

Review

Exploring the Role of Sustainability-Oriented Marketing Education in Promoting Consciousness for Sustainable Consumption

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Abstract: Scholars have increasingly examined how education influences consciousness for sustainable behaviour, but studies focusing on developing economies are very few, and the role of sustainability-oriented marketing education is currently underexplored. By applying the theory of planned behaviour, this study explores the influence of sustainability-oriented marketing education on students' consciousness for sustainable consumption. The study is a quantitative research study based on an online survey of marketing students who participated in a training/seminar programme of the National Institute of Marketing of Nigeria. The participants were drawn from three universities across the South-East and South-South zones of the country. SmartPLS structural equation modelling was applied to test the generated data. We find that sustainability-oriented marketing education influences students' consciousness for sustainable consumption, attitude, subjective norms, and perceived behavioural control. The findings will strengthen marketing education for sustainable development, and they have implications for students' environmental consciousness in making purchase decisions. The study also brings more insight into marketing education's role in actualizing the United Nations' Sustainable Development Goals in Nigeria.

Keywords: sustainability-oriented marketing education; theory of planned behaviour; consciousness for sustainable consumption; education for sustainable development; sustainable development



Citation: Agu, A.G.; Etuk, S.G.; Madichie, N.O. Exploring the Role of Sustainability-Oriented Marketing Education in Promoting Consciousness for Sustainable Consumption. *Sustainability* **2022**, *14*, 8077. <https://doi.org/10.3390/su14138077>

Academic Editor: Francesco Caracciolo

Received: 6 June 2022

Accepted: 27 June 2022

Published: 1 July 2022

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1. Introduction

The concept of sustainability has increasingly gained the attention of scholars, organizations, consumers, and governments around the world. Sustainable development received its first international recognition in 1972 at the United Nations Conference on the Human Environment held in Stockholm [1], while the United Nations' (1987) Brundtland Commission report [2]; strengthened that recognition. The report expressed the belief that social equity, economic growth, and environmental maintenance—the triple bottom line [3–5]—are simultaneously possible. Following this call, United Nations member states signed on to the 17 Sustainable Development Goals (SDG) in 2015 as a universal call to action to end poverty, protect the planet, and ensure that all people enjoy peace and prosperity by 2030 [6]. Given the heightened global attention on sustainability, driving consumers' consciousness for sustainable consumption remains critical, as their consumption behaviour can significantly affect the environment [7] and (dis)encourage firms to market sustainably [8–10]. This accounts for the importance attached to consumption and production in the SDGs (e.g., SDG 12).

Generally, education has been found to improve consumers' consciousness for and behaviour towards sustainable consumption [10–17]. Thus, SDG 4, especially target 4.7—to

ensure inclusive and equitable quality education that promotes lifelong learning opportunities for all—emphasizes the crucial role of education as an important channel for sustainable development [18]. On the other hand, dearth of understanding and knowledge arising from poor exposure to information can contribute to low uptake of sustainable behaviour [10,19].

Specifically, management education (marketing education included) has been recognized as having the power to influence sustainable actions, although its role has been underappreciated [20]. In 2007, the United Nations Principles for Responsible Management Education (PRME) initiative was introduced. The PRME initiative aims to achieve the Sustainable Development Goals through the implementation of six principles—purpose, values, method, research, partnership, and dialogue in management education. The initiative has grown to include over 650 signatories from more than 85 countries across the world [21]. Being a key discipline in business schools, marketing has the capacity to contribute to attaining sustainable development [22,23]. However, societies' trajectories remain deeply unsustainable (WEF, 2018), and the need to address sustainability in management education (e.g., marketing education) is perhaps becoming even more acute [24].

Despite the increasing literature about embedding sustainability in business school curricula [20,25–27], research that explores marketing's role in leading a sustainable future by creating consciousness for sustainable consumption is currently underexplored [16,28–30], and in the context of developing countries such as Nigeria, there is an obvious dearth of empirical literature. The need to explore the impact of sustainability-oriented management education's input and process efforts on students' post-study behaviour (output) has been mentioned in the literature [26,31].

In response to this, the current study attempts to build on the theory of planned behaviour (TPB) [32] to answer this question: to what extent does sustainability-oriented marketing education influence students' attitude, subjective norms, perceived behavioural control, and consciousness for sustainable consumption in Nigeria? The present study is among the few studies that attempt to extend the understanding of the TPB in the context of sustainability in emerging countries by proposing the inclusion of SME to the model. Again, previous studies concentrated mainly on one of the pillars of sustainability—the environment e.g., [33–36]. They believe that consumers who are environmentally conscious will definitely be socially and economically conscious in their consumption decisions [37]. Making a departure from this ideology, and in response to increasing social concerns in Nigeria [38], the environmental and social aspects of sustainability are jointly examined to deepen the literature. Therefore, the specific goals of this study are to:

1. Evaluate the extent to which attitude, subjective norms, and perceived behavioural control influence consciousness for sustainable consumption.
2. Measure the nature of the relationship between sustainability marketing education attitude, subjective norms, perceived behavioural control, and consciousness for sustainable consumption.

The rest of the paper will proceed as follows: the next section is dedicated to a literature review that includes theoretical and conceptual reviews as well as related hypotheses. In the third and fourth sections, we explain the methodology and analyze the results, respectively. In the fifth section, we discuss the findings, while the theoretical and practical contributions of the study, as well as the limits of the research, are presented in the sixth section as conclusions and implications.

2. Literature Review

2.1. Theory Grounding the Study, Conceptual Review and Hypotheses Development

2.1.1. Consciousness for Sustainable Consumption

Sustainable consumption and production (SCP) has been defined as a holistic approach to minimizing the negative environmental impacts of consumption and production systems while promoting quality of life for all [18]. Sheth et al. [39] see sustainable consumption as mindful consumption that is guided and underpinned by a mindful mindset that reflects a conscious sense of caring toward the self, community, and nature. In the TPB

model, intention is seen as a necessary precursor of actual behaviour. It refers to an individual's readiness to perform a given behaviour [40] and is influenced by several factors. Consciousness for sustainable consumption (CSC) is an intention to consume in a way that enhances the environmental, social, and economic aspects of quality of life [41]. The main agenda of sustainable consumption is to incentivize consumers to purchase green products and maximize the sales of green products in the short run, while encouraging consumers to adopt an environmentally friendly lifestyle such as buying less and buying better in the long run (Bonini and Oppenheim, 2008; Mcspirit, 1998) in Yang et al. [42].

Understanding the drivers of consumers' consciousness for sustainable consumption has many benefits. For instance, Balderjahn et al. [41] believe that a clearly revealed consumer consciousness for sustainable consumption will help motivate and reinforce appropriate activities by companies, as well as impact the activities of political institutions that define regulatory frameworks and play an influential role in attaining sustainability goals. Studies have found a link between intention and behaviour [34,37,40]. However, some others insist that intention may not necessarily result in actual behaviour [43,44]. Specifically, Yang et al. [42], in a survey of a sample of 404 Chinese consumers, found attitude, subjective norms, and PBC as significant predictors of sustainable consumption intention. This was also corroborated by Saricam and Okur [45] in their study on consumer behaviour towards sustainable fashion, which found all three TPB elements to be significant drivers of sustainable consumption intention.

In trying to examine intentions and actual behaviours towards sustainable consumption, theories have been applied by previous scholars, and the TPB has been widely used [37,40,46,47]. As proposed by Ajzen [32], the TPB argues that attitude towards behaviour, subjective norms, and perceived behavioural controls (PBC) shape an individual's behavioural intentions and behaviour. However, some authors believe that the TPB cannot fully explain certain behavioural intentions, such as ethical consumption [47], unless new constructs are added. Ajzen [32] maintains that the relative importance of the TPB factors in explaining the intentions and behaviours of an individual vary across behaviours and situations. In the area of ethical/sustainable consumption, knowledge (such as that acquired by education) is considered to be promising predictor [7,10–14]. The present study integrates sustainability marketing education into the TPB model. This will help to deepen the understanding regarding the interaction between TPB and consciousness for sustainable consumption.

2.1.2. Attitude

Fishbein and Ajzen [48] explained attitudes as learned tendencies to perceive and act in some consistently favourable or unfavourable manner with regard to a given object or idea, such as a product, service, brand, company, store, or spokesperson. It also refers to an individual's favourable or unfavourable appraisal of performance of a concerned behaviour [32] or an individual's opinion of outcomes regarding a specific behaviour [13]. Generally, attitude is believed to influence the behaviour of consumers. A number of studies found attitude as the strongest predictor of intention/behaviour [44]. In the area of sustainable consumption, attitude is reported to have a positive influence on green purchase behaviour [35–37,49–51]. On the contrary, after a review of articles on attitude and sustainable behaviour in the tourism industry, Passaforo [34] concluded that attitude should not be expected to be strong direct predictor of behaviour. Similarly, Englis and Phillips [43] assert that there is a disconnection between attitude and green behaviour because consumers' concerns about the environment do not easily translate into green purchases. However, the evidence provided by most empirical studies generally suggests the existence of a positive relationship between attitudes and intentions [52].

2.1.3. Subjective Norms

'Subjective norms' as a concept tends to concern more externally social factors in predicting consumer behaviour. It describes a personal perception that depends upon

friends, family, and relatives in making behavioural decisions [32]. To Ham et al. (2015), subjective norms are determined by the perceived social pressure from others for an individual to behave in a certain manner and their motivation to comply with those people's views. Ajzen [32] submitted that subjective norms have no direct significant association with the behaviour of the consumers. Instead, they create intention that in turn influences behaviour [53]. However, studies abound that have reported significant and direct influence by subjective norms on consumer behaviour [44]. In the area of sustainability consciousness and consumption, previous studies [35,36,51,54] reported that subjective norms influence purchase intention/behaviour positively. On the contrary, Khare [55] and Chaudhary and Bisai [37] found it to be a non-significant driver of purchase intention.

2.1.4. Perceived Behavioural Control

Perceived behavioural control (PBC), according to Ajzen [32], is the perception of ease or difficulty of performing a particular behaviour. In the context of consumer behaviour, it explains how a consumer perceives a behaviour to be easy or difficult to perform. Chaudhary and Bisai [37] disclosed that past research has identified PBC as one of the strongest predictors of human intentions and behaviours across a breadth of green products and services and also validate this in their findings. Other empirical evidence that suggests that PBC influences consumer behaviour include Bohmann and Bronn [56], Nguyen et al. [44], Gopi and Ramayah [57], Maichum et al. [51], Braga et al. [35], and Ham et al. [36]. However, Onel [54] did not find significant interaction between PBC and pro-environmental consumer behaviour.

Based on the TPB as presented and these arguments, the following are hypothesized:

- H1.** *Attitude relates positively to consciousness for sustainable consumption.*
- H2.** *Subjective norms relate positively to consciousness for sustainable consumption.*
- H3.** *PBC relates positively to consciousness for sustainable consumption.*

In line with previous studies, the present study extends the TPB model in the context of consciousness for sustainable consumption by introducing sustainability marketing education.

2.1.5. Sustainability Marketing Education

The Sustainable Development Goals include a goal on learners gaining the necessary knowledge and skills to promote sustainable development (UNESCO) [58]—Goal 4, Target 4.7. This leads to an emphasis on education for sustainable development (ESD). Being a strong tool in the actualization of the SDGs, ESD empowers people to change the way they think and work towards a sustainable future [59], is desirable in all levels of formal education and training, as well as non-formal and informal learning (Council of the European Union, 2010), and encourages changes in knowledge, skills, values, and attributes to enable a more sustainable and just society for all [58]. Generally, ESD seeks to promote sustainability literacy—the knowledge, skills, and mindsets that help compel an individual to become deeply committed to a sustainable future [60].

Sustainability marketing education is an integral part of ESD. It is the process of imparting or gaining of knowledge by means of teaching, training, and learning about sustainability marketing practices of firms and the expected reactions of consumers as stakeholders in actualizing the sustainable development agenda. It integrates environmental sustainability (e.g., efforts to conserve and reuse), social sustainability (e.g., efforts to promote equity, diversity, and social justice), and economic sustainability (e.g., efforts to reduce poverty and promote fair trade and survival) [27] into marketing curricula. Above all, it inculcates the values of sustainable marketing and consumption. Sustainable (sustainability) marketing is a contemporary description of an “environmentally enlightened”

approach to marketing [61] that aims at building and maintaining sustainable relationship with customers, as well as the social and natural environment [62].

An analysis of published articles by Kemper and Ballantine (2019) reveals three conceptualizations of sustainability marketing: auxiliary sustainability marketing (which focuses on the production of sustainable products), reformative sustainability marketing (which extends the auxiliary approach through the promotion of sustainable lifestyles and behavioural changes), and transformative sustainability marketing (which further extends the auxiliary and reformative approaches through the need for transformation of current institutions and norms, as well as critical reflection). Sustainability marketing education must address all of these dimensions.

Following UNESCO's [59] explanation, we propose that sustainability marketing education aims to transform society by re-orienting marketing education and helping students to develop knowledge, skills, values, and behaviours that drive sustainable development. This reorientation is relevant because traditionally, marketing and sustainability are fundamentally incompatible—marketing is about selling more, while sustainability is about consuming less [63].

Several attempts have been made to develop frameworks to guide the transition to sustainability education [25–27,64]. However, marketing as a discipline deserves more focus in thinking and research on how to lead society to more conscious and sustainable behaviour [10,16,24,65,66]. Research shows that few consumers who report positive attitudes toward eco-friendly products and services follow through with their wallets [10,67].

Generally, consumption is inherently linked to sustainability because every decision of what to buy, how much to buy, how much to consume, and how to dispose of waste has a direct impact on the environment and future generations, and the cumulative effect of each individual consumer's consumption is devastating [68]. Thus, sustainability marketing education is imperative in changing the trajectory of society. Unfortunately, while marketing firms are increasingly adopting sustainable business practices [69], attention to sustainability issues in marketing curricula is limited [70].

Marketing educators can play an important role in assisting these firms by developing curricula that build up the knowledge and skills required to enable marketing graduates to contribute to sustainable marketing efforts [71] by reforming their lifestyles to be more sustainable. The marketing curricula for undergraduate students in Nigeria are not yet fully developed. Sustainability topics such as environmentalism, green marketing and consumption, corporate social responsibility, cause marketing, and societal marketing are mainly taught as adjunct topics. Marketing courses wholly devoted to sustainable business strategy are rare, particularly at the undergraduate level [70]. However, some scholars have reported improved sustainable behaviour of consumers Mishal et al., 2017 [72], and the positive role of education in achieving this has been confirmed by previous studies [10,16,24,65,66].

Based on the arguments above, we therefore hypothesize that:

H4. *Sustainability marketing education relates positively to attitude.*

H5. *Sustainability marketing education relates positively to subjective norms.*

H6. *Sustainability marketing education relates positively to PBC.*

H7. *Sustainability marketing education relates positively to consciousness for sustainable consumption.*

Therefore, based on the outlined hypotheses, a structural model is proposed. In the next section, we explain the methodology adopted.

3. Materials and Methods

3.1. Participants

The present study is a quantitative research study based on an online survey of marketing students in three universities across the South-East and South-South zones of Nigeria. The universities were chosen purposively, while participants were final-year undergraduate and graduate students who participated in a sustainability marketing seminar organized by the National Institute of Marketing of Nigeria in one of the chosen universities. The seminar centred on the gains of sustainable consumption and the roles of marketing and consumers. Furthermore, education for sustainable development is promoted by means of sustainability marketing education in various universities in Nigeria. The participants were exposed to sustainability marketing lectures from their first year of study. Specifically, they took courses that contained significant aspects of green, environmental, and societal marketing. Since previous studies have affirmed the role of education in enhancing consciousness for sustainable consumption, focusing on this set of students is expected to provide insight into how formal education and training can influence this intention.

3.2. Measurement Instrument and Scales Generation

Our research instrument—a structured questionnaire entitled “Sustainability Survey”—was sent to the officially recognized WhatsApp platforms of the chosen classes as part of their continuous assessment tests in various courses taught by the researchers. The heads of the various marketing departments gave approval for a credit unit to be awarded in return for participating. The survey aimed at assessing the impact of current sustainability marketing education across the universities on participants’ decisions to consume sustainably, as sustainability education is expected to change the thinking, attitude, and actions of students [19,73]. The instrument had three parts. The first part sought demographic data from the participants. Four items were involved: gender, age group, marital status, and academic level (class). Part two probed into the level of attention given to sustainability marketing education in the various universities. The third part contains Likert-structured questions on the main constructs of the study. The 5-point option (1 = strongly disagree/very low, and 5 = strongly agreed/very high) was preferred. The instrument was initially pretested on a sample of 25 students and also sent to research experts for content and face validity. Following the outcome of these preliminary tests, the wording and scales were amended before a final instrument of 18 items was established (see Appendix A).

Established scales were used to measure the constructs; sustainability marketing education (SME) comprised 2 items that were conceptualized following insights from previous research [1,4,16]. Attitude (ATT), subjective norms (SNs), and perceived behavioural control (PBC) consisted of 3 items, each of which were adapted from Braga et al. [35] and Kwakye et al. [52]. Finally consciousness for sustainable consumption (CSC) consisted of 7 items, which were adapted from Chaudhary and Bisai [37], Balderjahn et al. [41], and Passoforo [34].

3.3. Statistical Methods

The present study used the partial least-square method to test the proposed study model. Ringle et al.’s (2015) Smart PLS 3.2.6 is used to assess the proposed model. The PLS-SEM (structural equation modelling) is preferred because the tasks involved in the study are in line with the listed conditions that favour its use (Hair et al., 2019). Furthermore, a bootstrapping function (5000 resamples) was applied to assess the significance level of the path and has been adopted by previous studies [74,75].

To assess the convergent validity, the average variance extracted (AVE) method was adopted, and the Fornell–Larcker criterion and cross-loading method were used for assessment of discriminant validity. The Cronbach’s alpha and the composite reliability (CR) were adopted as measures of reliability. The set minimum threshold for establishing reliability with Cronbach’s alpha is ≥ 0.60 [76], while the set threshold for composite reliability is ≥ 0.70 [77]. To establish discriminant validity following Fornell and Larcker’s [78]

criterion, we compared the correlations among the latent constructs with the square root of the AVE. Discriminant validity is established if the square root of the AVE is higher than every correlation pair amongst the latent variables. Additionally, discriminant validity is established if the loadings of measurement items on their primary variables are higher than their loadings on the other variables [79]. Multicollinearity was assessed by means of the variance inflation factor (VIF). Usually, multicollinearity is not present if the VIF is below 5 [79].

3.4. Demographic Information

At the end of one week from the date of online response solicitation, 215 responses were received, and all were useful and valid for analysis. This number represents 83 percent of the population (classes involved in the chosen universities). In the study sample, 117 (54.42 percent) were females, and 98 (45.58 percent) were males. 172 (80.0 percent) participants were single, while the remaining 43 (20.0 percent) were married. The age profile indicates that a majority of the participants were within 21–25 years of age and comprised 167 (77.67 percent) people. On the other hand, 33 (15.35 percent) participants were in the age group 26–30 years, while the remaining 15 (6.98 percent) respondents were above 30 years of age. Again, a majority, 173 (80.47 percent) participants, were undergraduates, while the remaining 42 (19.53 percent) respondents were graduate students. The demographic analysis is presented in Table 1.

Table 1. Demographic analysis of respondents.

Variable	Frequency	Percentage
<i>Gender:</i>		
Male	98	45.58
Female	117	54.42
<i>Marital status:</i>		
Single	172	80.00
Married	43	20.00
<i>Age bracket:</i>		
21–25	167	77.67
26–30	33	15.35
Above 30	15	6.98
<i>Level of study:</i>		
Undergraduate	173	80.47
Postgraduate	42	19.53

Furthermore, the second part of the questionnaire reveals that all 215 of the participants (100 percent) had undergone some lectures on sustainability (development) marketing. On the areas of sustainability knowledge acquired, a majority numbering 188 (87.4 percent) votes went to environmentalism, followed by social with 109 (50.70 percent) votes, and the lowest share was for economy, with just 46 (21.40 percent) votes. Participants were allowed to vote for as many areas as were applicable. In addition, 156 (72.56 percent) said there was no specific course dedicated to those areas of sustainability in their institutions, but they were adjuncts to other courses. However, 59 (27.44 percent) confirmed that there were courses dedicated to sustainability marketing. Further review shows that a majority of the number that reported having dedicated courses were graduate students.

4. Results

The model evaluation in this study focuses on ascertaining the individual item reliability, internal consistency reliability, convergent validity, and discriminant validity of the measures used to represent each construct [76]. The descriptive analysis (see Table 2) reveals that all of the questionnaire items, except the PBC items, CSC3, CSC4, and CSC5, have mean values greater than 4.0, indicating that responses clustered around the “4/agree or high” and the “5/strongly agree or very high” options. Mean values ranged from 3.15

to 4.27. In addition, with all standard deviation values falling within the plus-or-minus-2 threshold of acceptance, the responses are largely concentrated around the mean values. Standard deviations (SD) ranged from 1.06 to 1.41.

Table 2. Descriptive Statistics, Unidimensionality and Reliability Attributes of the Measurement Scale.

Item	Mean	SD	VIF	Loading	Cronbach's Alpha (CR)	AVE
SME1	4.23	1.08	1.985	0.945	0.827(0.919)	0.850
SME2	4.23	1.06	1.985	0.898		
ATT1	4.04	1.10	2.920	0.906	0.876(0.924)	0.802
ATT2	4.27	1.13	3.240	0.931		
ATT3	4.23	1.10	1.913	0.848		
SNs1	4.17	1.12	2.764	0.911	0.807(0.887)	0.726
SNs2	4.11	1.14	2.685	0.901		
SNs3	4.05	1.19	1.348	0.731		
PBC1	3.15	1.41	1.771	0.781	0.744(0.847)	0.649
PBC2	3.70	1.31	1.432	0.830		
PBC3	3.50	1.23	1.466	0.806		
CSC1	4.11	1.13	1.469	0.761	0.736(0.822)	0.581
CSC3	3.68	1.27	1.505	0.648		
CSC4	3.97	1.14	1.336	0.694		
CSC5	3.91	1.13	1.486	0.644		
CSC7	4.04	1.17	1.452	0.715		

Note: SD = standard deviation; CR = composite reliability; AVE = average variance extracted; VIF = variance inflation factor.

4.1. Assessing Reflective Measurement Models

The indicator loadings are verified, and results are shown in Table 2. During the process of conducting confirmatory factor analysis, two items measuring CSC (CSC2 and CSC6) were dropped due to their values failing to meet the minimum threshold. The remaining 16 items loaded well. Loadings ranged from 0.644 to 0.945, and the t-values loaded significantly. Hair et al. [79] suggest that loadings should be at least 0.5 and ideally 0.7 or higher, and that loadings of this size or larger confirm that the indicators are strongly related to their associated constructs and are one indication of construct validity. According to Hair et al. (2019), this measure also indicates that the construct explains more than 50 percent of the indicator's variance, thus providing acceptable item reliability.

Next, the internal consistency reliability is assessed. Cronbach's alpha values ranged from 0.864 to 0.877, while the composite reliability values ranged from 0.822 to 0.924 (see Table 2), and these are well above the set minimum threshold. These values fall within the 0.60 to 0.94 acceptance zone for construct reliability. The AVE values, which ranged from 0.581 to 0.850, fall within the acceptance zone because they are higher than 0.50. Finally, discriminant validity was checked following Fornell and Larcker [78] and the cross-loading methods. Accordingly, each construct's AVE was compared to the squared inter-construct correlation (as a measure of shared variance) of that same construct and all other reflectively measured constructs in the structural model [79], and their cross-loadings were also checked. To be accepted following Fornell and Larcker [78], the shared variance for all model constructs should not be larger than their AVEs. As indicated in Table 3, this yardstick is met.

Table 3. Discriminant Validity (Fornell—Larcker Criterion).

	AVE	ATT	CSC	PBC	SME	SNs
ATT	0.802	0.896				
CSC	0.581	0.420	0.762			
PBC	0.649	0.221	0.189	0.806		
SME	0.850	0.678	0.388	0.239	0.922	
SNs	0.726	0.709	0.381	0.258	0.610	0.852

Note: All correlation coefficients were significant at $p < 0.05$; figures in bold in the diagonal are the square roots of the AVE.

In addition, all of the loadings of measurement items on their primary variables are higher than their loadings on the other variables (see Table 4). This suggests that discriminant validity is obtained, as the results are consistent with expectations.

Table 4. Discriminant Validity (Cross Loadings).

	ATT	CSC	PBC	SME	SNs
ATT1	0.906	0.335	0.226	0.612	0.597
ATT2	0.931	0.387	0.215	0.675	0.577
ATT3	0.848	0.407	0.148	0.524	0.747
CSC1	0.401	0.761	0.066	0.380	0.334
CSC3	0.163	0.648	0.222	0.188	0.196
CSC4	0.281	0.694	0.239	0.222	0.246
CSC5	0.201	0.644	0.098	0.212	0.272
CSC7	0.337	0.715	0.073	0.291	0.250
PBC1	0.059	0.108	0.781	0.078	0.066
PBC2	0.199	0.181	0.830	0.222	0.250
PBC3	0.216	0.145	0.806	0.219	0.235
SME1	0.691	0.413	0.253	0.945	0.674
SME2	0.540	0.285	0.177	0.898	0.481
SNs1	0.646	0.351	0.181	0.591	0.911
SNs2	0.656	0.326	0.217	0.581	0.901
SNs3	0.497	0.295	0.277	0.445	0.731

4.2. Assessing Formative Measurement Models

The indicators' collinearity and statistical significance were checked. The results in Table 2 indicate that VIF ranged from 1.348 to 3.240, indicating that multicollinearity is very unlikely. Furthermore, the latent constructs are unidimensional, as the AVEs of the latent constructs are greater than 0.50, and the reflective indicators are loaded with significant t-values on their theoretical constructs [77,80]. With these satisfactory results of the measurement models, we assessed the structural models.

4.3. Assessment of the Structural Models

The structural models are reported in two parts. The first part verified the effect of SME on the TPB model elements and consciousness for sustainable consumption (the dependent variable), while part two presents the effect of the TPB model elements on consciousness for sustainable consumption. Generally, the proposed model explains 19.7% of the variance in consciousness for sustainable consumption among the students, with an R^2 value of 0.197.

The results indicate that sustainability marketing education is positively and significantly related to attitude ($H4$; $\beta = 0.678$, $t = 13.313$, $p < 0.05$), subjective norms ($H5$; $\beta = 0.640$, $t = 12.192$, $p < 0.05$), PBC ($H6$; $\beta = 0.239$, $t = 3.963$, $p < 0.05$), and consciousness for sustainable consumption ($H7$; $\beta = 0.316$, $t = 5.206$, $p < 0.05$). Thus, $H4$, $H5$, $H6$, and $H7$ are supported. More specifically, sustainability marketing education has its greatest influence on attitude, followed by subjective norms and PBC. (See Table 5.) This implies that sustainability-oriented marketing education has positive and significant influence on

the attitude, subjective norms, PBC, and consciousness for sustainable consumption of marketing students in Nigeria.

Table 5. Hypotheses test outputs.

Hypothesized Relationships		Path Coefficients	Standard Errors	t-Values	Results
H1: ATT	CSC	0.294	0.097	3.040 *	Supported
H2: SNs	CSC	0.150	0.109	1.373	Not supported
H3: PBC	CSC	0.085	0.077	0.1095	Not supported
H4: SME	ATT	0.678	0.051	13.313 *	Supported
H5: SME	SNs	0.640	0.052	12.192 *	Supported
H6: SME	PBC	0.239	0.060	3.963 *	Supported
H7: SME	CSC	0.316	0.061	5.206 *	Supported

$R^2 = 0.197$; * $p < 0.05$.

Finally, the results reveal that only attitude (H1; $\beta = 0.294$, $t = 3.040$, $p < 0.05$) relates positively and significantly with consciousness for sustainable consumption, while the latter's relationships with subjective norms (H2; $\beta = 0.150$, $t = 1.373$, $p > 0.05$) and PBC (H3; $\beta = 0.085$, $t = 1.095$, $p > 0.05$) are positive but non-significant. Specifically, attitude has the greatest influence on students' consciousness for sustainable consumption, followed by subjective norms and PBC (see Table 5 and Figure 1).

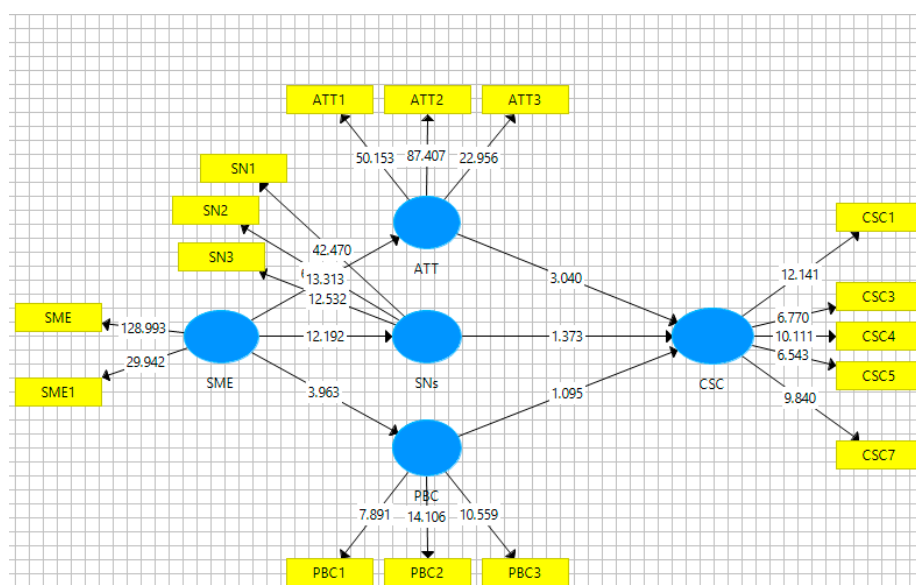


Figure 1. Structural model.

Generally, the findings suggest that sustainability marketing education, attitude, subjective norms, and PBC are relevant in promoting students' consciousness for sustainable consumption in Nigeria. This is demonstrated by the constructs' established positive interactions. The findings are discussed in the next section.

5. Discussion

In the context of developing economies, and specifically Nigeria, the present study attempted to examine how sustainability-oriented marketing education influences students' consciousness for sustainable consumption. First, among the study sample, the proposed model explains 19.7% of the variance in consciousness for sustainable consumption, that is, $R^2 = 0.197$. With the inclusion of sustainability marketing education in the TPB, we found an improvement in the influence of the TBP on consciousness for sustainable consumption, thus justifying its addition to the extended model.

Second, we found that sustainability marketing education relates positively and significantly with attitude, subjective norms, and PBC. Indeed, this lends support to the call for the systematic application of education in achieving the SDGs [59,81] by instilling sustainable (consumption) behaviour. It supports previous research on the need to integrate sustainability into marketing curricula [70,71]. The results also strengthen the reports of Kearins and Springet [65], Walmsler [16], Lam et al. [24], White et al. [10], and Hall [66], who found education (such as sustainability marketing education) to be a significant predictor of sustainable (consumption) behaviour. The results also show that education experiences will influence students' perception and behaviour [82].

Third, only attitude and sustainability marketing education were found to have positive and significant influence on students' consciousness for sustainable consumption, while subjective norms and PBC showed positive but non-significant influence. Our findings are partially consistent with most previous studies [35–37,51,52,54] and particularly consistent with Nguyen [83]. The findings justify sustainability (marketing) education as a strategy to improve consumers' (students') consciousness for and behaviour towards sustainable consumption/behaviour in Nigeria [64,73,75]. They also demonstrate that sustainability marketing education is capable of creating positive attitudes, subjective norms, and PBC that can stimulate consciousness for sustainable consumption.

6. Conclusions and Implications

The aim of this study was to explore how the knowledge of sustainability marketing acquired during marketing teachings influences the lifestyles of marketing students, especially regarding sustainable consumption. While research evidence shows that sustainability marketing promotes reformative and transformative actions [9,15], very little effort has been made to investigate how sustainability marketing education contributes to reforming and transforming students' lifestyles towards sustainable consumption. Our sample (marketing students in Nigeria who participated in a sustainability marketing seminar) is unique, as this has not been previously explored.

Based on the findings of this study, the need to strengthen sustainability marketing education in universities' curricula by making it a full-standing course (not just as an adjunct to other courses as testified by the students) becomes imperative. By doing so, sustainability marketing education's influence on consumers' (students') attitude, consciousness for sustainable consumption, subjective norms, and perceived behavioural control in the country would be sustained and enhanced. Again, the non-significant influence of subjective norms and PBC raises a concern for sustainability marketing education in the country and also opens a window for further studies. This implies that more effort is required to promote sustainable consumption as an easy/possible lifestyle (PBC) and encourage positive expression in support of sustainable consumption (subjective norms).

This study contributes to both theory and practice. Theoretically, with the notion that sustainable behavioural outcomes may be context-determined, our study provides new knowledge on the context of Nigeria, a developing country where consciousness for sustainable consumption may vary from the findings made in developed countries, and where little is known about the influence of sustainability-oriented marketing education on sustainable consumption.

By integrating sustainability marketing education into the TPB, the present study makes a significant contribution to the literature. To our knowledge, this integration has not been reported in the body of literature on sustainable consumption. It also serves as a positive response to the call to attempt to extend the TPB into the area of sustainable behaviour. This had been done by previous researchers using environmental knowledge and concern [37,51]; moral intensity and confidence level [47,84]; materialism [83]; trust and commitment [53]; and willingness to pay [37].

However, unlike other studies that only discussed environmental knowledge/awareness, our study goes beyond this to apply a scale that is closely in line with the ESD campaign, which according to Holfeder [81] aims to exceed the goal to impart knowledge and raise

awareness by integrating a variety of learning outcomes that are conceived as contributions to societal transformation. This strengthens the research of Decamps et al. [85], who demonstrated the contributions of the sustainability literacy test (Sulitest) to the global agenda of integrating sustainability into higher education, and provides leverage to future studies on marketing education for sustainable development. Our sustainable consumption scale goes beyond the general environmental focus to which most previous studies were limited. We combined both environmental and social aspects of the triple bottom concept in line with the context of the study.

Practically, the study reaffirms the need for policymakers and management of higher education institutions in Nigeria, and by extension other developing countries, to fully integrate sustainability into their marketing curricula [70,71]—not just as an adjunct course, but as a full-standing course, given its role in the actualization of the SDGs and education for sustainable development. By suggesting the need to emphasize the PBC and SNs aspects of students' consciousness for sustainable consumption, this study provides direction to future research and sustainability marketing educators in Nigeria and beyond. This is hoped to strengthen the already-built attitude towards sustainable consumption among students for more effective outcomes, and also to raise sustainability ambassadors for the business world.

As Balderjahn et al. [41] asserts, a clearly revealed consumer consciousness for sustainable consumption will help motivate and reinforce appropriate activities of companies, as well as impact the activities of political institutions that define regulatory frameworks and play an influential role in attaining sustainability goals. Thus, this study will encourage marketing firms in Nigeria to adopt more sustainable marketing strategies, as students' attitudes, subjective norms, and PBC are positively related to sustainable consumption, given their exposure to sustainability marketing education.

Further studies are required to cover some of the shortfalls in the present study. For instance, studies that might explore the longitudinal method in assessing the influence of sustainability marketing education on students' consciousness for sustainable consumption are recommended, as the present study could not take this approach. Again, future and ongoing studies are required to cover the other zones in Nigeria that were not captured in the present study. This will help to strengthen the findings of the study in the context of Nigeria. As was highlighted earlier, further studies are required that can deeply explore the reasons behind the low influence of PBC and subjective norms on students' consciousness for sustainable consumption. This will help to provide clearer understanding of the adjustments required to the extant curricula in order to achieve the expected goals.

Furthermore, given that participants were induced by offering them an incentive to participate, the responses might be biased, as respondents might have focused more on securing the reward. This knowledge might be necessary when applying the findings of the study.

Author Contributions: Conceptualization, methodology, software, investigation, data curation, formal analysis, writing, A.G.A.; data gathering, investigation, validation, S.G.E.; supervision, writing—review and editing, N.O.M. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review and Board Statement: The study was approved by the Research, Publications, and Ethics Committee of Abia State University Uturu.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: Data supporting the study are available upon reasonable request from the corresponding author.

Conflicts of Interest: The authors declare no conflict of interest.

Appendix A

Table A1. Research Instrument.

S/N	Statement	1	2	3	4	5
CSC1	I buy a product only if I believe it is made from recycled products.					
CSC2	I buy a product only if it can be disposed of in an environmentally friendly manner.					
CSC3	I buy a product only if I believe it is packaged in an environmentally friendly manner.					
CSC4	I buy a product only if I believe it is produced in a climate friendly manner.					
CSC5	I buy a product only if I believe that workers' rights are adhered to.					
CSC6	I buy a product only if I believe that no illegal child labour is involved.					
CSC7	I buy a product only if I believe that the firm is socially responsible.					
ATT1	I have a favourable attitude towards sustainable consumption.					
ATT2	My adoption of sustainable consumption will encourage sustainability marketing practices.					
ATT3	I like the idea of sustainable consumption.					
SNs1	Most people who are important to me expect me to consume sustainably.					
SNs2	Most people whose opinions I value would prefer that I practice sustainable consumption.					
SNs3	My friends think that sustainable consumption is a good thing.					
PBC1	I believe I have the ability to practice sustainable consumption.					
PBC2	To me, sustainable consumption is easy to adopt.					
PBC3	I see myself as capable of practicing sustainable consumption in the future.					
SME1	How would you rate your understanding of the concept of sustainability marketing?					
SME2	Rate your knowledge level about the environmental, social, and economic implications of marketing and consumption activities.					

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