	Fully aware	Around 21% of respondents
	aware	Around 41% of respondents
	Neither aware nor unaware	Around 30% of respondents
	Unaware	Around 8% of respondents
Research and Innovation	Fully aware	Around 21% of respondents
	Aware	Around 43% of respondents
	Neither aware nor unaware	Around 22% of respondents
	Unaware	Around 14% of respondents
Others	Fully aware	Around 9% of respondents
	Aware	Around 28% of respondents
	Neither aware nor unaware	Around 28% of respondents
	Unaware	Around 35% of respondents

From Table 1.2, the result of the study shows that people are mostly aware about the sustainable ingredients, sustainable packaging, energy efficient manufacturing as well as research and innovation. The findings

imply that people are now more conscious of the business's environmentally friendly initiatives.

Table 1.3: Information about the sustainability practices of cosmetics companies in Percentage

Source of information about the sustainability practices of cosmetics companies	Results
Social media	61.8% of respondents
Company websites	30% of respondents
Friends and family	42.7% of respondents
Beauty influencers	34.5% of respondents
Environmental organizations	20% of respondents
others	21.8% of respondents

The study's findings (Table 1.3), which show how important online networks are in influencing consumer opinions, show that a sizeable majority of respondents, 61.8%, get this information via social media sites. The importance of corporate-initiated disclosures is highlighted by the fact that company websites were the second most popular source, with 30% of respondents getting information directly from these platforms. With 42.7% of respondents citing friends and family as a source, it is clear that personal networks had a big impact. Consumer knowledge of sustainability practises has also been boosted by beauty influencers (34.5%), environmental organisations (20%), and other sources (21.8%)

Objective 2:

To analyse consumer purchasing intent for sustainable cosmetic products

Table 2.1 : Consumer purchasing intent for sustainable cosmetic products in Percentage

Important to use environmental friendly and sustainable cosmetics	Results
Extremely important	30.9% of respondents
Very important	41.8% of respondents
Somewhere important	19.1% of respondents
Not very important	6.4% of respondents
Not at all important	1.8% of respondents

Table 2.1 reveals that a majority of the people found it significant to use environmental friendly and sustainable cosmetics contrary to which only a handful of people found it insignificant.

Table 2.2 : Consumer purchasing intent for green cosmetics in Percentage

Purchase frequency of green cosmetics	Never	Rarely (less than 10%)	Occasionally (30%)	Sometimes (50%)	Frequently (70%)	Usually (90%)	Every time
Skincare	Around 14% of respondents	Around 27% of respondents	Around 17% of respondents	Around 13% of respondents	Around 13% of respondents	Around 8% of respondents	Around 8% of respondents
Makeup	Around 32% of respondents	Around 23% of respondents	Around 18% of respondents	Around 11% of respondents	Around 6% of respondents	Around 5% of respondents	Around 5% of respondents
Hair care	Around 11% of respondents	Around 25% of respondents	Around 13% of respondents	Around 16% of respondents	Around 19% of respondents	Around 7% of respondents	Around 9% of respondents
Fragrances	Around 16% of respondents	Around 29% of respondents	Around 14% of respondents	Around 13% of respondents	Around 12% of respondents	Around 8% of respondents	Around 8% of respondents

Findings in Table 2.2 showed that most of the people show a great inclination towards buying hair care products that are natural and is closely followed by skincare. The findings imply that people are probably more conscious about buying hair care and skin care products that fall under the category of green cosmetics.

Table 2.3 : Aspects affecting the decision of consumer to choose eco-friendly cosmetics in Percentage

Aspects which affect the decision to choose eco-friendly cosmetics	Results
Use of natural and organic ingredients	72.7% of Respondents
Cruelty-free and not tested on animals	33.6% of Respondents
Eco-friendly packaging (e.g., recyclable, biodegradable)	57.3% of Respondents
Transparent labelling	17.3% of Respondents
Recommendations from friends or influencers	20% of Respondents
Price	20.9% of Respondents
Brand reputation	22.7% of Respondents

Table 2.3 revealed that for most people use of natural and organic ingredients, eco-friendly packaging closely followed by cruelty-free cosmetics products is the major factors that influence the buying behaviour of people when buying eco-friendly cosmetics.

Table 2.4 : Consumer open to shift towards buying Green Cosmetics in Percentage

Question	Yes	No	Maybe
I will shift to green cosmetic over the ones that wasn't.	Around 65% of respondents	Around 11% of respondents	Around 24% of respondents
I thoroughly consider the sustainable initiatives of cosmetic companies before making any purchase.	Around 49% of respondents	Around 20% of respondents	Around 31% of respondents
I will recommend others to use green cosmetic.	Around 66% of respondents	Around 16% of respondents	Around 18% of respondents

The findings (Table 2.4) revealed that people are open to shifting more towards buying green cosmetics and becoming more aware about sustainable initiatives before making any purchase.

Table 2.5: Consumer ready to pay and invest more in Green Cosmetics in Percentage

Question	Yes	No	Maybe
If adding green feature increases the price of cosmetic, are you willing to pay more?	Around of 46% respondents	Around 19% of respondents	Around 35% of respondents
While purchasing cosmetics, do you believe there is enough information available about green features?	Around 31% of respondents	Around 45% of respondents	Around 24% of respondents
Would you be more loyal to a cosmetic brand that prioritises sustainability?	Around 56% of respondents	Around 20% of respondents	Around 24% of respondents

In this study it was revealed from Table 2.5 that people are ready to pay more and invest more in green products and might even stay loyal to a brand.

Objective 3:

To determine the potential obstacles to and driving forces behind consumer adoption of eco-friendly cosmetics

Table 3.1 obstacles behind Consumer adoption of eco-friendly cosmetics in Percentage

Potential obstacles to and driving forces behind Consumer adoption of eco-friendly cosmetics	Results
Limited availability of sustainable products	52.7% of respondents
Higher price compared to non-sustainable alternatives	42.7% of respondents
Lack of information about sustainable options	44.5% of respondents
Scepticism about product effectiveness	26.4% of respondents
other	18.2% of respondents

As per table 3.1, a sizable number of the respondents encounter challenges while trying to choose sustainable cosmetics. 52.7% of the participants, on average, said that it was difficult to find sustainable cosmetics. The cosmetics industry's comparatively low adoption of environmentally friendly practises may be to blame for this scarcity.

In addition, 42.7% of respondents said higher costs were a major deterrent to choosing eco-friendly cosmetics, which is indicative of the premium frequently attached to sustainable products. The lack of knowledge about sustainable choices was cited by 44.5% of participants as another significant barrier. This emphasises the requirement for greater consumer education and market openness in the cosmetics industry.

Additionally, 26.4% of respondents expressed doubt regarding the efficacy of eco-friendly cosmetics, indicating a potential perception problem that the sector has to address. Finally, 18.2% of respondents experienced other, unidentified difficulties, indicating a need for further investigation of the variety of difficulties customers may have in their search for environmentally friendly cosmetics.

Hypothesis testing

Hypothesis 1: H0- There is more level of awareness for sustainable cosmetic products among consumers.

H1- There is less level of awareness for sustainable cosmetic products among consumers.

Table 4

Mean	2.398148148
Standard Error	0.106827999
Median	2
Mode	2
Standard Deviation	1.110189129
Sample Variance	1.232519903
Kurtosis	-1.263392858
Skewness	0.282955201
Range	3
Minimum	1
Maximum	4
Sum	259
Count	110
Confidence	
Level (95.0%)	0.211774048

Table 4 shows that the mean is 2.39 which is less than 2.5, states that there is not much awareness for sustainable cosmetic products among consumers.

Hypothesis 2: H0- There is no association between the awareness and purchasing intent for green products among consumers.

H1- There is association between awareness and purchasing intent for green products among consumers.

Table 5 : Regression Statistics

Multiple R	0.148107508
R Square	0.021935834
Adjusted R Square	0.012795047
Standard Error	1.105978388
Observations	109

Table 6

	Coefficients	Standard Error	t Stat	P-value
Intercept	1.710594315	0.448252	3.816145	0.000227
How important is it to you that you use environmentally friendly and sustainable Cosmetics?	0.171834625	0.110924	1.549121	0.124305

The above table 5 and 6 give the insight into the consumer's level of awareness and intent to purchase the green cosmetic product. As p value is .000227 which is less than .05 states that there is an association between awareness and purchasing intent for green cosmetic products among consumers.

Conclusion

This study has provided crucial insight on consumer's awareness level towards sustainable practices by the cosmetics sector, their purchasing intent for sustainable cosmetic products and also the potential obstacles to and driving forces behind adoption of eco-friendly cosmetics by consumers. When it came to our first objective, the results were encouraging; with 25.5% of respondents reporting full awareness and 44.5% indicating some level of awareness. The survey did, however, point up some worrying trends, such as the 21.8% who had no view and the 8.2% who were ignorant, which highlights the need for more focused educational initiatives. The results of 2nd Objective of investigation on consumers' intentions to buy environmentally friendly cosmetics revealed that the majority do, especially in the areas of skincare and hair care. Indicating an increasing consumer preference for green cosmetics, natural ingredients, eco-friendly packaging, and cruelty-free products appeared as significant factors influencing purchasing behaviour.

Objective 3 looked into potential barriers and motivating factors for consumers to embrace eco-friendly cosmetics.

Lastly, results indicate that there is not much awareness of sustainable green products among consumers. Also, there is an association between awareness and purchasing intent for green products among consumers. Finding sustainable solutions can be challenging, and other difficulties include greater expenses, ignorance, uncertainty regarding effectiveness, and numerous undiscovered barriers. Promoting the use of eco-friendly cosmetics requires addressing these problems.

Limitations And Future Scope Of Study

There are certain limitations to the study which can also become future scope for the further studies-

- The study may be biased as convenience sampling is used. People who are easily accessible and ready to participate may not fully represent the larger population. This limits the findings' generalizability to a larger population outside of the Delhi NCR region.
- The depth of responses can be limited when using structured questionnaires. Although open-ended questions could have provided more qualitative insights into consumer attitudes and behaviours, they were not included in the study.
- The research appears to be cross-sectional, with data collected at a single point in time. Because consumer attitudes and behaviours might shift over time, a longitudinal study could provide a more solid examination of trends and shifts in consumer preferences for sustainable cosmetic goods.
- The study appears to focus on awareness and purchasing intent while ignoring other potential influencing factors such as pricing, brand reputation, or product availability. A more extensive study could take into account a broader range of characteristics.

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