

## **GREEN PRODUCT ADOPTION AND PURCHASE INTENTION OF FEDERAL UNIVERSITY LECTURERS IN CONSUMING BOTTLE WATER, AND PLASTIC BEVERAGES IN SOUTH-SOUTH, NIGERIA.**

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### **Abstract**

This study is aimed at determining the nexus between Green Products Adoption and Purchase Intention of federal university lecturers in consuming bottled water and plastic beverages in south-south Nigeria. The study utilized adopted an explanatory research design and a cross-sectional survey in term of time horizon. Data was obtained from 350 respondents and scrutinized via structural equation modeling SEM, through AMOS 24.0 software. Empirical findings from the study indicate that educated and informed persons are inclined to adopt green products. The study affirmed that dimensions such as: green products knowledge and health consciousness have sufficient connection with consumers' intention to perform eco-friendly actions and actual acquisition of eco-friendly produce amongst federal universities lecturers in south-south, Nigeria. The findings additionally corroborated that acquisition of non-polluting merchandise are driven by ecological worries of educated and informed target customers. However, the behaviour of consumers with insufficient green knowledge on the adverse effect of non-green table water and beverages on the environment were found to be unrelated with ecological sustainable practices. We therefore recommended that firms can leverage on the findings of this study to produce products that would match the desire of educated and environmental conscious consumers.

**Keyword:** Green product adoption, green product knowledge, health consciousness, purchase intention

### **1**

### **Introduction**

The planet is facing a surge in plastic and different dimensions of pollution, leading to climate change, socioeconomic, health, and environmental ordeals (Nwafor & Walker, 2020). The continent of Africa, which leads the World in terms of population growth rates (Neumann *et al.*, 2015) is witnessing an increasing waste mismanagement and growth of wastes of about 4.4 million metric tonnes as at 2010, as well as the acute use of legislative plastic waste reduction policies and laws to curb its menace by some countries (Xanthos & Walker, 2017). Jaiswal & Kant, 2017; Yadav & Pathak, 2016) posit that ecological awareness with customers' understanding of the adverse implication of indiscriminate dumping of unsustainable and toxic plastic solid waste in the environment, have heightened the request of environmentally uncontaminated and maintainable goods (green products adoption). Similarly,

Green purchase is driven by consumers' knowledge of the adverse effect of adoption and utilization of unsustainable products on humans and other natural habitats of the environment (Nkamnebe, 2013). Contemporary consumers acquire sustainable market offering (green products adoption), coupled with increased co-awareness with understanding of the destructive effect of plastic solid waste in the environment, also account for consumers' desire for organic and environmentally friendly offer (Nkamnebe, 2013; Norazah & Norbayah, 2015) given that customers with ecological consciousness favour green activities (Norazah & Norbayah, 2015). Though ecofriendly consumption is gradually having it

foothold in developing nations including Africa, nonetheless, Raghavan and Vahanti (2009) opine that the knowledge to guard against degradation of the natural environment and build green corporate behaviour has always been residing with the Western economies since 1960s and 1970s, though its gradually spreading towards emerging economies.

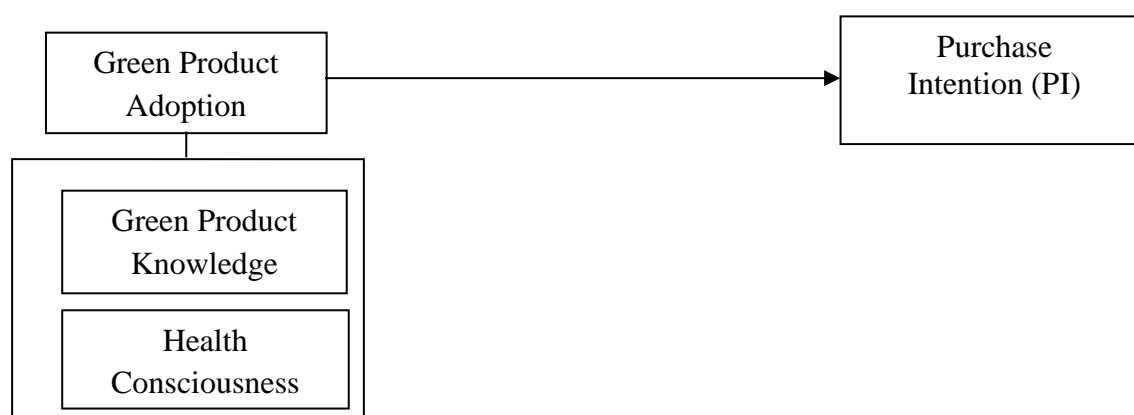
Ideally, environmental protection and sustainability of natural deposits was supposed to be given a greater consideration in the purchase and utilization of plastic table water and beverages as obtained in civilized climes. Similarly, concerns for environmental protection is supposed to be given greater consideration in the process of obtaining goods and services, as practiced in developed nations (Yadav & Pathak, 2017).

Contrary to best practices, unsustainable consumption and indiscriminate disposal of plastics has worsened the poor state of the environment in south-south Nigeria. Even the educated class, with extensive knowledge on environmental unsustainable consumption have continued to acquire ecologically unfriendly plastic bottled water and beverages in south-south Nigeria. Unsustainable consumption behaviour has remained unabated amongst federal universities lecturers in south-south, Nigeria. Consumers in the aforementioned part of Nigeria are not perturbed by this disturbing trend; they are yet to align their behaviour with global standards, which advocates boycott of ecologically unfriendly goods as a protest against firms that produce products that pollute the surrounding. Though, lots of scholarly research have been carried out on green products in developed and developing countries using different dimensions of green products (e.g Akekue & Wali, 2020; Akekue et al. 2023, Akekue et al. 2023, Akekue et al. 2024; Chaudhary & Bisai; Jaiswal & Kant, 2018; Kumar & Ghodeswar, 2014; Moser, 2016; Mwanza and Mbohwa, 2017; Ojiaku *et al.* 2018; Kumar & Ghodeswar, 2014; Smith & Paladino, 2010) but no scholarly study has utilized our set of dimensions/constructs conceptualized in this study to investigate green product adoption and purchase behaviour of lecturers of federal Universities in south-south Nigeria thus constituting a gap in scholarly literature.. It is against this backdrop, that the study was conceived to fill the knowledge gap by investigating the relationship between green product adoption and purchase intention of federal government university lecturers in South-South, Nigeria.

Relying on the theoretical foundations of this research which is the theory of planned behavior (Ajzen, 1991), the researcher feels that green product, particularly green knowledge, perceive and health consciousness may be the motivating factors that may enhance the adoption of green purchase behavior of lecturers of federal government owned Universities in south-south Nigeria

## 2

## Literature Review



**Fig.1.1:** A conceptual relationship between Products Adoption and Purchase Intention of Universities Lecturers in Fast Moving Consumer Goods Industry.

**Source:** Researcher's concept based on literature from the theoretical foundation of the study, 202.

## **2.1 Theoretical Framework**

### **2.1.2 The Theory of Planned behavior (TPB) Model**

The theory of planned behaviour is understood to be one of the important models that assist researchers to have a clear understanding of human behaviour in behavioural sciences and other related disciplines (Quoquab *et al.*, 2017). Arvola *et. al.* (2008) further affirmed the theory of planned behaviour as being capable of predicting consumers' behaviour through explanations that underpins consumers intention to implement environmentally sustainable behaviour in green marketing domain. Kamonthip *et. al.* (2016) also supported the notion that TPB with its numerous elements have been utilized to explore and comprehend customers environmental sensitivity. Furthermore, to buttressed the relevance of TPB, Fishbein and Ajzen (1975) propounded the TPB with the aim of rationalizing the connection between intention and consumers actual behaviour.

Again, Ajzan (2002) established three important antecedents namely perceive behavioural control, purchase intention and actual purchase as elements responsible for patronage intention which would culminate in actual purchase behavior. Perceive behavior control is consumers confidence that they can carry out purchase actions that can change the environment positively (Ajzan, 2002); while intention is the readiness to carry-out actions and actual purchase is execution of the action. Purchase intention, our dependent variable for this study has its origin in the theory of planned behaviour

### **2.2 Green Product Adoption**

Environmental preservation and healthy living are major factors that spur consumers' adoption of societal behaviour (Griskevicius *et al.*, 2010) stating that concern and passion, concerning environmental protection and healthy living for both humans and plants (Zuraidah *et al.*, 2012) necessitated their desire for the procurement of GP. Similarly, Paul *et al.* (2016) propose that environmental concerned individuals have started persuading their peers, social groups and relatives to acquire green products due to concerns for the environment and the awareness that green behaviour could be a useful tool in addressing environmental degradation. According to Chen and Tung (2014),

Green consumers over the past decades have been soliciting for ecologically friendly products from industries with the intention of safe-guarding the environment for the present, future and generation yet unborn (Papadopoulos *et al.*, 2010). According to Laroche *et al* (2001), Besides, environmental preservation and healthy living are major factors that spur consumers' adoption of societal behaviour (Griskevicius *et al.*, 2010) stating that concern and passion, concerning environmental protection and healthy living for both humans and plants (Kilbourne & Pickett, 2008; Zuraidah *et al.*, 2012) necessitated their desire for the procurement of GP. Two dimensions of green product adoption are utilized in this current study. They are green environmental knowledge and health consciousness.

#### **2.2.1 Green Product Knowledge**

Green product knowledge (GPK) refers to the total amount of information at consumers disposal concerning environmentally sustainable products like organic products, household consumable, food and beverages, energy saving bulbs, herbal products, energy efficient appliance, environmentally friendly products' packages or containers and etc. (Joshi & Rahman, 2015). Individuals that own better understanding of knowledge regarding green products and its impacts on the environment (Lee, 2011) tend to adopt environmentally friendly behaviour, they feel a sense of responsibility to protect the environment, through supporting environmental protection by patronizing environmentally sustainable products alone. On the contrary, consumers with insignificant green products knowledge, still indulge in the patronage of toxic and conventional products due to ignorance. In a study that investigated consumers in Hong Kong, (Lee, 2011) reveal the dominant role green knowledge plays in the patronage of ecologically friendly products. Individuals with rich products knowledge are more incline to green patronage.

Padel and Foster (2005) aver that the influence of green product's knowledge on sustainable consumption is compromised by mistrust of products' green attributes.

### **2.2.2 Health Consciousness**

Health-conscious consumers are more concerned about environmental pollution and its consequences on human health, that may arise if adequate and good measures are not put in place to reduce environmental degradation. Midaelidou and Hassan (2010) postulate that health-conscious consumers prefer taking actions that would protect their health. Consumers' engagement in green behaviour is not restricted to environmental protection, but consumers' well-being is also another salient concern that necessitates consumers green decisions (Pandel & Foster, 2005). Environmental safety; protection and health concerns often dominate consumers' purchase decision processes (Kim & Seock 2009).

Hasselback and Roosen (2015) averr those consumers are becoming more mindful about the health implications of their consumption behaviour, hence their involvement in green patronage; because environmentally sustainable products are considered healthier and eco-friendlie.r Roos and Hahn (2019) also ascribe customers green actions to their love for environmental protection and healthy living of every living organism in the environment. Several findings from scholarly presentation above, affirm health consciousness as the most important motivation for green product's adoption;

## **2.3. Purchase Intention**

Purchase intention has to do with customers' readiness to adopt or patronize environmentally sustainable products in the future based on concerns for environmental protection (McCarty & Shrum, 2001). Ajzen TPB (1991) assert that intention is the best instrument that can predict purchase behaviour of environmental conscious consumers which ultimately determines whether or not the behaviour will be carried out. An individual's intention to engage in a given behaviour is determined by their attitude towards that behaviour (Tomy & Pardede, 2020 as cite in Unyime & N.Akekue, 2024 ). Moser (2016) aver that global awareness coupled with the devastating impact of unsustainable consumption on the environment is responsible for consumers' intention to patronize ecological friendly products.

Similarly, Jaiswal and Kant (2018) postulate that consumers' intention to patronize eco-friendly products is not only influenced by green attributes of the products, but the environmental friendliness of the products stand as a huge motivating reason that stimulate customers purchase intention. Kim & Choi (2005) further assert that purchase intention has been identified as the main reason that is responsible for green customers decisions to adopt sustainable consumption behaviour.

### **2.3.1 Green product knowledge and Purchase Intention**

The increase in environmental pollution and degradation have ignited the growing request for eco-friendly products (Wang, Ma, & Bai, 2019). Consumers demand green product with an aim of reducing environmental pollution based on the believe that green product's attributes will abate environmental pollution and contribute to the well-being of the environment. Green product knowledge according to (Wang, Ma, & Bai, 2019) is viewed as consumers' knowledge of the personal and environmental benefits associated with the adoption and consumption of green products. Newton et al, 2015) aver that green product knowledge supports green products purchase intentions.

H0<sub>3</sub>: There is no relationship between green product knowledge and purchase intention.

### **2.3.2 Health Consciousness and Purchase Intention**

Health concern is one of the motivating factors that instigates consumer willingness to adopt green behaviour immediately or in the future. Finding from scholarly studies (Wandel & Bugge, 1997; Padel & Foster, 2005) shows that healthy living and good health is responsible for consumers green product action. Health motives play an important role in consumer's intention to acquire and consume eco-friendly

products (Padel & Foster, 2005). Arvanitoyannis et al., (2003) in a study conducted in Greece discovered that majority of people that are intending to buy green products (organic products) holds the notion that environmentally friendly products contribute to the well-being of humans than the conventional products.

Arvanitoyannis et al., (2003) further noted that health concerns have not only compel consumers green behaviour, but it has also propelled consumers to pay premium for green products because its contribution to healthy living. Similarly, in another study

## 2.4

### Empirical Review

Nguyen and Trinh (2020) empirically investigated factors that influence the purchase of sustainable products in Vietnam. This study is focused on examining the influence of green products on consumers in Vietnam. Questionnaires were utilized in the collection of data from a convenience sample of 206 respondents who are consumers of green products in Vietnam. Data was analyzed with the aid of structural equation modeling. The finding stated that health consciousness is not related to green consumers actual purchase behaviour. The outcome of the above study shares close association with our present study that is saddled with the responsibility to determine the existence of relation between health consciousness and consumers purchase behaviour, thereby affirming a close relation between the finding of the above study and our current research. The gap in the studies shows that, whereas the above study was executed in Vietnam and scrutinized via quantitative approach, structural equation modeling; our present study was carried out in south-south Nigeria using both quantitative and qualitative technique to analyze our data in order to have a more convincing result.

Harahap et al. (2018) conducted an empirical investigation on the knowledge of green products and purchase behaviour. This study was carried out to ascertain the effect of green knowledge on consumers in Jakarta, Indonesia. Data was obtained via questionnaire from a sample of 100 respondents, through purposive sampling method, from university students in Jakarta, Indonesia. Data was analyzed using multiple linear regressions; the result confirmed the existence of a positive relationship between green brand knowledge and customers' purchase behaviour. Relying on the finding of the above study and one of the objectives of our study, which is to determine the relationship between green knowledge and customers purchase behaviour; we can conclude that there is relatedness between the above study's finding and our present study. Though the above study was carried out in Jakarta, Indonesia while our study was done in south-south Nigeria.

Akekue-Alex Nennaaton and Amue (2019) carried out a quantitative research on eliciting green purchase intention through green advertising strategies in South-South, Nigeria. The study has green product adoption as the independent variable with dimensions as corporate advertising (CA) and celebrity advertising (CEA) while purchase intention was the dependent variable. The population of the study comprises 2870 Lecturers drawn from three categories of Lecturers - professors, associate professors, and senior lecturers from Federal government-owned universities in south-south Nigeria. The authors administered quantitative data using the questionnaires to a sample of 383 respondents and 323 were found useable. Both judgmental and quota sampling methods were used to select the participants. Structural equation modelling was applied to test the measurement and structural models through factor analysis, and all psychometric properties met their required threshold. Findings reveal that a positive and significant relationship between corporate advertising and purchase intention in Nigeria. Celebrity advertising (CEA) was found to have a negative and significant relationship with purchase intention. The study concludes that corporate advertising is a good strategy for eliciting consumers purchase intention in Nigeria.

H<sub>05</sub>: There is no relationship between health consciousness and purchase intention.

## 3

### Methodology

This study adopts the positivist philosophical paradigm. We adopt explanatory research design/technique to examine the nexus between green products adoption and purchase intention. A cross-sectional survey is

conducted as opposed to longitudinal survey. The assessable population of the study is 5,126 consisting of professors, associate professors and senior lecturers. The sample size is 357 derived from the Krenjic and Morgan sampling table. Face and content and construct validity were carried out on our statement items. On green products knowledge, seven items were adapted from Keller (1993) and Ojiaku et al. (2018) while health consciousness was based on six items adapted from Gould (1988), Sparks and Guthrie (1998). The reliability of the instrument was determined through the Cronbach's Alpha reliability test and all the items attained a threshold greater than 0.7 coefficient. We achieved convergent validity relying on the following thresholds: Factor loading  $>0.5$  or preferably  $\geq 0.7$  (Brown, 2010); and Average Variance Extracted (AVE)  $\geq 0.5$ . Additionally, discriminant validity is achieved by relying on the criterion that "the square root of the average variance extracted must be greater than its correlations with all other constructs" (Fornell & Larcker, 1981). The study utilised both descriptive and inferential statistics to analyze data. Descriptive statistics such as mean scores, percentages, frequency, pie-chart, standard deviation etc while the inferential statistic is analysed with structural equation modeling (SEM).

**Table 3.1: Cronbach Alpha Threshold for Reliability Test Scale (0.07)**

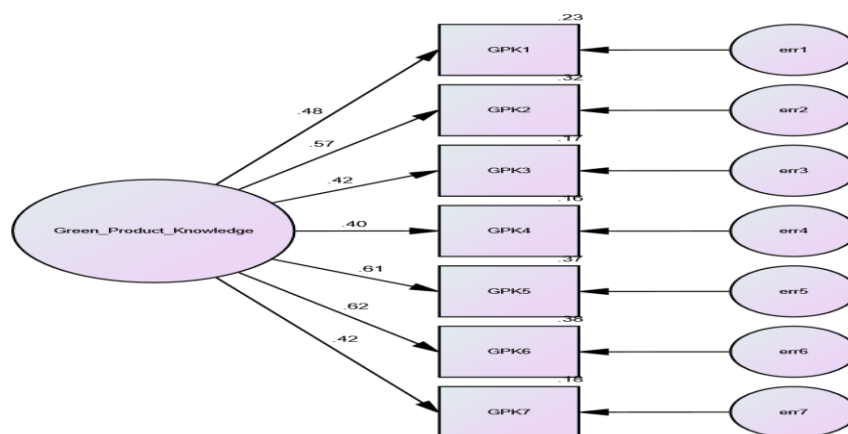
SN	CONSTRUCT	NO. OF ITEMS	CRONBACH'S ALPHA
2.	Green Product Knowledge (GPK)	7	0.701
3.	Health Consciousness (HC)	10	0.784
3	Purchase Intention	9	0.759

*Source: Researcher's Desk, SPSS 25.0 Outputs 2020.*

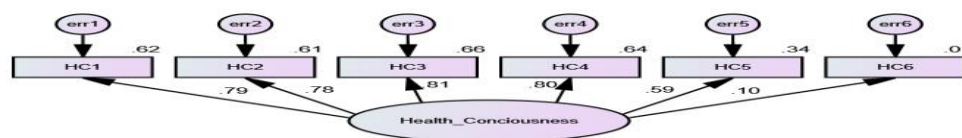
#### 4 Data Analysis

##### Green Product Knowledge

The model is presented schematically in figure 41:



**Figure 4.1.1: Measurement Model of Green Product Knowledge**



**Figure 4.1.2: Measurement Model of Health Consciousness**

**4**

#### Data Analysis

#### Hypotheses Testing

**Ho1:** There is no significant relationship between green products knowledge and purchase intention in south-south Nigeria.

**Table 4.1.1: Summary of Result on the Tests of Hypotheses Ho<sub>1</sub>**

S/N	Mediation Stage	Hypothesis (Null Hypothesis)	Std. Beta	Modi-fied Beta	S.E	C.R	P	Remark	Decision
3	X → Y (Ho:3)	There is no significant relationship between green products knowledge and purchase intention	0.57	0.86	0.15	4.90	0.000	Moderate and Significant	Not supports

**Source:** Amos 24.0 output on research data, 2022

**Ho1**, states that there is no significant relationship between green products knowledge and purchase intention. However, table 4.1.1 also suggests that green products knowledge has a moderate and significant relationship with purchase intention of lecturers in federal government Universities in south-south Nigeria, ( $\beta=0.86$ ,  $t=4.90$ ,  $p=0.000$ ). Therefore, **Ho<sub>2</sub>** was not supported. This means that a unit increase in green products knowledge will lead to 86% increase in purchase intention. The regression weight for green

products knowledge in the prediction of purchase intention is significantly different from zero at the 0.05 level of significance (two-tailed).

**Ho<sub>2</sub>:** There is no significant relationship between health consciousness and purchase intention in south-south Nigeria.

**Table 4.1.2: Summary of Result on the Tests of Hypotheses Ho<sub>2</sub>**

S/N	Mediation Stage	Hypothesis (Null Hypothesis)	Std. Beta	Modified Beta	S.E	C.R	P	Remark	Decision
5	X → Y (Ho:5)	There is no significant relationship between health consciousness and purchase intention.	0.56	0.68	0.17	2.65	0.040	Moderate and Significant	Not supported

**Source:** Amos 24.0 output on research data, 2022

**Ho<sub>2</sub>** states that there is no significant relationship between health consciousness and purchase intention. However, table 4.1.2 also suggests that health consciousness has a strong and significant relationship with purchase intention of lecturers in federal government owned Universities in south-south Nigeria ( $\beta=0.68$ ,  $t=2.65$ ,  $p=0.040$ ). Thus, **Ho<sub>2</sub>** was not supported. This implies that health consciousness will influence consumers' willingness to purchase green products. Statistically, it shows that a unit increase of health consciousness will lead to 68% increase in purchase intention. The regression weight for health consciousness in the prediction of purchase intention is significantly different from zero at the 0.05 level (two-tailed).

## 4.2

## Discussion of Findings

### 4.2.1 Relationship between Green product knowledge and Purchase Intention

**Ho<sub>1</sub>.** This hypothesis states that there is no substantial association between green product knowledge and Purchase intention or plan to acquire green products in the future. The finding indicates that there exist a substantial and relevant connection between green product knowledge and Purchase Intention of lecturers purchase decisions in federal government Universities in south-south Nigeria. This means a rise in green product knowledge would also lead to a simultaneous rise in Purchase Intention. The result is in consonance with (Kanchanapibul, Lacka, Wang, Chan, 2014); Newton, Tsarenko, Ferraro, Sands, 2015) averred that green product knowledge supports green products purchase intentions.

### 4.2.2 Relationship between Health Consciousness and Purchase Intention

**Ho<sub>2</sub>.** This hypothesis states that there is no significant relationship between Health Consciousness and Purchase Intention. The result shows that there is a strong and significant relationship between Health Consciousness and Purchase Intention of lecturers in federal government owned Universities in south-south Nigeria. This implies increase in Health Consciousness is corresponding with increase in Purchase Intention. This position is corroborated by Schifferstein and Oude-Ophuis (1998) who found out that ecological and health considerations inform consumers intention to involve in green practice. The finding validates the theoretical assertion of the Theory of Planned Behaviour, which describe that behavior intentions are a function of three determinants: one's view point toward behavior, subjective norms, with consumers behavioral control, (Ajzen, 1991).

## 5.1

### Conclusions

Relying on observations and empirical indication, this study observed that Green Product Adoption contributes significantly towards purchase intention. We therefore conclude that the outcome of the investigation shows a clear association between green products knowledge and purchase intention. Relying on the result, we therefore conclude that consumers awareness of the negative effects of environmental damaging products is related to consumers purchase intention.

Based on the result of the research which holds that health consciousness is a predictor of consumers' purchase intention; we conclude that consumers health concerns and their family's health worries are closely associated with consumers adoption behaviour. Finally, the study affirms that dimensions like green product knowledge and health consciousness, play significant and substantial roles in enabling purchase intention of lecturers in federal government owned Universities in south-south Nigeria.

## 5.2

### Recommendations

In consideration of the discoveries and the position of this investigation with regards the association amid Green Product Adoption and Purchase intention of lecturers in federal government owned Universities in south-south Nigeria, this study recommends as follows: Marketing practitioners should communicate the environmental benefits associated with eco-friendly products, on the labels of the products in order to have competitive advantage, having discovered that consumers green knowledge is a factor that influences universities lecturers purchase behaviour. Relying on the finding that, health consciousness is related with the adoption of green produce among lecturers (educated persons) in federal Universities in south-south Nigeria, Marketing management should focus their promotional campaign on the health and environmental benefits associated with ecologically friendly bottled water and beverages, in order to increase patronage.

## 5.3 Theoretical implication

The conclusion for this study reemphasizes the disposition and importance of the theoretical framework to this study. The findings of the present study have contributed a new perspective to extant literature on green products adoption and purchase intention. The implication follows that the necessity for realities of green products knowledge, effects of health consciousness on the intention of lecturers in federal government universities in south-south, Nigeria

## 5.4 Contribution to Knowledge

The contributions of the present investigation to the frame of knowledge on the association amid Green Product Adoption and Purchase Behaviour. The evidence from its measurement and structural models, signify strong and substantial interactions between dimensions of Green Products Adoption and the measures of Purchase intention which validates the theory of planned behaviour.

## 5.5 Suggestion for Further Studies

Further studies on Green Product Adoption and Purchase intention can be executed within other geographical contexts and industries as a means of cross-validating the model presented in the present investigation in different areas such as construction, agriculture, manufacturing etc.

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