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**SUSTAINABILITY MARKETING AND ETHICAL CONSUMPTION BEHAVIOUR:  
THE MODERATING EFFECTS OF PRICE SENSITIVITY AMONG BEVERAGE  
CONSUMERS IN NIGERIA**

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**ABSTRACT:** *The study aim was to investigate the moderation effect of price sensitivity on the relationship between equity; health; economic structure; consumption and production pattern; atmosphere; biodiversity and ethical consumption behavior. Descriptive research design was adopted. Twelve hypotheses were tested using data collected from 425 residences in Nigeria. A quota sampling technique was adopted for full coverage. Content and face validity of the scale was provided by expert opinion and discriminant validity tested. Factor analysis measured the reliability and structure equations modeling (SEM) was applied to test the hypothesized relationships and interaction of the variables with the aid of Stata 15 SEM software. Findings show that, equity, health, economic structure, consumption and production pattern, and biodiversity have significant relationship with ethical consumption behavior while atmosphere has no significant relationship with ethical consumption behavior. Price sensitivity do not have moderation effect on the relationship between equity, health, economic structure, atmosphere, and biodiversity and ethical consumption behavior but has moderation effect on the relationship between consumption and production pattern and ethical consumption behavior. We recommend that; companies should produce and package beverages with sustainable and eco-friendly materials such as paper-based container.*

**KEYWORD:** sustainability, marketing, ethical consumption, price sensitivity.

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## **INTRODUCTION**

The thought at the conceptualization of marketing was anchored on marketing of products (Belz & Peattie, 2012). It later shifted to consumers relationship as it was believed that customers are in the center of every business (Kumar, Rahman, Kazmi, & Goyal, 2012). Marketing over the years, has been saddled with the responsibility of providing wants satisfying offerings to consumers, however, the consumption habits of consumers has shown negative impact on the environment, if not checked, the earth will not be habitable (Garrod and Fryall, 1998).

On the other hand, ethical consumption involves the consumers buying products that were ethically produced, made from organic substances, do not have negative externality costs, are safe for use and disposing of the residues properly (Bello, Suleiman, & Danjuma, 2012). It is believed that consumer ethics should involve core values about social justice, morality and just behavior (Eckhardt, 2010).

Extant literatures from UK, Europe, Australia and the US have proposed reasons toward ethical consumption behavior. These include: a concern for health (Magnusson et al. 2003; Lockie et al. 2002), equity, political or religious motives (Honkanen et al. 2006), environmental consideration (Lockie et al. 2004; Vindigni et al. 2002) and personal values (Dreezens et al. 2005). These reasons are classified into two (Padel & Foster 2005) firstly individual or health motives and secondly, environmental and animal welfare (Magnusson et al. 2003) motives. Firstly, ethical consumption enhances personal wellbeing (Williams and Hammit 2001). Secondly, ethical consumption promotes environmental protection and animal welfare (Magnusson et al. 2003; Vindigni et al. 2002).

Several researches have reported mixed results on why consumers perform ethical consumption behavior (Honkanen et al. 2006; Padel and Foster 2005). For instance, Magnusson et al. (2003) found individual or health motives to be the stronger predictor of ethical consumption behavior compared to environmental motives. Differently, Honkanen et al. (2006) found that environmental and animal motives have a strong influence on ethical consumption behavior.

Furthermore, Schifferstein & Oude Ophuis, (1998) found individual or health motives to perform ethical consumption behavior however, Tarkiainen and Sundqvist (2005) disprove individual or health motives as a predictor of ethical consumption behavior. Additional, Baker et al (2004) reported discrepancies in the motives explaining ethical consumption behavior in UK and German consumers. Apart from the conflicting findings, research has focused on examining specific motives and their effect on ethical consumption behavior (Accenture, 2014; Barr, 2007) omitting others, such as production and consumption pattern and economic structure and its role as a predictor of ethical consumption behavior.

The variation and gaps in the conflicting results in the literature highlights the fact that what predict ethical consumption behavior is still not been fully explained (Newsom et al. 2005). Consequently the aim of this research was to identify the relationship between sustainability marketing and ethical consumption behavior. Based on the models of Theme-based frameworks, (United Nations Commission on Sustainable Development, 2007) the research model was developed. It identified the influence of health, equity, production and consumption pattern, economic structure, atmosphere, and biodiversity with price sensitivity as the moderating variable on the ethical consumption behavior.

## MATERIAL AND METHODS

The rapid economic growth over the years has tremendous negative impacts on our environment (Maichum et al., 2016). As a consequence, the world in which we are living in has changed remarkably and hence, there is an increase in air pollution, global warming, waste generation and industrialization (Hsu et al., 2017). Currently, consumers have become incrementally attentive of environmental problems (Hsu et al., 2017). Martin and Schouten (2014) define Sustainable marketing as the process of creating, communicating, and delivering value to customers in such a way that both natural and human capital are preserved or enhanced throughout. Belz and Peattie (2012) provide enhanced clarification that sustainable marketing consists of planning, organizing, implementing and controlling marketing resources and programs to satisfy consumers' wants and needs while considering social and environmental criteria and meeting corporate objectives. Belz and Reattie. (2012) stated that the role of Sustainable Marketing is to motivate consumers to adapt to sustainable products and services as acknowledging them as the standard purchasing behaviour and neglect purchasing unsustainable products. According to Thompson (2010) sustainable marketing applies when an organization takes the perspective that it operates within a finite resource system, and thus has a responsibility to its current and future stakeholders to make strategic decisions for the long-term benefit of the entire system.

### Proposed Conceptual Model of Sustainability

The conceptual model was developed from the adopted theme-based framework (UNCSD, 2007) which identified the themes used in the study. The themes used include equity, health, economic structure, consumption and production pattern, atmosphere and biodiversity

### Equity

Equity a component of social justice includes the concept of equality, fairness and inclusiveness. Equity takes into account resource distribution and access to opportunities and decision-making (FAO 2014). Furthermore, equity encompasses rights, control over resources, people's well-being and access to primary goods. Equity is related to equality in terms of allocation of resources and people's freedoms and responsibility in these allocations, including gender issues (Freeman 2007). In the context of sustainable marketing, equity concerns arise when looking at the comparable distribution of productive resources, opportunities of employment and social services, gender and ethnic inclusiveness and intergenerational opportunity (FAO 2014). Equity can be accessed from difference perspectives, Sen (2017), focused on multidimensional evaluative spaces, Ravallion (2016) discussed on interpersonal comparisons of welfare while Roemer (1998) studied equality of opportunities.

*Ho<sub>1a</sub>. Equity has a significant relationship with ethical consumption behavior among beverage consumers in Nigeria.*

*Ho<sub>1b</sub>. Price sensitivity will significantly moderate the effects of equity and ethical consumption behavior in Nigeria.*

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**Health**

Health is probably the most fundamental quality-of-life dimension, as lack of health usually hurts all of the other relevant dimensions. Health conscious consumers are aware and concerned about their wellness and are motivated to improve and/or maintain their health, and quality of life to prevent ill health by engaging in healthy behaviours and being self-conscious regarding health (Newsom et al. 2005). Previous research has identified interest in health as a primary motive for the purchase of organic food (Lockie et al. 2002). Magnusson et al. (2003) confirmed in his investigation, that consumers with rather high health concerns intended to choose organic products instead of usual everyday products. Michaelidou and Hassan (2008) concluded that the promotion of a healthy lifestyle has a positive influence on choosing ethical products, including organic ones.

*Ho<sub>2a</sub>. Health has a significant relationship with ethical consumption behavior among beverage consumers in Nigeria.*

*Ho<sub>2b</sub>. Price sensitivity will significantly moderate the effects of health and ethical consumption behavior in Nigeria.*

**Economic Structure**

Economic development interprets the increases in a country's real per capita income that affect broad segments of the population and in which the productivity of resources is enhanced as new stocks of resources are generated. Rising levels of purchasing power parity (PPP) real GDP per capita serve as a benchmark for economic growth, while broader measures such as the UNDP's Human Development Index (HDI) serve as indicators of development. Accenture (2014) suggested five types of circular business models: circular supplies, resource recovery, product life extension, sharing platforms, and product as service. Furthermore, Bocken et al. (2016) suggested the access performance model, extending product value, classic long life, encouraging sufficiency, extending resource value, and industrial symbiosis as circular business model strategies.

*Ho<sub>3a</sub>. There is a significant relationship between economic structure and ethical consumption behavior among beverage consumers in Nigeria.*

*Ho<sub>3b</sub>. Price sensitivity will moderate the relationship between economic structure and ethical consumption behavior in Nigeria.*

**Production and Consumption Patterns**

Concerns about the environment have certainly on the uptrend (Fraj and Martinez, 2007). Krause (1993), found that consumers are now concerned about their everyday habits and the impact on the environment. Some consumers translate environmental concern into actively purchasing green products commitment (Mainieri et al., 1997). Several studies have shown attitudes towards sustainability and sustainable consumption behaviour (Verbeke and Viaene, 1999). Sitarz (1994) stated that changing consumption patterns is important in developing environmentally sound and sustainable behaviour. Socially responsible or environmentally concern consumers will be actively involved in waste management behaviour which involved waste reduction, reuse and recycling activities (Barr, 2007). More importantly, a shift towards a more sustainable consumption pattern is required given that behaviour of over consumption in industrial countries causes environmental degradation (Tanner and Kast, 2003).

*Ho<sub>4a</sub>. Consumption and production pattern has a significant relationship with ethical consumption behavior among beverage consumers in Nigeria. .*

*Ho<sub>4b</sub>. Price sensitivity will significantly moderate the effects of consumption and production patterns and ethical consumption behavior in Nigeria.*

### **Atmosphere**

The definition of theme atmosphere refers to the integrity and preservation of clean air. Priority atmospheric issues include climate change, stratospheric ozone depletion, acidification and eutrophication, urban air quality and tropospheric ozone. According Zamazalová (2008) shopping atmosphere can have a big impact on how customers perceive the retail unit and may also decide which units you choose. Store atmosphere has usually been included as a component of store image, along with other physical in-store variables, than it has been conceptualized as a single attribute, often with some vague single dimensionality such as “good” atmosphere. The last, store atmosphere has been studied as one factor influencing the consumer’s general decision to patronize the store, but no detailed investigation has been made of how store atmosphere affects shopping behavior within the store (Donovan, Rossiter, Marcoolyn, Nesdale, 1994).

*Ho<sub>5a</sub>. The atmosphere has a significant relationship with ethical consumption behavior among beverage consumers in Nigeria.*

*Ho<sub>5b</sub>. Price sensitivity moderates the relationship between the atmosphere and ethical consumption behavior in Nigeria.*

### **Biodiversity**

Biological diversity, known as biodiversity, underpins the well-being of society. “We must recognize the right of future generations to inherit, as we have, a planet thriving with life, and that continues to afford opportunities to reap the economic, cultural and spiritual benefits of nature.” (Global Environment Facility. 2007). Moreover though, humans cannot dispense with ecosystem services and live healthily (WHO, 2005), and if biodiversity plays a role in the functioning of these services, it is not due to the state that human wellbeing is largely dependent on biodiversity. Ehrlich et al., (1981) points out that the life supporting functions of ecosystem services include air and water purification, mitigation of droughts and floods, generation and preservation of soils, pollination of crops and natural vegetation, dispersal of seeds, cycling and movement of nutrients, protection of coastal shores, partial stabilization of the climate and the moderation of weather extremes and their impacts. These services are the basis on which every economy depends (Alcomo, 2003).

*Ho<sub>6a</sub>. There is a significant relationship between biodiversity and ethical consumption behavior among beverage consumers in Nigeria.*

*Ho<sub>6b</sub>. Price sensitivity moderates the relationship between biodiversity and ethical consumption in Nigeria.*

### **Moderation effect of Price Sensitivity**

Price Sensitivity may be seen as the extent to which individuals differ in their reaction to price changes and price differences of the product (Stall-Meadows and Davey, 2013). Researchers regards price sensitivity as a direct or indirect antecedent of the purchasing intention of an environmentally friendly product (Ghali-Zinoubi and Toukabri, 2019; Stall-Meadows and Davey, 2013), but fewer studies explore its moderating role between consumers' environmental responsibility or environmental concern and ethical consumption intentions. Hsu et al. (2017) establish that price sensitivity was an important factor affecting purchasing intentions, and consumers with lower price sensitivity are more likely to pay for electric vehicles (Hahnel, et al. 2014). Cicia et al. (2002) showed that when the price of organic products did not exceed 20% of the average price of agricultural products, up to 78% of the respondents would buy organic products in real life. In addition to consumers expressing a willingness to pay higher prices for ethically produced products, consumers would expect to pay less for unethically produced products (Moosmayer, 2012). According to previous studies, consumers with a high degree of price sensitivity may be less likely to impose their environmental consciousness and beliefs on ethical consumption behavior.

### **Procedure methodology**

The descriptive design was used for the study. The population of the study was all the consumers of beverages in south-east Nigeria. According to the official figure of population census (2006), the population figure of south east states are as follows, Anambra State 4.1million, Imo State 3.9million, Enugu State 3.2million, Abia State 2.8million, Ebonyi State 2.1million, the total population is 16,100,000. Quota sampling technique was used to ensure full representation of each of the states under study. Cochran's (1963) sample size determination statistical formula for finite population was adopted in determining the sample size for the study. Since the population of the study is known (finite). The formula for sample size determination adopted for this study is:

$$n = \frac{Z^2 N p q}{N e^2 + Z^2 p q}$$

The sample size was 625 consumers.

Bowley's proportionate allocation formula was used to apportion the sample size per state Bowley, (1937) . Bowley proportional allocation formula is bellow.

$$n_h = \frac{n N_h}{N}$$

The technique for data collection was predominantly through the questionnaire. The questionnaire covered all the salient issues contained in the objectives. The questionnaire was pretested to 120 volunteer consumers in Enugu state and provided constructive suggestions. The final questionnaire was fine-tuned based on the feedbacks given by the pretest samples.

The questionnaire design consists of section A and B. Section A is to elicit bio-data (personal profile of respondents), while Section B focus on the research questions. The Sustainable Development Awareness scale used in this study was developed by (Türer, 2010). Toti and Moulins (2016) developed a three-dimensional scale of ethical consumption behavior which was used to measure ethical consumption while price sensitivity was measured using the Price



Sensitivity Scale developed by Wakefield and Inman, (2003). The instrument was structured in 5-Likert scale items organized within the variables. Numerical values are given for each of the responses. The values are: Strongly Agree (SA) = 5, Agree (A) = 4, Neutral (N) = 3, Disagree (D) = 2, Strongly Disagree (SD) = 1. Descriptive statistics were used to analyze the bio-data of the respondents and the research questions. Content validity was tested with discriminant validity analysis using the Pearson product-moment correlation coefficient. The reliability was measured using factor analysis. Structure equations modeling (SEM) was used to test the hypothesized relationships and interaction of the variables. The analysis was done with the aid of Stata 15 SEM software. Of the 625 copies of the questionnaire to beverage consumers in South east Nigeria, 425 copies were returned as duly filled and usable. This represents 68% response rate and is considered quite high for a study of this nature.

## RESULT

The first stage in the data presented is the socio-demographic variables used in the study. These include gender, age bracket, monthly income; education, and employment. Analysis of the gender characteristics of the respondents shows that 252(59.3% of the respondents are males while 173(40.7%) are females. On age bracket, 92(21.6%) are within 20 -30 years age bracket; 123(28.9%) fall within 31-40 years age bracket; 152(35.8%) fall within 41 – 50 years age bracket; while the remaining 58 (13.6%) are above 50 years of age. On monthly income, 110(25.9%) earn N40,000:00 and below per a month, 102(24.0%) earn between N41,000:00 and N80,000:00 per a month; 140(32.9) earn between N81,000:00 and N120,000:00 a month; while the remaining 73(17.2%) earn above N120,000:00 a month. On education, 54(12.7%) of the respondents have first leaving school certificate; 83(19.5%) have WAEC/NECO; the majority of 257(60.5%) are holders of HND/BSc certificates; while 31(7.3% have post-graduate qualifications. The next information is on the employment status of the respondents. As shown in Table 4.1, 127(29.9%) have full employment; 280(65.9%) are underemployed; while 18(7.2%) are unemployed. The last socio-demographic used in this study is marital status. Analysis of the results show that 118(27.8%) of the respondents are single; 250(58.8%) are married; 17(4.0%) are divorced; while 40(9.4%) is widow/widower. The above result implies that majority of the respondents are knowledgeable, experienced and reasonable to answer the research questions.

### Descriptive Statistics

The descriptive statistics were employed to check the behavior of the data and to ready the data for inferential statistics analysis.

**Table 1: Descriptive Statistics**

	N Statistic	Minimum Statistic	Maximum Statistic	Mean Statistic	Std. Deviation Statistic	Skewness		Kurtosis	
						Statistic	Std. Error	Statistic	Std. Error
EQ1	425	1	5	4.24	.828	-1.184	.118	1.663	.236
EQ2	425	1	5	3.74	1.188	-.733	.118	-.575	.236
EQ3	425	1	5	4.09	1.094	-1.519	.118	1.843	.236
HE1	425	1	5	4.17	1.010	-1.081	.118	.306	.236
HE2	425	1	5	3.63	1.324	-.473	.118	-1.204	.236
HE3	425	1	5	3.87	1.139	-1.159	.118	.693	.236
ES1	425	1	5	4.12	1.100	-1.116	.118	.287	.236
ES2	425	1	5	3.74	1.401	-.908	.118	-.503	.236
ES3	425	1	5	3.96	1.028	-1.428	.118	1.943	.236
CPP1	425	1	5	4.17	.929	-1.390	.118	1.983	.236
CPP2	425	1	5	3.96	.888	-1.120	.118	1.699	.236
CPP3	425	1	5	3.97	1.189	-1.205	.118	.629	.236
AT1	425	1	5	4.22	.978	-1.353	.118	1.374	.236
AT2	425	1	5	3.78	1.191	-.679	.118	-.603	.236
AT3	425	1	5	4.37	.965	-2.093	.118	4.385	.236
BI1	425	1	5	4.31	.860	-1.925	.118	4.900	.236
BI2	425	1	5	3.93	.986	-.749	.118	.214	.236
BI3	425	1	5	4.00	1.056	-1.443	.118	1.796	.236
PD1	425	1	5	3.74	1.229	-.850	.118	-.192	.236
PD2	425	1	5	4.20	1.009	-1.681	.118	2.878	.236
PD3	425	1	5	3.95	1.042	-1.424	.118	1.849	.236
SD1	425	1	5	3.98	1.063	-1.081	.118	.643	.236
SD2	425	1	5	3.50	1.396	-.718	.118	-.775	.236
SD3	425	1	5	3.78	1.160	-1.314	.118	.978	.236
ED1	425	1	5	4.30	.776	-1.674	.118	4.713	.236
ED2	425	1	5	3.92	1.350	-1.246	.118	.272	.236
ED3	425	1	5	4.01	.935	-1.205	.118	1.649	.236
PS1	425	1	5	4.18	.780	-1.173	.118	2.313	.236
PS2	425	1	5	4.08	.988	-1.421	.118	1.986	.236
PS3	425	2	5	4.25	.592	-.482	.118	1.258	.236
Valid N (listwise)	425								

Table 1. Descriptive statistics provides information concerning the distribution of the scores on continuous variables, skewness, and kurtosis (Pallant, 2013). The output indicates that all the variables have mean over 3 and standard deviations above 1 which signify positive response and conformity with the dimensions of the research model and high variation in the opinions of the respondents respectively. The skewness of the items is mixed with very high values and very low values. Also the kurtosis show very high and very low or values below zero. This implies that there is a mix of peakedness and flattened values in the items. The captive sample for this study is 425 respondents hence skewness will not make a serious impact on the analysis (Tabachinick and Fidell, 2013).



### Test of Normality

Multivariate normality is the assumption that each variable and all linear combinations of the variables are normally distributed Tabachnick and Fidell (2013).

**Table 2: .Tests of Normality**

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
EQ1	.257	425	.000	.780	425	.000
EQ2	.287	425	.000	.834	425	.000
EQ3	.304	425	.000	.739	425	.000
HE1	.290	425	.000	.778	425	.000
HE2	.228	425	.000	.832	425	.000
HE3	.305	425	.000	.800	425	.000
ES1	.288	425	.000	.774	425	.000
ES2	.266	425	.000	.792	425	.000
ES3	.336	425	.000	.759	425	.000
CPP1	.282	425	.000	.764	425	.000
CPP2	.311	425	.000	.807	425	.000
CPP3	.269	425	.000	.784	425	.000
AT1	.279	425	.000	.756	425	.000
AT2	.229	425	.000	.850	425	.000
AT3	.308	425	.000	.638	425	.000
BI1	.273	425	.000	.688	425	.000
BI2	.218	425	.000	.850	425	.000
BI3	.331	425	.000	.753	425	.000
PD1	.248	425	.000	.842	425	.000
PD2	.271	425	.000	.724	425	.000
PD3	.338	425	.000	.758	425	.000
SD1	.264	425	.000	.815	425	.000
SD2	.274	425	.000	.827	425	.000
SD3	.363	425	.000	.748	425	.000
ED1	.267	425	.000	.715	425	.000
ED2	.306	425	.000	.732	425	.000
ED3	.300	425	.000	.800	425	.000
PS1	.282	425	.000	.774	425	.000
PS2	.310	425	.000	.763	425	.000
PS3	.344	425	.000	.724	425	.000

a. Lilliefors Significance Correction

Kolmogorov-Smirnov and Shapiro-Wilk statistics were used to test the normality of the data distribution scores and as shown in the output, the values of both statistics are highly statistically significant with p values of .000 well below the .05 margin of error. This implies that the normality assumption is violated. The captive sample for this study is 425 hence this violation of normality assumption is not a problem. Pallant (2013) avers that violation of normality assumption is ‘quite common with large samples p.66.’

### Validity Analysis

Validity is the extent to which a scale or set of measures accurately represents the concept of interest (Hair, et. al. 2013). Discriminant validity was adopted for this study and the results are shown below.

**Table 3:** Correlations

		Equity	Health	ES	CPP	Atm	Bio	ECB	PS
Equity	Pearson Correlation	1	.406**	.532**	.504**	.111*	.512**	.486**	.047
	Sig. (2-tailed)		.000	.000	.000	.022	.000	.000	.333
	N	425	425	425	425	425	425	425	425
Health	Pearson Correlation	.406**	1	.368**	.551**	.218**	.295**	.235**	-.009
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000	.846
	N	425	425	425	425	425	425	425	425
Economic structure	Pearson Correlation	.532**	.368**	1	.507**	.313**	.462**	.186**	.136**
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000	.005
	N	425	425	425	425	425	425	425	425
Consumption and production pattern	Pearson Correlation	.504**	.551**	.507**	1	.258**	.434**	.167**	.139**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.001	.004
	N	425	425	425	425	425	425	425	425
Atmosphere	Pearson Correlation	.111*	.218**	.313**	.258**	1	.266**	.113*	.084
	Sig. (2-tailed)	.022	.000	.000	.000		.000	.020	.082
	N	425	425	425	425	425	425	425	425
Biodiversity	Pearson Correlation	.512**	.295**	.462**	.434**	.266**	1	.373**	.091
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000	.061
	N	425	425	425	425	425	425	425	425
Ethical consumption	Pearson Correlation	.486**	.235**	.186**	.167**	.113*	.373**	1	.122*
	Sig. (2-tailed)	.000	.000	.000	.001	.020	.000		.012
	N	425	425	425	425	425	425	425	425
Price sensitivity	Pearson Correlation	.047	-.009	.136**	.139**	.084	.091	.122*	1
	Sig. (2-tailed)	.333	.846	.005	.004	.082	.061	.012	
	N	425	425	425	425	425	425	425	425

\*\*. Correlation is significant at the 0.01 level (2-tailed).

\*. Correlation is significant at the 0.05 level (2-tailed).

As shown in the correlation matrix all the correlation between the constructs is well below the .6 threshold indicating that the constructs/variables do not have validity problems. It is also an indication that there is no problem of collinearity among the constructs.

### Reliability Analysis

Factor analysis was to check for reliability and the internal consistency of the individual items used to measure the constructs. The Kaiser-Meyer-Olkin(KMO) Measure of Sampling Adequacy

is .567 above the .5 benchmark while Bartlett's Test of Sphericity has approximate Chi-Square value of 6809.657 with a degree of freedom (df) of 435 and  $p$ -value of .000 which well below the .05 margin of error. This means that the factor analysis is reliable and dependable hence we proceed with the test. We look at the list of communalities.

**Table 4: Communalities**

	Initial	Extraction
EQ1	1.000	.755
EQ2	1.000	.765
EQ3	1.000	.634
HE1	1.000	.559
HE2	1.000	.695
HE3	1.000	.784
ES1	1.000	.704
ES2	1.000	.765
ES3	1.000	.608
CPP1	1.000	.755
CPP2	1.000	.747
CPP3	1.000	.729
AT1	1.000	.709
AT2	1.000	.737
AT3	1.000	.625
BI1	1.000	.858
BI2	1.000	.794
BI3	1.000	.676
PD1	1.000	.794
PD2	1.000	.599
PD3	1.000	.749
SD1	1.000	.699
SD2	1.000	.758
SD3	1.000	.836
ED1	1.000	.703
ED2	1.000	.818
ED3	1.000	.664
PS1	1.000	.676
PS2	1.000	.762
PS3	1.000	.865

Extraction Method: Principal  
Component Analysis.

The size of the communality is a useful index for assessing how much variance in a particular variable is accounted for by the factor solution. Higher communality values indicate that a large amount of the variance in a variable has been extracted by the factor solution (Hair, et al. 2013). All the items in our analysis load above .5 hence more than 50 % of variance have been extracted for each item.

**Table 5: Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.541	18.472	18.472	5.541	18.472	18.472
2	4.296	14.319	32.791	4.296	14.319	32.791
3	2.441	8.136	40.926	2.441	8.136	40.926
4	1.953	6.509	47.435	1.953	6.509	47.435
5	1.693	5.644	53.079	1.693	5.644	53.079
6	1.349	4.496	57.575	1.349	4.496	57.575
7	1.270	4.234	61.808	1.270	4.234	61.808
8	1.207	4.023	65.831	1.207	4.023	65.831
9	1.056	3.521	69.352	1.056	3.521	69.352
10	1.016	3.388	72.740	1.016	3.388	72.740
11	.847	2.825	75.565			
12	.812	2.706	78.271			
13	.746	2.485	80.756			
14	.711	2.369	83.125			
15	.654	2.180	85.305			
16	.545	1.816	87.121			
17	.519	1.729	88.850			
18	.477	1.589	90.439			
19	.421	1.403	91.842			
20	.406	1.352	93.194			
21	.341	1.136	94.330			
22	.337	1.122	95.451			
23	.274	.914	96.365			
24	.234	.778	97.144			
25	.227	.756	97.900			
26	.198	.659	98.559			
27	.175	.583	99.142			
28	.117	.390	99.533			
29	.093	.309	99.841			
30	.048	.159	100.000			

Extraction Method: Principal Component Analysis.

The total variance extracted is based on achieving a specified cumulative percentage of total variance extracted by successive factors. It is not uncommon to consider a solution that accounts for 60 percent of the total variance as satisfactory. The total variance extracted is 72.740 which is very acceptable showing that the data has internal consistency.

### Model Assessment

The squares-structural equation modeling (SEM) method was used to analyze and test the hypothesized relationships as well as the interaction effects between variables in the research model. This aspect and level of the analysis were done with the aid of Stata 15 SEM software.

**Table 6: Model Assessment of the Structural Equation**

Fit statistic	Value	Description
Likelihood ratio		
chi2_ms(0)	0.000	model vs. saturated
p > chi2	.	
chi2_bs(13)	161.243	baseline vs. saturated
p > chi2	0.000	
Population error		
RMSEA	0.000	Root mean squared error of approximation
90% CI, lower bound	0.000	
upper bound	0.000	
pclose	1.000	Probability RMSEA <= 0.05
Information criteria		
AIC	14872.627	Akaike's information criterion
BIC	14933.409	Bayesian information criterion
Baseline comparison		
CFI	1.000	Comparative fit index
TLI	1.000	Tucker-Lewis index
Size of residuals		
SRMR	0.000	Standardized root mean squared residual
CD	0.316	Coefficient of determination

The model fit output show that Chi-square has a value of 161.243 with a  $p$ -value of .000 well below the .05 margin of error. Other fit measures like the root mean error approximation (RMSEA) and the standardized root mean residual (SRMR) have 1 as the values which indicate absolute fit or goodness of fit. The fit indices take values between 0 and 1 and extant research agrees that values closer to 1 are better. Other fit measures like the Tucker Lewis index (TLI) and comparative fit indices (CFI) show absolute fit.

Based on this we look at the equation level goodness of fit in table 7.

**Table 7a: Equation-level goodness of fit**

depvars	Variance			R-squared	mc	mc2
	fitted	predicted	residual			
observed ECB	.9976487	.2948399	.7028088	.2955348	.5436311	.2955348
overall				.2955348		

mc = correlation between depvar and its prediction

mc2 = mc<sup>2</sup> is the Bentler-Raykov squared multiple correlation coefficient

**Table 7b: Equation-level goodness of fit with the moderator**

depvars	Variance			R-squared	mc	mc2
	fitted	predicted	residual			
observed ECB	.9976487	.3149821	.6826665	.3157245	.5618937	.3157245
overall				.3157245		

mc = correlation between depvar and its prediction

mc2 = mc<sup>2</sup> is the Bentler-Raykov squared multiple correlation coefficient

The main tool used to assess the model at the equation level goodness of fit is the coefficient of determination  $r^2$  which assesses the predictive capacity of a model. Because we are concerned with moderation in this study the analysis was done two times. First with the IVs and the moderation with the DV, and second the interaction effects were then added as additional IVs. The first is reported in Table 7a while the second is in Table 7b. In the output, the  $r^2$  is approximately 29.6% which means that the IVs account for only 29.6% of the variance in the DV. Adding the interaction to all the IVs in the second model only increased the prediction value ( $r^2$ ) to approximately 31.6%. This shows an increase of only 2% of the predictive ability of the model. This is very negligible and is an indication of no moderation/interaction effect.

### Hypotheses Testing

The squares-structural equations modeling (SEM) method was used to analyze and test the hypothesized relationships as well as the interaction effects between variables in the research model.





## DISCUSSION

Equity has a coefficient of .513, z-value = 9.43, and p-value of 0.000 which is well below the .05 margin of error. The confidence interval lower limit (LL) = .406 and upper limit (UL) is .619. Hence hypothesis is fully validated and accepted. However, Equity\*PS has coefficient = .056, z-value = .83, p-value = .41; confidence interval LL = -.076 and UL = .188. Based on that hypothesis Ho<sub>1b</sub> is rejected.

Health coefficient is .513, z-value = 2.78, and p-value of 0.005 which is well below the .05 margin of error. The confidence interval lower limit (LL) = .042 and upper limit (UL) is .242. Hence hypothesis Ho<sub>2a</sub> accepted. However, Health\*PS has coefficient = -.003, z-value = -.05, p-value = .960; confidence interval LL = -.076 and UL = .188, hypothesis Ho<sub>2b</sub> is rejected.

Economic structure coefficient is -.156, z-value = -2.78, and p-value of 0.005 which is well below the .05 margin of error. The lower limit of the confidence interval (LL) = -.265 and upper limit (UL) is -.102. Hence hypothesis Ho<sub>3a</sub> accepted. However, ES\*PS has coefficient = -.079, z-value = -1.31, p-value = .190; confidence interval LL = -.109 and UL = .104, based on this hypothesis Ho<sub>3b</sub> is rejected.

Consumption and production pattern coefficient is -.214, z-value = -3.74, and p-value of .000 which is well below the .05 margin of error. The lower limit of the confidence interval (LL) = -.327 and upper limit (UL) is -.102. Hence, hypothesis Ho<sub>4a</sub> validated and accepted. But, CPP\*PS has coefficient = .036, z-value = .55, p-value = .583; confidence interval LL = -.092 and UL = .164, hypothesis Ho<sub>4b</sub> is not accepted.

Atmosphere coefficient is .071, z-value = 1.54, and p-value of .123 which is well above the .05 margin of error. The lower limit of the confidence interval (LL) = -.019 and upper limit (UL) is .161, hence hypothesis Ho<sub>5a</sub> is not accepted. Also Atmosphere \*PS has coefficient = .060, z-value = 1.31, p-value = .192; confidence interval LL = -.030 and UL = .151, hence hypothesis Ho<sub>5b</sub> is not accepted.

Biodiversity coefficient is .189, z-value = 3.51, and p-value of .000 which is well below the .05 margin of error. The lower limit of the confidence interval (LL) = .084 and upper limit (UL) is .295. Hence, hypothesis Ho<sub>6a</sub> is validated and accepted. However, Biodiversity coefficient \*PS has coefficient = -.068, z-value = -1.29, p-value = .196; confidence interval LL = -.172 and UL = .035, hence, hypothesis Ho<sub>6b</sub> is not accepted.

## DISCUSSION OF FINDINGS

Equity was established to have a significant relationship with ethical consumption behavior. This means that if there is an equitable distribution of wealth and the majority of people are out of poverty, this will entrench ethical consumption behavior among beverage consumers. The outcome

of the study supports the early works of Magnusson, et al., (2003) and Ravallion (2016) but did not support the study of Hankanen et al. (2006).

It was established that health has a significant relationship with ethical consumption behaviour. The healthy leaving is of importance to everybody therefore, consumers should strive to sustain the environment through ethical consumption. The finding of the current study did not conform to earlier study by Michaelidou and Hassan (2008) but support the study by Tarkianinen and Sundqvist, (2005).

Economic structure has to do with the GDP, economic performance, and financial status. It was established that economic structure has a significant relationship with ethical consumption behavior; this means that in consumption behavior the financial status of consumers determines the direction of his/her consumption pattern. Furthermore, the economic performance determines the financial status of consumers and this will influence the consumption direction. Bocken et al., (2016) find economic structure as predictor to ethical consumption behavior and it supports the outcome of the current study but in disagreement with Magnusson et al. (2003).

The study established that production and consumption pattern has a significant relationship with ethical consumption behavior which implies that if the consumption pattern is tailored towards sustainable products, sustainable marketing will be achieved. The outcome of the current study did not conform to the study conducted by Mainieri et al. (1997) but supported the study of Tarkianinen and Sundqvist (2005).

It was established in this study that the atmosphere has no significant relationship with ethical consumption behavior. This calls for the serious campaign among the manufacturers and especially the government through the Ministry of Information and its agencies to continue to vigorously educate consumers on the dangers inherent in climate change, ozone layer depletion and the quality of the air we breathe. The current study is in support with the study conducted by Hankanen et al. (2006) but Donovan et al. (1994) agreed that atmosphere is a predictor of ethical consumption behavior.

The study established that biodiversity has a significant relationship with ethical consumption behavior. Biodiversity means the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part. In alliance with previous studies Tarkianinen and Sundqvist, (2005) and Donovan et al. (1994), the current study is in conformity but the study of Hankanen et al. (2006) did not support the study.

## CONCLUSIONS

This study aims to examine the moderation effect of price sensitivity on the relationship between sustainable marketing and ethical consumption behavior among beverage consumers in southeast Equity has a significant relationship with ethical consumption behavior in the beverage industry

in south east Nigeria. Price sensitivity does not moderate the effects of equity and ethical consumption behavior among consumers.

Health has a significant relationship with ethical consumption behavior in the beverage industry in south east Nigeria. Price sensitivity has no moderation effect on health and ethical consumption behavior among consumers.

There is a significant relationship between economic structure and ethical consumption behavior in the beverage industry in south east Nigeria. Price sensitivity does not moderate the relationship between economic structure and ethical consumption behavior among consumers.

Consumption and production pattern has a significant relationship with ethical consumption behavior in the beverage industry in south east Nigeria. Price sensitivity does not moderate the relationship between consumption and production pattern and ethical consumption behavior among consumers.

The atmosphere has no significant relationship with ethical consumption behavior in the beverage industry in south east Nigeria. Price sensitivity does not moderate the relationship between the atmosphere and ethical consumption behavior among consumers.

There is a significant relationship between biodiversity and ethical consumption behavior in the beverage industry in south east Nigeria. Price sensitivity does not moderate the relationship between biodiversity and ethical consumption among consumers.

In the study, price sensitivity was found not to have a moderation effect on the relationship between independent and dependent variables. Price sensitivity discusses the consciousness of consumers towards a given price. The study observed that price is not a determinant for a consumer to consume ethically. Ethical consciousness in individual consumer will trigger the need to consume ethically. We recommend that the government should revive the Commodity Price Regulation Board to ensure that consumers are not exploited while patronizing ethical products.

Ethical consumption is not just consuming ethical or green products rather it emphasizes the conscious and deliberate choice to make certain consumption choices due to personal and moral beliefs. To this end, we recommend that the government should embark on awareness creation on the need to sustain ethical consumption behavior which will entrench sustainable marketing

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