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BEAUTY WITH A CONSCIENCE: EXPLORING CONSUMER ATTITUDES TOWARD GREEN COSMETICS

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ABSTRACT

The beauty sector is witnessing a rapid growth worldwide, where cosmetic products are seen to be dominating, the market and are currently gaining a lot of popularity. The emergence of social media and virtual world during Covid-19 has made cosmetics a necessary need not only for women but also for men. This increase eventually has added up to an overall increase in microplastics which resulted in increased plastic waste which eventually pollutes the environment. This research uses a thorough approach to investigate how these important variables work together to influence consumers' perceptions of green cosmetics. The research employs a quantitative approach to attain the objectives of the research. Convenience sampling was done and data was collected from 450 consumers using online questionnaire. The data were validated using confirmatory factor analysis (CFA), and the hypothesis was tested using structural equation modelling (SEM). The results of this research add insights to the knowledge of green cosmetics by illuminating the ways in which subjective norms, and Perceived Behavioural Control interact to influence consumer attitudes. The findings and their implications offer significant insights for cosmetic manufacturers, marketers, and legislators that seek to increase the marketability of eco-friendly cosmetics and encourage sustainable consumption habits.

Keywords- Green cosmetics, Consumer attitude, subjective norm, Theory of Planned Behavior

INTRODUCTION

The idea of green cosmetics can be tracked from ancient times, with early civilizations using natural elements in their beauty rituals whereas contemporary green cosmetics were found in 1970s. The deteriorating condition of the environment and human health over time has led to rise of green cosmetics (Moharam, 2023) It is a fast-growing sector of the beauty industry, Due to consumer demand, numerous major cosmetics businesses are also providing natural and organic product lines. (Pop et al., 2020). The idea of emerging sustainable beauty can provide a solution to sustainable environment. Sustainable beauty is defined as the process of using products that does not cause damage to the natural environment or any other living organism (Hipwee, 2021). The cosmetic industry is one of the most important industries which has a range of products such as foundation, concealers, lipstick, Mascara and many more. Cosmetics industry around the globe has reached a value of about USD 277.67 billion in 2020 (*Cosmetics Market Size, Growth | Global Industry Analysis, 2028*, n.d.) Even though the market is large it continues to increase as brands launch a variety of quality cosmetics

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every day. The increasing demand of cosmetics contributes to the GDP, but it can have a negative effect too, as growth in industry also means more infrastructure required, more exposure to chemicals, more plastic production, more packaging requirements and more harm to environment. The emergence of social media and virtual world during Covid-19 has made cosmetics a necessary need not only for women but also men. This increase eventually has added up to an increase in microplastics which has increased plastic waste which eventually pollutes the environment. According to 2019 report of Zero waste week, the cosmetics business worldwide produces 120 billion container units annually. Every year, 18 million acres of forest are lost because of the boxes that come with the product alone. (Kompas, 2021). This continuous deterioration of the environment will not only affect nature but also the future of mankind as both are interrelated. The rise in the social media has also raised awareness among people and held them accountable for environmental deterioration. It plays an important role in purchasing decision, shaping opinions of consumers and purchasing decision (mangold wd falls 15 social media). Influencers and bloggers are promoting green cosmetics to their followers which in turn has resulted in the growth of green cosmetics. 37% of consumers discovered online beauty brands through social media advertisements, 33% through recommendations and comments on social media, 22% through posts from knowledgeable bloggers, 22% through following the brands' social media page, and 22% through celebrity endorsements on social media, according to a global study conducted in 2019. (Ruslim et al., 2022) .The annual growth rate above 5% in the last two years has led the global cosmetics industry reaching 500 billion U.S. dollars market value in 2019 .(Pop et al., 2020) According to a worldwide poll on the value of eco-friendly elements in cosmetics, 52% of women favoured vegan ingredients 64% favoured organic components and 60% favoured sustainable features, and when choosing makeup(stats) . There are several aspects that can impact an individual's inclination to purchase eco-friendly skincare products, including accessibility, attitude, perceived behavioural control (PBC), and subjective norms. (Al Mamun et al., 2020).

LITERATURE REVIEW

Green marketing is one of the trending topics in the marketing world with campaigns of going green, are round the corner majority of market players switching to more sustainable strategies for their product. Franca & Ueno, defined green cosmetics with the perspective that it reduces hazards to environment and human health According to the current study, green cosmetics are defined as those that, in addition to serving their basic purposes, safeguard wildlife and the environment, reduce pollution, responsibly employ renewable resources, and uphold animal welfare.(Tejeswari1 & Professor, 2016).

1.1 Perceived Behavioural Control

Ajzen (1991) describes the concept of perceived behavioral control as an “individual's perception of the degree of ease or difficulty associated with executing the behavior.” Moser (2016) identifies that the execution of green consumption presents consumers with complications or barriers that hinder their appropriate behavior. Researches have shown that attitude and intention to purchase is affected by perceived behavioural Control. Thus we propose the following hypothesis

Hypothesis 1 (H1). *Perceived Behavioural Control has a significantly positive effect on Consumer Attitude towards green cosmetics*

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1.2 Subjective Norm

According to Chin et al. (2018) "The subjective norm is the perceived social pressure to perform or not perform a behaviour". When someone close to them offers advice or suggestions, it has a profound impact on that person's thinking. (Yadav & Pathak, 2017) particularly in a nation where social interaction is prevalent. Individuals frequently adhere to the leadership and reference group, which in turn shapes the group's actions and behaviour. This gives result to our fourth Hypothesis

Hypothesis 2 (H2). *Subjective Norm has a significantly positive effect on Consumer Attitude towards green cosmetics*

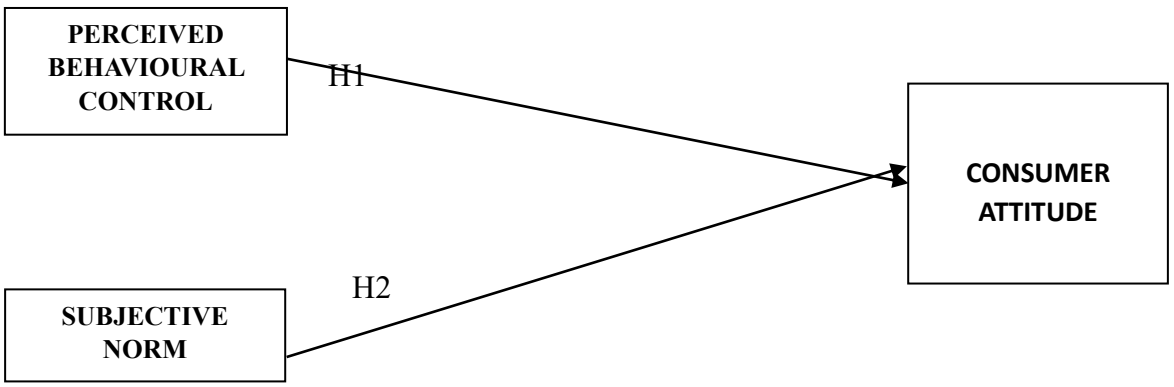
2.Consumer Attitude

According to Ajzen (1991) attitude is defined as "the degree to which a person has a favourable or unfavourable evaluation or appraisal of the behaviour in question." "Attitude is referred to as an individual's learned predisposition to engage and respond constantly towards a favourable or unfavourable attitude"(Mamun et al., 2020) According to (Singhal & Malik, 2018). When predicting someone's propensity to buy ecologically friendly products, attitude is the most accurate predictor. An individual's attitude toward the safeguarding and improving of the environment is referred to as their environmental attitude.

Regarding the current relationship between attitude toward the environment and the resulting behaviour, contradictory findings have been published (Kotchen and Reiling, 2000) Purchasing eco-friendly skincare products is one way to demonstrate one's support for sustainable beauty and one's commitment to lowering environmental pollution.

All associations hypothesized and tested, presented in Figure 1.

Figure 1-Conceptual Framework



Research Methodology-

This study aims to investigate the effects of perceived behavioural control and subjective norm have on consumer attitude related to green cosmetics. The study uses a cross-sectional, quantitative approach in order to collect the data. Questionnaire was established and data was collected through convenience sampling via google forms from 450 respondents which comprises of both Male and Female. The questionnaire is divided into two parts the first part comprises of the demographic details of the respondents which were kept private and second part comprises of items important to measure dependent variable. With a five-point Likert scale for the dependent and independent variables, respectively, the respondents marked their responses

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Results and Discussions

According to research by Hair et al. (2010) and Blumberg et al. (2011), conducting EFA requires a sample size of 25–100 and a ratio of at least 10: 1. This goal is accomplished by the study's sample size. The four requirements for doing a factor analysis—normality, linearity, factorability, and sample size are met by this study.

I)The Kaiser-Meyer-Olkin (KMO)

In SPSS**, Kaiser-Meyer-Olkin (**KMO) gauges how adequate the sample is. If KMO is more significant than 0.5 Field (2000), then the sampling is sufficient or appropriate; according to Pallant (2013), KMO should be 0.6 and above. Kaiser (1974) suggests a minimum value of 0.5; values falling between 0.5 and 0.7 are considered mediocre, those falling between 0.7 and 0.8 are considered good, those falling between 0.8 and 0.9 are considered wonderful, and those falling over 0.9 are considered exceptional (Hutcheson & Sofroniou, 1999). Consequently, a result of .823 denotes the sample's excellent fit for factor analysis as shown in table 1.

Bartlett's Test of Sphericity

The test delineates whether the samples are from populaces with equal variance or not. Consequently, the test should produce a $\chi 2$ value with $p < 0.05$ to be able to reject the null hypothesis. Bartlett's test of sphericity was evaluated, and the test's p-estimation was completed. was statistically significant, or less than 0.001, indicating that the data was appropriate for exploratory factor analysis.

Table 1: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.823
Bartlett's Test of Sphericity	Approx. Chi-Square	1632.184
	Df	190
	Sig.	.000

Exploratory Factor Analysis-

Principal component analysis, or PCA, is the fundamental factor extraction method. Assuming that error variance and the unique error variance are not of significant importance, it considers the entire variance and isolates variables that hold low proportion of unique variance. Since it was not anticipated that there would be much correlation between the parameters, we used varimax rotation in this investigation. According to researchers, only items with a factor loading of 0.4 or above are deemed appropriate and should be kept (Hair et al., 2010). Consequently, only those items with factor loading values greater than 0.4 are retained.

Table 2 Factor Loadings

	Component		
	1	2	3
SBJN 1	.865		
SBJN 2	.848		
SBJN3	.812		
SBJN4	.737		

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CONA1		.890	
CONA2		.881	
CONA3		.827	
CONA4		.733	
PBC1			.808
PBC2			.730
PBC3			.713
PBC4			.706

From the Table 2 above it can be seen all the items are retained.

Reliability

The internal consistency is detected by Cronbach's alpha. Value of Cronbach's alpha of greater than 0.7 is regarded as good, while a value of greater than 0.5 would also be considered okay (Jimenez-Guerrero et al. 2014). All factors' dependability was found to be within the permissible range of 0.713-0.929.

Confirmatory Factor Analysis

Table 3- CFA fit Indices

Model Fit Indices	**Source**	**Baseline values**	**Achieved value**
Chi-square/Degrees of freedom (χ /df)	Kline, 2005	< 3.0	1.645
Goodness of Fit (GFI)	Tabachnik & Fidell, 2007	≥ 0.70	0.885
Adjusted Goodness of Fit Index (AGFI)	Tabachnik & Fidell, 2007	< GFI	0.838
Comparative Fit Index (CFI)	Hu & Bentler, 1999	> 0.80	0.947
Root Mean Square Error of Approximation (RMSEA)	Steiger, 2007	< 0.07	0.066
Normed Fit Index (NFI)	Bentler and Bonnet, 1980; Mulaik et al.,1989; Hu & Bentler, 1999.	> 0.90	0.878
Parsimony Normed Fit Index (PNFI)	Mulaik et al.,1989; Kenny et al., 2014	≥ 0.50	0.697
Tucker Lewis Index (TLI)	Hu and Bentler, 1999.	>0.80	0.933

With a goodness of fit grade of 1.645, the model exhibits decent data fit. With a CFI of 0.947, the model fits the data well. With an RMSEA of 0.066, the model fits the data better than the 0.07 cutoff. The allowed range is 0.084 for RMR. Compared to the appropriate 0.90, the AGFI is 0.837. With an NFI of 0.878, the match is very good. Fit quality is indicated by NFI scores, which range from 0 to 1.

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Assessment of Construct Validity

Construct validity is assessed through convergent and divergent and discriminant validity. Convergent validity requires calculating Composite Reliability (CR) and Estimates of Average Variance Extracted (AVE) .Composite reliability for all the items is above 0.7 i.e. within the range and similar is the case with AVE, they are all greater than 0.5. thus, they have convergent validity. divergent validity was assessed using Heterotrait- Monotrait (HTMT) ratios where all ratios were less than the required limit 0.85 (Henseler et al.,2015) Hence, Discriminant validity was established

Structural Equation Modelling (SEM)

Table 8- SEM fit Indices

Model Fit Indices	**Source**	**Baseline values**	**Achieved value**
Chi-square/Degrees of freedom (χ /df)	Kline, 2005	< 3.0	1.55
Goodness of Fit (GFI)	Tabachnik & Fidell, 2007	≥0.70	0.889
Adjusted Goodness of Fit Index (AGFI)	Tabachnik & Fidell, 2007	< GFI	0.843
Comparative Fit Index (CFI)	Hu & Bentler, 1999	> 0.80	0.954
Root Mean Square Error of Approximation (RMSEA)	Steiger, 2007	< 0.07	0.061
Normed Fit Index (NFI)	Bentler and Bonnet, 1980; Mulaik et al.,1989; Hu & Bentler, 1999.	> 0.90	0.885
Parsimony Normed Fit Index (PNFI)	Mulaik et al.,1989; Kenny et al., 2014	≥ 0.50	0.703
Tucker Lewis Index (TLI)	Hu and Bentler, 1999.	>0.80	0.943

With a goodness of fit grade of 1.55, the model provides an excellent fit to the data. An excellent model fit is shown by the CFI of 0.954. RMSEA is 0.061, which is less than the minimum acceptable model fit of 0.07. RMR is 0.067, which is within permissible bounds. The appropriate 0.90 is exceeded by the AGFI of 0.843. An outstanding match is indicated by an NFI of 0.885. The NFI quality of fit is indicated by scores between 0 and 1. The model's standardized RMR of 0.05 is acceptable.

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Hypothesis Testing based on Path Analysis

Table 9-Summary of Path Analysis Results

Hypothesis Testing Relationship				
H.NO	**Hypothesis**	**β**	**P-value**	**Result**
H1	PBC→CONA	0.302	0.02	Significant
H2	SBJN→CONA	0.43	0.01	Significant

Through path analysis the hypothesis is validated.

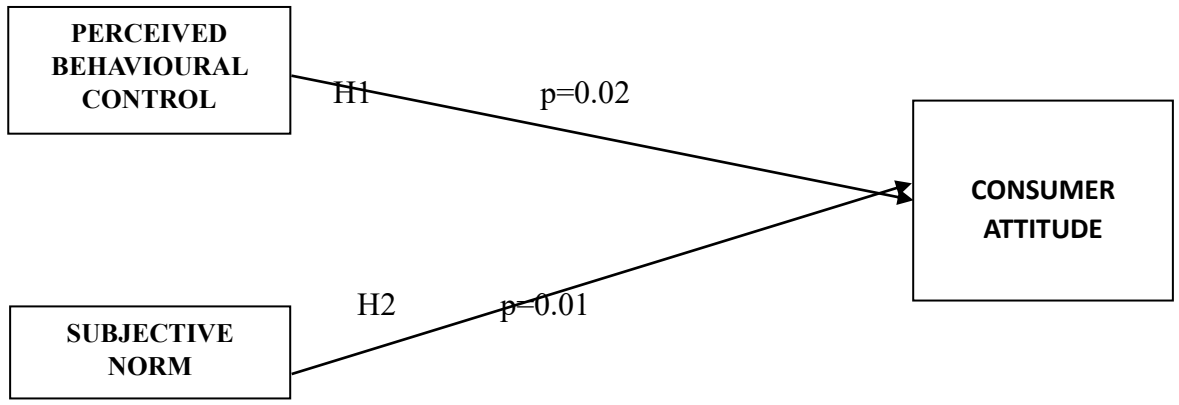
H1. There is a significant impact of Perceived behavioral Control on Consumer Attitude

The results revealed that Health concern has a positive impact on Consumer Attitude ($\beta = 0.302$) and statistically significant ($p<0.05$). Therefore, hypothesis H1 was supported.

H2 There is a significant impact of Subjective Norm on Consumer Attitude

The results revealed that Subjective norm has a positive impact on Consumer Attitude ($\beta =0.43$) and statistically significant ($p<0.05$). Therefore, hypothesis H2 was supported.

Figure 2- Structural Model



DISCUSSIONS –

The first hypothesis test results show that H1 is supported, indicating that consumer attitudes are positively and significantly impacted by perceived behavioural control. This finding is consistent with other research of (Fawehinmi et al 2024)the accessibility of green products plays a crucial role in shaping one's attitude. The result for testing second hypothesis shows that H2 was also supported, indicating Subjective norm has a positive and significant impact on Consumer Attitude which is aligned with the previous study (Mihuț et al 2025; Basha et al., 2015) the social burden felt by the person due to their close friends and family plays a significant role in changing one's attitude regarding green cosmetics

CONCLUSION AND RECOMMENDATION

Sustainability is a trending way of living that is being marketed in every sector. Consumers are becoming more sensitive and conscious of the products and services they are choosing. Green cosmetics is considered as a new future for the beauty industry. The present research integrated TPB theory to study their impact on consumer attitude towards green cosmetics. Based on the research that was done and discussion following can be concluded

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1) Perceived Behavioural Control plays a positive but not significant role in impacting one attitude towards green cosmetics
2) Subjective Norm has a positive and a significant role in impacting one's attitude towards green cosmetics highlighting the role of social influence in shaping perceptions of green cosmetics

Therefore, it is suggested that green cosmetic industries should create more green cosmetics more accessible products to capitalize on consumer preferences. More focus should be given to cosmetics which are healthier for their skin. Moreover, targeted actions that promote positive social norms can increase consumer acceptance of eco-friendly cosmetics. Companies may develop a competitive edge in the growing market for eco-friendly cosmetics by matching their values with those of their customers and taking care of their underlying issues.It is suggested to add other variables such as price, usefulness , etc which were not examined in this study can be studied, sample size may be increased, a longitudinal study can be conducted in future, Mediation analysis with respect to purchase intention can be done.

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