



ATTITUDES AND INTENTIONS TOWARD GREEN COSMETICS IN UYO, NIGERIA: APPLICATION OF THE THEORY OF PLANNED BEHAVIOUR

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ABSTRACT

Environmental and health consciousness have made consumption of green cosmetics increasingly popular. This study was designed to examine the effects of beliefs, motivations and attitude on intention and behaviour toward green cosmetics with the theory of planned behaviour as the theoretical foundation. The stratified sampling technique was used to select 320 consumers of coconut oil – a green cosmetic in Uyo Nigeria. Data were analysed using the structural equation modelling (SEM) with AMOS (23). The findings of the study revealed that attitude, subjective norm, and perceived behavioural control, have positive and significant effects on intention. The study also revealed that intention, and perceived behavioural control, have positive and significant effects on behaviour. These findings support the theoretical model. The most significant relationship in the study was that between attitude and behaviour. The least significant relationship was that between subjective norm and intention. The findings of this study suggest that the consumption of cosmetics is influenced by consumers concern for the environment and their health. The findings of this study provides a basis for market segmentation and businesses should develop strategies appropriate for their target markets. Health and environmental sustainability are long-term values. Businesses should not scarify long-term consumer's value and societal welfare for short-term profitability.

Keywords: Environmental, green cosmetics, attitudes, intention, behaviour

1.0 Introduction

Remaining healthy and sustaining the environment in the face of rapid technological advancement and product innovation are two major challenges facing humanity today. One way these have manifested itself in the discipline of marketing, is delivering greater values to consumers but in ways that do not compromise their short-run and long-run welfares (Kotler & Armstrong, 2010). Pushing for a healthy and environmentally friendly consumption behaviour on the part of consumers and environmental sustainable practices on the part of businesses are crucial to balancing the rather conflicting interests of companies' economic need for profit, consumers' personal need for satisfaction, and society's collective need for improved human health and environmental sustainability (Vermeir & Verbake, 2008; Kotler & Armstrong, 2010).

Love and belonging are core human needs (McLeod, 2018). Consumption of physical appearance enhancing products is one-way individuals seek to achieve these needs (Junaid et al., 2013; Khan & Siddiqui, 2020). Consumers increasing need for enhancement of physical appearance has boosted the beauty industry globally (Limbo & Ahamed, 2023). In Nigeria, the beauty industry was worth over 1.034 trillion naira (2.3 billion USD) as at 2021 and was projected to have an annual growth rate of 16.9% between 2023 and 2027 (Beauty West Africa, 2024).

A core product in the beauty industry is cosmetics (Wang, 2023). Until a few decades ago, consumers mostly demanded for chemical-added and synthetic cosmetics due mostly to their quickening beautifying effects and relative low prices (Ramam et al., 2024). Though comparatively cheaper and perceived as being more effective, these cosmetics are made from harmful chemical and hazardous compounds which are injurious to human health and destructive to the environment (Parashar & Arya, 2018). In the past few decades, there has been greater public awareness of the negative effects of the consumption of these cosmetics on human health and the environment (Khan & Siddiqui, 2020; Wilson & Edelyn, 2022). These concerns have resulted in the recent upsurge in the demand for green cosmetics (Omar *et al.*, 2016).

Consumers' preference for green cosmetics provides a huge market opportunity that is being exploited by businesses (Limbu & Ahamed, 2023). Just as the market opportunity is huge so is the volume of research work that have been done in this area. However, most of these works were carried out in Western and Asian countries. Being culturally different from Africa, the results obtained from these sample may not be true in the Nigerian context. The few studies on green cosmetics conducted in Nigeria were mostly tilted toward the health disciplines. Taking cognisance of the identified gap in the literature, the present study aims to investigate the effects of consumer's beliefs, motivations and attitudes on intentions towards green cosmetics, and also the effects of intention on purchase of green cosmetics. To guide the research work, five hypotheses were formulated:

- H1: Attitude towards environmental sustainable consumption is positively and significantly related to green cosmetics intention towards green cosmetics.
- H2: Subjective norm is positively and significantly related to intention to purchase green cosmetics.
- H3: Perceived behavioural control is positively and significantly related to intention to purchase green cosmetics.
- H4: Intention toward environmental sustainability is positively and significantly related to purchase of green cosmetics.

This paper is structured to include five sections: Introduction, Literature review, Method, Results, Conclusion and recommendations

2.0 Literature Review

2.1 Conceptual Review

Cosmetics

Cosmetics have been differently defined as, "care substances used to enhance appearance or odour of the human body (Poranki & Perwej, 2014, p.138.), and as, "items that are applied to the body with the goal of beautifying, cleaning, or improving one's look, as well as accentuating attractive features" (Parashar & Arya, 2018, p. 604). Items that are considered as cosmetic products include lotions, hair waves, powder, cream, deodorants, mascara, eye and facial make-ups, shampoo, fragrance, and hair spray. These wide range of products can be grouped into four segments based on usage. The segments are, skin care, hair care, make-up, and fragrance with the first two constituting the major market segments (Beauty West Africa, 2024).

Green Cosmetics

In terms of the ingredients from which it is produced, cosmetics are categorized as, chemical-added cosmetic (cosmetics with chemical or non-natural substance added into it), synthetic cosmetics (cosmetics made for synthetic substance), and green or organic cosmetics (cosmetics derived wholly from natural substance) (Schneider et al., 2005).

One green cosmetics that has enjoy patronage recently in Uyo, is 'Etido Coconut Oil'. Etido coconut oil is a range of skin care and hair care products extracted from the kernels and milk of the coconut palm fruit. It comes in six variants: Etido Virgin Oil (colourless coconut oil extracted naturally without the application of heat); Etido Papaya Oil (coconut oil mixed with extracts from pawpaw fruit); Etido Carrot oil (coconut oil mixed with extracts from carrot); Etido Avocado Oil (coconut oil mixed with extract from avocado fruit); Etido Pure Oil (light yellowish coconut oil extracted by boiling coconut milk); and Etido Tumeric Oil oil (coconut oil mixed with extracts from turmeric).

2.2 Theoretical Review

This research examined the consumption behaviour of consumers toward green cosmetics. Behaviour has been predicted to depend on intention and intention is theorized to depend on attitude, subjective norm, and perceived behavioural control (Ajzen, 1991). Many studies in different countries with different samples have applied the theory of planned behaviour (TPB) (Ajzen) in understanding and predicting green cosmetics consumption behaviour (Askadilla & Krisjanti, 2017 [Indonesia]; Shimul et al., 2022 [South Africa]; Delistavrou & Tilikidou, 2022 [Greece]; Kim & Chang, 2011 [USA]). The TPB is based on the stimulus-organism-response model, which is a cognitive approach to understanding human behaviour. The TPB evolved from the Theory of Reasoned Action (Ajzen & Fishbein, 1980). The TBP is a comprehensive integration of the cognitive, affective and conative component in understanding and predicting behaviour (Schiffman & Kanuk, 2010). The model is based on the assumption of rationality (Conner & Armitage, 1998) and a linear causal relationship between behaviour and three variables (Attitude, Subjective norm, and perceived behavioural control), with intention toward the behaviour as the mediator (Ajzen).

According to the TPB, behaviour is precedent of intention. Intention toward the behaviour is influenced by attitude, subjective norm, and perceived behavioural control. Attitude is the beliefs about the outcome of a behaviour and the evaluation of the outcome (Ajzen). The outcome of the evaluation could either be positive or negative. When it is positive, intention toward behaviour is likely to be supported, and when negative, it will likely impede intention toward behaviour (Dunn et al., 2011). Subjective norm, is the perceived social pressure from significant others (family members, friends, colleagues) who try to encourage the individual to or discourage him from performing the behaviour. Perceived behavioural control deals with how easy or difficult it is to carry out the behaviour (Ajzen, 2002). This component of the TPB deals with the beliefs to perform or not to perform an act, and factors that support or hinder the performance of the behavior (Armitage & Conner, 2001). The Theory of Planned Behaviour (Ajzen, 1991) is used as the theoretical framework.

2.3 Empirical Review

Attitude and intention to purchase green cosmetics

Past studies employing the TPB to predict environmentally sustainable consumption behaviour and especially consumption of green cosmetics, show that attitude is the most frequently demonstrated predictor among the TPB variables (Kumar, 2014; Limbu & Ahamed, 2023). In a review of some past research on green cosmetics purchase behaviour, Limbu and Ahamed, stated that attitude predicted behaviour on most of the studies reviewed. Several research had reported that attitude positively and significantly predict intention to purchase green cosmetics (Askadilla & Krisjanti, 2017; Ali et al., 2022; Chin et al., 2018; Hsu et al., 2017; Limbu et al., 2022; Ngo-Thi-Ngoc et al., 2024).

Subjective norm and intention to purchase green cosmetics

Research findings on the linkage between subjective norm and intention to purchase green cosmetics are not consistent. While some studies reported positive and significant relationship (e.g., Ngor-Thi-Ngoe et al., 2024; Shimul et al., 2022; Wilson & Edelyn, 2022), others reported insignificant relationship between the two constructs (e.g., Ghazali et al., 2017; Paul et al., 2016; Tengli & Srinivasan, 2022).

Perceived behavioural control and intention to purchase green cosmetics

Most of the studies on green cosmetics buying behaviour reported positive and significant relationship between perceived behavioural control and intention to purchase green cosmetics (Ali et al., 2022; Matthias & Wonneberger, 2014; Ngo-Thi-Ngoc et al., 2024). In other studies, the relationship between PBC and intention was insignificant (Grapple et al., 2021; Shimul et al., 2022).

Intention towards environmental sustainability and purchase of green cosmetics

According to Ajzen (1991), intention has a strong predictive power on behaviour. This postulation has been collaborated by the findings of research (e.g., Saba & Messina, 2003; Thøgersson, 2007).

Gap in the Literature

Apart from Shimul's et al., (2022) study which was carried out in South Africa, all the work reviewed were either done in Western countries or Asian countries. The sample used are culturally different from the African context. Culture have influence on Attitude, subjective norm, and perceived behavioural control (Ajzen, 1991). Therefore, the findings of these studies cannot be generalized to include Nigeria. It was this identified gap in the literature that motivated the researcher to embark on this study.

3.0 Method

3.1 Study Area

The study was carried out in Uyo. Uyo is the administrative capital of Akwa Ibom State, Nigeria. It is also the economic nerve center of the state. Akwa Ibom State is located in the southern part of Nigeria, in an area known as the Niger Delta region.

3.2 Population of the Study

The population of the study was staff and patients of the University of Uyo Teaching Hospital (UUTH) and owners and employees of business within and outside the hospital environment, who are of 18 years of age and above, and have purchased or use Etido Coconut Oil. Only the

female section of this population was considered. The decision to focus on women is mainly due to the fact that women are the main consumers of cosmetic products (Fitri et al., 2022; Nikdavoodi, 2012; Khan & Siddiqui, 2020) The choice of UUTH and its environment as the area of study is based on the fact that although the product are sold far and beyond UUTH, it is at and around UUTH that it enjoys the most consumer patronage.

3.3 Sample Size

The Cochran's (1977) formula was employed to determine a sample size:

$$n_0 = \frac{z^2 \cdot p \cdot q}{e^2}$$

Where:

n_0	=	The sample size
z	=	The value of the critical confidence level at 95% is 1.96
p	=	The proportion in the target population estimated to have characteristics of being measured (degree of variability) is 50% = 0.5
q	=	1-p
e	=	Level of precision = 0.05

Therefore, the estimated sample size was determined thus;

$$\begin{aligned} \therefore & \frac{(1.96)^2 \times 0.5 \times 0.5}{(0.05)^2} \\ & = \frac{3.8416 \times 0.5 \times 0.5}{0.0025} = 384 \end{aligned}$$

3.4 Sampling Technique

The stratified sampling techniques were used to sample the 384 study participants from among staff, patients (mostly expectant and nursing mothers), and business owners and employees. The UUTH and its immediate environment were stratified into five sections: consulting sections and offices; wards, laboratories and pharmacies; staff and student residencies; technical and other unit; private business premises. After the stratification, convenience sampling method was used to select 76 respondents from each stratum. An additional one respondent was selected from the first four strata which made up the 384 sample size.

3.5 Technique of Data Analysis

The structural equation modelling (SEM) with Analysis for Moment Structure (AMOS) 23 version was the main data analysis tool used. The scientific package for social science (SPSS) version 23, was used in testing for internal reliability and also in the determination of the inter-correlation among latent variables (in testing for discriminant validity).

Three hundred and forty-five (345) out of the 384 copies of questionnaire distributed were returned. Of the 345 questionnaire only 320 were found to be valid, which represent 83.3% return rate and exceeds the 70% threshold for survey study (Baruch & Holtom, 2008). Data was checked and found to be fairly normally distributed (skewness < ±3 and kurtosis < ±10). These meet the criteria for multivariate data analysis as suggested by Kline (2005).

Table 1: Personal Characteristics of Respondents

Characteristics	Item	Frequency	Percentage
Age	Under 20	25	8.9
	21-30	70	24.8
	31-40	76	26.9
	41-50	65	23.1
	51 and above	46	16.3
Education	Primary	8	2.8
	Secondary	69	24.5
	Graduate	118	41.8
	Postgraduate	87	30.9
Occupation	Public Sector Employee	142	50.4
	Private Sector Employee	94	33.3
	Own Business	46	16.3
Monthly Income (Naira)	<30,000	6	2.1
	30,000-69,000	15	5.3
	70,000-109,000	52	18.4
	110,000-149,000	67	23.8
	150,000-189,000	79	28.1
	190,000-229,000	40	14.1
	230,000+	23	8.2

Analysis of respondents' demography is presented in Table 1. Participants in the 31-40 years of age bracket, had the highest frequency, 76 (26.9%). This was closely followed by those in the 21-30 years of age bracket, 70 (24.8%). Those below 21 years of age were least represented in the study, 25 (8.9%). On the educational level of the respondents, those that were graduate were 118 (41.8%) and this was loosely followed by those with post graduate qualifications, 87 (30.9%). Those who completed primary education but did not go further were just 8 (2.8%). The occupation of respondents was grouped into three segments. Those that fell into the public sector employee constituted about half of the study participants, 142 (50.4%). The other half was shared by employees in private sector, 94 (33.3%), and owners of business, 46 (16.3%). The monthly income (in naira) of participants were also analysed. The analysis shows that those in the income brackets of 30,000 and below were 6 (2.1%); 30,000-69,000 were 15 (5.3%); and, 230,000 and above were 23 (8.2%) were marginally represented in the study, while those in the income bracket 150,000-189,000 which were 79 (28.1%) were the majority. This was closely followed by those in the income bracket 110,000-149,000, with 67 participants (23.8%).

The measurement model consisted of five latent variables (attitude, SN, PBC, intention, and behaviour) and 28 manifest variables. The five latent variables were tested for validity (convergent validity, construct validity, and discriminant validity) and reliability (internal reliability and composite reliability).

4.0 Result

Confirmatory factor analysis (CFA) using Analysis for Moment Structure (AMOS), version .23, was used to test for all variant of validity and composite reliability. When CFA was applied, to the measurement models, it produced regression paths with estimates (factor loadings) that ranged from 0.65 to 0.97, which are greater than the recommended 0.5 benchmark (Anderson & Gerbing, 1988; Hair et al., 2010), indicating that convergent validity was achieved. The computation of average variance extracted (AVE) yielded values greater than the 0.5 threshold (Awang, 2014; Hair et al.), thereby confirming the convergent validity of the models.

For construct validity to be achieved, at least one fitness index from each fitness category – Root Mean Square of Error Approximation, RMSEA, and Goodness of Fit Indices, GFI (Absolute fit); Adjusted Goodness of Fit Index, AGFI, Comparative Fit Index, CFI, Normed Fit Index, NFI, and Tucker-Lewis Index TLI (Incremental fit); and CIMN (Parsimonious fit) - must meet the required level of acceptance for that index (Hair et al., 2010). As shown in Table 2, the result of CFA indicates models with goodness of fit statistics.

Table 2: Summary of Fitness Indexes for the Five Measurement Models

Model	RMSEA	AGFI	CFI	TLI	CIMN
Attitude	0.021	0.925	0.911	0.941	3.102
SN	0.069	0.916	0.903	0.862	4.011
PBC	0.077	0.903	0.939	0.853	4.375
Intention	0.028	0.948	0.964	0.900	0.352
Behaviour	0.015	0.989	0.972	0.931	0.241

AMOS, 23 Version

The computation of the composite reliability of the models produced values greater 0.89, which are above 0.6 cut-off point for composite reliability (Anderson & Gerbing, 1988; Awang, 2014; Hair et al., 2006). To assess the internal reliability of the models, The Cronbach's alpha coefficients (α) were required. Application of Statistical package for social sciences, (SPSS) version 23, produced Cronbach's α , ranging from 0.781 to 0.830, which are above the required minimum of 0.7 (Cronbach, 1951). This verified the internal reliability of the models.

Table 3: Reliability and Validity Measures

Construct AVE	Indicator	Factor Loading	Cronbach α	CR
Attitude 0.65	at5	0.82	0.83	0.90
	at4	0.82		
	at3	0.89		
	at2	0.69		
	at1	0.82		
Subjective Norm 0.63	sn6	0.81	0.85	0.91
	sn5	0.82		
	sn4	0.84		
	sn3	0.76		
	sn2	0.67		
	sn1	0.85		
Perceived Behavioural Control 0.71	pb5	0.91	0.81	0.92
	pb4	0.83		
	pb3	0.86		
	pb2	0.65		
	pb1	0.65		

Intention 0.78	it7	0.83	0.78	0.96
	it6	0.84		
	it5	0.88		
	it4	0.88		
	it3	0.89		
	it2	0.89		
	it1	0.96		
Behaviour 0.91	be5	0.95	0.81	0.97
	be4	0.96		
	be3	0.92		
	be2	0.96		
	be1	0.97		

AMOS (23) and SPSS (23)

The instrument was also tested for discriminant validity. As indicated in Table 4, the square root of the AVE of each latent variable (bolded and in the diagonal) is greater than its correlation with other latent variables in the model indicating the discriminant validity of the model (Fornell & Larcker, 1981).

Table 4: Discriminant Validity

Construct	At	SN	PB	In	Be
Attitude (At)	0.654				
Subjective Norm (SN)	0.338	0.627			
Perceived B. Con. (PB)	0.437	0.521	0.709		
Intention (In)	0.549	0.526	0.664	0.778	
Behaviour (Be)	0.559	0.364	0.619	0.612	0.905

AMOS (23) and SPSS (23)

Structural Model and Hypotheses Testing

After the validity and reliability tests, the five measurement models were assembled into a structural model and CFA was again applied. The analysis produced among others, the regression estimates and squared multiple correlation R². Figure 2 and Table 5, indicate the result of the test of hypotheses.

Figure 1: Results of unstandardized regression weights of the analysis of the structural model

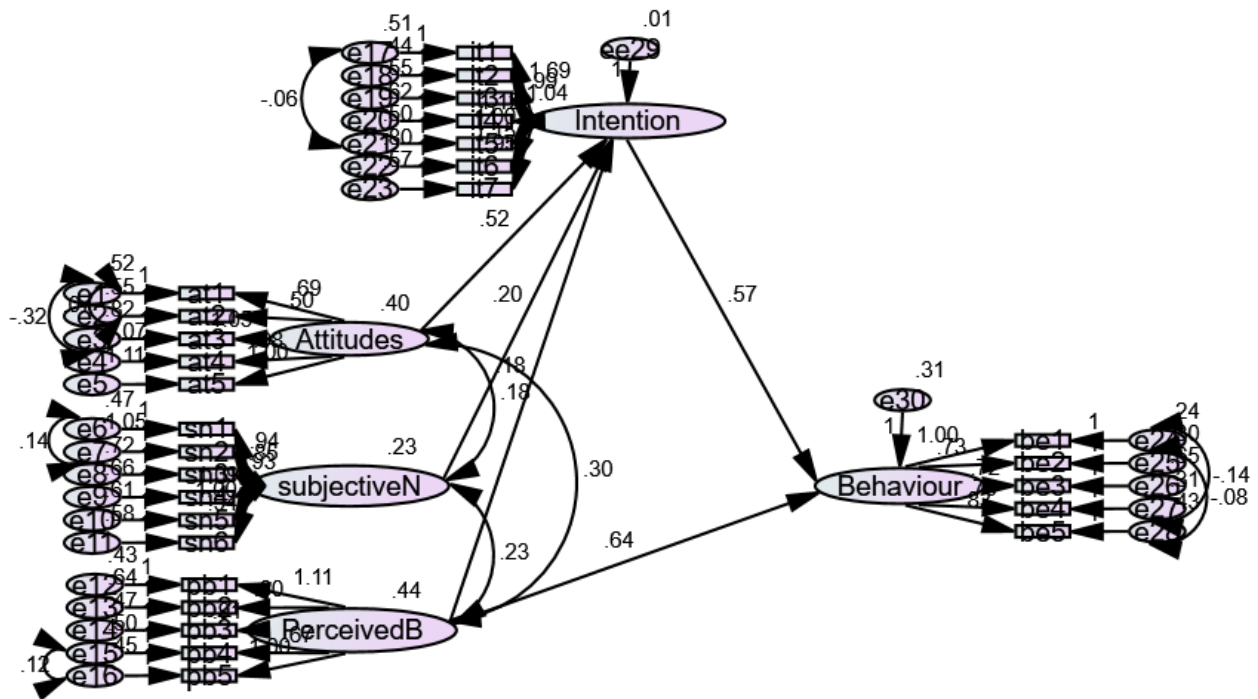


Table 5: Results of Tests of Hypotheses

Hypothesis	Path	Path Estimate	t-statistics	p-value	
H1	At. → In.	0.520	6.953	**	
Supported					
H2	SN → In	0.197	2.745	0.04	
Supported					
H3	PB → In.	0.180	3.033	0.02	
Supported					
H4	In. → Be.	0.569	3.504	**	
Supported					
H5	PB → Be.	0.640	4.993	**	Supported

AMOS (23); SPSS (23) **p < 0.05

Table 5 presents the results of the test of hypotheses. With a significance level of 0.05, any t-statistics (critical ratio) that exceeds 1.96 in magnitude would be considered significant (Anderson et al., 1988, Hair et al., 2010) and the hypothesis accepted, Hypothesis one states that attitude has a positive and significant effect on intention toward green cosmetics. Table shows that H1 is supported ($\beta = 0.520$, $t = 6.953$, $p < 0.05$). The results show that attitude towards environmental sustainable consumption is positively and significantly related to green cosmetics intention towards green cosmetics. This finding is in tandem with most of the results reported in the literature (Askadilla & Krisjanti, 2017; Ali et al., 2022; Chin et al., 2018; Hsu et al., 2017; Limbu et al., 2022; Ngo-Thi-Ngoc., 2024). The result further shows that attitude was the most significant predictor of intention and the most significant predictor of the constructs in the TPB model. This result supports the finding of a recent review of the

literature by Limbu and Ahamed (2023) that attitude is the most frequently demonstrated predictor among the TPB variables.

Hypothesis two states that subjective norm has a positive and significant effect on intention toward green cosmetics; H2 is supported ($\beta = 0.197$, $t = 2.745$, $p < 0.05$). The relationship between subjective norm and intention was positive and significant, which supports the hypothesis that subjective norm is positively and significantly related to intention to purchase green cosmetics. Some past research work had made similar finding (e.g., Ngor-Thi-Ngoe et al., 2024; Shimul et al., 2022; Wilson & Edelyn, 2022). However, this relationship was the least significant in the study and it was marginally significant. This is not surprising as the relationship between subjective norm and intention has been the most reportedly inconsistent results most studies (Limbu & Ahamed, 2023). Our result did not agree with the findings of some studies (e.g., Ghazali et al., 2017; Paul et al., 2016; Tengli & Srinivasan, 2022).

Hypothesis three states that perceived behavioural control has a positive and significant effect on intention toward green cosmetics; H3 is supported ($\beta = 0.180$, $t = 3.033$, $p < 0.05$). This result collaborates the findings of some past studies (Ali et al., 2022; Matthias & Wonneberger, 2014; Ngo-Thi-Ngoc et al., 2024). Our finding was, however, at variance with some past studies which reported insignificant relationship between the constructs (Grapple et al., 2021; Shimul et al., 2022).

Hypothesis four states that intention has a positive and significant effect on behaviour towards green cosmetics; H4 is supported ($\beta = 0.569$, $t = 3.504$, $p < 0.05$). Our result supports the hypothesis which states that intention toward environmental sustainability is positively and significantly related to purchase of green cosmetics. This result is consistent with what is in the extant literature (e.g., Saba & Messina, 2002; Thøgersson, 2007). The result of our study also reported a positive and significant relationship between perceived behavioural control and purchase of cosmetics.

Hypothesis five states that perceived behavioural control has a positive and significant effect on behaviour towards green cosmetics; H5 is supported ($\beta = 0.640$, $t = 4.993$, $p < 0.05$). The analysis shows that the attitude-intention relationship was the most significant of the regressed path, while subjective norm-intention relationship was the least significant.

The results of R^2 indicate that the predictive power of the model. Attitude, subjective norm, and perceived behavioural control, explain 97.7% of the variance in intention, while intention explains 59.8% of the variance in behaviour. These results suggest that the model has great predictive power.

5.0 Conclusion and Recommendations

5.1 Conclusion

The findings of the study show that health and environmental consciousness affects consumer's attitudes, beliefs and motivation, and these in turn affect intentions towards purchase of green products such as green cosmetics. Consumer's tastes and preferences are shifting towards utilitarian goods that meet their long-term benefits than goods that meet their short term benefits such as immediate satisfaction. It is also concluded that the purchase behaviour of green products can be predicted using the theory of planned behaviour.

5.2 Recommendations

- i. There is an increasingly demand for green cosmetics. Businesses and entrepreneurs should develop strategies to enter and exploit the huge market opportunities this segment of the market offers
- ii. To build a mutually beneficial customer relationship, business should not only aim at customer satisfaction, but should look at how it can sustain that relationship by factoring consumers' long-term benefits in their strategies.

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