

FACTORS THAT AFFECT CONSUMER DECISION MAKING ON CHOOSING SUSTAINABLE COSMETIC PRODUCTS- AN EMPIRICAL STUDY

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ABSTRACT

With world moving towards achieving carbon neutral targets and clean energy, businesses need to concentrate on making products with sustainability in mind. Manufacturing of cosmetic products is a highly intensive chemical process. Cosmetic products also contribute to environmental abuse in the form of product packaging made of plastics, paper, glass and metals. An environmentally sustainable product will cause less environmental damage compared to normally available products. The difference lies in the environmentally friendly characteristics of the materials/manufacturing/ recycling etc. For many years, the social and economic processes have placed a strong emphasis on the prudent management of natural resources. In order to reduce pollution, society's material needs, expanding population, and use of natural resources must be balanced and harmoniously coexist.

Every individual has a responsibility towards a greener environment and sustainable future. Consumers today are conscious about the detrimental effects of chemicals on health and there is a growing demand in sustainable and environmentally friendly cosmetic products.

This paper aims to study the factors that affect consumer decision making on buying the sustainable cosmetic products. It provides an insight into what factors influence the consumers decision making the most while buying a sustainable cosmetic product. The approach used was to analyse consumer behaviour and how likely they were to buy a product on basis of various factors. A self-developed questionnaire was used to collect data from consumers (men and women) using Simple Random Sampling. Responses of the questionnaire were collecting using a five-point Likert Scale. To achieve the goals of this research, the data was collected from a sample of 256 consumers. Through our study, we inferred that the Product content, Product longevity, Product recyclability and reusability emerged to be significant factors that influence consumers decision making on buying sustainable cosmetic products while Product eco-label did not emerge as a significant factor. We have measured consumer decision making as a function of level of satisfaction on using sustainable cosmetic products.

1. INTRODUCTION

There are many definitions and interpretations of sustainability, but the most common comes from the 1987 report "Our Common Future." The term "sustainability" is derived from the term "sustainable development," which is defined as actions that meets current population requirements without jeopardising future generations' ability to meet their own needs (1)(Bruntland 1987). Sustainable products are those that benefit the environment, society, and economy while protecting public health and our environment throughout their life, from extracting the raw materials to disposing it off.

Cosmetics are made up of a variety of chemical substances that come from either natural or manufactured sources. Cosmetics find variety of usage.. The term "green" is frequently used interchangeably with "natural" and "eco-sustainable," and implies that a product or service is good for the environment and our health as well. As a result, "green cosmetics" are cosmetics made using biodegradable formulations and chemicals taken from natural sources, renewable plant and green sources, as well as decreased toxicity and transparent manufacturing procedures. Also, the spending power consumers, particularly in the cosmetic market, has steadily increased over time. Cosmetic sales have been gradually increasing in emerging markets over the past decade and will continue to do so in future (2)(Barbalova 2011). Thus we are seeing Consumers, producers, and the environment all getting benefitted from eco-friendly cosmetics, which include increased brand reputation, lower toxicity, and better product quality.

This study aims at understanding consumer behaviour while purchasing sustainable cosmetic products. Consumers' environmental concerns were highlighted as a key factor of how engaged they are in ecologically purchasing behaviour (3). This study explores factors like product content, product longevity, product recyclability and reusability and product labels of cosmetics. The purpose of this study is to analyse – through a quantitative study – sustainable

purchase behaviour when buying beauty products with an eco-friendly material and to determine the different variables having relevance in the process (4).

Product content, in particular, plays a critical role in the commitment to sustainable growth based on three key principles:

- Raw materials that are renewable.
- Developing high-level safety processes with a very low failure rate (Eco)toxicity and waste levels
- New components with a low environmental impact and a high nutritional value with no negative consequences to human health (5).

Effect of product longevity on consumer decision making is a factor which has limited research presently. Hence, this study aims to explore the significance of longevity and how it affects the consumer buying behaviour towards sustainable cosmetics.

A study performed in China showed a positive relation between green consumer buying behaviour and recyclability, which implies that people who buy green and sustainable products also tend to recycle more (6). So it was imperative to study the Indian consumer behaviour in terms of recyclability while buying a sustainable cosmetic product.

Normally, information about a product is compiled from a variety of sources. Each source can supply information that is either favourable, neutral, or negative. Eco-labels are one such source of information used to signal the existence or absence of specific traits, and they have the potential to drastically alter purchase behaviour. Eco-labels tell consumers about the environmental quality of items at the point of purchase, allowing them to make environmentally conscious purchasing decisions. Consumers worry about the label's source and the quality of the information it includes, according to research. The consumer product sector uses eco-labelling to address consumer concerns about environmental issues and sustainability. The certification of products has gotten a lot of attention in the world of eco-labelling (7).

Consumer's green behaviour:

Natural resource depletion and environmental degradation have become major concerns for society, and the cosmetics business has been one of the major contributors of pollution.

Cosmetic's history traces back to Ancient Egypt. They started using for health advantages and maintaining hygiene. The phrase "cosmeceuticals" (that is a combination of cosmetics and pharmaceuticals) was used in 1984 by Albert Kligman.

Using and looking for natural materials and additives is becoming more popular these days. This is especially noteworthy for cosmetics. The adverse consequences of synthetic materials on human health and the environment have come to light, which is why they are becoming more and more popular.

We use many products that are part of our regular hygiene routine- example- shampoo, toothpaste, soap, oils- where mostly consumers prefer their choices basis price of the product, brand image, etc.

The shift has moved sharply towards sustainable products in general, increasing the pressure on businesses to be transparent about their emission levels. With the rise in demand toward being Net Zero, being a sustainable product has become a mandatory survival for any business in today's world.

Water pollution caused by cosmetics industry:

The cosmetics industry can contribute to water pollution in several ways:

- Chemicals in cosmetics: Many cosmetics contain chemicals such as parabens, phthalates, triclosan, and oxybenzone, which are harmful to the environment. These chemicals can leach into the water supply when people use them and then wash them off. They can also be washed down the drain when people dispose of unused products. These chemicals can harm aquatic life and disrupt ecosystems.
- Microbeads: Some cosmetics, such as facial scrubs, toothpaste, and body washes, contain tiny plastic beads called microbeads. These microbeads are so small that they can pass through water treatment plants and end up in lakes, rivers, and oceans. They can harm aquatic life by being ingested or accumulating in their bodies.
- Manufacturing waste: The manufacturing process of cosmetics can also contribute to water pollution. Chemicals used in the production process can be released into the environment, contaminating water sources.
- Packaging waste: The cosmetics industry produces a significant amount of waste, including plastic packaging. Improper disposal of packaging can lead to plastic waste entering waterways, where it can harm aquatic life and pollute the environment.

Water pollution caused by the cosmetics industry has become a significant concern due to the growing use of personal care products, including cosmetics, skincare, and hair care products. These products contain various chemicals that can have adverse effects on aquatic life and the environment.

A study by Kim et al. (2020) investigated the impact of cosmetics on water quality and aquatic life. The study found that cosmetics containing microbeads, surfactants, and preservatives were the main contributors to water pollution. Microbeads are tiny plastic particles used in cosmetics such as exfoliants and toothpaste, and they can accumulate in water bodies and harm aquatic organisms. Surfactants are used to create lather and can increase the toxicity of other chemicals, while preservatives can cause endocrine disruption in aquatic animals.

Several cosmetic products contain endocrine-disrupting chemicals such as parabens and phthalates, which can negatively affect aquatic life and human health. Parabens, which are commonly used as preservatives in cosmetics, have been found in various water bodies and can interfere with hormonal regulation in aquatic animals. Phthalates, which are used in fragrances and plasticizers, have been associated with reproductive abnormalities in aquatic organisms.

It is also known that personal care products were a significant source of emerging contaminants, with ingredients such as benzophenone, oxybenzone, and triclosan being detected in water bodies. These ingredients are used in various personal care products such as sunscreen and antibacterial soaps, and can cause ecological and human health risks.

Multiple advantages can be linked to using green products. A study conducted by Zappeli (54) and Chin (55), listed out multiple advantages of using green products such as: reduced energy use, low water consumption, using more natural ingredients when compared to polluting ones, recyclability of packaging material.

In conclusion, water pollution caused by the cosmetics industry is a significant concern, as personal care products can contain various chemicals that can negatively affect aquatic life and the environment. It is important to regulate the use of these products and develop eco-friendly alternatives to reduce the impact of cosmetics on water quality and human health.

Environmental protection and importance of sustainability in Cosmetics market:

Environmental problems are gaining more public attention in the recent years.

The increasing consumer awareness is the biggest driving factor in driving businesses towards sustainability.

The reason for rising concern is also due to depletion of natural resources and minerals, that is also pushing businesses towards creating a circular economy.

Industrial waste, in the recent years have been increasing steadily, along with the plastic waste that comes along with the packaging.

A study conducted by Amberg, [56], suggests consumers think about the future generations and care for the environment during their purchasing decisions. However, lack of awareness related to using cosmetics having high pollutants, have been posing significant health risks especially in under developed countries.

A study conducted by CTPA (Cosmetic Toiletry and Perfumery Association), concluded that consumers use some of the product attributes such as packaging, ingredients, price, fragrance of the product while purchasing a product.

The cosmetics industry, today is searching for ways to be a circular economy and our study will help companies in understanding the decision making factors of consumers in choosing a sustainable cosmetics product.

Need of Study

The use and search for natural materials and additives has been increasingly popular in recent years. This is especially true with cosmetics. The detrimental impacts of synthetic materials on health and the environment have become more apparent, which has led to a surge in popularity. At the moment, marketing trends are leaning toward natural cosmetics that are linked to a healthy lifestyle and relate cosmetic product use to good eating habits (16). Many studies have covered factors like lifestyle, health consciousness, awareness, purchase intention, (16)(17) etc but product recyclability and reuse, product label and longevity for the cosmetic segment remains unexplored in driving consumer's willingness to buy a sustainable cosmetic product. Consumers are becoming more educated, which is reflected in their purchasing habits when it comes to cosmetics. The purpose of this paper is to determine the impact of the elements that motivate customers to purchase sustainable cosmetic goods.

Objective of Study

The objective of this study is to study the factors that affect consumer decision making on buying sustainable cosmetic products.

- Content of the product influence consumer's decision towards buying a sustainable cosmetic product.

- Longevity of the product influence consumer's decision towards buying a sustainable cosmetic product.
- Product recyclability and reusability of the product influence consumer's decision towards buying a sustainable cosmetic product.
- Eco-label of the product influence consumer's decision towards buying a sustainable cosmetic product.

2. LITERATURE REVIEW

Each cosmetic's composition and ingredient choices have an impact on how it affects the skin. Because of the safety and function of each ingredient, the formulation stability, and the consumer desire for certain chemicals, choosing the proper ingredients can be difficult (8). Natural cosmetics must be free of raw materials derived from genetically modified plants, as well as raw materials derived from dead animals or collected in a manner that is damaging to them. It is also vital to remember that making natural cosmetics necessitates following environmental protection measures. When purchasing a sustainable product, the consumer expects the same quality and efficacy as a "non-sustainable" alternative (10). By-product extracts (those obtained from the fruit and vegetable processing industries) offer a feasible "green" alternative to plant-derived extracts in many applications. If the by-products are from organic farming, they are an even more important source of safe extracts for cosmetics, as they do not include any pesticide residue or possibly hazardous chemicals. Aside from their known skin benefits, agro-food by-products have the added benefits of being bio-sustainable and affordable (9).

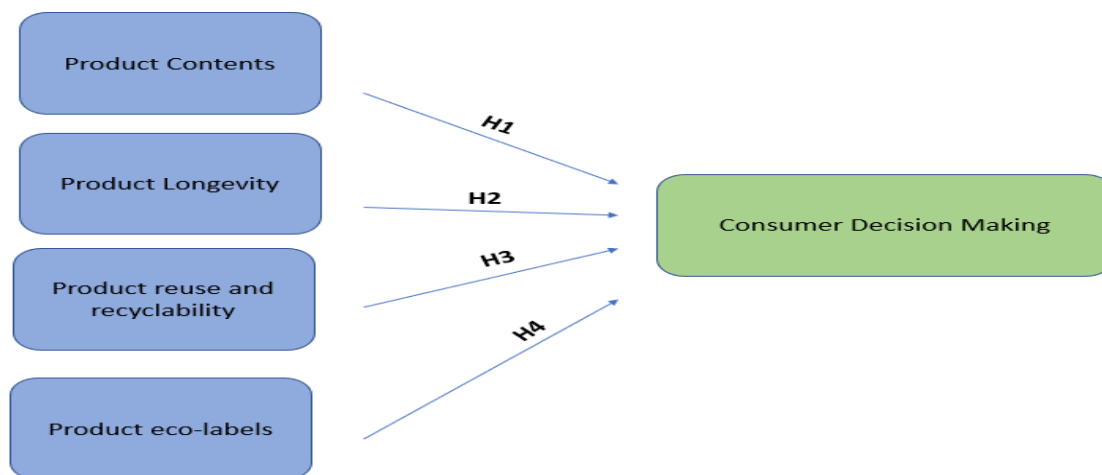
The duration over which a product retains specified features while stored under expected or instructed storage circumstances, or the period during which the producer has determined that a product is best suited for usage, is defined as the shelf life of cosmetics. Storage temperature, humidity, package protection, product composition, water activity, processing circumstances, and ingredient quality all affect quality over time. Cosmetic products have a life of their own, and the larger the percentage of physiologically usable skin care ingredients, the more life they have. When the items are packaged in jars, external factors must also be taken into account. Finally, the shelf life of the products is determined by a combination of factors. However, because consumers are unfamiliar with intricate labelling methods, a number of responsible cosmetic producers are now voluntarily labelling their products with a shelf life of less than 30 months with the open jar symbol. It's also worth noting that the date stated in conjunction with the open jar sign is not governed by any rules. Thus, shelf life of the cosmetic product can be considered as one of the factors that influence consumer decision-making in buying sustainable cosmetic products.

Customers' needs for ecological packaging, among other things, are growing in tandem with their enthusiasm in shopping. While more natural raw materials are being utilised to make cosmetics containers nowadays, saving energy, recycling them remains difficult due to the commonly used material combinations. However, the packaging industry is not resting on its laurels, and some businesses have issued recalls about the re-use of body care empty. There are a lot of case studies available that show how cosmetic companies have improved their sustainability efforts by implementing design improvements and conducting sustainability evaluations. LUSH cosmetics is one such brand that has made the switch to reusable product packaging. Plastic boxes that are both attractive and long-lasting. These can be repurposed by sending another gift in their place. They can be used to store jewellery or tiny goods, or they can be used to organize them (11). Not just as cosmetic ingredients, but also as packaging materials, sustainably produced raw materials are being brought into the cosmetics business. Indeed, cosmetics marketing emphasises that using green, compostable or biodegradable packaging adds value to the product because it reflects customers' and producers' environmental attitudes and concern (12).

Eco-labels are one source of information used to signal the existence or absence of specific traits, and they have the potential to drastically alter purchase behaviour. Eco-label reduces the use of dangerous and potentially damaging compounds to the environment. Thousands of products, including cosmetics, electronics, food, textiles, electrical goods, and furniture, as well as services like hotels, receive eco-labels around the world (7). The labelled indications are designed to provide for a clear identification of the functioning and proper use of cosmetics, as well as to safeguard consumers from commercial factors and, above all, from safety concerns. Furthermore, it should enable for easy tracing of product data as well as all toxicologically relevant information (13). Ecolabels can be seen of as signals that provide customers with a level of value, trust, and credibility; however, such trust and credibility are highly dependent on the ecolabel's source (14). Ecolabels are instruments for aiding consumer decision-making when it comes to environmentally relevant items (15).



Conceptual Diagram



This conceptual diagram is related to our study based on factors that affect consumer decision making on sustainable cosmetic products.

3. METHODOLOGY

Sample size – We collected a sample of 256 data points comprising of female and male respondents. For our sample collection, we aimed to reach out to people between the ages of 18 and 50 who were either using or were aware of sustainable cosmetic products.

Sampling Technique – We have used simple random sampling which is a type of probability sampling. Simple random sampling is a type of probability sampling in which a researcher selects a subset of a population at random. Each person in the population has the same chance of being selected.

To meet the research goal, a questionnaire was employed to collect 256 sample datasets on a 5-point Likert Scale. We chose men and women who had a flair for organic cosmetic product. To obtain face-to-face samples, we employed the intercept survey method, which was particularly effective in shopping malls (shops and malls). We contacted present and potential users of sustainable cosmetics and asked them to fill out a survey form on paper. We mostly gathered data in Mumbai and Thane.

Scales Used - To verify the stated hypotheses, a survey questionnaire was used. The questions for each construct were designed depending on how each construct was operationalized in the study. Product content, product lifetime, product recyclability and reusability, and product eco-label were all evaluated using a five-point Likert scale. All components were assessed using 25 items in total. A pilot test with ten people was undertaken, and adjustments to some of the phrases were made in response to the pilot test participants' comments and ideas. Consumer decision making is a function of level of satisfaction among them on using sustainable cosmetic products. We have measured dependent variable on nominal scale using three options (satisfied, neutral, not satisfied).

Statistical Technique - Multinomial logistic regression is a statistical technique that predicts categorical placement in or the probability of category membership on a dependent variable by combining numerous independent inputs. The

data has a single categorical dependent variable with three categories. In addition, the data contains four continuous predictors. The MLR was fed data from the survey questionnaire responses.

Testing Of Hypotheses

H1: Content of the product influence consumer's decision towards buying a sustainable cosmetic product.

H2: Longevity of the product influence consumer's decision towards buying a sustainable cosmetic product.

H3: Product recyclability and reusability of the product influence consumer's decision towards buying a sustainable cosmetic product.

H4: Product labels of the product influence consumer's decision towards buying a sustainable cosmetic product.

H5: Cumulative impact of the factors that influence consumer's decision towards buying a sustainable cosmetic product.

4. RESULTS AND INTERPRETATION

Consumer awareness of environmental and social issues is one of the most important drivers of sustainability in the cosmetics sector, pushing the industry to become "greener." 2017 (Fernando and Hennayake) (24).

H1: Content of the product influence consumer's decision towards buying a sustainable cosmetic product.

People are becoming increasingly conscious that global warming is having an impact on the climate. The growing human awareness of global warming, according to Moisander (2007), has increased environmental demands (19). Organic and green cosmetics derived from agricultural ingredients and developed without synthetic fertilisers are preferred by environmentally conscious consumers (Ghazali et al., 2017) (20). Organic products have gained popularity among consumers due to the natural components utilised in them. As a result, customers' perceptions of organic cosmetics improved (Zhang & Zhou, 2019) (21). The development of organic cosmetic goods is thought to suit consumers' desires for ethical convictions and health reasons, as well as improving the cosmetics industry as a whole (Matic and Puh, 2016; Sahota, 2014) (22). Cosmetics firms across the sector have aggressively produced organic ingredients in response to consumers' healthy and sustainable lifestyles, creating a better environment for organic cosmetics market growth (Stávková et al., 2008) (23).

Model Fitting Information

Model	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	37.115			
Final	21.598	15.517	2	.000

Here the significance value (p-value=0.000) is less than 0.05, this shows that the model fits the data significantly better than the null model.

Likelihood Ratio Tests

Effect	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.
Intercept	39.747	18.148	2	.000
PRODUCT CONTENT	37.115	15.517	2	.000

The chi-square statistic is the difference in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model. The null hypothesis is that all parameters of that effect are 0.

For **Product Content** p-value <0.05, this indicates that the product content has a statistically significant correlation with the consumer decision making to buy a sustainable cosmetic product.

H2: Longevity of the product influence consumer's decision towards buying a sustainable cosmetic product.

Even in the throwaway culture of industrialised countries, items built for lifespan are still available. Whilst many studies have been conducted to understand the effects of longevity on various items like durables (46), clothing (47) and furniture (48), not many studies have been conducted on longevity and its effects on consumer behaviour in sustainable cosmetics.

hence in our study, we have studied the importance of longevity as an important factor in driving consumer's decision making toward buying a sustainable product. Consumers are generally interested in acquiring things that last longer and are more reliable, according to research. (44)(45).

Model Fitting Information

Model	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	34.062			
Final	23.781	10.281	2	.006

Here the significance value (p-value=0.006) is less than 0.05, this shows that the model fits the data significantly better than the null model.

Likelihood Ratio Tests

Effect	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.
Intercept	28.426	4.645	2	.098
PRODUCT LONGEVITY	34.062	10.281	2	.006

The chi-square statistic is the difference in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model. The null hypothesis is that all parameters of that effect are 0.

For **Product Longevity** p-value <0.05, this indicates that the product longevity has a statistically significant correlation with the consumer decision making to buy a sustainable cosmetic product.

H3: Product recyclability and reusability of the product influence consumer's decision towards buying a sustainable cosmetic product.

Consumer perceptions of sustainable packaging in terms of material, market appeal, and production technology were examined in this study.

This analysis aided us in comprehending how a given container might be seen as green when compared to other commonly used materials. We also look into the reusability of the packaging material and how consumers feel about it. The primary and secondary layers, as well as the materials utilized, such as glass, paper and paperboard, aluminum, wood, plastic/polymeric materials, and hybrid structures, are the most essential packaging concerns. Techniques such as repurposing, recycling, incinerating with energy recovery, and composting could be used to reduce packaging waste (Cosmetics Europe, The Personal Care Association, 2012b) (25). Consumers like to replace plastic packaging with a variety of recyclable glass and cardboard packaging as much as feasible, according to Arvanitoyannis (37); perhaps the reusability of packaging will attract customers. According to the findings of the Borundh (38) study, attitudes regarding the usage of environmentally friendly recyclable materials lead to environmentally beneficial behavior. Bioplastic packaging is in great demand these days, and it's only becoming higher. Indeed, compared to petrochemical-based polymers that are not bio-recyclable (compostable or biodegradable, according to UNI EN ISO 13432) (43), biodegradable and bio-based polymer matrices will be an added value.

Model Fitting Information

Model	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	57.347			
Final	24.788	32.559	2	.000

Here the significance value (p-value=0.000) is less than 0.05, this shows that the model fits the data significantly better than the null model.

Likelihood Ratio Tests

Effect	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.
Intercept	50.453	25.665	2	.000
Product reuse & recyclability	57.347	32.559	2	.000

The chi-square statistic is the difference in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model. The null hypothesis is that all parameters of that effect are 0.

For **Product recyclability and reuse** p-value <0.05, this indicates that the product recyclability and reuse have a statistically significant correlation with the consumer decision making to buy a sustainable cosmetic product.

H4: Product labels of the product influence consumer's decision towards buying a sustainable cosmetic product.

Because the client decides after experiencing a multisensory approach, mostly focused on a visual and tactile experience, packaging should be able to catch the consumer's attention.

Indeed, the packaging effect has the greatest impact on the first phase of the purchase, which consists of attracting the consumer's attention and initiating the stimulus to the brain (Romani and Dalli, 2012) (26). In fact, 90% of buyers rely their purchasing decisions on the packaging of the goods.

The shopping experience is largely influenced by shape, colour, font, dimension, material, and graphic. 2014 (Kauppinen-Räsänen) (27). Furthermore, an informational section regarding the product must be included in the package to improve communication with the ultimate buyer. Every word matters in the attempt to reach the end user, which is why the message must be as clear as possible in relation to the available area.

Furthermore, an eco-label and green packaging material are the most natural ways to display product features connected to sustainability, because they directly give information such as the product's manufacturing cycle, origin, and environmental footprint (Zhang and Dong, 2020) (28). Furthermore, circular eco-labels have been shown to increase consumer buying desire (Xu et al., 2012) (29). An eco-label will encourage people to think more positively about green items. Because of good views toward eco-labelled items, as well as positive feelings toward eco-labels in general, an increasing number of customers are influenced by eco-labels in their purchasing decisions (Heino, 2012; Nguyen & Du, 2010) (30) (33). Because eco-labelled cosmetics are so popular, numerous brands see the adoption of an eco-label as a chance to boost sales. Non-official eco-labels, which claim that a cosmetic product has green features, are also available on the contemporary cosmetic market. According to research, these declared green attributes are not present in the product or are only partially present, resulting in a poor level of faith in eco-labels. Gallastegui (2002) (31). The influence on the purchase decision of ecolabel items demonstrates the need of enhancing the level of reliability in eco-label. When it comes to purchasing eco-labelled items, people value honesty above everything else.

Model Fitting Information

Model	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	43.974			
Final	29.101	14.873	2	.001

Here the significance value (p-value=0.001) is less than 0.05, this shows that the model fits the data significantly better than the null model.

Likelihood Ratio Tests

Effect	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.
Intercept	42.993	13.892	2	.001
PRODUCT LABELS	43.974	14.873	2	.001

The chi-square statistic is the difference in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model. The null hypothesis is that all parameters of that effect are 0.

For **Product Eco-Labels** p-value <0.05, this indicates that the product Eco-labels has a statistically significant correlation with the consumer decision making to buy a sustainable cosmetic product.

H5 : Cumulative impact of the factors that influence consumer's decision towards buying a sustainable cosmetic product.

Regression Analysis for All Parameters (Product Content, Product Longevity, Product Reuse and Recyclability, Product Ecolabels) Combined

Model Fitting Information

Model	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	152.339			
Final	90.114	62.225	8	.000

Here the significance value (p-value=0.000) is less than 0.05, this shows that the model fits the data significantly better than the null model.

Likelihood Ratio Tests

Effect	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.
Intercept	97.141	7.027	2	.030
PRODUCT CONTENT	96.942	6.828	2	.033
PRODUCT LONGEVITY	100.218	10.104	2	.006
Product reuse & recyclability	113.649	23.536	2	.000
PRODUCT LABELS	96.051	5.938	2	.051

The chi-square statistic is the difference in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model. The null hypothesis is that all parameters of that effect are 0.

For **Product Content** p-value < 0.05 , this indicates that the product content has a statistically significant correlation with the consumer decision making to buy a sustainable cosmetic product

For **Product Longevity** p-value < 0.05 , this indicates that the product longevity has a statistically significant correlation with the consumer decision making to buy a sustainable cosmetic product

For **Product recyclability and reuse** p-value < 0.05 , this indicates that the product recyclability and reuse has a statistically significant correlation with the consumer decision making to buy a sustainable cosmetic product

For **Product Eco-Labels** p-value > 0.05 , this indicates that the product Eco-labels doesn't have statistically significant correlation with the consumer decision making to buy a sustainable cosmetic product.

Discussion

From the study conducted by Ezlika Ghazali, Pat Chen Soon, Dilip S. Mutum and Bang Nguyen on "Health and cosmetics: Investigating consumers' values for buying organic personal care products", the findings suggests that hedonic value had strongest impact on driving the consumer's decision in buying organic personal care product. Though our study did not cover hedonic value aspects, we imply from the study that hedonic value arrives from natural ingredients used in organic products to signify safety have given consumers a complete peace of mind to enjoy the use of these organic products. When consumers enjoy and are happy using organic PCP, their attitude toward the products becomes more positive. Consumers experience pleasure and delight and become more loyal when a product satisfies or exceeds hedonic criteria, according to Chitturi et al. (2008), and so become repeat buyers for an organic personal care product.

According to a study by Yifeng Lin, Shaohua Yang, Haniruzila Hanifah, and Qaisar Iqbal titled "An Exploratory Study of Consumer Attitudes toward Green Cosmetics in the UK Market," (51) respondents strongly associated green cosmetics with natural and organic cosmetics and were inclined to environmentally friendly cosmetic product production. Also, according to the results of the study, because some respondents had prior knowledge of green cosmetics, they were able to better analyse the contents and distinguish them from non-green cosmetics. Overall, consumers were aware of the components in their cosmetics as well as their environmental impact, according to the survey.

Our study also concludes that respondents pay more attention to ingredients of the products before buying and statistically, it is a significant factor and acts as one of the driving factors in influencing consumer's decision making in buying the green cosmetic product.

Researchers have discovered that product longevity is a key factor in consumer decision-making on buying sustainable cosmetic product. This aspect has not been widely addressed in contemporary studies, according to the literature. In our study we inferred that product longevity occurs to be significant. Consumers nowadays verify the product's manufacturing and expiration dates before purchasing it. They also believe that organic products will last longer. They also avoid buying things on sale only because they are about to expire. Men and women, based on our informal observations in the market, are concerned about product lifespan. Our data gathering was validated by statistical analysis.

According to our study reuse and recyclability supports the purchase decision of the customer and it can be a dominant factor as supported by Testa, F, Iovino, R, Iraldo, F who state that packaging influences purchasing decisions and that consumers seek consistency between personal attitudes, other pro-environmental behaviours, and the circular attributes of packaging. Our study also agrees with the findings of Leslie Lu, Dora Bock and Mathew Joseph, which stated reuse and recyclability have strong association with millennial intent to purchase green products.

According to our study, product eco-label augments the purchase decision of the consumer, but it cannot be a dominant factor which is in contradiction with the study proposed by Chekima, B.C.; Syed Khalid Wafa, S.A.W.; Igau, O.A.; Chekima, S.; Sondoh, S.L., Jr, which states environmental attitude, eco-label and cultural value significantly influence the green purchase intention. Eco-label, which emphasises product sustainability, is the most important factor influencing customers' product purchases. The result of our study implies that Eco-label is a necessary condition but not sufficient condition to buy the sustainable cosmetic product which is in agreement with previous studies (Zhang, L.; Li, D.; Cao, C.) that reported that many businesses have attempted to repair or enhance their public image in recent years by projecting an image of environmental stewardship. Consumers' enthusiasm for buying green products has been harmed by "greenwashing" instances, which have occurred on a regular basis. The negative impact of "greenwashing" is more pronounced, especially for people who are concerned about environmental issues.

Implications

In terms of practical implications, this study will aid the growth of the sustainable cosmetic sector in India. Through our study brands will be able to design sustainable cosmetic items that customers want, coupled with appealing marketing methods such as pricing strategy and promotion, honest advertising, and convenient purchase channels, now that they have been given hints about consumer views. These measures should help India develop a more promising sustainable cosmetics market segment.

To pique consumer interest and foster a positive attitude toward sustainable cosmetics, marketing efforts should focus on activities that increase consumer perceptions of value and product knowledge. These have been shown to have an impact on attitudes regarding repurchasing sustainable cosmetics. Furthermore, the products' goodness and benefits, particularly in terms of fostering well-being, enjoyment, health, and safety, should be highlighted and reinforced on container labels and collateral marketing materials used to distribute product information. Our study also found that product content, product lifetime, and product recyclability and reuse are influential factors in consumer purchasing decisions.

From our study it can be seen that, the current consumer base is drifting from synthetic cosmetics and moving more towards sustainable cosmetics. Hence the international brands that are currently catering to Indian markets, can study the consumer drift further and increase their research and development activities in sustainable cosmetic products. This trend is further seen all over the world and the international players can devise their marketing strategies accordingly to capture this segment of consumers and move towards environmentally friendly products

5. CONCLUSION

Consumer decision making is a function of level of satisfaction among them on using sustainable cosmetic products. The more satisfied a person is with a product after using it, the more likely he or she is to buy it again in the future. The study of consumer behaviour toward sustainable cosmetic product looked at four separate variables: product content, product lifetime, recyclability and reuse, and product eco-labels, as well as the above aspects that influenced their buying behaviour. According to the findings from product content, people preferred sustainable cosmetics that have a healing and soothing effect. We discovered that consumers favoured products with a longer shelf life when we investigated product longevity. Consumers preferred biodegradable packaging the most when it comes to recyclability and reusability. According to an analysis of eco-labels, customers preferred products with clear and simple eco-labels.

Cosmetics are currently the most widely used daily goods in the world. However, there has been a shift in the trend, with consumers preferring more sustainable cosmetics over synthetic ones than those that contaminate the environment in some way. Sustainability is discussed on numerous global platforms, such as the United Nations Climate Change Conference, where the necessity for governments and their people to take efforts toward a healthier and cleaner climate has been stressed. Forward-thinking businesses have already developed sustainable, low-carbon strategies, which will be further aligned with nationally determined contributions (NDCs) and industry-specific legislation. Businesses are also looking for ways to replace their mechanisms with green initiatives, from the design stage to delivery. Companies becoming more environmentally responsible has stirred a wave of global environment consciousness in the minds of people. Consumer in today's world has expanded awareness regarding environmental impacts of his actions. Therefore, people are looking for ways to contribute or make holistically driven decisions towards this growing global climate consciousness. Hence, this shift has been a gradual, stepwise shift in the mindset of people. People are going back to basics to support sustainability through their green efforts towards the environment.

Sustainable Organic products, in addition to being environmentally friendly and sustainable, are relatively essential in meeting and satisfying client needs. Customers who are concerned about their looks frequently turn to cosmetics to improve the image they project in society. As a result, green customers are more likely to seek for sustainable cosmetics in order to retain their social status. As a result of the study, people are increasingly conscious of the environmental damage caused by synthetic chemicals, which has resulted in increased demand for sustainable cosmetics.

6. LIMITATIONS AND FUTURE SCOPE

Sample size of this study was only 256, which is considerably low for this study. We covered Mumbai geographically and the study has chosen judgemental sampling and does not represent the entire population of the company. Majority of respondents were young between 18-50 years of age and hence the study might be limited to the respective age group. Future investigation should include different age groups and geographical locations of the country as well.

We have also chosen mix of both Men and Women as part of this study. A separate study focussing on how open would men or women be in their decision making towards choosing sustainable cosmetics would be interesting scope of study in future.

Furthermore, different age groups do not resonate with importance of using sustainable products. By focussing on specific age groups and expanding the research would benefit the companies in the longer run. A cluster Analysis would also be useful in analysing definitive groups of customers with their choices.

Further analysis should also be extended to areas where social and environmental concerns are also taken into account. The validity of the above research should only be considered in lined with its limitations. Though we covered a broad age group category of 18-50 years, it is advisable to expand the research to larger geographical areas as well, considering our research was limited to Mumbai alone. It is also advisable to understand how consumer preferences and decision making changes within each and every category of cosmetics itself- example face creams, perfumes, body wash etc. Further , the actual mechanism of interaction between the sub category of products is also not undertaken as part of this research.

This study was designed to examine consumer behaviour towards cosmetic products generally. But sustainable cosmetic brand may have its own uniqueness and people's perception about these brands may also vary, leading to different consumer buying behaviour toward these products. Thus, future research should specifically focus on comparison of two or more sustainable cosmetic products.

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