What triggers consumers to purchase eco-sustainable products: The interrelationship among Environment knowledge, Environment concern, Green Attitude and Perceived Behaviour

Erni Rusyani [1], Lavuri Rambabu [2] and Ardi Gunardi [3,*]

[1] Faculty of Economics and Business, Universitas Pasundan, Bandung, Indonesia
[2] Department of Business management, Osmania University, Hyderabad, Telangana, India
[3] Faculty of Economics and Business, Universitas Pasundan, Bandung, Indonesia
* Correspondence: ardigunardi@unpas.ac.id

Abstract: This exploratory study aims to examine what triggers consumers to purchase eco-sustainable products and interrelationship among the environment knowledge (EK), environment concern (EC), consumers green attitude (GA) and perceived behaviour control (PB) in Indian consumers. Data was collected from 514 respondents, using purposive and snowball sampling. IBM SPSS 23.0 software used for data analysis viz., Exploratory factor Analysis, test of homogeneity, Pearson Correlation and Multiple Regression for multi collinearity test. The results revealed that the interrelationships among EK, EC and GA variables had a positive association and strong influence on the eco-friendly purchase behaviour of a consumer. EK and EC were the strongest determinants of GPB of eco-friendly products. This research will help green marketers to develop new green strategies and plans to increase sales volumes and build associations with target green customers.

Keywords: Environment knowledge; Environment concern; Green Attitude; Perceived Behaviour; Eco-sustainable products.

1. Introduction

In recent decades society has faced difficult challenges as regards to the environmental concerns and protection. Concerns such as global warming, depletion of natural resources that directly or indirectly impact customer decisions about buying a product. Human ambition and a wish to make full efforts culminated in the destruction of the essential systems that sustain life: air, water and land. Promoting of green sustainability paved the way for ecological consequences such as depletion of ozone, loss of biodiversity, global warming, deforestation and erosion to be identified. Green promotion is the marketing of goods that are intended to incorporate a broader variety of environmental practices, such as the alteration of the production process, materials and packaging in order to make them safe, as well as the development of a new way of advertising [1]. In India, there were 527,700 deaths per year from air contamination and 21% of transmittable diseases spread due to water pollution reported by WHO [2]. 69% of the people agree that pollution and environmental problems have impacted their everyday lives [3], which supports suggesting that consumers are choosing products slowly, based on their effects on the environment [4]. The company's sustainability policies and eco-marketing initiatives are mainly driven by the consumers.

The idea of green consumer behaviour arose as a new form of marketing practice for researchers and marketers in the context of contemporary consumer research [5,6] and had several studies on environmental behaviour in the developing countries. Those studies acknowledged that buying behaviour for eco-friendly products in the Asian emerging

economies such as India, Japan and China; environmental literature and market research are still a bit weak from the Indian perspective [7,6].

In India, consumer awareness is grown in the fields of eco-sustainable practices and the consumption of eco-friendly products and generating new opportunities for green behaviour study [8,9,7,10-12]. Recent surveys have shown the ability of Indian consumers to purchase eco sustainable products. Such innovations created research curiosity in Green advertising, Green marketing and Green consumer behaviour in India. Hence, this empirical research has taken up to resolve the research gap by operationalising and validating what triggers to purchase eco-sustainable products and the interrelationship among environment concern, environmental knowledge, perceived behaviour, Green attitude and green buying behaviour of the Indian consumers. This research study intended to help marketers establish a new approach for increased sales of their goods and services.

Environmental knowledge (EK)

There is inadequate environmental knowledge for many customers to behave responsibly in relation to the environment [13]. EK applies to customer knowledge of the environmental effects of product use [14]; which reveals how the product is produced in an Eco-friendly manner [15]. This includes the values, reality and associations with key eco-systems, such as environment concern, environment knowledge of individuals, which contributes to sustainable growth [16]. Consumers EK, EC and their worries regarding environmental issues have an impact on their desire to purchase eco-friendly goods, vehicles and applications [17-19]. EK had an impact on environmental problems and was linked to EA and PB. Exact data on environmental problems should make individuals more informed [20]. Because of high awareness of eco-sustainable goods, customers had strong and positive knowledge of green marketing and eco sustainable products [21,22]. Previous studies revealed that EK was a significant contributor to consumers' buying intent and had a positive association with EA [23,24]; and GPB [22]. EK is increasing in Indian consumers [25] and the higher degree of EK leads to better ecological performance and had a good effect on GPB [26,22]. EK and EC were the strongest determinants of GPB; EC was a mediating function between EK and GPB [27]. With adequate knowledge of the environment, the ability to monitor people's PB had improved [11,28]. Therefore, the suggested hypothesis were

H1A: EK has a positive relationship with consumer EC
H1B: EK has a positive relationship with consumer GA
H1C: EK has a positive relationship with consumer PB
H1D: EK has a positive relationship with consumer GPB

Environmental Concern (EC)

EC refers to the public's awareness, capability and engagement in environmental issues [29]. A green purchaser is the person who keeps away from any product that can damage any ecological aspect. Customers with EC would increase both the intention and the purchasing behaviour [30] and thus the individual EC was a great incentive to buy. Likewise, EC had a strong impact on the design of green packaged items, and increased individual EC leads to buy eco-friendly goods, applications and vehicles to benefit the environment [31,32,8,10,18,17,33,6,34,19,22]; and a strong correlation between EC and GPB [24,22]. Consumers interest, social values and environmental values had a positive effect on consumer preference for green products [35]; and EC had a positive significant impact on the EA and GPI [7]. EC and PB had a direct and indirect impact on GPB via the mediating role of GA [36,27]. EC increase will reduce the sense of trouble. Consequently, EC affects the behaviour of friends, peer groups and family who support or oppose GPB [8,37]. Therefore, the suggested hypotheses were

H2A: EC has a positive relationship with consumer GA

H2B: EC has a positive relationship with Consumer PB 98

H2C: EC has a positive relationship with Consumer GPB 99

100

Green Attitude (GA) 101

Attitude refers to the psychological habits of a single individual by assessing a certain 102
degree of benefit or disadvantage [38]. EA was a pro-environmental deciding factor [39]. 103
Consumers who had EA, feel like they were a part of the World and previous studies have 104
shown that positive EA was a major significant variable [40] that affects the GPB directly 105
[41,42,22]; but the study of Uddin, S. F., and Khan, M.N. [40] reported that the GA of the 106
indian consumer had an indirect impact on GPB. GA had a positive relationship with EC 107
[43], apparel buying behaviour [44] and GPB [42]. EA is a major variable that affects GPB 108
based on literary reviews. Therefore, the suggested hypotheses were 109

110

H3A: GA has a positive relationship with consumer PB 111

H3B: GA has a positive relationship with consumer GPB 112

113

Perceived Behaviour (PB) and Green purchasing Behaviour (GPB) 114

PB is defined as an easy or difficult to execute a specific behavior [45]. A specific behaviour 115
happens, if a person is motivated and capable of performing instead of simply having one 116
or no reasons [46]. According to the TPB model, the formation of prior intention is critical 117
for the creation of perceived behavioural control. The perceived allowances are perceptive 118
evidence that customers have or using while purchasing goods. Olsen [47] noted that sig- 119
nificant PB variables, such as convenience and efficiency, affect the purchasing of food by 120
consumers. Many studies have shown that PB had the best human predictor and a positive 121
connection to buy an intent such as organic products /foods [48] and green hotels [49- 122
52,28]. The role of PB is to assess purchasing intention and behaviour of customers to- 123
wards the green purchases [8,53,54,42]. 124

Consumer Behavior is the study of people and organizations to find out the consum- 125
ers experiences in buying, and utilisation of goods and services, to their satisfaction, which 126
helps in predicting and planning future products and services to offer. In recent years, it 127
raised the number of customer's willingness to purchase green items. GPB was calculated 128
by certain variables of ecological concern, such as Environmental attitude [55,40], envi- 129
ronmental knowledge [56], personality characteristics of consumers [57], and eco sustain- 130
able products, eco sustainable marketing approaches and ecological concerns [55,58]. 131
These were investigated as factors affecting consumers GPB [59-61]. In addition to driving 132
factors such as moral obligation, ecological problems, awareness, social impacts and cus- 133
tomer preferences, green buying behaviour has been motivated [62,42]. Therefore, the 134
suggested hypothesis was 135

H4A: PB has a positive relationship with consumer GPB 136

2. Methods 137

The present research study was conducted to understand what triggers influence on con- 138
sumer to purchase of eco-friendly products and to study the interrelationship among the 139
EK, EC, GA and PB. The survey population was Indian green buyers. The researcher pre- 140
pared a structured questionnaire and used online survey method with the aid of e-mails 141
(39.1%; n=201); survey method (31%; n=159); interview method (20.3%; n=105) and tele- 142
phone survey methods (9.6%; n=49) administered to a purposive and convenience sample 143
of 514 Indian respondents to evaluate the hypothesized relationship in this study. For the 144
purpose of data collection over 697 questionnaires have been circulated, 514 (73%) of 145
which have been considered for final research analysis. As per total population, the sam- 146
ple (N=514; 73%) was 56.6% (n=291) male and 43.4% (n=223) female, and majority of the 147
respondents aged between 41.6% (n=214) and 4.5% (n=23) of respondents were 51 years 148
and above. Along these lines, 32.2% (n=166) degree, 29.6% (n=152) Post graduation and 149
12.1% (n=62) above PG. 39.5% (n=203) private employee, followed by 32.3% (166) govt 150

employee and 17.9% (n=92) others. A majority of the respondents reported monthly income. 35.0% (n=180) earned 25,001 - 35,000 monthly income, 29.4% (n=151) earned 35,001 - 45,000 monthly income and 17.3% (n=89) earned 45,001 and above. 383 (74%) of the respondents replied to the statement in the total sample (n=514). 89 (23%) of respondents had purchased an electronic application. As a result, 79 (20%) of them were purchased IT equipment and 68 (17%) of them were purchased recyclable paper products.

Initially, a questionnaire was evaluated by a pilot study of 55 PG students and research scholars, after a pre-test, the questionnaire was finalized with few changes to reduce the complexity of the sample population. There are two major parts of the study questionnaire. The first part had five dimensions with respect to the demographic profile of respondents; and second part had 19 dimensions, consists of five variables, such as EA, EK, EC, PB and GPB. Four dimensions were used to assess the EK of the respondent in respect of eco-friendly goods, followed by four dimensions of the EC to quantify the environmental concerns of the respondent; four dimensions were measured for the GA of consumers; three dimensions for the PB and four dimensions for the GPB. Each variable consists of four dimensions, which help to analyse the perception of respondents towards the purchase of eco-friendly products **(see Table 1).** To measure the respondent's perception level researcher used a 5point Likert scale ranging from strongly disagrees (5); disagree (4); Neutral (4), agree (2) and strongly agree (1).

Table 1 Scale constructs and Sources

S.No	Variables	Items	Sources
1	Environmental Knowledge (EK)	4	[24,22]
2	Environmental Concern (EC)	4	[37,22]
3	Green Attitude (GA)	4	[42,22]
4	Perceived behavioural (PB)	3	[42,6,63,22]
5	Green Purchasing Behaviour (GPB)	4	[42,63,22]

Research data analyzed with descriptive analysis, exploratory factor analysis (EFA), Homogeneity test, and Pearson correlation, multiple regressions with autocorrelation and variance inflation factor (VIF) to calculate multi-collinearity with the help of the SPSS Version 23.0.

3. Results and Discussions

The Cronbach Alpha test was conducted to track the internal consistency of the component in the sample to award the amount of reliability. When alpha levels are more than 0.7 - appropriate and 0.8 and above are favoured. The results of the reliability, mean and standard deviation of the research were: reliability of EK, EC, EA, PB and GPB were 0.773, 0.780, 0.847, 0.796 and 0.835; along these lines the mean values of five variables are 3.9368, 3.7763, 3.5175, 3.6621 and 3.6031; and Std. Deviation values are .77021, .81338, .93160, .86329 and .80557 for five study variables **(see table 2).**

Table 2 Results of Reliability and validity

Variables	DC	Mean	Std.D	CA(>0.7)
EK	5point LK	3.9368	0.77021	0.773

EC	5point LK	3.7763	0.81338	0.780	
GA	5point LK	3.5175	0.93160	0.847	
PB	5point LK	3.6621	0.86329	0.796	
GPB	5point LK	3.6031	0.80557	0.835	

LK: Likert scale; DC; Descriptive of scale; and CA: cronbach alpha

The calculation of the KMO sample is a measure for the adequacy of the factor analysis to be studied. The large (0.5 - 1.0) significance makes the study of the factor acceptable. The KMO value (0.877) was more than 0.05 and Bartlett's test value (X^2= 3938.239; DF= 171 and p<0.001) was statistically significant that the factor analysis was useful **(See table 3)**. The sphericity check by Bartlett shows the strength of the interaction between variables. The degree of significance measured was 0.000. The strength of the relation between the variables was high. Therefore, the data was reasonable to analyze the element.

Table 3 Results of KMO and Bartlett's

KMO measure of sampling adequacy	0.877
Bartlett's Test of sphericity	
Approx. Chi-square	3938.239
Df	171
Sig.	0.000

The EFA was executed for factor extraction and it was clear that the five components account for 65% of the variance **(Table 4)**. The varimax pivot was monitored through 16 items relating to two specific variables, namely music in Advertising and consumer behaviour. All items values were greater than 0.50 and were appropriate. The total variance described by each variable was over 0.5; a significant variance was between all the variables. Researchers retained components with more than one own value using the Principal Component Analysis (PCA) **(see Table 5).**

Table 4 Variance Explained

Components	Rotation sum of Squared Loading		
	Total	% of Variance	Cumulative %
1	2.848	14.991	14.991
2	2.767	14.566	29.557
3	2.437	12.824	42.381
4	2.345	12.343	54.724
5	1.993	10.487	65.212

Table 5 Rotated Component matrix

Dimensions	1	2	3	4	5
Environmental knowledge (EK)					

Green items are the preservation of the ecosystem		.703	
Green item is bio-degradable		.787	
Green item is Recyclable		.666	
Green item is Eco friendly		.594	
Environmental Concern (EC)			
Green items help build a sustainable environment			.626
It is my responsibility to protect the environment.			.622
Green items minimize waste and recycle it.			.764
The use of green goods makes you feel happy.			.757
Green Attitude (GA)			
Green goods use less agro-chemical.	.814		
Green items always come with eco-packaging.	.803		
Eco-branding and labelling are Green items.	.815		
Green items are safer and healthier	.741		
Perceived behaviour (PB)			
I hope I'll purchase green products			.780
I preserve the environment by purchasing green products.			.751
I have the time, the resources and the willingness to buy green goods.			.812
Green Purchase behaviour (GPB)			
I've frequently purchased green goods	.750		
I buy green items even though the cost is high.	.854		
I've got a green habit to buy my everyday needs items.	.841		
I've had a green buying conduct for the previous six months.	.555		

Table 6 Results of Homogeneity of Variance test

210
211

	Hypothesis statement	Levene statistic	df1;df2	Sig.
H1A:	EK has no positively associated with EC	2.883	15;498	.000
H1B:	EK has no positively associated with GA	1.918	15;498	.020
H1C:	EK has no positively associated with green PB	2.346	15;498	.003
H1D:	EK has no positively associated with GPB	8.181	15;498	.000
H2A:	EC has no positively associated with GA	2.284	14;498	.005
H2B:	EC has no positively associated with green PB	4.228	14;498	.000
H2C:	EC has no positively associated GPB	12.825	14;498	.000
H3A:	GA has no positively associated with green PB	4.337	16;497	.000
H3B:	GA has no positively associated with GPB	11.958	16;497	.000
H4A:	PB has no positively associated with GPB	7.424	11;501	.000

The Homogeneity test conducted to test the assumption that the variance was homogeneous. Levene's test used a high priority level to determine if the variance was homogeneous. Referring to the H1A, H1B, H1C and H1D stated that EK had positively associated EC, GA, PB and GPB. The value of F and the significance value for the Levene's test was $F(15, 498) = 2.883$, p=0.000 (H1A); 1.918, p=0.020 (H1B); 2.346, p=0.003 (H1C) and 8.181, p=0.000 (H1D). This finding suggests that the significance value was less than p-value. The findings revealed that the null hypothesis was rejected and that the assumption of variance homogeneity was not met due to a large difference between the two variance groups. Concerning hypotheses H2A, H2B and H2C revealed that EC was statistically significant and positively associated with GA, PB and GPB, and results stated that the value of F and the value of significance for the Levene's test was $F(14, 498) = 2.284$, $p=0.005$ (H2A); 4.228, $p=0.000$ (H2B) and 12.825, $p=0.020$ (H2C). They found significant value was less than p-value, which reveals that the Null Hypothesis of equal variance was denied and the variance was not equal. Similarly, Hypotheses H3A and H3B stated that GA was the main factor and had a significant positive association with PB and GPB and results shown that F value and the value of significance for the Levene's test was $F(16, 498) = 4.337$ (H3A) and 11.958 (H3B). This suggests that the significance value was less than p-value, thus Null hypothesis was rejected. About the final hypothesis, H4A reported that PB had a positive correlation with GPB; and shown that the value of F and the significance value for the Levene's test was $F(11, 501) = 7.424$ (H4A). This shows that the significance value

was less than p-value and concludes that Null Hypothesis was rejected and that the 233
assumption of variance homogeneity was not met due to significant disparity between the 234
two variance groups **(See Table 6).** 235

236

Table 7 Pearson Correlation constructs (n=514) 237

	EK	EC	GA	PB	GPB
EK	1	.560** S	.333** S	.255** S	.537** S
EC		1	.468** S	.272** S	.451** S
GA			1	.236** S	.329** S
PB				1	.309** S
GPB					1

Note: **: $p<0.01$(2 tailed); S: significant; ns: Not Significant. 238

239

The use of a pearson correlation analysis is to calculate the consistency of the 240
interrelationship between selected variables such as EK, EC, GA, PB and GPB; the study 241
was accurate with a coefficient varying from 0.236 to 0.560 for variables. The results of the 242
Pearson correlation (n=514) between the five variables selected were shown. The 243
correlation coefficient statistics represent the degree of relationship between the 244
constructions that cause the purchase of eco sustainable products. The results show that 245
EK had a positive correlation with EC(r=.560**; $p<0.01$), and positive relationship with GPB 246
(r=.537**; $p<0.01$), at 1% significance level, and the findings were confirmed by Jaiswal and 247
Kant [6], Heo and Muralidharan [27], and Lavuri and Susandy [22]. EC is the main factor 248
and had a moderate positive influence on GA (r=.468**; $p<0.01$), and had a significant 249
impact on the GPB of consumers (r=.451**; $p<0.01$), at 1% of significance level and the 250
results were supported by the study of Jaiswal and Kant [6], Zou and Chan [34], Lavuri 251
and Susandy [22]. GA is the main indicator [40], and had a significant impact on the GPB 252
(r=.329**; $p<0.01$), at a 1 % significant level, which had been confirmed by these findings 253
[41,22]. PB had a good relationship with GPB (r = .309**; $p<0.01$), confirmed by the Yadav 254
and Pathak studies [53], Paul *et al.* [8], Lavuri and Susandy [22] **(see table 7).** 255

256

Table 8 Model summary results 257

Model	R²	Adj.R²	Durbin-Watson	F
1	.417	.413	1.895	91.100
2	.326	.322	1.700	82.356
3	.128	.125	1.650	37.482
4	.099	.098	1.910	56.572

258

The findings indicate statistically significant F values in four models at 91.100 (M-1); 82.356 259
(M-2); 37.482 (M-3) and 56.572 (M-4), and the independent variables account for 41.7% of 260
the variance in model 1, followed by 32.6% variance caused by predictor in model 2, 12.8% 261
variances in model 3 and 9.9% in model 4. The Durbin-Watson values were 1,895 (M-1); 262

1.700 (M-2); 1.650 (M-3) and 1.983 (M-4), which indicates a positive auto-correlation i.e., values are below 2 **(see Table 8).**

Table 9 Summary of Multiple Regressions

H	IV	DP	Standardized Coefficient		Standardized Coefficient	T	Sig.	Collinearity Statistics	
			B	Std. Error	Beta			Tolerance	VIP
H1A	EC		.358	.039	.378	9.172	*.000*	.674	1.484
H1B	GA	EK	.029	.032	.035	.893	*.003*	.756	1.322
H1C	PB		.034	.032	.038	1.045	*.006*	.874	1.144
H1D	GPB		.313	.036	.343	8.768	*.000*	.747	1.339
H2A	GA		.300	.034	.344	8.842	*.000*	.872	1.147
H2B	PB	EC	.090	.036	.095	2.465	*.014*	.884	1.131
H2C	GPB		.297	.038	.309	7.765	*.000*	.835	1.197
H3A	PB	GA	.160	.047	.148	3.411	*.001*	.905	1.106
H3B	GPB		.312	.048	.283	6.514	*.000*	.905	1.106
H4A	GPB	PB	.300	.040	.315	7.521	*.000*	1.000	1.000

H: Hypothesis; DP: Dependent variable; IV: Independent variable;

This section shows the results of multiple regressions and multi-collinearity. Four models were designed to assess the interrelationship among the study variables, such as EK, EC, GA, PB and GPB. Model 1 indicate EK significant association with EC (β = 0.358, $p \leq 0.001$), and had influence on GPB (β = 0.313, $p \leq 0.001$). Similarly, Model 2 reveals that the EC had a strong association and influence on the GA (β= 0.30, $p \leq 0.001$) an impact on GPB consumers (β= 0.297, $p \leq 0.001$) and PB (β= 0.090, $p \leq 0.001$) for the estimated regression model-3. It is evident that GA emerged as the most important variable, and had a significant impact on the GPB (β= 0.312, $p \leq 0.001$) and PB (β= 0.160, $p \leq 0.001$). PB had a statistically significant and had a major impact on the GPB (β= 0.300, $p \leq 0.001$). The findings shows, EK, EC, GA, PB had strong interrelation and an impact on GPB towards eco-friendly products. The researchers measure the Variation Inflation Factor (VIF) to analyze the multi-collinearity in this research. Collinearity statistics for the model 1 shown all the independent VIF variables values were 1.484, 1.322, 1.144 and 1.339; and the tolerance values were 0.674, 0.756, 0.874 and 0.747. Meaning that the VIF values obtained were in between 1 and 10, i.e., lesser than 5 and the tolerance values were greater than 0.2. It means that there is no collinearity problem at all. Similarly, collinearity statistics for the model 2 shown that predictors VIF values were 0.872, 0.884 and 0.835, along these lines tolerance values were 1.147, 1.131 and 1.197 and reveals that there was no problem with collinearity. VIF values of model 3 predictors were 1.106 and 1.106, and tolerance values were 0.905 and 0.905; and VIF values of model 4 were 1.000 and tolerance value was 1.000. This concludes that there was no collinearity problem (**See table 9**).

In the current research, the researcher had tested the residual normality with a normal P-P plot. The plot reveals that the dots usually follow the diagonal line without significant deviations. This means that the residues were normally distributed.
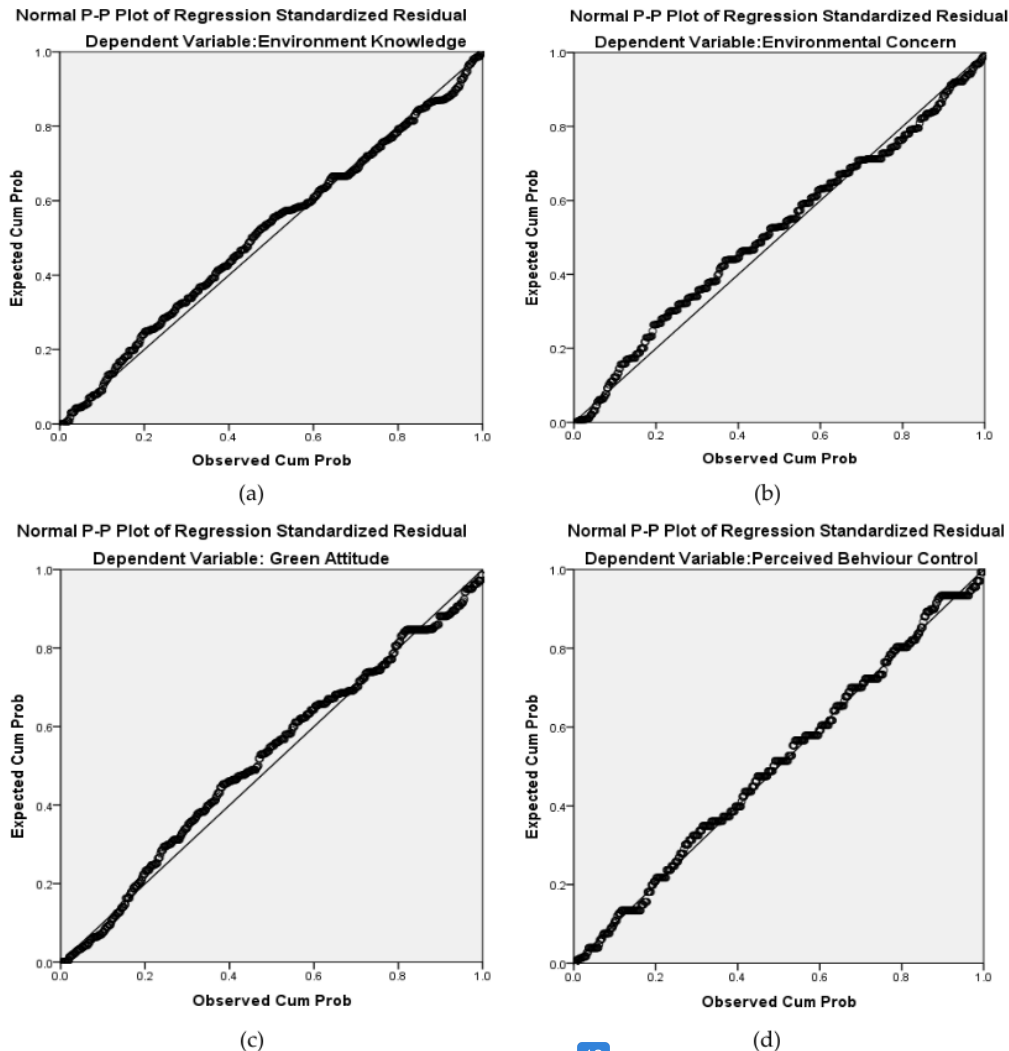

Figure 1 Residual Normality with normal P-P plot. (a) Model-1; (b) Model-2; (c) Model-3; (d) Model-4.

4. Conclusions, Implications, Limitations, and Future Directions

In India, environmental issues are rising rapidly and eco-consciousness has become a new symbol of business success, and people from every level of life are looking at it. This research explores which triggers the impact of the purchase of eco-sustainable goods and the interrelationship between study variables. Consumers were triggered by five primary variables, such as EK, EC, GA, PB and GPB, with 19 dimensions influencing mainly consumer purchasing behavior in India. Accordingly, the results show that a high level of EK

results in improved environmental efficiency performance. Individual EK had a significant impact on environmental problems and was linked to EC, GA and GPB. The findings show that it had a strong impact on the EC [27,22], and GA [6]. This results that there was a positive interrelationship between EK, GA and GPB variables. People environmental concern affects support and ability to buy environmentally sustainable products and vehicles [17-19]. Research results showed that EC had a good relationship with GA and GPB and a strong impact on the EA [6,22], and GPB [31-34,22]. This means strong EC helps to boost GA for green procurement. Thus, the growth of EC among consumers on environmental issues reflected in their efforts to resolve ecological concerns through eco-sustainable procurement. GA is a key factor for individuals and had a major effect on the purchasing of environmentally friendly goods [41,22] and PB had a measurable impact on GPB [8,53,22]. The research concluded that key factors such as EK, EC, GA and PB had a strong interrelationship among them [27] and these variables had a significant impact on the GPB. These findings supported the studies of Paul *et al.* [8] and Yadav and Pathak [53]. The research focused on what factors triggers the purchasing of eco-friendly products and interrelationship among the selected variables. In this sense, it will enable policymakers and managers to establish and enforce policies to encourage environmental consciousness and enhance consumer buying behaviour and allow academic researchers to understand the nature. This study allows them to set up a modern and innovative consumer acquisition model for eco-sustainable goods.

Research implications: The current research had major implications for the corporate administrators, who were in charge of promoting eco sustainable products. The research results would improve the understanding Indian consumer behaviour to buy eco-sustainable products. Because PB was closely connected with the GPB, marketers must attempt to enhance their understanding of all the variables selected in the model proposed. Market segmentation based on the EC found to have a major impact on the GA and PB in the expected behaviour model, may help marketers to target with a strong GPB response. The GPB was significantly influenced by EK, EC, GA and PB, and these variables had a strong interrelationship among them. This influence can improve the GA of consumer towards GPB.
Likewise, if green products are easily accessible to customers, which can boost customer interest and encourage green demand. As a result, the EK, EC, GA and PB have substantially correlated and impacts on GPB. In this way, marketers may consider expanding green options by enhancing Research and Development transparency and opening up new distribution networks [8], to improve the accessibility of green goods. Thus, the problem of purchasing sustainable goods is reduced and consumer perception control is improved. Policymakers need to form societal attitudes about green goods being useful. Campaigns and ads showing worsening environmental conditions, which helps to enhance awareness of environmental concerns, and may contribute to green consumption.

This will profit in the long run by making eco-sustainable products consumption a socially acceptable norm and behaviour that affects the intentions, attitudes and behaviours of individuals towards green goods. As a part of CSR activities, organizations are entitled to take part in these activities to benefit dually from improved external reputation and increased green product sales. The business will have a business strategy that incorporates green sustainability, which will lead to the sustainable competitiveness of organizations. Along these lines, the ability for manufacturers to stay competitive through strategic incorporation of environmental issues; partnering with environmental technologies suppliers, consumers and the surrounding area; investing in sustainable technology skills [64]. Finally, this research will help policymakers develop policies and strategies to promote the adoption of GPUs, which help to ensure environmental protection through a better understanding of South Indian shoppers green purchasing behaviour.

Limitation and future directions: The geographical area of research is limited to Indian consumers. Consequently, the findings and conclusions of the research have their limits. The research used the information continuum with a purposive and snowball approach that does not necessarily generalize the findings of the analysis. The researchers carefully chose the sample, but the scope for further research exists. The present study focused on what triggers to purchase of eco sustainable items in India. Future studies can be carried out on the various social and cultural contexts and the effect of socio-economic factors, psychological factors, altruism and awareness on eco-sustainable goods can be studied. Cross-cultural studies and longitudinal metrics may be useful for a deeper understanding across generations. The present research focused on consumers in general, future studies could be on specific generations X, Y and Z, and on personal characteristics of consumers to design effective marketing strategies to improve products sales. As the research was from India and the results were not generalizable, hence replicate the study in other countries and could add ethnography or cultural dimensions to it. The rural sector has not been recognized in these research studies and the role of green marketing in rural areas can be addressed. For this research study, the researcher used only five main variables, such as EK, EC, GA, PB and GPB, and there is room for integrating other variables such as the subjective norms, perceived risk, consumer altruism into the current suggested model and may help clarify the complexities of green purchasing.

Conflicts of Interest: The author declares that do not have a conflict of interest.

References

1. Sheikh, Faizan Zafar.; Mirza, Ashfaq Ahmed.; Aftab, Anam.; Asghar, Bilal. Consumer Green behaviour toward Green Products and Green Purchase Decision. *International Journal of Multidisciplinary Sciences and Engineering* **2014**, *5*, 1-9.
2. Mannarswamy, S. A Study of Environmental Awareness and the Changing Attitude of the students and the Public in Coimbatore towards Green Products. *Research Journal of Social Science and Management* **2011**, *1*, 75-84.
3. Schlegemilch, B.; Bohlen, G.M.; Diamantopoulos, A. The Link between Green Purchasing Decisions and Measures of Environment Consciousness. *European Journal of Marketing* **1996**, *30*, 35-55. https://doi.org/10.1108/03090569610118740
4. Grove, S. J.; Fisk, R.P.; Pickett, G. M.; Kangun, N. Going Green in the Service Sector Social Responsibility Issues, Implications and Implementation. *European Journal of marketing* **1996**, *30*, 56-66. DOI: 10.1108/03090569610118777
5. Lai, Carman K. M.; Cheng, Eddie.W.L. Green purchase behavior of undergraduate students in Hong Kong. *The Social Science Journal* **2016**, *53*, 67–76. http://dx.doi.org/10.1016/j.soscij.2015.11.003.
6. Jaiswal, D.; Kant, R. Green purchasing behaviour: A conceptual framework and empirical investigation of Indian consumers. *Journal of Retailing and Consumer Services* **2018**, *41*, 60-69. DOI: 10.1016/j.jretconser.2017.11.008
7. Yadav, R.; Pathak, G.S. Young consumers' intention towards buying green products in a developing nation: Extending the theory of planned behavior. *Journal of Cleaner Production* **2016**, *135*, 732–739. https://doi.org/10.1016/j.jclepro.2016.06.120
8. Paul, J.; Modi, A.; Patel, J. Predicting green product consumption using theory of planned behavior and reasoned action. *Journal of Retailing and Consumer Services* **2016**, *29*, 123-134. https://doi.org/10.1016/j.jretconser.2015.11.006
9. Mahesh, R.; Gomathi, P. A study on Rural Consumers Buying behaviour of Green Products with special reference to selected villages in Tiruppur District. *International Journal of Engineering and Management Research* **2016**, *6*, 15-20.
10. Prakash, G.; Pathak, P. Intention to buy eco-friendly packaged products among young consumers of India: a study on developing nation. *Journal of Cleaner Production* **2017**, *141*, 385-393. https://doi.org/10.1016/j.jclepro.2016.09.116
11. Kumar, B.; Manrai, A. K.; Manrai, L. A. Purchasing behaviour for environmentally sustainable products: A conceptual framework and empirical study. *Journal of Retailing and Consumer Services* **2017**, *34*, 1-9. DOI: 10.1016/j.jretconser.2016.09.004
12. Kumar, A.; Mangla, S.K.; Luthra, S.; Rana, N.P.; Dwivedi, Y.K. Predicting changing pattern: building model for consumer decision making in digital market. *Journal of Enterprise Information Management* **2018**, *31*, 674–703. doi: 10.1108/JEIM-01-2018-0003
13. Kempton, W.; Boster, J.S.; Hartley, J.A. Environmental Values in American Culture. MA: MIT Press, Cambridge, 1995.
14. D'Souza, C.; Taghian, M.; Khosla, R. Examination of environmental beliefs and its impact on the influence of price, quality and demographic characteristics with respect to green purchase intention. *Journal of Targeting, Measurement and Analysis for Marketing* **2007**, *15*, 69–78. https://doi.org/10.1057/palgrave.jt.5750039
15. Lim,W. M.; Yong, J. L. S.; Suryadi, K. Consumers' Perceived Value and Willingness to Purchase Organic Food. *Journal of Global Marketing* **2014**, *27*, 298–307. https://doi.org/10.1080/08911762.2014.931501

16. Taufique, K.M.R.; Siwar, C.; Chamhuri, N.; Sarah, F.H. Integrating General Environmental Knowledge and Eco-Label Knowledge in Understanding Ecologically Conscious Consumer Behavior. *Procedia Economic and Finance* **2016**, *37*, 39–45. https://doi.org/10.1016/S2212-5671(16)30090-9

17. Wang, Z.; Zhao, C.; Yin, J.; Zhang, B. Purchasing intentions of Chinese citizens on new energy vehicles: How should one respond to current preferential policy?. *Journal of Cleaner Production* **2017**, *161*, 1000-1010. https://doi.org/10.1016/j.jclepro.2017.05.154.

18. Sangroya, D.; Nayak, J.K. Factors influencing buying behaviour of green energy consumer. *Journal of Cleaner Production* **2017**, *15*, 393-405. https://doi.org/10.1016/ j.jclepro.2017.03.010.

19. Tarigan, Ari K.M. Expectations, attitudes, and preferences regarding support and purchase of eco-friendly fuel vehicles. *Journal of Cleaner Production* **2019**, *227*, 10-19. https://doi.org/10.1016/j.jclepro.2019.04.190

20. Schahn, J.; Holzer, E. Studies of Individual Environmental Concern: The Role of Knowledge , Gender, and Background Variables. *Environment and Behaviour* **1990**, *22*, 767-786. https://doi.org/10.1177/0013916590226003

21. Osman, A.; Othman, Y. H.; Salahudin, S. N.; Abdullah, M. S. The Awareness and Implementation of Green Concepts in Marketing Mix: A Case of Malaysia. *Procedia Economics and Finance* **2016**, *35*, 428 – 433. https://doi.org/10.1016/S2212-5671(16)00053-8

22. Lavuri, R.; Susandy, G. Green Products: Factors Exploring the Green Purchasing Behavior of Southern Indian Shoppers. *Indonesian Journal of Sustainability Accounting and Management* **2020**, *4*, in press. https://doi.org/10.28992/ijsam.v4i2.229

23. Granzin, K. L.; Olsen, J. E. Characterizing Participants in Activities Protecting the Environment: A Focus on Donating, Recycling, and Conservation Behaviors. *Journal of Public Policy and Marketing* **2014**, *10*, 1–27. https://doi.org/10.1177/074391569101000201

24. Anbukarasi, M.; Dheivanai, N. An Analytical Study on Consumers' Awareness towards Green Fast Moving Consumer Goods in Coimbatore District. *International Journal of Management Studies* **2017**, *4*, 44-55.

25. Chaudhuri, Debaprayag. Analysis of the Awareness of Green Products in the City of Kolkata. *Journal of Global Marketing* **2014**, *27*, 207-212. DOI: 10.1080/08911762.2014.880769

26. Wang, P.; Liu, Q.; Qi, Y. Factors influencing sustainable consumption behaviors: A survey of the rural residents in China. *Journal of Cleaner Production* **2014**, *63*, 152–165. https://doi.org/10.1016/j.jclepro.2013.05.007

27. Heo, J.; Muralidharan. S. What triggers young Millennials to purchase eco-friendly products?: the interrelationships among knowledge, perceived consumer effectiveness, and environmental concern. *Journal of Marketing Communications* **2017**, *25*, 421-437. DOI: 10.1080/13527266.2017.1303623.

28. Asif, M.; Xuhui, W.; Nasiri, A.; Ayyub, S. Determinant factors influencing organic food purchase intention and the moderating role of awareness: A comparative analysis. *Food Quality and Preference* **2018**, *63*, 144-150.

29. Hu, H.; Parsa, H. G.; Self, J. The Dynamics of Green Restaurant Patronage. *Cornell Hospitality Quarterly* **2010**, *51*, 344-362. https://doi.org/10.1177/1938965510370564

30. Aman, A.L.; Harun, A.; Hussein, Z. The influence of environmental knowledge and concern on green purchase intention the role of attitude as a mediating variable. *British Journal of Arts and Social Sciences* **2012**, *7*, 145–167. DOI: 10.18415/ijmmu.v6i2.706

31. Magnier, L.; Schoormans, J. Consumer reactions to sustainable packaging: the interplay of visual appearance, verbal claim and environmental concern. *Journal of Environmental Psychology* **2015**, *44*, 53–62. DOI: 10.1016/j.jenvp.2015.09.005

32. Kong, L.; Hasanbeigi, A.; Price, L. Assessment of emerging energy-efficiency technologies for the pulp and paper industry: a technical review. *Journal of Cleaner Production* **2016**, *122*, 5–28. DOI: 10.1016/j.jclepro.2015.12.116

33. Birch, D.; Memery, J.; Kanakaratne, M.D.S. The mindful consumer: Balancing egoistic and altruistic motivations to purchase local food. *Journal of Retailing and Consumer Services* **2018**, *40*, 221–228. **DOI:** 10.1016/j.jretconser.2017.10.013

34. Zou, L.W.; Chan, R.Y.K. Why and when do consumers perform green behaviors? An examination of regulatory focus and ethical ideology. *Journal of Business Research* **2019**, *94*, 113–127. https://doi.org/10.1016/j.jbusres.2018.04.006

35. Khan, S. N.; Mohsin, M. The power of emotional value: Exploring the effects of values on green product consumer choice behavior. *Journal of Cleaner Production* **2017**, *150*, 65–74. https://doi.org/10.1016/j.jclepro.2017.02.187

36. Uddin, S. M. F.; Khan, M. N. Green Purchasing Behaviour of Young Indian Consumers: An Exploratory Study. *Global Business Review* **2016**, *17*, 1469–1479. https://doi.org/10.1177/0972150916660440

37. Asha, P.; Rathiha, R. Consumer Awareness towards Green Products. *International Journal Of Management (IJM)* **2017**, *8*, 8–14.

38. Bonne, K.; Vermeir, I.; Bergeaud-Blackler, F.; Verbeke, W. Determinants of halal meat consumption in France. *British Food Journal* **2007**, *109*, 367-386. https://doi.org/10.1108/0070700710746786

39. Nagar, K. Modelling the Effects of Green Advertising on Brand Image: Investigating the Moderating Effects of Product Involvement using Structural Equation. *Journal of Global Marketing* **2015**, *28*, 152–171. https://doi.org/10.1080/08911762.2015.1114692

40. Uddin, S. F.; Khan, M.N. Exploring green purchasing behaviour of young urban consumers. *South Asian Journal of Global Business Research* **2016**, *5*, 85–103. https://doi.org/10.1108/SAJGBR-12-2014-0083

41. Nguyen, T. N.; Lobo, A.; Nguyen, B. K. Young consumers' green purchase behaviour in an emerging market. *Journal of Strategic Marketing* **2017**, 1–18. https://doi.org/10.1080/0965254X.2017.1318946

42. Chaudhary, R.; Bisai, S. Factors influencing green purchase behaviour of millennials in India. *Management of Environmental Quality: An International Journal* **2018**, *29*, 798-812. https://doi.org/10.1108/MEQ-02-2018-0023

43. Lopez, A.G.; Cuergo-Arango, M.A. Relationship among values, beliefs, norms and ecological behavior. *Psicothema* **2008**, *20*, 623-629.

44. Butler, S.M.; Francis, S. The Effects of Environmental Attitudes on Apparel Purchasing Behavior. *Clothing and Textiles Research Journal* **1997**, *15*, 76-85. https://doi.org/10.1177/0887302X9701500202

45. Ajzen, I. The Theory of Planned Behaviour. *Organizational Behaviour and Human Decision Processes*, **1991**, *50*, 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

46. Zhou, Y.; Thøgersen, J.; Ruan, Y.; Huang, G. The moderating role of human values in planned behaviour: The case of chinese consumers' intention to buy organic food. *Journal of Consumer Marketing* **2013**, *30*, 335–344. https://doi.org/10.1108/JCM-02-2013-0482

47. Olsen, S.O. Antecedents of Seafood Consumption Behavior. *Journal of Aquatic Food Product Technology* **2004**, *13*, 79–91. https://doi.org/10.1300/J030v13n03_08

48. Moser, A.K. Thinking green, buying green? Drivers of pro-environmental purchasing behavior. *Journal of Consumer Marketing* **2015**, *32*, 167–175. https://doi.org/10.1108/JCM-10-2014-1179

49. Bryła, P. Organic food consumption in Poland: Motives and barriers. *Appetite* **2016**, *105*, 737-746. DOI: 10.1016/j.appet.2016.07.012

50. Kapuge, K. D. L. R. Determinants of Organic Food Buying Behavior: Special Reference to Organic Food Purchase Intention of Sri Lankan Customers. *Procedia Food Science* **2016**, *6*, 303-308. https://doi.org/10.1016/j.profoo.2016.02.060

51. Singh, A.; Verma, P. Factors influencing Indian consumers' actual buying behaviour towards organic food products. *Journal of Cleaner Production* **2017**, *167*, 473-483. https://doi.org/10.1016/j.jclepro.2017.08.106

52. Maichum, K.; Parichatnon, S.; Peng, K. C. Developing an Extended Theory of Planned Behavior Model to Investigate Consumers' Consumption Behavior toward Organic Food: A Case Study in Thailand. *International Journal of Scientific and Technology Research* **2017**, *6*, 72-80.

53. Yadav, R.; Pathak, G.S. Determinants of Consumers Green Purchase Behavior in a Developing Nation: Applying and Extending the Theory of Planned Behavior. *Ecological Economics* **2017**, *134*, 114-122. DOI: 10.1016/j.ecolecon.2016.12.019

54. Khoiruman, M.; Haryanto, A. T. Green Purchasing Behaviour Analysis of Government Policy About Paid Plastic Bags. *Indonesian Journal of Sustainability Accounting and Management* **2017**, *1*, 31–39. DOI: 10.28992/ijsam.v1i1.25

55. Joshi, Yatish.; Rahman, Zillur. Factors Affecting Green Purchase Behaviour and Future Research Directions. *International Strategic Management Review* **2015**, *3*, 128-143. https://doi.org/10.1016/j.ism.2015.04.001

56. Lee, Y.M. et al. Floristic Study of Dalmasan and its Adjacent Regions. *Journal of Korean institute of Environment Ecology* **2009**, *23*, 1-21.

57. Gayathree, D.A.G.P.K. Factors Affecting the Purchasing Intention of Green Products. *Sri Lanka Journal of Marketing* **2016**, *2*, 54-73.

58. Manongko, Allen A.Ch.; Kambey, Joseph. The influence of Green Marketing on Decision Purchasing Organic Products with Interests of Buying as an Intervening Variable at Manado City, Indonesia. *International Journal of Scientific Research and Management* **2018**, *6*, 403-411. https://doi.org/10.18535/ijsrm/v6i5.em06

59. Khan, M. N.; Kirmani, M. D. Influence of environmental characteristics of the consumers on their willingness to pay for green products: An empirical investigation. *International Journal of Social Entrepreneurship and Innovation* **2015**, *3*, 374-386. https://doi.org/10.1504/IJSEI.2015.072532

60. Kirmani, M.D.; Khan,M.N. Environmental attributes and market segmentation: insights from India. *International Journal of Management Concepts and Philosophy* **2016**, *9*, 73–92. https://doi.org/10.1504/IJMCP.2016.077767

61. Adnan, A.; Ahmad, A.; Khan, M. N. Examining the role of consumer lifestyles on ecological behavior among young Indian consumers. *Young Consumers* **2017**, *18*, 348– 377. https://doi.org/10.1108/YC-05-2017-00699

62. Arli, D.; Tan, LP.; Tjiptono, F.; Yang, L. Exploring consumers' purchase intention towards green products in an emerging market: The role of consumers' perceived readiness. *International Journal of Consumer Studies* **2018**, *42*, 389-401. https://doi.org/10.1111/ijcs.12432

63. DEMIRTAS, B. Assessment of the impacts of the consumers' awareness of organic food on consumption behavior. *Food Science and Technology* **2018**, *39*, 881–888. https://doi.org/10.1590/fst.10518

64. Ong, Tze San.; Lee, Ah Suat.; Teh, Boon Heng.; Magsi, Hussain Bakhsh.; Ng, Sin Huei. Environmental Capabilities and Environmental Innovations of Manufacturing Firms in Malaysia. *Indonesian Journal of Sustainability Accounting and Management* **2020**, *4*, in press. DOI: 10.28992/ijsam.v4i1.248

Sustainability MDPI

7 Submitted to Agricultural University of Athens
Student Paper   <1%

8 www.mdpi.com
Internet Source   <1%

9 Deepak Jaiswal, Rishi Kant. "Green purchasing behaviour: A conceptual framework and empirical investigation of Indian consumers", Journal of Retailing and Consumer Services, 2018
Publication   <1%

10 digilib.uin-suka.ac.id
Internet Source   <1%

11 Lise Magnier, Jan Schoormans. "How Do Packaging Material, Colour and Environmental Claim Influence Package, Brand and Product Evaluations?", Packaging Technology and Science, 2017
Publication   <1%

12 anandbhaskar.me
Internet Source   <1%

13 Sher Jahan Khan, Chetna Chauhan, Manzoor Ul Akram. "Cognitive factors influencing green consumption behaviour of young millennials: an empirical check on Indian consumers", International Journal of Green Economics, 2020
Publication   <1%

14 dokumen.pub
Internet Source
<1%

15 Chirag Malik, Neeraj Singhal, Surendra Tiwari. "Antecedents of consumer environmental attitude and intention to purchase green products: moderating role of perceived product necessity", International Journal of Environmental Technology and Management, 2017
Publication
<1%

16 www.cbmsbm.com
Internet Source
<1%

17 Sabine Gebhardt-Henrich, Ariane Stratmann, Marian Stamp Dawkins. "Welfare at group and individual level: optical flow patterns of broiler chicken flocks are correlated with the behaviour of individual birds", Cold Spring Harbor Laboratory, 2021
Publication
<1%

18 Ardi Gunardi, Aldrin Herwany, Erie Febrian, Mokhamad Anwar. "Research on Islamic corporate social responsibility and Islamic bank disclosures", Journal of Sustainable Finance & Investment, 2021
Publication
<1%

19 psasir.upm.edu.my
Internet Source
<1%

20   www.i-scholar.in
Internet Source   <1%

21   sajim.co.za
Internet Source   <1%

22   onlinelibrary.wiley.com
Internet Source   <1%

23   Rambalak Yadav, Govind S. Pathak. "Determinants of Consumers' Green Purchase Behavior in a Developing Nation: Applying and Extending the Theory of Planned Behavior", Ecological Economics, 2017
Publication   <1%

24   www.emeraldinsight.com
Internet Source   <1%

25   es.scribd.com
Internet Source   <1%

26   www.scribd.com
Internet Source   <1%

27   Lara F. Horani. "Identification of target customers for sustainable design", Journal of Cleaner Production, 2020
Publication   <1%

28   ceeconference.vse.cz
Internet Source   <1%

29 Sihua Chen, Han Qiu, Hua Xiao, Wei He, Jian Mou, Mikko Siponen. "Consumption behavior of eco-friendly products and applications of ICT innovation", Journal of Cleaner Production, 2021
Publication

<1%

30 Deepak Jaiswal, Bhagwan Singh. "Toward sustainable consumption: Investigating the determinants of green buying behaviour of Indian consumers", Business Strategy & Development, 2018
Publication

<1%

Exclude quotes	Off	Exclude matches	Off
Exclude bibliography	On		